

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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**The International
Seismological Summary.
1953 July, August, September.**

INTERNATIONAL GEODETIC AND GEOPHYSICAL UNION.
ASSOCIATION OF SEISMOLOGY.
FORMERLY THE BULLETIN OF
THE BRITISH ASSOCIATION SEISMOLOGY COMMITTEE.

The third quarter for 1953 contains 97 epicentres, 69 of which are repetitions from previously adopted epicentres, 35 have been attributed to abnormal focal depth.

The Director of the I.S.S. wishes to express his thanks to U.N.E.S.C.O. and H.M. Treasury for financial support, which has covered the cost and preparation of this volume. Special thanks are due to the Director of the Royal Meteorological Office and to the Director of Kew Observatory for housing the project free of cost and for providing administrative help.

The Director is also grateful to the International Association of Seismology and the Physics of the Earth's Interior, and to the Government of Canada for their contributions to the finances of the project.

April, 1961.

KEW OBSERVATORY,
Richmond,
SURREY.

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1953

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1953 JULY, AUGUST, SEPTEMBER.

July 1d. 2h. 59m. 38s. Epicentre 50°·2N. 157°·3E. Depth of focus 0·005.
(as on 1953, May 4d.).

A = -·5929, B = +·2480, C = +·7662; $\delta = +10$; $h = -5$;
D = +·386, E = +·922; G = -·707, H = +·296, K = -·613.

| | Δ ° | Az. ° | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|-----------------|---------------|----------|-----|-----------------|------|-----|-----|------|-------|----|-----------|
| | | | m. | s. | s. | m. | s. | m. | s. | m. | |
| Petropavlovsk | 3·1 | 16 | i 0 | 41 | - 7 | i 1 | 13 | -11 | — | — | — |
| Klyuchi | 6·5 | 17 | i 1 | 32 | - 3 | 2 | 46 | - 3 | — | — | — |
| Kurilsk | 8·1 | 235 | i 1 | 59 | + 2 | 3 | 36 | + 8 | — | — | — |
| Uglegorsk | 9·9 | 269 | i 2 | 25 | + 3 | 4 | 23 | +11 | — | — | — |
| Magadan | 10·0 | 341 | 2 | 18 | - 5 | — | — | — | — | — | — |
| Yuzno-Sakhlinsk | 10·2 | 257 | i 2 | 30? | + 4 | i 4 | 27? | + 7 | — | — | — |
| Nemuro | 10·6 | 234 | e 2 | 33 | + 2 | e 4 | 28 | - 1 | i 2 | 59 | ? e 5·5 |
| Abashiri | 10·8 | 240 | e 2 | 38 | + 4 | — | — | — | — | — | — |
| Kusiro | E. 11·4 | 236 | e 2 | 49 | + 7 | e 4 | 47 | - 2 | — | — | — |
| Wakkanai | E. 11·6 | 251 | e 2 | 52 | + 7 | 5 | 6 | +12 | i 3 | 8 | PP |
| Asahigawa | 12·0 | 244 | e 3 | 1 | +11 | 5 | 28 | +25 | — | — | — |
| Urakawa | 12·9 | 237 | e 3 | 3 | + 1 | e 5 | 10 | -15 | e 3 | 13 | PP e 6·9 |
| Sapporo | 13·1 | 243 | e 3 | 5 | + 0 | e 5 | 48 | +19 | e 3 | 14 | PP e 7·6 |
| Mori | 14·1 | 242 | 3 | 22 | + 4 | e 5 | 49 | - 4 | 3 | 33 | PP 7·2 |
| Hatinohe | 14·7 | 235 | e 3 | 23 | - 3 | e 5 | 57 | -10 | — | — | e 7·4 |
| Aomori | 14·9 | 237 | e 3 | 35 | + 7 | 6 | 3 | - 9 | e 3 | 54 | PP |
| Miyako | 15·1 | 231 | e 3 | 37 | + 6 | 6 | 29 | +12 | e 6 | 17 | S e 7·0 |
| Morioka | 15·5 | 233 | e 3 | 42 | + 6 | e 6 | 16 | -10 | — | — | — |
| Mizusawa | 15·9 | 232 | 3 | 44 | + 3 | 6 | 39 | + 4 | — | — | — |
| Akita | 16·0 | 236 | e 3 | 41 | - 1 | e 6 | 57 | +20 | e 6 | 42 | S e 9·5 |
| Sendai | 16·7 | 231 | 3 | 56 | + 5 | e 6 | 56 | + 3 | e 4 | 18 | PP e 9·4 |
| Sakata | 16·8 | 234 | e 4 | 2 | +10 | e 7 | 18 | +22 | — | — | — |
| Yamagata | 17·0 | 232 | e 3 | 59 | + 4 | e 7 | 25 | +25 | — | — | — |
| Hokusima | 17·3 | 228 | e 4 | 0 | + 1 | 7 | 14 | + 7 | — | — | — |
| Onahama | 17·7 | 226 | e 4 | 8 | + 5 | e 7 | 16 | 0 | — | — | — |
| Shirakawa | 18·0 | 228 | 4 | 10 | + 3 | e 7 | 23 | 0 | — | — | — |
| Aikawa | 18·3 | 233 | e 4 | 14 | + 3 | e 7 | 33 | + 4 | — | — | 10·0 |
| Utunomiya | 18·6 | 228 | e 4 | 15 | + 1 | e 7 | 42 | + 6 | e 4 | 47 | PP |
| Vladivostok | 18·8 | 257 | 4 | 13 | - 4 | 7 | 37 | - 4 | — | — | — |
| Takada | 18·9 | 235 | e 4 | 24 | + 6 | 8 | 10 | +27 | — | — | — |
| Kumagaya | 19·1 | 229 | e 4 | 21 | + 1 | 7 | 56 | + 9 | — | — | — |
| Maebasi | 19·1 | 229 | e 4 | 22 | + 2 | 7 | 53 | + 6 | e 4 | 39 | PP |
| Nagano | 19·3 | 235 | e 4 | 25 | + 3 | e 8 | 14 | +23 | e 4 | 34 | PP 10·4 |
| Tokyo | 19·3 | 228 | e 4 | 26 | + 4 | e 8 | 1 | +10 | e 5 | 0 | PP |
| Matusiro | 19·4 | 234 | i 4 | 24 _a | + 1 | i 7 | 58 | + 5 | — | — | 10·2 |
| Titibu | 19·4 | 229 | i 4 | 26 | + 3 | e 8 | 3 | +10 | — | — | — |
| Wazima | 19·4 | 236 | e 4 | 24 | + 1 | 7 | 57 | + 4 | — | — | e 10·6 |
| Matumoto | 19·7 | 235 | 4 | 31 | + 4 | i 8 | 19 | +19 | — | — | — |
| Toyama | 19·8 | 235 | e 4 | 28 | 0 | e 8 | 18 | +16 | e 8 | 8 | S |
| Hunatu | 19·9 | 230 | e 4 | 29 | 0 | e 8 | 10 | + 6 | — | — | 11·5 |
| Kohu | 19·9 | 231 | e 4 | 30 | + 1 | e 8 | 18 | +14 | — | — | — |
| Mera | 19·9 | 226 | e 4 | 34 | + 5 | 8 | 26 | +22 | — | — | — |
| Ahiro | 20·1 | 228 | 4 | 38 _k | + 7 | 8 | 26 | +18 | — | — | — |
| Misima | 20·1 | 227 | 4 | 34 | + 3 | 8 | 26 | +18 | 5 | 34 | PPP e 9·5 |
| Kanazawa | 20·2 | 236 | e 4 | 36 | + 4 | e 8 | 17 | + 7 | — | — | — |
| Takayama | N. 20·2 | 234 | i 4 | 34 | + 2 | i 8 | 28 | +18 | — | — | — |
| Iida | 20·4 | 231 | e 4 | 38 | + 4 | e 8 | 28 | +14 | — | — | — |
| Shizuoka | 20·5 | 230 | e 4 | 38 _a | + 3 | e 8 | 20 | + 4 | e 4 | 50 | PP e 12·0 |
| Omaesaki | 20·9 | 229 | e 4 | 44 | + 5 | 8 | 35 | +12 | — | — | — |
| Hamamatu | 21·1 | 230 | e 4 | 46 | + 5 | i 8 | 43 | +16 | — | — | — |
| Nagoya | E. 21·1 | 231 | 4 | 45 | + 4 | i 8 | 43 | +16 | — | — | — |
| Hikone | 21·4 | 232 | 4 | 50 | + 6 | e 8 | 0 | -33 | — | — | — |
| Kameyama | 21·6 | 233 | 4 | 48 | + 2 | 8 | 48 | +12 | 5 | 35 | PP 12·7 |
| Kyoto | 21·8 | 233 | i 4 | 52 _a | + 4 | e 8 | 53 | +13 | — | — | e 10·3 |
| Toyooka | 21·9 | 236 | e 4 | 51 | + 2 | e 8 | 50 | + 8 | — | — | e 11·4 |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|---------------|----|--------------|--------------|------|-----------------|------|------|-----|------|-------|----|------|--------|
| | | ^e | ^o | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Osaka | E. | 22.2 | 233 | e 4 | 58 | + 6 | e 9 | 1 | +14 | e 5 | 27 | PP | e 12.1 |
| Kobe | | 22.4 | 234 | e 4 | 58 | + 4 | e 9 | 1 | +10 | — | — | — | e 10.7 |
| Siomisaki | | 23.1 | 233 | e 5 | 3 | + 2 | 9 | 12 | + 9 | e 5 | 14 | PP | — |
| Takamatu | | 23.3 | 236 | e 5 | 4 _a | + 1 | e 9 | 13 | + 6 | e 16 | 25 | ScS | 11.0 |
| Hamada | | 23.9 | 240 | 5 | 10 _a | + 1 | 9 | 24 | + 7 | — | — | — | 11.8 |
| Muroto | | 24.0 | 234 | i 5 | 12 _a | + 2 | 9 | 27 | + 8 | i 5 | 39 | PP | e 12.5 |
| Hirosima | | 24.1 | 237 | e 5 | 11 _a | + 1 | e 9 | 27 | + 6 | — | — | — | e 12.0 |
| Koti | | 24.1 | 235 | i 4 | 54 | -16 | 9 | 31 | +10 | e 5 | 40 | PP | e 11.1 |
| Matuyama | | 24.3 | 237 | e 5 | 16 | + 4 | e 9 | 32 | + 8 | e 6 | 20 | PPP | e 11.4 |
| Ooita | | 25.4 | 238 | i 5 | 32 | + 9 | e 9 | 55 | +13 | — | — | — | — |
| Hukuoka | | 25.8 | 239 | e 5 | 30 _a | + 3 | e 9 | 57 | + 8 | — | — | — | e 12.6 |
| Miyazaki | | 26.5 | 235 | e 5 | 42 | + 9 | i 10 | 8 | + 7 | — | — | — | i 12.3 |
| Kagosima | | 27.2 | 237 | 5 | 45 | + 5 | e 7 | 44 | ? | — | — | — | — |
| Yakusima | | 28.1 | 235 | e 5 | 52 | + 4 | e 10 | 33 | + 7 | — | — | — | — |
| Kabansk | | 31.3 | 294 | i 6 | 12 | - 4 | i 11 | 13 | - 4 | — | — | — | — |
| College | | 31.7 | 42 | i 6 | 16 | - 4 | — | — | — | — | — | — | — |
| Kyakhta | | 32.0 | 291 | 6 | 18 | - 4 | e 11 | 22 | - 6 | — | — | — | — |
| Irkutsk | | 32.6 | 295 | 6 | 24 | - 4 | — | — | — | — | — | — | — |
| Zó-Sè | N. | 32.9 | 248 | e 6 | 30 | 0 | e 11 | 43 | + 1 | — | — | — | — |
| Nanking | | 33.7 | 252 | i 6 | 37 _a | 0 | 11 | 53 | - 1 | 6 | 58 | sP | — |
| Sitka | | 38.9 | 53 | e 7 | 23 | + 2 | — | — | — | 8 | 58 | PP | — |
| Hong Kong | | 43.7 | 247 | — | — | — | e 14 | 22? | - 3 | — | — | — | — |
| Baguio | | 44.8 | 235 | i 8 | 13 _a | + 4 | i 14 | 45 | + 4 | — | — | — | — |
| Resolute Bay | | 46.7 | 21 | i 8 | 20 _a | - 4 | i 15 | 2 | - 6 | i 10 | 10 | PP | e 18.3 |
| Przhevalsk | | 52.6 | 293 | 9 | 6 | - 3 | — | — | — | — | — | — | — |
| Almata | | 53.0 | 295 | i 9 | 9 | - 3 | i 16 | 33 | - 3 | — | — | — | — |
| Sverdlovsk | | 53.2 | 317 | i 9 | 9 | - 5 | 16 | 31 | - 7 | — | — | — | — |
| Rybach'e | | 54.0 | 295 | i 9 | 17 | - 3 | i 16 | 45 | - 4 | — | — | — | — |
| Hungry Horse | | 54.5 | 55 | i 9 | 22 | - 1 | e 16 | 49 | - 7 | e 38 | 24 | P'P' | — |
| Frunse | | 54.6 | 296 | i 9 | 21 | - 3 | e 16 | 55 | - 2 | — | — | — | — |
| Shasta | | 54.6 | 66 | 9 | 24 _a | 0 | e 17 | 2 | + 5 | i 9 | 38 | pP | — |
| Naryn | | 54.7 | 294 | i 9 | 23 | - 2 | — | — | — | — | — | — | — |
| Mineral | Z. | 55.2 | 66 | i 9 | 28 _a | 0 | — | — | — | i 9 | 42 | pP | — |
| Shillong | N. | 55.2 | 269 | i 9 | 28 | 0 | i 16 | 58 | - 7 | 11 | 29 | PP | 25.8 |
| Saskatoon | | 55.8 | 48 | 9 | 30 | - 3 | 17 | 15 | + 2 | — | — | — | 27.4 |
| Berkeley | Z. | 56.4 | 70 | e 9 | 36 | - 1 | — | — | — | i 9 | 51 | pP | — |
| Butte | | 56.7 | 56 | i 9 | 38 | - 1 | e 17 | 29 | + 4 | — | — | — | — |
| Reno | | 56.8 | 65 | e 9 | 40 _a | 0 | i 17 | 35 | + 9 | — | — | — | — |
| Santa Clara | F. | 57.0 | 70 | e 9 | 37 | - 4 | e 17 | 56 | +27 | — | — | — | — |
| Andijan | | 57.2 | 295 | i 9 | 41 | - 2 | 17 | 33 | + 1 | — | — | — | — |
| Lick | Z. | 57.2 | 70 | e 9 | 42 _a | - 1 | i 10 | 41 | PcP | i 9 | 57 | pP | — |
| Chatra | | 57.4 | 273 | e 9 | 44 | 0 | e 17 | 29 | - 5 | 14 | 31 | PcS | 26.7 |
| Namangan | | 57.5 | 296 | i 9 | 42 | - 3 | e 17 | 30 | - 6 | — | — | — | — |
| Fergana | | 57.8 | 295 | i 9 | 43 | - 4 | — | — | — | — | — | — | — |
| Tchimkent | | 57.8 | 299 | i 9 | 44 | - 3 | i 17 | 37 | - 2 | — | — | — | — |
| Kiruna | | 57.9 | 342 | i 9 | 42 _a | - 6 | e 17 | 22 | -19 | i 11 | 52 | PP | e 26.4 |
| Lunacharskoe | | 58.6 | 298 | i 9 | 49 | - 4 | — | — | — | — | — | — | — |
| Tashkent | | 58.6 | 298 | i 9 | 50 | - 3 | e 17 | 45 | - 5 | — | — | — | — |
| Fresno | | 58.7 | 68 | i 9 | 54 _a | + 1 | — | — | — | i 10 | 7 | pP | — |
| Dzhergetal | | 58.9 | 294 | i 9 | 52 | - 3 | i 17 | 51 | - 3 | — | — | — | — |
| Tinemaha | | 59.3 | 68 | i 9 | 59 _a | + 2 | e 18 | 9 | +10 | i 10 | 13 | pP | — |
| Garm | | 59.6 | 297 | e 9 | 56 | - 3 | 18 | 1 | - 2 | — | — | — | — |
| Scoresby Sund | | 59.6 | 0 | i 9 | 55 | - 4 | i 18 | 0 | - 3 | 20 | 6 | ScS | — |
| Calcutta | E. | 59.7 | 269 | i 10 | 3 | + 3 | 18 | 7 | + 3 | — | — | — | — |
| Khorog | | 59.8 | 293 | 9 | 59 | - 2 | e 18 | 4 | - 1 | — | — | — | — |
| Logan | | 59.9 | 60 | i 10 | 2 | 0 | — | — | — | — | — | — | — |
| Woody | Z. | 59.9 | 68 | i 10 | 0 _a | - 2 | e 39 | 36 | P'P' | i 10 | 18 | pP | — |
| Obi-garm | | 60.1 | 295 | i 9 | 59 | - 4 | — | — | — | — | — | — | — |
| China Lake | Z. | 60.6 | 68 | i 10 | 6 _a | 0 | e 39 | 22 | P'P' | i 10 | 20 | pP | — |
| Kulyab | | 60.6 | 294 | 10 | 4 | - 2 | 18 | 10 | - 6 | — | — | — | — |

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| | Δ | Az. | P. | | O-C. | S. | O-C. | Supp. | | L. |
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| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | m. | s. | m. |
| Stalinabad | 60.8 | 296 | i 10 | 5 | - 3 | 18 15 | - 3 | — | — | — |
| Samarkand | 61.0 | 298 | i 10 | 8 | - 1 | — | — | — | — | — |
| Pasadena | 61.4 | 70 | i 10 | 11 _a | - 1 | i 18 31 | + 5 | i 10 27 | pP | e 28.1 |
| Riverside | 62.0 | 70 | i 10 | 15 | - 1 | e 39 17 | P'P' | i 10 30 | pP | — |
| Boulder City | 62.1 | 66 | i 10 | 17 | + 1 | e 18 43 | + 8 | i 10 31 | pP | — |
| Nelson | 62.3 | 66 | i 10 | 17 | - 1 | e 18 43 | + 6 | i 10 31 | pP | — |
| Pulkovo | 62.3 | 333 | i 10 | 13 | - 5 | e 18 27 | -10 | — | — | — |
| New Delhi | 62.5 | 282 | i 10 | 19 | 0 | e 18 16 | -24 | 11 1 | PcP | — |
| Moscow | 63.2 | 327 | e 10 | 18 | - 6 | e 18 43 | - 6 | e 10 38 | pP | — |
| Upsala | 65.5 | 339 | i 10 | 33 | - 6 | i 14 53 | PPP | e 10 54 | pP | e 28.4 |
| Ashkabad | 67.0 | 301 | 10 | 47 | - 1 | e 19 34 | - 1 | — | — | — |
| Tucson | 67.1 | 67 | i 10 | 44 | - 5 | i 19 45 | + 9 | i 11 5 | pP | — |
| Kizyl-Arvat | 67.4 | 304 | — | — | — | i 19 35 | - 5 | — | — | — |
| Quetta | 67.6 | 291 | i 10 | 49 | - 3 | i 19 39 | - 3 | i 39 14 | P'P' | — |
| Makhach-Kala | 68.9 | 312 | i 10 | 56 | - 4 | e 19 52 | - 6 | — | — | — |
| Grozny | 69.4 | 314 | i 10 | 59 | - 4 | i 19 55 | - 9 | — | — | — |
| Baku | 69.7 | 309 | e 10 | 58 | - 7 | — | — | — | — | — |
| Hyderabad | 69.7 | 273 | i 11 | 3 | - 2 | i 20 6 | - 1 | 20 43 | PS | 33.2 |
| Piatigorsk | 70.1 | 316 | 11 | 3? | - 4 | 20 0? | -12 | — | — | — |
| Copenhagen | 70.5 | 340 | i 11 | 6 | - 4 | i 20 12 | - 5 | e 20 44 | ScS | 32.4 |
| Duzheti | 70.9 | 313 | e 11 | 11 | - 1 | — | — | — | — | — |
| Kirkland Lake | 70.9 | 37 | i 11 | 6 _a | - 6 | — | — | i 39 7 | P'P' | — |
| Djakarta | 71.1 | 234 | i 11 | 18 _a | + 5 | e 20 31 | + 8 | e 20 53 | PS | e 36.3 |
| Kirovobad | 71.1 | 311 | 11 | 10 | - 3 | 20 16 | - 7 | e 11 28 | pP | — |
| Tiflis | 71.1 | 313 | i 11 | 11 | - 2 | i 20 20 | - 3 | — | — | — |
| Gori | 71.2 | 313 | e 11 | 13 | - 1 | — | — | — | — | — |
| Lubbock | 71.3 | 59 | e 11 | 13 | - 2 | — | — | — | — | — |
| Aberdeen | 71.6 | 349 | — | — | — | e 21 27 | +58 | e 32 42 | Q | e 41.5 |
| Borzhomi | 71.7 | 314 | i 11 | 13 | - 4 | 20 23 | - 7 | i 11 32 | PcP | — |
| Tsikhlis-Dzhvari | 71.7 | 315 | i 11 | 14 | - 3 | e 20 27 | - 3 | — | — | — |
| Poona | 71.8 | 277 | i 11 | 21 | + 3 | i 20 37 | + 5 | 11 31 | PcP | 33.7 |
| Zugdidi | 71.8 | 315 | e 11 | 15 | - 3 | 20 30 | - 2 | — | — | — |
| Sotchi | 71.9 | 318 | — | — | — | e 20 26 | - 7 | — | — | — |
| Akhalkalaki | 72.0 | 314 | e 11 | 18 | - 1 | — | — | — | — | — |
| Bombay | 72.2 | 278 | i 11 | 20 | 0 | e 20 35 | - 1 | 14 11 | PP | — |
| Theodosia | 72.6 | 321 | e 11 | 18 | - 4 | — | — | — | — | — |
| Kishinev | 73.4 | 326 | i 11 | 22 | - 5 | 20 41 | - 9 | — | — | — |
| Potsdam | 73.4 | 339 | i 11 | 24 _a | - 3 | e 20 45 | - 5 | e 21 13 | PS | e 36.4 |
| Fayetteville | 73.5 | 53 | i 11 | 26 _a | - 2 | e 20 50 | - 1 | i 11 45 | pP | — |
| St. Louis | 73.5 | 50 | i 11 | 26 | - 2 | i 20 49 | - 2 | — | — | — |
| Yalta | 73.5 | 321 | e 11 | 23 | - 5 | — | — | — | — | — |
| Iasi | 73.7 | 328 | e 11 | 27 | - 2 | — | — | — | — | — |
| Durham | 73.9 | 348 | i 11 | 29 | - 1 | e 20 47 | - 8 | — | — | — |
| Raciborzu | 74.2 | 334 | e 11 | 29 | - 3 | e 20 54 | - 5 | e 11 44 | PcP | 40.0 |
| Ottawa | 74.3 | 36 | i 11 | 29 _a | - 3 | 20 54 | - 6 | 14 13 | PP | 29.9 |
| Shawinigan Falls | 74.3 | 33 | e 11 | 31 | - 1 | 20 56 | - 4 | — | — | — |
| Collmberg | 74.4 | 337 | e 11 | 29 | - 4 | — | — | e 14 39 | PP | — |
| Skalnate Pleso | 74.4 | 332 | e 11 | 33 | 0 | e 21 35 | PS | e 11 55 | PcP | e 41.6 |
| Witteveen | 74.4 | 342 | i 11 | 30 | - 3 | — | — | — | — | — |
| Seven Falls | 74.5 | 32 | e 11 | 16 | -17 | 20 44 | -18 | — | — | — |
| Jena | 75.1 | 338 | e 11 | 33 | - 4 | e 21 3? | - 6 | e 11 44 | pP | e 35.4 |
| Buffalo (Larkin) | 75.2 | 39 | i 11 | 36 | - 1 | — | — | — | — | — |
| Cleveland | 75.2 | 42 | e 11 | 34 | - 3 | e 21 6 | - 4 | e 14 21 | PP | — |
| Prague | 75.2 | 336 | i 11 | 35 _a | - 2 | e 21 4 | - 6 | i 11 50 | PcP | e 40.9 |
| De Bilt | 75.4 | 343 | i 11 | 36 | - 2 | e 21 10 | - 2 | i 12 3 | PcP | e 34.4 |
| Cheb | 75.7 | 338 | i 11 | 38 | - 2 | e 21 10 | - 5 | e 11 56 | PcP | e 40.4 |
| Kodaikanal | 75.7 | 269 | — | — | — | e 21 17 | + 2 | — | — | — |
| Cincinnati | 75.8 | 45 | i 11 | 39 | - 2 | i 21 15 | - 1 | — | — | — |
| Rathfarnham Castle | 75.9 | 350 | i 11 | 38 _a | - 3 | e 21 16 | - 1 | i 11 50 | pP | e 34.2 |
| Budapest | 76.2 | 332 | 11 | 42 | - 1 | 21 25 | + 4 | 11 59 | PcP | 38.9 |
| Ogyalla | 76.2 | 333 | i 11 | 44 | + 1 | e 26 40 | SS | e 11 59 | PcP | e 39.9 |
| Bucharest | 76.6 | 326 | i 11 | 44 | - 1 | e 21 17 | - 8 | — | — | 38.4 |
| Uccle | 76.8 | 344 | e 11 | 42 | - 4 | e 21 20 | - 7 | e 14 29 | PP | e 33.4 |
| Kew | 76.9 | 346 | i 11 | 44 _a | - 3 | e 21 24 | - 4 | e 12 11 | PcP | e 32.4 |
| Kalossa | 77.1 | 333 | e 11 | 48 | 0 | e 21 32 | + 2 | 11 59 | PcP | e 33.9 |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|--------------|--------------|----------------------|-------|---------|-------|----------|------------------|
| | | ^e | ^c | m. s. | s. | m. s. | s. | m. s. | m. |
| Timisoara | | 77.1 | 330 | e 11 50 | + 2 | e 21 59 | +29 | — | e 40.4 |
| Brisbane | N. | 77.4 | 186 | — | — | i 21 44 | +10 | — | — |
| Morgantown | | 77.4 | 42 | i 11 48 | - 2 | i 21 33 | - 1 | — | — |
| Karlsruhe | | 77.6 | 340 | i 11 49 _a | - 2 | — | — | e 12 34 | P _c P |
| Stuttgart | | 77.7 | 339 | i 11 48 _a | - 3 | e 21 29 | - 8 | e 26 22 | SS |
| Belgrade | | 78.2 | 330 | e 11 49 _a | - 5 | e 21 35 | - 7 | e 15 0 | PP |
| Strasbourg | | 78.2 | 340 | i 11 51 | - 3 | e 21 40 | - 2 | i 12 2 | pP |
| Harvard | | 78.3 | 35 | i 11 53 | - 2 | e 21 42 | - 1 | e 12 3 | P _c P |
| Istanbul | | 78.4 | 322 | 11 52 | - 3 | 21 41 | - 3 | 12 13 | P _c P |
| Weston | | 78.5 | 35 | i 11 54 _a | - 2 | e 21 42 | - 3 | i 14 52 | PP |
| Palisades | | 78.7 | 38 | i 11 55 _a | - 2 | e 21 42 | - 6 | i 14 54 | PP |
| Fordham | | 78.8 | 38 | i 11 56 | - 1 | e 21 47 | - 2 | — | — |
| Paris | | 79.0 | 343 | i 11 57 | - 2 | i 21 48 | - 3 | e 14 56 | PP |
| Halifax | | 79.1 | 28 | i 11 56 _a | - 3 | 21 45 | - 7 | 22 7 | ScS |
| Philadelphia | | 79.1 | 39 | e 11 53 | - 6 | e 21 41 | -11 | — | — |
| Zürich | | 79.1 | 339 | e 11 56 _a | - 3 | e 21 42 | -10 | — | — |
| Washington | | 79.2 | 39 | i 11 59 | - 1 | e 21 54 | + 1 | — | — |
| Chur | | 79.4 | 338 | e 12 0 _a | - 1 | — | — | — | — |
| Triest | | 79.4 | 335 | i 12 1 | 0 | e 21 56 | + 1 | e 15 2 | PP |
| Chambon-la-Forêt | | 79.8 | 343 | i 12 1 | - 2 | — | — | — | — |
| Neuchatel | | 79.9 | 340 | e 12 1 | - 2 | e 21 58 | - 2 | — | — |
| Pavia | | 81.0 | 338 | e 12 8 | - 1 | e 22 9 | - 3 | e 15 17 | PP |
| Bologna | | 81.1 | 336 | e 12 9 | - 1 | e 22 39 | +26 | e 12 17 | P _c P |
| Columbia | | 81.6 | 46 | i 12 13 | + 1 | — | — | — | — |
| Ksara | | 81.6 | 313 | e 12 11 | - 1 | e 22 43 | +25 | — | — |
| Clermont-Ferrand | | 81.8 | 342 | i 12 11 | - 2 | i 22 19 | - 1 | e 22 55 | PS |
| Florence | | 81.8 | 335 | i 12 9 _a | - 4 | i 22 20 | 0 | i 23 8 | PS |
| Prato | | 81.8 | 336 | i 12 11 _a | - 2 | e 22 14 | - 6 | — | — |
| Athens | | 83.1 | 324 | e 12 17 _a | - 3 | i 22 28 | - 5 | i 23 42 | PPS |
| Taranto | | 83.1 | 330 | 12 7 | -13 | e 21 45 | ? | e 32 55? | ? |
| Rome | | 83.2 | 335 | i 12 19 _a | - 2 | e 22 26 | - 8 | i 12 32 | pP |
| Rocca di Papa | | 83.3 | 335 | e 12 18 | - 3 | e 22 31 | - 4 | — | — |
| Tacubaya | | 83.6 | 67 | e 12 25 | + 2 | e 22 43 | + 5 | e 24 52 | ? |
| Riverview | | 83.8 | 185 | i 12 28 _a | + 4 | i 22 51 | +11 | i 23 33 | PS |
| Messina | | 85.7 | 330 | i 12 29 _a | - 4 | e 22 50 | [0] | e 15 42 | PP |
| Helwan | z. | 87.0 | 315 | i 12 38 _k | - 1 | 23 7 | - 4 | 16 2 | PP |
| Tortosa | | 87.1 | 342 | 12 38 | - 2 | i 22 54 | [- 5] | — | — |
| Toledo | | 88.8 | 346 | i 12 47 | - 1 | e 23 27 | - 1 | e 16 17 | PP |
| Bermuda | | 89.8 | 35 | i 12 52 | - 1 | e 24 2 | +25 | e 23 40 | SKS |
| Alicante | | 90.3 | 343 | e 12 45 | -10 | i 23 17 | [- 2] | 16 8 | PP |
| Algiers Univ. | z. | 90.5 | 339 | e 12 52 | - 4 | e 18 5 | PPP | 13 14 | pP |
| Granada | | 91.4 | 345 | i 12 59 _a | - 1 | 23 52 | + 1 | 16 38 | PP |
| Almeria | | 91.5 | 343 | i 12 50 | -11 | 23 30 | [+ 4] | 16 34 | PP |
| Malaga | | 91.9 | 345 | i 12 59 | - 3 | i 23 57 | + 1 | 16 40 | PP |
| Wellington | | 92.4 | 167 | — | — | e 23 30 | [- 1] | e 24 2 | S |
| Christchurch | | 94.3 | 169 | — | — | e 23 42 | [+ 1] | e 25 48 | PS |
| San Juan | | 101.7 | 42 | e 13 47 | 0 | — | — | — | — |
| Tamanrasset | z. | 103.1 | 333 | i 13 51 | - 2 | e 24 28 | [+ 2] | e 14 10 | pP |
| Bogota | | 109.8 | 55 | e 18 48 | PP | e 28 50 | PPS | — | 53.4 |
| Huancayo | | 122.7 | 67 | e 18 53 | [+ 4] | e 30 59 | PS | e 20 58 | PP |
| La Paz | | 130.5 | 63 | i 19 7 _a | [+ 3] | 26 15 | [+10] | i 21 21 | PP |
| Pretoria | z. | 134.2 | 282 | e 18 55 | [-15] | — | — | i 19 11 | PKP |
| Pietermaritzburg | z. | 135.5 | 278 | e 19 16 | [+ 3] | — | — | — | — |
| Kimberley | z. | 138.4 | 281 | e 19 10 | [- 8] | — | — | i 19 20 | PKP |

July 1d. 3h. 47m. Epicentre 41°·2N. 43°·9E.

Bulletin of Seismo. Stations of U.S.S.R. for July-Sept., 1953, Moscow, 1954, p.59.

July 1d. 12h. 33m. Epicentre 37°·5N. 71°·8E. Depth of focus 180km.

Loc. cit. above.

July 2d. 0h. 40m. Epicentre 41°·1N. 43°·9E.

Loc. cit.

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July 2d. 6h. 56m. 59s. Epicentre 19°·0S. 169°·0E. Depth of focus 0·030
(as on 1953, Jan. 20d.).

A = -·9288, B = +·1805, C = -·3236; $\delta = -3$; $h = +5$;
D = +·191, E = +·982; G = +·318, H = -·062, K = -·946.

| | | Δ ° | Az. ° | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|---------------|------|---------------|----------|------|-----|------|------|----|------|-------|-----|-------|--------|
| | | | | m. | s. | s. | m. | s. | m. | s. | m. | s. | m. |
| Brisbane | | 16·9 | 237 | i 3 | 48 | + 3 | i 6 | 52 | + 8 | — | — | e 7·8 | |
| Auckland | N. | 18·5 | 166 | e 4 | 1 | - 1 | e 7 | 22 | + 6 | 4 | 22 | PP | — |
| Apia | | 19·1 | 79 | i 4 | 1 | - 7 | i 5 | 14 | ? | — | — | — | |
| Karapiro | N. | 19·7 | 165 | 4 | 10 | - 4 | 7 | 44 | + 5 | 4 | 39 | PP | — |
| New Plymouth | E. | 20·5 | 168 | e 4 | 27 | + 5 | e 8 | 0 | + 7 | 5 | 14 | pP | — |
| Tongariro | Z. | 20·9 | 166 | i 4 | 19? | - 7 | i 8 | 16 | +16 | i 5 | 0 | PP | — |
| Tuai | N. | 21·0 | 163 | e 4 | 25 | - 2 | i 8 | 1 | - 1 | 15 | 21 | ScS | — |
| Riverview | | 21·7 | 223 | i 4 | 36k | + 2 | i 8 | 19 | + 4 | i 5 | 18 | pP | — |
| Cobb River | E. | 22·3 | 173 | e 4 | 38 | - 1 | e 8 | 26 | + 1 | i 5 | 19 | pP | — |
| Wellington | | 22·8 | 169 | i 4 | 41k | - 3 | e 8 | 29 | - 4 | e 5 | 20 | pP | — |
| Kaimata | N.E. | 23·6 | 176 | i 4 | 51 | - 1 | e 8 | 46 | - 1 | i 15 | 32 | ScS | — |
| Christchurch | | 24·6 | 174 | i 5 | 1a | 0 | e 9 | 5 | + 1 | e 5 | 48 | PP | — |
| Melbourne | E. | 28·1 | 223 | e 5 | 36 | + 3 | i 10 | 2 | + 2 | 6 | 21 | pP | — |
| Macquarie Is. | | 36·3 | 191 | i 6 | 43 | - 1 | 14 | 48 | SS | 7 | 36 | pP | — |
| Perth | | 49·3 | 244 | i 9 | 36 | PcP | i 15 | 23 | + 7 | i 11 | 38 | PPP | — |
| Honolulu | | 51·6 | 41 | i 8 | 42 | - 3 | — | — | — | — | — | — | — |
| Baguio | | 59·2 | 303 | i 9 | 41a | + 1 | i 17 | 32 | + 4 | i 9 | 44 | P | — |
| Osima | | 60·4 | 331 | e 9 | 48 | 0 | e 17 | 47 | + 4 | — | — | — | — |
| Ajiro | | 60·8 | 331 | 9 | 51 | 0 | 17 | 51 | + 3 | — | — | — | — |
| Omaesaki | | 60·8 | 330 | 9 | 52a | + 1 | 17 | 54 | + 6 | i 10 | 35 | pP | — |
| Misima | | 60·9 | 332 | 9 | 53 | + 2 | i 17 | 55 | + 5 | e 11 | 19 | sP | — |
| Shizuoka | | 61·0 | 332 | 9 | 53a | + 1 | i 17 | 57 | + 6 | e 19 | 23 | ScS | — |
| Tokyo | | 61·0 | 333 | i 9 | 53a | + 1 | i 17 | 54 | + 3 | i 10 | 46 | pP | — |
| Hunatu | | 61·3 | 332 | e 9 | 4 | -50 | e 18 | 9 | +14 | (22 | 19) | SS | 22·3 |
| Mito | | 61·3 | 334 | 9 | 56 | + 2 | i 18 | 1 | + 6 | 39 | 12 | P'P' | — |
| Kumagaya | | 61·6 | 334 | i 9 | 57a | + 1 | 17 | 58 | 0 | e 39 | 7 | P'P' | — |
| Onahama | | 61·6 | 335 | i 9 | 57a | + 1 | i 18 | 3 | + 5 | e 39 | 12 | P'P' | e 24·2 |
| Yakusima | | 61·6 | 322 | e 9 | 57 | + 1 | e 18 | 3 | + 5 | e 40 | 47 | ? | — |
| Djakarta | | 61·7 | 274 | e 9 | 58k | + 2 | i 18 | 6 | + 6 | e 10 | 59 | pP | — |
| Muroto | | 61·7 | 326 | i 9 | 59 | + 3 | 18 | 3 | + 3 | 10 | 14 | pP | — |
| Utunomiya | | 61·7 | 333 | i 9 | 57 | + 1 | i 18 | 4 | + 4 | 10 | 32 | pP | 24·8 |
| Kameyama | | 61·8 | 331 | i 10 | 0a | + 3 | i 18 | 7 | + 6 | e 12 | 22 | PP | 25·4 |
| Maebasi | | 61·9 | 334 | i 9 | 59 | + 1 | 18 | 7 | + 5 | 39 | 3 | P'P' | — |
| Nagoya | N. | 61·9 | 331 | 10 | 0 | + 2 | 18 | 8 | + 6 | e 38 | 51 | P'P' | — |
| Miyazaki | | 62·1 | 325 | i 10 | 9 | +10 | i 18 | 17 | +12 | — | — | — | i 25·6 |
| Oiwake | | 62·1 | 333 | e 10 | 4 | + 5 | e 18 | 9 | + 4 | e 10 | 57 | pP | — |
| Osaka | | 62·1 | 330 | e 10 | 1 | + 2 | i 18 | 9 | + 4 | e 19 | 42 | ScS | — |
| Shirakawa | | 62·1 | 335 | 9 | 50 | - 9 | 18 | 9 | + 4 | 38 | 54 | P'P' | — |
| Sumoto | | 62·2 | 329 | i 10 | 1a | + 1 | i 18 | 9 | + 3 | i 19 | 29 | PPS | 26·9 |
| Kobe | | 62·3 | 330 | e 10 | 3 | + 3 | e 18 | 13 | + 6 | e 39 | 18 | P'P' | e 25·0 |
| Koti | | 62·3 | 327 | 10 | 3 | + 3 | e 18 | 9 | + 2 | e 10 | 56 | pP | — |
| Kyoto | | 62·3 | 330 | i 10 | 2a | + 2 | i 18 | 12 | + 5 | (e 25 | 8) | SSS | e 25·1 |
| Matumoto | | 62·3 | 332 | 10 | 2 | + 2 | i 18 | 13 | + 6 | 39 | 17 | P'P' | e 25·5 |
| Kagosima | | 62·4 | 323 | 10 | 3a | + 2 | 18 | 13 | + 5 | e 19 | 36 | ScS | — |
| Matusiro | | 62·4 | 333 | i 10 | 3a | + 2 | i 18 | 12 | + 4 | i 19 | 32 | ScS | 25·4 |
| Hokusima | | 62·5 | 334 | e 10 | 3 | + 1 | 18 | 10 | 0 | — | — | — | 25·5 |
| Nagano | | 62·5 | 333 | e 10 | 5 | + 3 | 18 | 16 | + 6 | 39 | 16 | P'P' | e 25·4 |
| Takamatu | | 62·6 | 328 | e 10 | 4a | + 2 | e 18 | 14 | + 3 | 12 | 24 | PP | — |
| Sendai | | 62·8 | 337 | 10 | 4 | 0 | 18 | 18 | + 4 | 39 | 13 | P'P' | — |
| Takada | | 62·9 | 333 | e 10 | 2 | - 2 | i 18 | 22 | + 7 | — | — | — | — |
| Toyama | | 63·0 | 332 | 10 | 10 | + 5 | 18 | 27 | +11 | 11 | 11 | pP | — |
| Toyooka | | 63·2 | 328 | e 10 | 17 | +11 | e 18 | 30 | +12 | e 39 | 17 | P'P' | — |
| Niigata | | 63·3 | 334 | e 10 | 13 | + 6 | 18 | 27 | + 7 | e 11 | 20 | sP | — |
| Mizusawa | N. | 63·4 | 337 | 10 | 9 | + 1 | 18 | 26 | + 5 | — | — | — | — |
| Unzendake | | 63·4 | 324 | e 10 | 9a | + 1 | e 18 | 18 | - 3 | — | — | — | — |

Continued on next page.

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|-----------------|----------|------|----------------------|----------------------|---------|---------|---------|-------------|---------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Hirosima | 63.5 | 326 | e 10 7 _a | - 1 | 18 25 | + 3 | e 10 59 | pP e 24.9 | |
| Miyako | 63.6 | 337 | e 10 8 _a | - 1 | i 18 27 | + 4 | e 11 6 | pP | |
| Aikawa | 63.7 | 334 | e 10 11 | + 1 | i 18 29 | + 4 | — | 24.7 | |
| Sakata | 63.7 | 336 | e 10 17 | + 7 | e 18 33 | + 8 | e 39 22 | P'P' | |
| Wazima | 63.7 | 332 | e 10 11 | + 1 | e 18 30 | + 5 | 39 3 | P'P' e 27.1 | |
| Hukuoka | 63.9 | 325 | e 10 12 _a | + 1 | e 18 40 | +13 | e 22 47 | SS 26.3 | |
| Morioka | 63.9 | 338 | i 10 12 | + 1 | i 18 31 | + 4 | — | — | |
| Hamada | 64.1 | 327 | 10 14 | + 2 | 18 33 | + 3 | e 22 34 | SS e 27.3 | |
| Akita | 64.3 | 337 | i 10 15 _a | + 1 | i 18 39 | + 7 | 39 1 | P'P' e 26.1 | |
| Aomori | 65.0 | 337 | 10 20 | + 2 | i 18 50 | +10 | 39 8 | P'P' | |
| Urakawa | 65.5 | 340 | e 10 23 | + 2 | i 18 52 | + 5 | e 11 12 | pP e 27.3 | |
| Nemuro | 65.7 | 342 | e 10 22 | 0 | i 18 51 | + 2 | e 23 6 | SS e 26.5 | |
| Obihiro | 66.0 | 340 | e 10 27 | + 3 | e 18 57 | + 4 | 38 57 | P'P' | |
| Mori | 66.2 | 337 | 10 27 | + 1 | i 19 1 | + 6 | e 11 26 | pP 26.5 | |
| Kurilsk | 66.8 | 344 | i 10 30 | + 1 | e 19 3 | + 1 | — | — | |
| Sapporo | 66.8 | 339 | e 10 30 _a | + 1 | i 19 5 | + 3 | i 11 26 | pP e 28.2 | |
| Hong Kong | 67.5 | 305 | 10 38 | + 4 | — | — | — | — | |
| Zô-Sè | 67.7 | 317 | i 10 37 _a | + 2 | i 19 20 | + 7 | — | — | |
| Wakkanai | 68.8 | 340 | e 10 44 | + 2 | 19 32 | + 6 | e 20 6 | PS | |
| Yuzno-Sakhlinsk | 69.8 | 341 | i 10 50 | + 2 | i 19 43 | + 5 | — | — | |
| Nanking | 69.9 | 316 | i 10 50 _a | + 2 | 19 47 | + 8 | i 11 43 | pP | |
| Vladivostok | 70.6 | 333 | i 10 54 | + 1 | i 19 52 | + 5 | i 11 51 | pP | |
| Mitchell Field | 71.7 | 10 | e 10 58 | - 1 | e 20 1 | + 1 | — | — | |
| Ulegorsk | 71.9 | 342 | i 11 2 | + 2 | i 20 7 | + 5 | — | — | |
| Petropavlovsk | 72.4 | 353 | i 11 3 | 0 | i 20 8 | + 1 | — | — | |
| Klyuchi | 75.3 | 356 | i 11 20 | 0 | 20 42 | + 2 | — | — | |
| Heard Island | 78.4 | 218 | i 11 44 | + 7 | e 21 19 | + 6 | i 12 31 | pP | |
| Magadan | 79.7 | 351 | i 11 43 | - 1 | 21 24 | - 2 | — | — | |
| Berkeley | 85.8 | 49 | i 12 13 _a | - 2 | e 22 13 | [- 3] | i 13 13 | pP | |
| Arcata | 86.0 | 45 | e 12 16 | 0 | e 22 18 | [0] | — | — | |
| Lick | 86.0 | 49 | i 12 14 _a | - 2 | e 22 15 | [- 3] | i 13 16 | pP | |
| Fresno | 87.0 | 50 | i 12 19 _a | - 2 | i 13 29 | sP | i 23 14 | pP? | |
| Shasta | 87.0 | 46 | i 12 18 _a | - 3 | e 22 35 | - 4 | i 13 20 | pP | |
| Pasadena | 87.1 | 53 | i 12 19 _a | - 3 | i 22 40 | 0 | i 13 21 | pP i 36.0 | |
| Shillong | 87.1 | 298 | e 12 22 | 0 | e 22 24 | [- 1] | 22 49 | ScS 32.2 | |
| Woody | z. | 87.2 | 51 | i 12 19 _a | - 3 | e 38 24 | P'P' | i 13 23 | pP |
| Mineral | z. | 87.4 | 46 | i 12 20 _a | - 3 | i 15 51 | PP | e 38 15 | P'P' |
| Barratt | z. | 87.6 | 54 | 12 9 _a | -15 | i 15 39 | PP | e 39 11 | ? |
| Riverside | 87.6 | 53 | i 12 20 _a | - 4 | i 13 49 | sP | i 13 24 | pP | |
| Palomar | z. | 87.7 | 54 | i 12 22 _a | - 2 | i 15 55 | PP | i 38 25 | P'P' |
| China Lake | 88.2 | 51 | i 12 24 | - 3 | i 15 57 | PP | i 13 14 | pP | |
| Kyakhta | 88.2 | 325 | i 12 27 | 0 | 22 31 | [- 1] | 13 24 | pP | |
| Reno | 88.2 | 47 | i 12 25 _a | - 2 | e 22 27 | [- 5] | i 15 56 | PP | |
| Corvallis | 88.3 | 42 | i 12 26 | - 1 | e 22 31 | [- 2] | — | — | |
| Tinemaha | 88.3 | 51 | i 12 25 | - 2 | i 22 47 | - 4 | i 13 27 | pP e 42.6 | |
| Calcutta | E. | 88.9 | 294 | i 12 32 | + 2 | i 22 39 | [+ 3] | 13 30 | pP |
| Kabansk | 89.0 | 327 | i 12 31 | + 1 | i 23 1 | + 4 | i 13 28 | pP | |
| Sitka | 89.1 | 28 | i 12 28 | - 3 | e 22 35 | [- 2] | — | — | |
| College | 89.9 | 18 | i 12 34 | - 1 | e 22 43 | [+ 1] | i 23 3 | S | |
| Nelson | 90.2 | 53 | e 12 34 | - 2 | e 22 41 | [- 3] | e 15 53 | PP e 37.2 | |
| Boulder City | 90.3 | 53 | i 12 34 | - 3 | i 22 45 | [+ 1] | i 38 30 | P'P' | |
| Irkutsk | 90.4 | 326 | i 12 36 | - 1 | 22 44 | [- 1] | i 13 33 | pP | |
| Chatra | 91.4 | 298 | i 12 45 | + 3 | i 22 53 | [+ 2] | 12 54 | PcP 37.7 | |
| Colombo | E. | 91.4 | 277 | 13 40 | pP | i 22 53 | [+ 2] | 25 2 | sS |
| Punta Arenas | N. | 91.6 | 149 | e 11 58 | -45 | 22 17 | [-35] | 13 7 | pP |
| Tucson | 92.0 | 57 | i 12 42 | - 2 | 22 55 | [+ 1] | i 13 37 | pP e 38.0 | |
| Madras | E. | 93.1 | 283 | i 13 49 | +59 | i 23 0 | [0] | 16 31 | PP 36.3 |
| Guadalajara | 94.4 | 69 | i 13 57 | pP | e 25 5 | SP | e 25 47 | PS | |
| Chihuahua | 94.6 | 61 | e 13 0 | + 4 | e 23 5 | [- 4] | e 25 7 | SP | |
| Kodaikanal | E. | 94.7 | 280 | i 13 55 | +58 | i 23 13 | [+ 4] | 16 40 | PP 36.3 |
| Logan | 94.7 | 47 | e 12 54 | - 3 | — | — | — | — | |
| Butte | 95.7 | 43 | i 12 59 | - 2 | e 23 16 | [+ 2] | — | — | |
| Hungry Horse | 95.7 | 41 | i 12 58 | - 3 | i 29 44 | PKKP | e 38 2 | P'P' i 39.1 | |
| Bozeman | 96.6 | 44 | e 13 2 | - 3 | i 23 18 | [- 1] | — | — | |
| Tacubaya | 97.8 | 72 | i 13 9 _a | - 2 | e 23 13 | [-13] | e 25 45 | sS e 41.1 | |

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| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Puebla | 98.5 | 73 | e 17 | 5 | ? | e 24 | 9 | -10 | e 17 | 25 | PP | — |
| Oaxaca | 99.3 | 74 | i 13 | 16 | -2 | e 17 | 24 | PP | e 25 | 30 | pS | — |
| Lubbock | 99.6 | 58 | 13 | 17 | -2 | 23 | 31 | [-3] | — | — | — | — |
| Concepción | 100.0 | 133 | e 12 | 31 | -50 | e 23 | 38 | [+2] | 26 | 40 | PS | — |
| New Delhi | 100.4 | 297 | e 13 | 24 | +1 | i 24 | 36 | +1 | i 23 | 35 | SKS | 39.1 |
| Poona | N. 100.5 | 286 | i 14 | 19 | +56 | i 23 | 37 | [-1] | 17 | 3 | PP | 36.3 |
| Vera Cruz | 100.5 | 73 | e 13 | 26 | +3 | e 23 | 38 | [0] | i 24 | 49 | S | — |
| Saskatoon | 101.4 | 39 | 13 | 22 | -5 | e 23 | 22 | [-21] | e 17 | 27 | PP | — |
| Bombay | 101.6 | 286 | e 13 | 32 | +4 | i 23 | 46 | [+2] | i 17 | 28 | PP | — |
| Santa Lucia | N. 102.8 | 132 | 18 | 1 | PP | e 24 | 56 | +1 | 26 | 47 | PS | — |
| Przhevalsk | 103.0 | 311 | e 13 | 38 | +4 | 23 | 53 | [+2] | — | — | — | — |
| Almata | 104.2 | 312 | i 13 | 42 | +2 | i 23 | 56 | [0] | e 14 | 36 | pP | — |
| Naryn | 104.5 | 309 | 13 | 45 | +4 | i 24 | 1 | [+4] | e 14 | 43 | pP | — |
| Rybach'e | 104.7 | 310 | e 13 | 42 | 0 | i 24 | 1 | [+3] | i 24 | 46 | SKKS | — |
| Frunse | 105.8 | 311 | i 13 | 47 | 0 | i 24 | 5 | [+2] | i 14 | 49 | pP | — |
| Fayetteville | 106.3 | 57 | i 13 | 46 ^a | -3 | e 25 | 29 | +4 | e 18 | 11 | PP | — |
| Warsak Dam | E. 106.4 | 302 | e 13 | 49 | 0 | i 24 | 5 | [-1] | i 14 | 49 | pP | — |
| Merida | 106.8 | 73 | e 18 | 21 | PP | e 24 | 6 | [-2] | e 19 | 4 | pPP | — |
| Khorog | 107.0 | 305 | e 13 | 54 | +2 | — | — | — | i 14 | 53 | pP | — |
| Andijan | 107.1 | 307 | i 13 | 53 | +1 | i 24 | 13 | [+4] | i 14 | 53 | pP | — |
| Fergana | 107.4 | 308 | e 13 | 55 | +1 | e 23 | 59 | [-11] | e 14 | 54 | pP | — |
| Namangan | 107.6 | 308 | i 13 | 56 | +1 | e 24 | 11 | [0] | i 14 | 53 | pP | — |
| Dzhergetal | 107.7 | 307 | e 13 | 59 | +4 | — | — | — | — | — | — | — |
| Antofagasta | E. 108.2 | 123 | e 18 | 35 | PP | 29 | 7 | PPS | 27 | 16 | SP | — |
| Kulyab | 108.5 | 305 | — | — | — | 24 | 21 | [+6] | — | — | — | — |
| Lunacharskoe | 109.4 | 308 | 14 | 3 | +1 | e 24 | 21 | [+2] | 15 | 1 | pP | — |
| Quetta | 109.4 | 296 | e 14 | 6 | +4 | i 24 | 23 | [+4] | i 15 | 3 | pP | — |
| Stalinabad | 109.4 | 306 | i 14 | 3 | +1 | i 24 | 21 | [+2] | 25 | 17 | SKKS | — |
| Tchimkent | 109.4 | 310 | 18 | 35 | PP | i 24 | 1 | [-18] | i 27 | 49 | SP | — |
| Huancayo | 109.5 | 111 | e 14 | 9 | +7 | e 24 | 1 | [-18] | e 28 | 44 | SP | e 44.3 |
| Tashkent | 109.5 | 308 | i 14 | 2 | 0 | i 24 | 23 | [+4] | i 14 | 59 | pP | — |
| Resolute Bay | 109.8 | 16 | e 14 | 2 ^a | -2 | e 24 | 15 | [-6] | e 15 | 1 | pP | — |
| St. Louis | 109.9 | 55 | i 14 | 5 | +1 | i 24 | 27 | [+6] | — | — | — | — |
| Buenos Aires | 110.2 | 140 | 18 | 38 | PP | 27 | 40 | SP | — | — | — | — |
| La Plata | N. 110.3 | 140 | e 18 | 7 | [+2] | 24 | 7 | [-16] | 14 | 37 | P | 44.7 |
| Samarkand | 111.0 | 306 | e 18 | 3 | [-3] | — | — | — | e 14 | 12 | P | — |
| Tananarive | 111.3 | 240 | 18 | 9 | [+3] | e 24 | 28 | [+1] | i 29 | 15 | SPP | 45.3 |
| Chicago | 112.2 | 52 | e 16 | 31 | ? | — | — | — | i 18 | 54 | PP | — |
| La Paz | 113.7 | 119 | i 14 | 23 | P | i 24 | 33 | [-3] | i 34 | 28 | SS | 52.0 |
| Cincinnati | 114.4 | 55 | e 18 | 2 | [-10] | — | — | — | i 14 | 24 | P | — |
| Bairam-Ali | 114.5 | 304 | i 18 | 7 | [-6] | e 14 | 30 | P | 15 | 26 | pP | — |
| Chinchina | 115.6 | 94 | e 18 | 18 | [+3] | e 30 | 20 | PPS | e 14 | 32 | P | — |
| Sverdlovsk | 115.7 | 325 | i 18 | 17 | [+2] | i 24 | 44 | [+1] | i 14 | 31 | P | — |
| Columbia | 116.6 | 60 | e 14 | 34 | P | — | — | — | — | — | — | — |
| Cleveland | 116.8 | 52 | i 18 | 18 | [+1] | i 24 | 44 | [-4] | e 14 | 32 ^a | P | — |
| Grahamstown | z. 116.8 | 215 | i 18 | 17 | [0] | — | — | — | e 28 | 45 | PKKP | — |
| Bogota | 116.9 | 95 | e 14 | 38 | P | e 29 | 21 | PS | i 19 | 31 | PP | — |
| Pietermaritzburg | z. 117.3 | 221 | e 18 | 18 | [0] | — | — | — | e 28 | 49 | PKKP | — |
| Ashkabad | 117.5 | 304 | 18 | 20 | [+1] | i 26 | 19 | SKKS | e 14 | 43 | P | — |
| Kirkland Lake | z. 117.8 | 45 | e 18 | 18 | [-1] | e 14 | 51 | P | i 19 | 33 | PP | — |
| Kingston | 117.9 | 79 | e 19 | 36 | PP | e 21 | 27 | SKP | e 38 | 6 | P'P' | — |
| Morgantown | 117.9 | 55 | e 14 | 40 | P | — | — | — | e 15 | 31 | pP | — |
| Buffalo (Larkin) | 118.9 | 51 | e 14 | 44 | P | — | — | — | i 19 | 40 | PP | — |
| Kizyl-Arvat | 119.2 | 306 | i 18 | 21 | [-1] | i 24 | 51 | [-5] | i 19 | 51 | PP | — |
| Washington | 120.1 | 56 | e 18 | 23 | [-1] | — | — | — | e 14 | 50 | P | — |
| Ottawa | 121.0 | 48 | i 18 | 22 ^a | [-4] | 24 | 56 | [-6] | i 19 | 58 | PP | — |
| Kimberley | z. 121.3 | 217 | i 18 | 26 | [0] | — | — | — | i 28 | 27 | PKKP | — |
| Pretoria | z. 121.4 | 223 | e 18 | 27 | [0] | — | — | — | i 28 | 27 | PKKP | — |
| Philadelphia | 121.6 | 55 | e 18 | 22 | [-5] | — | — | — | e 14 | 53 | P | — |
| Fordham | 122.5 | 53 | i 18 | 26 | [-3] | — | — | — | e 15 | 2 | P | — |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|------------------|--------------|--------------|------|-----------------|--------|------|----|---------------------|-------|-----------------|------|--------|
| | ^a | ^c | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Palisades | 122.5 | 53 | i 18 | 27 | [- 2] | i 25 | 5 | [- 2] | i 14 | 39 | P | e 47.4 |
| Shawinigan Falls | 122.9 | 46 | 18 | 28 | [- 2] | 25 | 11 | [+ 3] | 29 | 36 | SP | — |
| Baku | 124.1 | 307 | i 18 | 34 | [+ 2] | — | — | — | i 19 | 34 | pP' | — |
| Seven Falls | 124.1 | 46 | e 18 | 33? | [+ 1] | 25 | 7? | [- 5] | 26 | 49? | SKKS | — |
| Harvard | 124.2 | 51 | i 18 | 29 | [- 3] | e 25 | 8 | [- 4] | e 15 | 8 _a | P | — |
| Weston | 124.4 | 51 | i 18 | 30 | [- 2] | e 25 | 11 | [- 2] | e 15 | 9 _a | P | — |
| Lenkoran | 125.0 | 305 | 18 | 36 | [+ 2] | — | — | — | — | — | — | — |
| Shemakla | 125.0 | 307 | i 18 | 33 | [- 1] | 25 | 16 | [+ 1] | — | — | — | — |
| Kirovobad | 126.7 | 307 | i 18 | 37 | [0] | — | — | — | i 19 | 38 | pP' | — |
| Goris | 126.9 | 306 | 18 | 38 | [+ 1] | 25 | 17 | [- 3] | 15 | 23 | P | — |
| Kiruna | 127.3 | 346 | e 18 | 27 | [- 11] | i 30 | 41 | PKKS | i 18 | 37 _a | PKP | e 49.0 |
| Duzheti | 127.8 | 309 | 18 | 44 | [+ 5] | — | — | — | — | — | — | — |
| Tiflis | 127.8 | 309 | i 18 | 41 | [+ 2] | i 27 | 19 | SKKS | i 19 | 44 | pP' | — |
| San Juan | 128.0 | 81 | i 18 | 36 | [- 3] | — | — | — | i 20 | 42 | PP | — |
| Scoresby Sund | 128.1 | 5 | i 18 | 38 | [- 2] | i 36 | 15 | P _c S,P' | i 19 | 41 | pP | — |
| Erevan | 128.2 | 307 | i 18 | 37 | [- 3] | i 22 | 7 | PKS | i 19 | 39 | pP' | — |
| Moscow | 128.4 | 328 | e 18 | 39 | [- 1] | 27 | 18 | SKKS | e 15 | 26 | P | — |
| Leninakan | 128.6 | 308 | e 18 | 41 | [0] | — | — | — | — | — | — | — |
| Piatigorsk | 128.7 | 312 | 18 | 44 | [+ 3] | i 25 | 17 | [- 8] | i 22 | 10 | PKS | — |
| Borzhomi | 128.8 | 308 | i 18 | 41 | [0] | — | — | — | i 19 | 40 | pP' | — |
| Tsikhli Dzhvari | 128.8 | 308 | i 18 | 45 | [+ 4] | — | — | — | — | — | — | — |
| Akhalkalaki | 128.9 | 308 | 18 | 45 | [+ 4] | — | — | — | — | — | — | — |
| Abastumanj | 129.2 | 308 | e 18 | 43 | [+ 1] | — | — | — | — | — | — | — |
| Halifax | 129.6 | 48 | e 18 | 40 | [- 2] | 30 | 47 | SP | e 15 | 32 | P | — |
| Pulkovo | 129.7 | 334 | e 18 | 42 | [- 1] | e 25 | 22 | [- 6] | i 19 | 45 | pP' | — |
| Zugdidi | 129.8 | 310 | i 18 | 47 | [+ 4] | i 22 | 11 | PKS | i 27 | 31 | SKKS | — |
| Bermuda | 130.3 | 64 | i 18 | 42 | [- 2] | i 22 | 8 | PKS | i 20 | 58 | PP | — |
| Sotchi | 131.1 | 312 | e 18 | 43 | [- 2] | i 22 | 15 | PKS | i 19 | 45 | pP' | — |
| Helsinki | 131.5 | 338 | e 21 | 9 | PP | i 22 | 12 | PKS | — | — | — | — |
| Fort de France | 131.9 | 88 | i 18 | 44 | [- 3] | i 22 | 17 | PKS | e 21 | 13 | PP | — |
| Theodosia | 133.7 | 315 | e 18 | 51 | [+ 1] | i 22 | 22 | PKS | i 19 | 53 | pP' | — |
| Upsala | 134.3 | 341 | i 18 | 37 | [- 14] | i 31 | 4 | SKSP | i 18 | 52 | PKP | — |
| | 134.3 | 341 | e 18 | 48 | [- 3] | i 39 | 0 | SS | e 19 | 43 | pP' | e 53.0 |
| Yalta | 134.7 | 315 | i 18 | 52 | [0] | i 22 | 26 | PKS | i 19 | 55 | pP' | — |
| Ksara | 135.9 | 299 | i 18 | 55 | [+ 1] | e 22 | 8 | PP | 19 | 56 | pP | — |
| Kishinev | 137.2 | 320 | i 18 | 58 | [+ 1] | i 22 | 31 | PKS | i 19 | 58 | pP' | — |
| Iasi | 137.8 | 322 | e 18 | 57 | [- 1] | e 19 | 8 | ? | e 21 | 48 | PP | — |
| Cernauti | 138.2 | 323 | e 19 | 1 | [+ 3] | — | — | — | — | — | — | — |
| Bacau | 138.5 | 320 | e 19 | 3 | [+ 4] | — | — | — | — | — | — | — |
| Focsani | 138.8 | 319 | e 19 | 5 | [+ 5] | — | — | — | — | — | — | — |
| Copenhagen | 139.3 | 340 | i 18 | 52 | [- 8] | i 22 | 36 | PKS | 32 | 6 | SP | — |
| Istanbul | 139.4 | 312 | e 18 | 53 | [- 8] | e 25 | 30 | [- 17] | 20 | 2 | pP' | — |
| Bucharest | 140.0 | 318 | e 19 | 1 | [- 1] | e 30 | 24 | ? | i 22 | 3 | PP | — |
| Uzhgorod | 140.1 | 326 | e 18 | 56 | [- 6] | — | — | — | — | — | — | — |
| Helwan | 140.2 | 294 | i 18 | 57 _a | [- 5] | 40 | 10 | SS | i 20 | 5 | pP' | — |
| Campulung | 140.3 | 320 | e 19 | 7 | [+ 5] | — | — | — | — | — | — | — |
| Skalnate Pleso | 140.8 | 328 | 18 | 57 | [- 6] | e 31 | 50 | SKSP | e 22 | 10 | PP | e 57.5 |
| Raciborzu | 141.2 | 330 | e 18 | 58 | [- 6] | i 22 | 41 | PKS | e 22 | 8 | PP | 40.5 |
| Aberdeen | 141.3 | 353 | i 19 | 14 | [+ 10] | i 22 | 44 | PKS | i 20 | 21 | pP' | e 59.5 |
| Potsdam | 141.7 | 337 | i 18 | 59 _a | [- 6] | i 22 | 44 | PKS | i 20 | 0 | pP' | e 58.0 |
| Timisoara | E. 142.3 | 324 | e 19 | 5 | [- 1] | e 22 | 49 | PKS | — | — | — | — |
| Budapest | 142.5 | 326 | i 19 | 3 | [- 3] | 40 | 37 | SS | 22 | 18 | PP | e 53.0 |
| Collnberg | 142.6 | 335 | e 19 | 2 | [- 5] | e 34 | 40 | PPS | i 22 | 21 | PP | — |
| Sofia | 142.6 | 317 | i 19 | 6 | [- 1] | i 40 | 36 | SS | i 19 | 21 | ? | 53.5 |
| Edinburgh | E. 142.7 | 353 | 19 | 1 | [- 6] | 40 | 31 | SS | 22 | 27 | PP | — |
| Ogyalla | 142.7 | 327 | i 19 | 7 | [0] | 46 | 7 | SSS | e 20 | 9 | pP' | e 57.5 |
| Szeged | 142.7 | 325 | e 19 | 5 | [- 2] | 25 | 59 | [+ 7] | i 19 | 55 | pP' | — |
| Prague | 143.0 | 333 | i 19 | 4 _a | [- 3] | e 40 | 47 | sS | e 20 | 8 | pP' | e 59.0 |
| Kalossa | N. 143.1 | 326 | 19 | 7 | [0] | 25 | 41 | [- 12] | 19 | 47 | pP' | — |
| Belgrade | 143.3 | 321 | i 19 | 5 _a | [- 3] | e 26 | 18 | [+ 25] | i 40 | 46 | SS | e 54.8 |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------------|------------|------------|------|-----------------|-------|------|----|------------------|-------|----|------------------|--------|
| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Vienna | 143.4 | 329 | i 19 | 5 | [- 3] | e 29 | 0 | SKKS | i 20 | 12 | pP' | — |
| Jena | 143.5 | 335 | e 19 | 5 | [- 3] | e 40 | 29 | SS | e 20 | 6 | pP' | — |
| Witteveen | z. 143.5 | 343 | e 20 | 8 | pP' | — | — | — | — | — | — | — |
| Durham | 143.6 | 351 | i 19 | 5 | [- 3] | — | — | — | — | — | — | — |
| Cheb | 143.8 | 335 | i 19 | 6 | [- 3] | i 25 | 47 | [- 7] | i 20 | 9 | pP' | — |
| Athens | 144.4 | 309 | i 19 | 8 _a | [- 2] | e 26 | 7 | [+12] | i 19 | 58 | pP' | — |
| De Bilt | 144.6 | 343 | i 19 | 9 _a | [- 1] | i 22 | 35 | PKS | i 20 | 12 | pP' | — |
| Rathfarnham Castle | 145.6 | 355 | i 19 | 11 _a | [- 1] | e 25 | 45 | [-11] | i 20 | 3 | pP' | — |
| Uccle | 146.0 | 344 | e 19 | 11 | [- 1] | e 29 | 19 | SKKS | i 20 | 13 | pP' | e 64.0 |
| Stuttgart | 146.1 | 336 | e 19 | 11 _a | [- 1] | e 46 | 43 | SSS | i 20 | 17 | pP' | e 71.0 |
| Karlsruhe | 146.2 | 337 | i 19 | 12 _a | [- 1] | e 41 | 1 | SS | i 20 | 16 | pP' | e 73.0 |
| Triest | 146.4 | 329 | i 19 | 13 | [0] | e 26 | 6 | [+ 9] | i 20 | 14 | pP' | 55.8 |
| Kew | 146.5 | 348 | i 19 | 12 _a | [- 1] | e 29 | 27 | SKKS | i 20 | 6 | pP' | e 52.0 |
| Strasbourg | 146.8 | 337 | i 19 | 13 | [- 1] | i 41 | 19 | SS | i 20 | 16 | pP' | — |
| Chur | 147.5 | 334 | e 19 | 14 _a | [- 1] | i 19 | 17 | PKP | i 19 | 21 | ? | — |
| Zürich | 147.5 | 335 | e 19 | 13 _a | [- 2] | e 22 | 43 | PP | e 20 | 20 | pP' | — |
| Basle | 147.7 | 336 | e 19 | 13 _a | [- 2] | e 22 | 49 | PP | e 20 | 21 | pP' | — |
| Taranto | 147.7 | 318 | e 19 | 38 | [+23] | 41 | 34 | SS | e 22 | 44 | PP | 72.1 |
| Salo | 148.0 | 331 | e 19 | 21 | [+ 5] | e 29 | 3 | SKKS | i 19 | 28 | PKP ₂ | — |
| Paris | 148.3 | 344 | e 19 | 16 | [0] | i 22 | 53 | PP | i 20 | 17 | pP' | — |
| Neuchatel | 148.4 | 337 | e 19 | 15 | [- 1] | — | — | — | — | — | — | — |
| Bologna | 148.5 | 330 | i 19 | 20 | [+ 4] | e 22 | 53 | PKS | i 20 | 25 | pP' | — |
| Florence | 149.0 | 328 | i 19 | 16 | [- 1] | i 25 | 29 | [-32] | 29 | 26 | SKKS | — |
| Pavia | 149.0 | 333 | i 19 | 17 _a | [0] | i 41 | 43 | SS | e 20 | 9 | pP' | — |
| Prato | 149.0 | 328 | e 19 | 16 | [- 1] | — | — | — | e 30 | 53 | ? | — |
| Chambon-la Forêt | 149.1 | 344 | e 19 | 18 | [+ 1] | i 19 | 24 | PKP ₂ | i 20 | 24 | pP' | — |
| Oropa | 149.1 | 335 | i 19 | 20 | [+ 3] | e 26 | 20 | [+19] | i 22 | 49 | PP | — |
| Siena | 149.3 | 328 | e 19 | 21 | [+ 4] | i 22 | 58 | PKS | i 19 | 46 | PKP ₂ | — |
| Rocca di Papa | 149.6 | 324 | e 19 | 16 | [- 2] | e 41 | 58 | SS | i 20 | 29 | pP' | — |
| Rome | 149.7 | 324 | i 19 | 15 _a | [- 3] | i 25 | 25 | [-37] | i 20 | 29 | pP' | — |
| Messina | 150.0 | 316 | i 19 | 17 _a | [- 1] | i 41 | 49 | SS | i 20 | 29 | pP' | — |
| Reggio Calabria | 150.0 | 316 | e 19 | 20 | [+ 2] | — | — | — | — | — | — | — |
| Clermont-Ferrand | 150.9 | 340 | e 19 | 21 | [+ 1] | i 33 | 34 | PS | i 20 | 24 | pP' | — |
| Barcelona | 155.0 | 338 | e 19 | 28 | [+ 2] | e 43 | 17 | SS | 23 | 31 | PP | — |
| Angra do Heroismo | 155.9 | 33 | i 19 | 30 | [+ 3] | i 22 | 50 | PKS | i 45 | 33 | ? | — |
| Tortosa | 156.1 | 338 | i 19 | 30 | [+ 3] | — | — | — | i 23 | 36 | PP | — |
| Toledo | 158.3 | 346 | i 19 | 30 _a | [0] | 26 | 4 | [- 7] | i 20 | 34 | pP' | — |
| Algiers Univ. | z. 158.4 | 328 | e 19 | 30 | [0] | e 20 | 9 | PKP ₂ | e 20 | 33 | pP' | — |
| Alicante | 158.6 | 338 | i 19 | 30 | [0] | 26 | 4 | [- 8] | 37 | 16 | PPS | 75.0 |
| Coimbra | 158.8 | 354 | 19 | 31 _a | [0] | 43 | 38 | SS | 20 | 9 | PKP ₂ | — |
| Lisbon | 160.3 | 355 | i 19 | 33 _a | [+ 1] | 26 | 23 | [+10] | i 20 | 35 | PKP ₂ | 68.7 |
| Almeria | 160.7 | 340 | i 19 | 34 | [+ 1] | 44 | 6 | SS | 23 | 4 | PKS | 72.8 |
| Granada | 160.7 | 343 | i 19 | 31 _k | [- 2] | 26 | 48 | [+34] | 21 | 16 | pP' | 65.5 |
| Malaga | 161.4 | 344 | i 19 | 35 | [+ 2] | i 28 | 1 | PPP | i 24 | 3 | PP | 79.1 |
| Tamanrasset | z. 164.1 | 286 | e 19 | 35 | [- 1] | e 26 | 18 | [+ 2] | i 20 | 34 | pP' | — |
| Averroes | 165.4 | 348 | 19 | 39 | [+ 2] | 24 | 28 | PP | 20 | 36 | pP' | — |
| M'Bour | 172.7 | — | i 19 | 39 | [- 3] | i 31 | 38 | SKKS | i 20 | 39 | pP' | e 76.8 |

July 2d. 8h. 48m. Epicentre 41°·25N, 144°·75E. Depth 60km.

Intensity IV at Kushiro; II-III at Urakawa.

Seismo. Bull. Cent. Met. Obs., Japan, for July, 1953, Tokyo, 1953, p.9, with macroseismic chart.

July 2d. 11h. 8m. Epicentre 38°·8N, 70°·7E.

Bulletin of Seismo. Stations of U.S.S.R. for 1953, July-Sept., Moscow, 1954, p.63.

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1953

400

July 2d. 13h. 31m. 20s. Epicentre 16°·0S. 76°·0W. Focus at Base of Superficial Layers.
(as on 1952, September 18d.).

A = +·2327, B = -·9332, C = -·2739; $\delta = +3$; $h = +6$;
D = -·970, E = -·242; G = -·066, H = +·266, K = -·962.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|--------------|--------------|----------|------|---------|-------------------|----------|-----------------|
| | ^e | ^e | m. s. | s. | m. s. | s. | m. s. | m. |
| Huancayo | 4·0 | 9 | i 1 0 | 0 | i 1 25 | -22 | — | — |
| La Paz | 7·6 | 95 | i 1 44 | -7 | i 3 10 | -7 | i 8 20 | PcP |
| Antofagasta | E. 9·3 | 146 | 3 36 | +81 | 5 22 | ? | 7 47 | ? |
| Santa Lucia | 18·0 | 166 | 4 20 | +11 | — | — | — | — |
| Bogota | N. 20·6 | 5 | e 4 39 | 0 | e 8 34 | +12 | — | — |
| Chinchina | 20·8 | 3 | e 4 41 | 0 | e 8 35 | +9 | — | 9·7 |
| Buenos Aires | 24·3 | 142 | 5 16 | +1 | — | — | — | e 12·6 |
| La Plata | 24·8 | 142 | 5 16 | -4 | 9 34 | -4 | 12 4 | Q 12·4 |
| Tacubaya | 41·9 | 326 | 7 53 | +4 | — | — | e 8 5 | pP |
| Fayetteville | 54·6 | 342 | i 9 28 | 0 | e 17 8 | +5 | i 9 44 | pP |
| Washington | 54·6 | 0 | e 9 28 | 0 | — | — | — | — |
| Philadelphia | 55·7 | 2 | e 9 34 | -1 | e 17 18 | 0 | — | — |
| Fordham | 56·6 | 3 | e 9 39 | -3 | e 17 30 | 0 | — | — |
| Cleveland | 57·4 | 355 | i 9 48k | 0 | e 17 40 | 0 | i 19 35 | ScS |
| Weston | 58·2 | 4 | i 9 55k | +2 | — | — | — | — |
| Harvard | 58·4 | 4 | i 9 53a | -2 | e 17 57 | +3 | — | e 31·5 |
| Tucson | 58·4 | 326 | e 9 56 | +1 | — | — | i 10 7 | pP e 30·0 |
| Buffalo (Larkin) | 58·6 | 358 | e 9 55 | -1 | — | — | — | — |
| Ottawa | 61·1 | 0 | e 10 11a | -2 | 18 24 | -4 | 12 31 | PP 24·9 |
| Halifax | 61·4 | 11 | — | — | e 18 32 | 0 | 19 53 | ScS 24·9 |
| Shawinigan Falls | N. 62·3 | 4 | e 10 23 | +2 | — | — | — | — |
| Palomar | Z. 62·7 | 322 | e 10 29 | +5 | — | — | i 10 36 | pP |
| Seven Falls | E. 63·0 | 5 | — | — | 18 54 | +2 | 20 13 | ScS |
| Nelson | 63·2 | 325 | e 10 33 | +6 | — | — | i 10 41 | pP |
| Boulder City | 63·4 | 325 | e 10 28 | 0 | — | — | e 10 33 | ? |
| Riverside | Z. 63·4 | 322 | e 10 35 | +7 | — | — | e 10 42 | pP |
| Kirkland Lake | Z. 64·0 | 357 | e 10 33 | +1 | — | — | — | — |
| Pasadena | 64·0 | 322 | e 10 40 | +8 | i 10 53 | sP | i 10 46 | pP |
| Woody | Z. 65·5 | 324 | e 10 40 | -2 | e 10 55 | sP | e 10 48 | pP |
| Tinemaha | 66·1 | 324 | e 10 53 | +7 | — | — | i 11 0 | pP |
| Logan | 66·3 | 332 | e 10 50 | +3 | — | — | — | — |
| Lick | Z. 68·3 | 322 | i 11 13a | pP | — | — | e 11 30 | PcP |
| Reno | Z. 68·7 | 325 | e 11 9k | +7 | — | — | — | — |
| Butte | 70·0 | 334 | e 11 14 | +4 | — | — | — | — |
| Mineral | Z. 70·3 | 324 | e 11 24a | pP | — | — | e 11 51 | ? |
| Shasta | Z. 70·9 | 324 | e 11 19 | +3 | e 11 30 | sP | e 11 26 | pP |
| Hungry Horse | 72·5 | 335 | e 11 18 | -7 | — | — | i 11 28 | P |
| Malaga | 85·4 | 50 | i 12 34 | -1 | i 23 4 | +2 | e 18 0 | PPP 41·6 |
| Granada | 86·1 | 50 | i 12 39a | 0 | i 23 12 | +3 | 13 27 | ? |
| Almeria | 86·8 | 50 | 12 45 | +3 | 23 29 | +13 | 16 9 | PP 45·8 48·6 |
| Tamanrasset | Z. 88·5 | 66 | e 12 50 | 0 | — | — | e 13 0 | pP |
| Tortosa | 90·4 | 48 | e 20 17 | ? | — | — | — | e 47·7 |
| Resolute Bay | 91·3 | 355 | — | — | e 23 59 | +2 | — | — |
| Clermont-Ferrand | 93·9 | 44 | — | — | e 23 53 | [+7] | — | 52·2 |
| Scoresby Sund | 93·9 | 16 | — | — | e 24 24 | +4 | e 25 42 | PS |
| Paris | 94·5 | 40 | e 13 19 | +1 | 24 29 | +4 | e 25 49 | PS e 48·7 |
| College | 96·9 | 336 | e 13 31 | +2 | — | — | — | — |
| Oropa | 97·1 | 46 | e 13 46 | pP | e 23 58 | [-5] | e 24 10 | SKS |
| Pavia | 97·8 | 45 | e 26 40? | ? | — | — | — | e 48·4 |
| Strasbourg | 97·8 | 42 | e 26 16 | PS | e 24 52 | -1 | e 24 10 | SKS e 47·7 |
| Stuttgart | 98·7 | 42 | e 13 37 | 0 | e 24 28 | [+17] | e 26 28 | SP e 48·7 |
| Rome | 99·4 | 49 | e 13 38 | -2 | e 25 7 | +1 | e 24 28? | SKS |
| Messina | 100·9 | 53 | e 13 13 | -34 | e 24 17 | [-5] | e 39 59 | ? |
| Potsdam | 101·9 | 39 | — | — | e 24 34 | [+7] | e 42 40 | Q e 52·7 |
| Copenhagen | 102·2 | 36 | — | — | e 24 46 | sSKS | — | 50·7 |
| Taranto | 102·6 | 52 | e 19 15 | ? | e 37 25 | SKKS ₂ | e 41 40 | P'PKS |
| Kiruna | 107·1 | 25 | e 18 52 | PP | e 24 46 | [-4] | e 27 51 | PS e 52·7 |
| Ksara | 116·7 | 60 | e 15 3 | P | e 23 1 | ? | — | — |

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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July 2d. 14h. 32m. Epicentre 41°·6N. 144°·5E. Depth 60km.

Intensity II-III at Kushiro.

Seismo. Bull. Cent. Met. Obs., Japan, for July, 1953, Tokyo, 1953, p. 10, with macroseismic chart.

July 3d. 2h. 37m. Epicentre : 39°·2N. 23°·4E. (Rome).

39°·2N. 23°·5E. (Strasbourg).

Felt in Province of Volos, Intensity V at Argalasti, IV at Zagora and Portaria, and in the Islands of Skiathos (Intensity V), Euboea (Intensity IV-V at Prokopion, IV at Hag., Anna, etc.), and Skyros (Intensity III).

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, p. 71.

July 3d. 2h. 45m. Epicentre 39°·2N. 23°·5E. (Strasbourg).

After-shock of previous earthquake.

Intensity V at Argalasti ; IV at Zagora and Prokopion ; and V in the Island of Skiathos.

Loc. cit. 2h. 37m.

July 3d. 10h. 22m. Caucasus region. Epicentre 40°·4N. 43°·3E.

Bulletin of Seismo. Stations of the U.S.S.R. for July-September, 1953, Moscow, 1954, p. 63.

July 3d. 18h. 29m. 18s. Epicentre 56°·5S. 26°·3W. (as on 1951, November 22d.).

A = +·4971, B = -·2457, C = -·8322 ; $\delta = +3$; $h = -8$;

D = -·443, E = -·896 ; G = -·746, H = +·369, K = -·554.

| | | Δ | Az. | P. | O - C. | S. | O - C. | Supp. | L. |
|--------------------|----|----------|-----|----------|--------|----------|--------|---------|------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Punta Arenas | N. | 25·6 | 260 | e 5 10 | -22 | e 9 47 | -12 | — | — |
| La Plata | E. | 30·4 | 302 | 6 30 | +14 | (11 36) | +20 | 9 24 | PcP 11·6 |
| Buenos Aires | | 31·0 | 302 | 6 20 | -1 | i 11 51 | +25 | — | — |
| Kimberley | Z. | 44·8 | 74 | i 8 23k | +6 | — | — | — | — |
| Pietermaritzburg | Z. | 47·6 | 79 | i 8 42 | +3 | — | — | — | — |
| Pretoria | Z. | 49·4 | 75 | i 8 55k | +2 | — | — | — | — |
| La Paz | | 50·9 | 304 | i 9 6 | +1 | i 16 4 | -17 | i 16 45 | PPS 22·7 |
| Huancayo | | 58·1 | 299 | i 9 56 | -2 | e 18 13 | PS | e 19 51 | ScS e 23·8 |
| Tananarive | | 65·5 | 87 | i 10 50 | +3 | e 15 45 | ? | e 11 0 | ? |
| M'Bour | | 71·0 | 9 | i 11 19 | -3 | i 11 44 | ? | i 11 57 | ? |
| Bogota | | 72·2 | 309 | e 11 22 | -7 | e 20 26 | -25 | i 21 12 | PS 40·7 |
| Chinchina | | 73·2 | 308 | e 11 30 | -5 | — | — | — | — |
| Tamanrasset | Z. | 83·4 | 30 | i 12 32 | +2 | i 22 49 | -2 | e 15 49 | PP — |
| Riverview | | 90·0 | 178 | i 13 5a | +2 | i 23 47 | -7 | e 30 5 | SSP e 44·9 |
| Bermuda | | 94·3 | 328 | — | — | e 24 28 | -4 | — | — |
| Malaga | | 94·7 | 17 | i 13 52 | +28 | 24 38 | +2 | e 17 27 | PP — |
| Granada | | 95·3 | 18 | e 13 51a | +24 | 24 43 | +2 | 23 54 | SKS 38·3 |
| Algiers Univ. | Z. | 96·2 | 23 | 14 3 | +32 | e 24 37 | -11 | e 17 19 | PP — |
| Alicante | | 97·0 | 20 | — | — | e 24 2 | [-10] | — | — |
| Helwan | | 98·9 | 48 | e 17 42 | PP | e 24 15 | [-7] | e 18 20 | ? |
| Tortosa | | 99·6 | 20 | — | — | i 25 29 | +12 | — | — |
| Messina | | 100·8 | 32 | e 18 1 | PP | e 24 21 | [-10] | e 32 25 | SS e 38·7 |
| Rome | | 103·4 | 28 | e 18 10 | PP | e 24 37 | [-6] | e 43 7 | Q e 41·7 |
| Ksara | | 104·2 | 49 | e 17 53 | PP | — | — | e 21 21 | PPP e 48·7 |
| Clermont-Ferrand | | 104·8 | 20 | — | — | e 34 42 | ? | — | — |
| Florence | | 104·8 | 27 | e 19 0 | ? | — | — | e 20 0 | ? |
| Palisades | | 105·1 | 325 | e 31 24 | ? | — | — | — | — |
| Pavia | | 105·6 | 25 | e 19 10 | ? | e 24 44 | [-9] | e 28 23 | PPS e 48·7 |
| Paris | | 107·6 | 19 | e 18 45 | PP | e 24 47 | [-15] | e 27 55 | PS e 52·4 |
| Strasbourg | | 108·5 | 23 | e 19 14 | PP | e 25 49 | {-5} | e 21 11 | PPP e 48·7 |
| Fayetteville | | 108·6 | 308 | e 14 57 | P | — | — | e 17 52 | ? |
| Stuttgart | | 109·0 | 24 | e 19 10? | PP | e 24 54 | [-14] | e 28 15 | PS e 53·7 |
| Kew | | 109·7 | 17 | — | — | e 28 42? | PS | — | — |
| Uccle | | 109·9 | 19 | e 28 39 | PS | e 26 42 | S | e 34 27 | SS e 42·7 |
| Rathfarnham Castle | | 110·7 | 12 | — | — | e 27 24 | ? | e 29 42 | PPS — |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|---------------|----------|-----|------|-----------------|-------|------|----|-------|-------|----|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| De Bilt | 111.3 | 20 | e 19 | 12 | PP | e 34 | 54 | SS | — | — | — |
| Prague | 111.4 | 26 | e 19 | 50 | ? | e 25 | 9 | [-9] | e 29 | 45 | PPS |
| Jena | z. 111.6 | 24 | e 18 | 38? | [+2] | e 21 | 23 | PPP | e 19 | 12 | PP |
| Collmborg | z. 112.2 | 25 | e 19 | 16 | PP | — | — | — | — | — | — |
| Uzhgorod | 112.3 | 31 | i 19 | 28 | PP | e 25 | 7 | [-14] | — | — | — |
| Raciborzu | 112.4 | 29 | e 19 | 56 | PP | — | — | — | e 20 | 40 | ? |
| Yalta | 112.7 | 42 | e 19 | 28 | PP | — | — | — | — | — | — |
| Kishinev | 113.0 | 36 | e 19 | 23 | PP | — | — | — | — | — | — |
| Erevan | 113.3 | 52 | e 19 | 23 | PP | i 25 | 13 | [-12] | i 29 | 9 | PS |
| Potsdam | 113.3 | 25 | e 19 | 30 | PP | — | — | — | e 29 | 2 | PS |
| | | | | | | | | | | | e 52.7 |
| Kirkland Lake | z. 113.5 | 324 | e 19 | 54 | PP | — | — | — | — | — | — |
| Theodosia | 113.6 | 43 | e 19 | 33 | PP | — | — | — | — | — | — |
| Sotchi | 114.1 | 47 | e 19 | 38 | PP | — | — | — | — | — | — |
| Zugdidi | 114.1 | 48 | e 19 | 36 | PP | e 25 | 18 | [-11] | — | — | — |
| Borzhomi | 114.2 | 50 | e 19 | 27 | PP | i 26 | 31 | {-3} | — | — | — |
| Kirovobad | 114.5 | 52 | 19 | 33 | PP | 26 | 28 | {-8} | 29 | 17 | PS |
| Tiflis | 114.7 | 51 | e 19 | 35 | PP | e 25 | 20 | [-11] | e 29 | 16 | PS |
| Baku | 115.9 | 55 | e 19 | 50 | PP | — | — | — | — | — | — |
| Copenhagen | 116.2 | 23 | e 19 | 43 | PP | 25 | 30 | [-6] | 35 | 48 | SS |
| Makhach-Kala | 116.8 | 51 | e 19 | 42 | PP | — | — | — | — | — | — |
| Palomar | z. 117.4 | 289 | e 20 | 12 | PP | — | — | — | e 20 | 26 | ? |
| Kizyl-Arvat | 117.8 | 60 | e 19 | 59 | PP | i 25 | 29 | [-13] | — | — | — |
| Ashkabad | 118.0 | 63 | e 20 | 6 | PP | e 25 | 33 | [-10] | — | — | — |
| Riverside | z. 118.1 | 289 | e 18 | 48 | [-1] | — | — | — | — | — | — |
| Mount Wilson | z. 118.7 | 289 | e 18 | 50 | [0] | — | — | — | e 20 | 23 | PP |
| China Lake | z. 119.7 | 291 | e 18 | 47 | [-5] | — | — | — | e 20 | 38 | PP |
| Woody | z. 120.2 | 291 | e 18 | 52 | [-1] | — | — | — | — | — | — |
| Bairam-Ali | 120.4 | 66 | i 20 | 18 | PP | e 26 | 53 | {-23} | — | — | — |
| Tinemaha | z. 120.9 | 292 | e 18 | 54 | [0] | — | — | — | e 19 | 21 | ? |
| Upsala | z. 121.1 | 23 | i 18 | 52 | [-3] | — | — | — | i 20 | 55 | PP |
| Lick | z. 122.9 | 288 | i 18 | 59 ^a | [+1] | i 19 | 25 | ? | i 20 | 4 | ? |
| Moscow | 123.3 | 37 | e 20 | 36 | PP | e 25 | 47 | [-14] | e 23 | 1 | PPP |
| Reno | z. 123.6 | 292 | e 19 | 0 | [0] | — | — | — | e 21 | 15 | PP |
| Samarkand | 123.6 | 67 | e 20 | 46 | PP | — | — | — | — | — | — |
| Berkeley | z. 123.7 | 288 | e 18 | 59 | [-1] | — | — | — | i 19 | 31 | ? |
| Kulyab | 123.7 | 71 | e 19 | 0 | [0] | — | — | — | 20 | 51 | PP |
| Stalinabad | 123.7 | 70 | e 20 | 45 | PP | — | — | — | — | — | — |
| Pulkovo | 124.3 | 31 | e 20 | 47 | PP | e 25 | 48 | [-16] | e 27 | 27 | SKKS |
| Mineral | z. 125.2 | 292 | e 19 | 2 ^a | [-1] | i 19 | 10 | ? | i 19 | 28 | ? |
| Dzhergetal | 125.5 | 70 | e 19 | 6 | [+3] | — | — | — | — | — | — |
| Shasta | z. 125.8 | 292 | e 19 | 2 ^a | [-2] | — | — | — | e 19 | 28 | ? |
| Lunacharskoe | 126.0 | 67 | i 21 | 0 | PP | — | — | — | — | — | — |
| Tashkent | 126.0 | 67 | e 21 | 2 | PP | e 30 | 56 | PS | e 23 | 45 | PPP |
| Fergana | 126.6 | 70 | e 21 | 6 | PP | — | — | — | — | — | — |
| Scoresby Sund | 126.7 | 1 | e 19 | 29 | [+23] | — | — | — | — | — | — |
| Tchimkent | 126.9 | 67 | i 21 | 9 | PP | — | — | — | — | — | — |
| Namangan | 127.0 | 69 | e 19 | 7 | [+1] | — | — | — | i 21 | 8 | PP |
| Andijan | 127.2 | 70 | 21 | 10 | PP | i 31 | 17 | PS | — | — | — |
| Kiruna | 128.7 | 21 | i 19 | 7 | [-3] | e 28 | 0 | {-11} | i 40 | 59 | P'PKS |
| Naryn | 129.6 | 73 | i 21 | 26 | PP | — | — | — | — | — | e 50.7 |
| Frunse | 129.9 | 70 | i 21 | 29 | PP | e 28 | 7 | {-12} | e 24 | 13 | PPP |
| Rybach'e | 130.4 | 71 | — | — | — | i 22 | 39 | PKS | — | — | — |
| Almata | 131.4 | 71 | e 21 | 38 | PP | — | — | — | — | — | — |
| Przhevsk | 131.6 | 73 | 19 | 14 | [-1] | — | — | — | — | — | — |
| Sverdlovsk | 132.8 | 48 | e 19 | 15 | [-2] | e 26 | 15 | [-12] | e 39 | 0 | SS |
| Resolute Bay | 138.5 | 337 | e 19 | 26 | [-2] | e 22 | 41 | PKS | e 23 | 37 | ? |
| Irkutsk | 151.4 | 76 | e 19 | 49 | [0] | — | — | — | e 20 | 5 | PKP, |
| Kyakhta | 151.7 | 81 | e 19 | 54 | [+4] | — | — | — | — | — | — |
| Kabansk | 152.6 | 87 | i 20 | 10 | PKP, | — | — | — | — | — | — |
| Ulegorsk | 169.8 | 132 | e 20 | 14 | [+5] | — | — | — | — | — | — |
| Klyuchi | 176.1 | — | e 26 | 8 | PP | — | — | — | — | — | — |

July 4d. 2h. 7m. Provisional epicentre 38°-8S. 175°-7E. Magnitude 5.3.

Felt in parts of the North Island. Maximum intensity VII in the Tokaanu area.

Seismological Observatory Bulletin No. E-133, July-August-September, 1953, Wellington, N.Z., 1956, pp.1-2.

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July 4d. 3h. 24m. Epicentre 42°·6N. 42°·8E.
Bulletin Seismo. Stations of U.S.S.R. for July-September, 1953, Moscow, 1954, p.65.

July 4d. 3h. 52m. Iran. Epicentre 37°·6N. 45°·1E.
Loc. cit. 3h. 24m., p.18.

July 4d. 9h. 16m. Epicentre 36°·6N. 70°·6E. Depth 120km.
Loc. cit. 3h. 24m., pp.65-66.

July 4d. 11h. 56m. Epicentre 39°·1N. 70°·7E.
Loc. cit. 3h. 24m., p.66.

July 4d. 19h. 42m. 33s. Epicentre 30°·5S. 180° Depth of focus 0·050.
(as on 1952, Jan. 16d.).

Magnitude 7 c.a. (Wellington).

A = -·8631, B = ·0000, C = -·5050; $\delta = -3$; $h = +1$;
D = ·000, E = +1·000; G = +·505, H = ·000, K = -·863.

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | |
|------------------|------|----------|-----|------|-----------------|------------------|------|----|------------------|-------|----|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. |
| Auckland | N. | 7·7 | 213 | e 1 | 51 | 0 | e 3 | 31 | +12 | — | — |
| Karapiro | N. | 8·3 | 206 | e 1 | 59 | +1 | e 3 | 37 | +5 | — | — |
| Tuai | N. | 8·6 | 195 | e 2 | 1 | -1 | e 3 | 30 | -8 | — | — |
| New Plymouth | E. | 9·8 | 208 | 2 | 22 | +6 | 4 | 15 | +11 | — | — |
| Wellington | | 11·6 | 200 | 2 | 34 | -4 | 4 | 36 | -7 | — | — |
| Cobb River | E. | 12·1 | 207 | i 2 | 41 | -3 | e 4 | 50 | -4 | — | — |
| Kaimata | N.E. | 13·8 | 207 | e 3 | 0 | -4 | 5 | 22 | -9 | — | — |
| Christchurch | | 14·3 | 202 | e 3 | 7 | -3 | e 5 | 34 | -7 | — | — |
| Pasadena | | 86·8 | 48 | i 12 | 6 | 0 | — | — | — | — | — |
| Riverside | z. | 87·2 | 48 | i 12 | 8 | 0 | — | — | — | — | — |
| China Lake | z. | 88·2 | 46 | i 12 | 13 | 0 | — | — | — | — | — |
| Shasta | z. | 88·7 | 40 | e 12 | 15 | 0 | — | — | — | — | — |
| Tinemaha | z. | 88·7 | 45 | i 12 | 15 | 0 | — | — | — | — | — |
| Mineral | z. | 88·9 | 41 | e 12 | 16 _a | 0 | — | — | — | — | — |
| Reno | z. | 89·3 | 42 | e 12 | 19 | +1 | — | — | — | — | — |
| Nelson | | 89·9 | 48 | i 12 | 22 | +1 | — | — | — | — | — |
| Tucson | | 90·5 | 52 | i 12 | 25 | +1 | — | — | — | — | — |
| Hungry Horse | | 98·1 | 38 | e 20 | 16 | ? | — | — | — | — | — |
| College | | 98·3 | 13 | i 12 | 58 | -1 | — | — | — | — | — |
| Ottawa | | 120·6 | 52 | e 18 | 9 _k | [-1] | — | — | — | — | — |
| Kiruna | z. | 140·7 | 348 | i 18 | 41 | [-7] | — | — | — | — | — |
| Upsala | z. | 148·7 | 343 | i 19 | 4 | [+2] | i 19 | 9 | PKP ₂ | i 19 | 56 |
| Collmberg | | 157·1 | 339 | e 19 | 14 | [+1] | — | — | — | e 19 | 48 |
| Jena | z. | 157·8 | 339 | e 19 | 15 _? | [-1] | — | — | — | e 19 | 51 |
| Stuttgart | | 160·5 | 341 | e 19 | 17 | [-1] | — | — | — | e 20 | 2 |
| Strasbourg | | 161·0 | 344 | e 20 | 5 | PKP ₂ | — | — | — | — | — |
| Paris | | 161·6 | 357 | i 20 | 7 | PKP ₂ | — | — | — | — | — |
| Chambon-la-Forêt | | 162·4 | 357 | i 20 | 11 | PKP ₂ | — | — | — | — | — |
| Tamanrasset | z. | 170·9 | 214 | e 19 | 24 | [-2] | — | — | — | — | — |

July 5d. 2h. 18m. Aleutians. Felt at Adak.
Suggested epicentre: 51°·0N. 178°·5W. (U.S.C.G.S.).
51°·5N. 179°·0W. (Strasbourg).

Depth 100km.

L. M. Murphy and W. K. Cloud.
United States Earthquakes, 1953, U.S.C.G.S. Serial No.785, Washington, 1955, p.26.

July 5d. 4h. 4m. Epicentre 36°·2N. 3°·5E.
Intensity VIII at Aumale; VII at Bir Rabalon; VI-VII at La Baraque; VI at Ain Bessem and Les Trembles; V at Arba and Laperrine; IV-V at Masqueray; IV at Algiers, Aomar, Bismandreiss; Camp des Frènes, etc. (according to Algiers).
Annales de l'Institut de Physique du Globe, Nouvelle Série, Tome XVIII, 2e partie, Séismologie, Strasbourg, 1959, p.61.

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July 6d. 21h. 55m. 38s. Epicentre 6°·8S. 147°·2E.

A = -·8347, B = +·5379, C = -·1176; $\delta = -11$; $h = +7$;
D = +·542, E = +·841; G = +·099, H = -·064, K = -·993.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|------|----------|-----|----------------------|------|---------|--------|---------|------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Brisbane | | 21·3 | 165 | i 4 47 | - 3 | i 8 38 | - 5 | i 5 8 | PP e 10·0 |
| Riverview | | 27·2 | 173 | e 5 46 | - 1 | i 10 15 | -10 | i 6 29 | PP e 13·5 |
| Baguio | | 35·0 | 312 | i 6 53 _a | - 3 | i 12 24 | - 4 | — | — 16·4 |
| Perth | | 38·5 | 225 | 9 12 | PP | 13 17 | - 5 | 15 38 | SS 18·5 |
| Cobb River | E. | 41·0 | 150 | e 7 50 | + 4 | — | — | — | — |
| Tongariro | Z. | 41·1 | 145 | e 7 52 _f | + 5 | — | — | — | — |
| Kaimata | N.E. | 41·5 | 152 | e 8 7 | +17 | — | — | — | — |
| Wellington | | 42·2 | 148 | e 7 54 | - 2 | i 14 11 | - 6 | i 10 14 | PPP e 21·6 |
| Hong Kong | | 43·4 | 313 | — | — | e 14 34 | - 1 | — | — |
| Zô-Sè | Z. | 45·2 | 329 | 8 22 | + 2 | — | — | — | — |
| Mizusawa | E. | 46·1 | 354 | (8 29) | + 1 | 8 29 | P | — | — |
| Nanking | E. | 47·2 | 326 | — | — | e 15 24 | - 5 | — | — |
| Vladivostok | | 51·6 | 346 | 9 11 | + 1 | 16 32 | + 1 | — | — |
| Kurilsk | | 51·8 | 0 | i 9 12 | 0 | 16 35 | + 2 | — | — |
| Yuzno-Sakhlinsk | | 53·7 | 356 | e 9 25 | - 1 | 17 0 | + 1 | — | — |
| Ulegorsk | | 55·8 | 357 | e 9 40 | - 1 | e 17 28 | 0 | — | — |
| Petropavlovsk | | 60·5 | 8 | e 10 13 | - 1 | e 18 31 | + 2 | — | — |
| Shillong | N. | 62·6 | 304 | — | — | i 18 51 | - 5 | i 19 44 | PS |
| Klyuchi | | 63·9 | 9 | e 10 36 | - 1 | e 19 15 | + 3 | — | — |
| Magadan | | 66·2 | 3 | 10 50 | - 2 | 19 40 | 0 | — | — |
| Chatra | | 67·0 | 304 | i 10 56 | - 1 | i 19 48 | - 2 | — | — |
| Kyakhta | | 67·0 | 333 | i 11 2 | + 5 | — | — | — | — |
| Kabansk | | 68·1 | 335 | i 11 2 | - 2 | — | — | — | — |
| Irkutsk | | 69·3 | 334 | e 11 10 | - 1 | e 20 15 | - 2 | — | — |
| New Delhi | | 76·0 | 302 | e 11 48 | - 3 | i 21 30 | - 4 | 11 59 | PcP |
| Przhevalsk | | 79·3 | 316 | 12 8 | - 1 | 22 10 | + 1 | — | — |
| Kurmenty | | 79·5 | 316 | e 12 12 | + 2 | — | — | — | — |
| Almata II | | 80·2 | 316 | e 12 14 | 0 | — | — | — | — |
| Almata | | 80·5 | 316 | i 12 13 | - 2 | — | — | — | — |
| Naryn | | 80·6 | 314 | i 12 18 | + 2 | — | — | — | — |
| Rybach'e | | 80·9 | 315 | i 12 19 | + 2 | i 22 24 | - 2 | — | — |
| Frunse | | 82·0 | 315 | — | — | i 22 37 | 0 | — | — |
| Warsak Dam | E. | 82·0 | 306 | e 12 26 | + 3 | e 22 28 | - 9 | — | — |
| Khorog | | 82·8 | 309 | e 12 33 _f | + 6 | — | — | — | — |
| Andijan | | 83·1 | 312 | i 12 27 | - 2 | 22 48 | 0 | i 12 30 | PcP |
| Fergana | | 83·4 | 312 | e 12 28 | - 2 | e 22 46 | - 5 | — | — |
| Dzhergetal | | 83·5 | 312 | e 12 32 | + 1 | i 22 50 | - 2 | e 12 35 | PcP |
| Namangan | | 83·6 | 312 | e 12 31 | 0 | e 22 49 | - 4 | — | — |
| Garm | | 84·2 | 311 | e 12 32 | - 2 | — | — | — | — |
| Kulyab | | 84·3 | 309 | 12 35 | 0 | 23 5 | ScS | — | — |
| Obi-garm | | 84·6 | 310 | e 12 37 | + 1 | — | — | — | — |
| Quetta | | 85·0 | 301 | i 12 38 | 0 | i 23 2 | [+ 1] | — | — |
| Stalinabad | | 85·2 | 310 | i 12 37 | - 2 | — | — | — | — |
| Tchimkent | | 85·4 | 314 | i 12 40 | 0 | i 23 8 | - 3 | — | — |
| Tashkent | | 85·5 | 313 | e 12 42 | + 1 | i 23 10 | - 2 | e 23 0 | SKS |
| College | | 85·8 | 23 | i 12 39 | - 3 | — | — | — | — |
| Samarkand | | 86·8 | 310 | e 12 50 | + 3 | 23 24 | - 1 | — | — |
| Bairam-Ali | | 90·2 | 307 | i 13 6 | + 2 | i 23 36 | [+ 2] | i 24 0 | ScS |
| Sverdlovsk | | 93·8 | 327 | e 13 20 | 0 | 23 50 | [- 4] | e 17 6 | PP |
| Shasta | | 94·4 | 50 | e 13 24 | + 1 | e 23 29 | [- 29] | e 13 51 | ? |
| Berkeley | | 94·5 | 52 | i 13 24 _a | + 1 | — | — | — | — e 39·8 |
| Branner | Z. | 94·6 | 52 | e 13 24 _a | 0 | — | — | — | — |
| Kizyl-Arvat | | 95·0 | 309 | — | — | 24 0 | [- 1] | — | — |
| Mineral | Z. | 95·3 | 50 | e 13 27 _a | 0 | — | — | — | — |
| Fresno | Z. | 96·4 | 53 | e 13 32 _a | 0 | — | — | — | — |
| Reno | Z. | 96·6 | 51 | i 13 35 _k | + 2 | — | — | — | — |
| Woody | Z. | 97·1 | 54 | e 13 35 | 0 | — | — | — | — |
| Pasadena | | 97·6 | 56 | i 13 39 | + 1 | — | — | — | — e 42·8 |
| Tinemaha | Z. | 97·7 | 53 | e 13 38 | 0 | — | — | — | — |
| China Lake | | 98·1 | 54 | i 13 28 | -12 | — | — | — | — |

Continued on next page.

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1953

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|------------------|----|------------|------------|----------------------|--------|----------|-------|---------|------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Riverside | z. | 98.2 | 56 | i 13 41 | + 1 | — | — | i 13 50 | PcP | — |
| Palomar | z. | 98.6 | 57 | i 13 43 | + 1 | i 13 50 | PcP | i 14 10 | ? | — |
| Barratt | z. | 98.8 | 58 | i 13 42 | - 1 | — | — | — | — | — |
| Nelson | | 100.4 | 55 | i 13 51 | + 1 | — | — | i 14 0 | PcP | — |
| Lenkoran | | 100.7 | 309 | e 18 1 | PP | — | — | — | — | — |
| Hungry Horse | | 100.9 | 42 | i 13 53 | + 1 | — | — | — | — | — |
| Kirovobad | | 102.6 | 311 | e 18 8 | PP | e 24 34 | [- 6] | e 27 18 | PS | — |
| Goris | | 102.7 | 310 | e 14 0 | 0 | e 24 39 | [- 1] | e 18 16 | PP | — |
| Logan | | 102.7 | 48 | e 14 1 | + 1 | — | — | — | — | — |
| Sotchi | | 107.3 | 314 | e 18 50 | PP | — | — | — | — | — |
| Chihuahua | | 107.9 | 62 | — | — | e 23 3 | ? | — | — | — |
| Kiruna | | 109.5 | 341 | i 14 30 | - 2 | e 25 8 | [- 2] | i 18 33 | PKP | e 51.4 |
| Ksara | | 111.4 | 303 | e 19 33 | PP | e 27 53 | ? | — | — | — |
| Kimberley | z. | 114.3 | 234 | e 18 44 | [+ 2] | e 29 31 | PS | — | — | — |
| Istanbul | | 115.5 | 313 | e 19 50? | PP | e 35 22? | SS | — | — | — |
| Fayetteville | | 117.0 | 52 | i 18 47 | [0] | — | — | — | — | — |
| Collmberg | z. | 121.7 | 328 | e 18 54 | [- 2] | — | — | — | — | — |
| Kirkland Lake | z. | 122.6 | 36 | e 18 59 | [+ 1] | — | — | — | — | — |
| Jena | z. | 122.7 | 328 | e 18 56 | [- 2] | — | — | e 20 50 | PP | — |
| Stuttgart | | 125.2 | 327 | e 19 3 | [0] | e 27 49 | {+ 1} | e 20 50 | PP | 67.4 |
| Strasbourg | | 126.1 | 328 | e 19 5 | [+ 1] | — | — | e 20 58 | PP | — |
| Messina | | 126.3 | 314 | e 19 5 | [0] | e 27 48 | {- 8} | e 37 32 | SS | — |
| Reggio Calabria | n. | 126.3 | 314 | — | — | e 27 53 | {- 3} | — | — | — |
| Morgantown | | 126.6 | 46 | i 19 6 | [+ 1] | — | — | — | — | — |
| Ottawa | | 126.6 | 37 | e 19 5 _a | [0] | e 22 22 | ? | e 22 39 | PKS | — |
| Florence | | 126.7 | 321 | e 19 4 | [- 2] | — | — | — | — | e 67.4 |
| Rome | | 126.9 | 319 | e 19 27 | [+ 21] | e 27 57 | {- 2} | e 20 59 | PP | e 62.4 |
| Pavia | | 127.3 | 324 | — | — | e 29 19 | ? | — | — | e 61.2 |
| Paris | | 128.6 | 331 | e 19 10 | [+ 1] | — | — | i 19 17 | pPKP | e 61.4 |
| Chambon-la-Forêt | | 129.3 | 331 | e 19 12 | [+ 1] | — | — | e 19 19 | pPKP | — |
| Philadelphia | | 129.7 | 42 | e 22 32 | PKS | — | — | — | — | — |
| Palisades | | 130.0 | 40 | e 19 14 | [+ 2] | e 22 34 | PKS | e 21 21 | PP | e 64.7 |
| Clermont-Ferrand | | 130.3 | 327 | e 19 10 | [- 3] | e 39 58 | SSP | e 21 55 | PP | 62.4 |
| Harvard | | 130.7 | 37 | i 19 15 _a | [+ 2] | — | — | i 22 38 | PP | e 66.4 |
| Weston | | 130.9 | 37 | i 19 14 _a | [0] | 36 36 | ? | i 22 38 | PP | — |
| Halifax | | 133.7 | 30 | e 19 21 | [+ 2] | 22 48 | PKS | — | — | — |
| Algiers Univ. | z. | 135.8 | 317 | i 19 27 | [+ 4] | e 22 54 | PKS | — | — | — |
| La Paz | | 138.1 | 124 | 18 52 | [- 35] | 22 52 | PKS | 21 52 | PP | — |
| Granada | | 139.7 | 324 | — | — | 35 12 | PPS | 41 13 | SSP | 70.4 |
| Tamanrasset | z. | 139.8 | 298 | e 19 26 | [- 4] | e 23 8 | PKS | i 22 30 | PP | — |
| Malaga | | 140.5 | 324 | i 22 37 | PP | 29 32 | {+ 8} | i 25 18 | PPP | 74.6 |
| San Juan | | 145.6 | 67 | i 19 40 | [0] | — | — | — | — | — |
| Fort de France | z. | 151.1 | 72 | e 19 54 | [+ 5] | — | — | — | — | — |

July 7d. 1h. 21m. Epicentre 38°·5N. 69°·0E.

Bulletin of Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, pp.67-68

July 7d. 4h. 7m. 50s. Epicentre 0°·9N. 100°·4E. Depth of focus 0·030.

A = -·1805, B = +·9835, C = +·0156; δ = +10; h = +7;
D = +·984, E = +·181; G = -·003, H = +·015, K = -1·000.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|------------|----|------------|------------|---------------------|------|--------|------|-------|----|------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Djakarta | z. | 9.5 | 138 | e 2 13 _k | 0 | i 3 12 | ? | — | — | — |
| Colombo | E. | 21.3 | 287 | 4 13 | + 1 | 8 17 | + 9 | — | — | 12.3 |
| Madras | E. | 23.4 | 303 | i 4 52 | + 2 | i 8 46 | + 2 | 5 30 | PP | 10.1 |
| Calcutta | | 24.5 | 332 | i 5 2 _a | + 2 | i 9 4 | + 2 | 9 59 | SS | — |
| Kodaikanal | E. | 24.6 | 294 | i 5 43 | PP | i 9 5 | + 1 | 9 13 | Q | 10.1 |
| Hong Kong | | 25.1 | 30 | e 5 10? | + 4 | 9 16 | + 4 | 10 35 | SS | — |
| Baguio | | 25.2 | 49 | i 5 7 _a | 0 | i 9 15 | + 2 | 5 35 | PP | 11.1 |
| Shillong | n. | 25.9 | 344 | 5 13 | 0 | 9 16 | - 9 | 5 55 | PP | 10.5 |
| Hyderabad | | 27.1 | 309 | i 5 24 | 0 | i 9 44 | 0 | 10 58 | SS | 12.5 |
| Chatra | | 28.8 | 235 | i 5 39 | 0 | i 10 9 | - 2 | 6 36 | PP | 12.4 |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
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| | E. | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Poona | | 31.4 | 306 | i 6 | 3 | + 1 | i 10 | 51 | - 1 | i 7 | 1 | PP | 13.6 |
| Bombay | | 32.4 | 305 | e 6 | 11 | 0 | i 11 | 9 | + 1 | 7 | 27 | PP | 14.2 |
| New Delhi | | 35.3 | 324 | i 6 | 35 | 0 | i 11 | 49 | - 3 | 9 | 17 | PcP | 15.2 |
| Nanking | | 35.5 | 26 | e 6 | 36 | - 1 | i 11 | 56 | + 1 | — | — | — | — |
| Perth | | 35.8 | 157 | — | — | — | i 12 | 2 | + 2 | i 14 | 55 | SS | — |
| Zó-Sè | | 35.9 | 31 | 6 | 41 | + 1 | 12 | 1 | 0 | i 7 | 50 | sP | — |
| Warsak Dam | E. | 42.6 | 325 | i 7 | 34 | - 2 | i 13 | 34 | - 7 | i 9 | 14 | PP | — |
| Quetta | | 43.1 | 306 | i 7 | 39 | - 1 | i 13 | 44 | - 4 | i 17 | 22 | ScS | — |
| Murgab | | 44.5 | 330 | i 6 | 25? | -86 | i 12 | 42? | -86 | — | — | — | — |
| Khorog | | 45.0 | 328 | i 7 | 56 | + 1 | i 14 | 17 | + 1 | — | — | — | — |
| Przhevalsk | | 45.9 | 339 | 8 | 2 | 0 | i 14 | 28 | 0 | — | — | — | — |
| Naryn | | 46.0 | 335 | i 8 | 2? | - 1 | i 14 | 33? | + 3 | — | — | — | — |
| Kulyab | | 46.4 | 327 | 8 | 4 | - 2 | 14 | 31 | - 4 | — | — | — | — |
| Kurmenty | | 46.4 | 340 | e 8 | 6 | 0 | — | — | — | — | — | — | — |
| Dzhergetal | | 46.5 | 330 | i 8 | 8 | + 1 | — | — | — | — | — | — | — |
| Rybach'e | | 46.8 | 336 | i 8 | 7 | - 2 | i 14 | 41 | 0 | — | — | — | — |
| Garm | | 46.9 | 328 | e 8 | 8 | - 2 | — | — | — | — | — | — | — |
| Obi-garm | | 47.0 | 328 | i 8 | 8 | - 2 | e 14 | 38 | - 6 | — | — | — | — |
| Almata | | 47.1 | 338 | i 8 | 11 | 0 | — | — | — | — | — | — | — |
| Andijan | | 47.1 | 331 | i 8 | 11 | 0 | i 14 | 45 | 0 | 8 | 56 | pP | — |
| Fergana | | 47.1 | 331 | i 8 | 10 | - 1 | i 14 | 42 | - 3 | — | — | — | — |
| Stalinabad | | 47.4 | 327 | i 8 | 12 | - 2 | i 14 | 49 | - 1 | — | — | — | — |
| Namangan | | 47.6 | 331 | e 8 | 17? | + 2 | i 14 | 53? | + 1 | — | — | — | — |
| Frunse | | 47.8 | 335 | i 8 | 16 | - 1 | i 14 | 55 | 0 | — | — | — | — |
| Lunacharskoe | | 49.1 | 330 | i 8 | 25 | - 1 | — | — | — | — | — | — | — |
| Samarkand | | 49.1 | 326 | i 8 | 26 | 0 | i 15 | 11 | - 2 | — | — | — | — |
| Kyakhta | | 49.5 | 5 | 8 | 28 | - 2 | 15 | 19 | 0 | — | — | — | — |
| Tchimkent | | 49.6 | 331 | i 8 | 30 | 0 | i 15 | 20 | 0 | — | — | — | — |
| Vladivostok | | 50.6 | 30 | e 8 | 37 | - 1 | i 15 | 35 | + 1 | — | — | — | — |
| Bairam-Ali | | 50.7 | 320 | 8 | 37 | - 2 | 15 | 34 | - 1 | 17 | 4 | sS | — |
| Kabansk | | 51.2 | 4 | i 8 | 41 | - 1 | i 15 | 42 | 0 | — | — | — | — |
| Irkutsk | | 51.3 | 3 | i 8 | 41 | - 2 | i 15 | 43 | 0 | — | — | — | — |
| Kizyl-Arvat | | 55.3 | 320 | i 9 | 11 | - 1 | i 16 | 34 | - 3 | 9 | 59 | pP | — |
| Tananarive | | 55.5 | 247 | i 9 | 13 | - 1 | e 10 | 26 | sP | e 10 | 8 | pP | — |
| Brisbane | | 57.9 | 123 | i 9 | 31 | 0 | i 17 | 10 | - 1 | i 10 | 27 | pP | — |
| Riverview | | 58.8 | 131 | e 9 | 36 | - 1 | i 17 | 23 | 0 | e 23 | 10 | ? | e 27.9 |
| Yuzno-Sakhlinsk | | 58.8 | 32 | 9 | 35 | - 2 | i 17 | 22 | - 1 | 10 | 33 | pP | — |
| Ulegorsk | | 59.8 | 31 | e 9 | 42 | - 2 | 17 | 35 | - 1 | 10 | 38 | pP | — |
| Baku | | 60.3 | 318 | 9 | 48 | + 1 | 17 | 45 | + 3 | — | — | — | — |
| Kurilsk | | 60.8 | 37 | e 9 | 48 | - 3 | e 17 | 45 | - 3 | 10 | 45 | pP | — |
| Shemakla | | 61.2 | 317 | 9 | 53 | 0 | 17 | 54 | 0 | — | — | — | — |
| Goris | | 62.4 | 316 | 9 | 59? | - 2 | 18 | 8? | 0 | — | — | — | — |
| Kirovobad | | 62.8 | 317 | 10 | 2 | - 2 | 18 | 8 | - 6 | — | — | — | — |
| Makhach-Kala | | 63.0 | 320 | 10 | 4 | - 1 | 18 | 12 | - 4 | — | — | — | — |
| Erevan | | 63.9 | 316 | i 10 | 9 | - 2 | 18 | 21 | - 6 | — | — | — | — |
| Sverdlovsk | | 64.2 | 338 | i 10 | 11 | - 2 | e 18 | 23? | - 8 | 11 | 8 | pP | — |
| Grozny | | 64.3 | 319 | i 10 | 13 | - 1 | i 18 | 29 | - 3 | — | — | — | — |
| Tiflis | | 64.3 | 317 | i 10 | 14 | 0 | i 18 | 31 | - 1 | i 11 | 7 | pP | — |
| Duzheti | | 64.5 | 318 | e 10 | 17 | + 2 | e 18 | 36 | + 2 | — | — | — | — |
| Leninakan | | 64.6 | 316 | i 10 | 17 | + 2 | i 18 | 37 | + 1 | — | — | — | — |
| Gori | | 64.9 | 317 | — | — | — | e 18 | 38 | - 1 | — | — | — | — |
| Akhalkalaki | | 65.1 | 316 | 10 | 21 | + 2 | e 18 | 41 | - 1 | — | — | — | — |
| Borzhomi | | 65.3 | 316 | i 10 | 20 | 0 | i 18 | 45 | + 1 | i 11 | 14 | pP | — |
| Tsikhlis-Dzhvari | | 65.3 | 316 | i 10 | 19 | - 1 | i 18 | 43 | - 1 | — | — | — | — |
| Abastumanj | | 65.7 | 316 | e 10 | 22 | 0 | e 18 | 44 | - 5 | — | — | — | — |
| Piatigorsk | | 66.4 | 319 | i 9 | 42? | -45 | i 18 | 11? | -47 | — | — | — | — |
| Zugdidi | | 66.6 | 317 | i 10 | 28 | 0 | i 19 | 0 | 0 | — | — | — | — |
| Ksara | | 68.5 | 306 | i 10 | 40 | 0 | i 19 | 27 | + 5 | — | — | — | — |
| Sotchi | | 68.5 | 318 | i 10 | 38 | - 2 | i 19 | 17 | - 5 | e 11 | 32 | pP | — |
| Magadan | | 70.2 | 25 | 10 | 48 | - 2 | — | — | — | — | — | — | — |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|-----------------|------|------------|------------|------|-----------------|------|------|-----|-------|-------|----|-----|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Petropavlovsk | | 70.8 | 33 | 10 | 54 | 0 | i 19 | 50 | + 1 | e 11 | 49 | pP | — |
| Helwan | | 71.4 | 301 | i 10 | 58 _k | 0 | 19 | 55 | - 1 | 11 | 52 | pP | — |
| Theodosia | | 71.9 | 318 | i 10 | 59 | - 1 | e 19 | 57 | - 5 | e 11 | 53 | pP | — |
| Yalta | | 72.6 | 317 | i 11 | 3 | - 2 | i 20 | 5 | - 5 | i 11 | 57 | pP | — |
| Klyuchi | | 73.2 | 31 | e 11 | 6 | - 2 | e 20 | 17 | + 1 | — | — | — | — |
| Moscow | | 74.2 | 329 | i 11 | 12 | - 2 | i 20 | 22 | - 5 | e 12 | 7 | pP | — |
| Pretoria | z. | 74.4 | 243 | e 11 | 15 | 0 | — | — | — | — | — | — | — |
| Istanbul | | 75.4 | 313 | i 11 | 15 | - 6 | 20 | 32 | - 9 | e 12 | 13 | pP | 35.2 |
| Kaimata | N.E. | 76.7 | 134 | e 11 | 28 | 0 | e 20 | 51 | - 4 | — | — | — | — |
| Kishinev | | 76.8 | 319 | i 11 | 26 | - 2 | 20 | 49 | - 7 | — | — | — | — |
| Cobb River | E. | 77.3 | 132 | e 11 | 31 | 0 | e 20 | 59 | - 2 | — | — | — | — |
| Iasi | | 77.7 | 318 | e 11 | 34 | + 1 | i 21 | 4 | - 1 | — | — | — | — |
| Christchurch | | 77.8 | 135 | e 11 | 36 | + 2 | e 21 | 3 | - 3 | — | — | — | — |
| Kimberley | z. | 77.8 | 240 | e 11 | 34 | 0 | — | — | — | — | — | — | — |
| Bucharest | | 78.2 | 316 | e 11 | 38 | + 2 | i 21 | 10 | - 1 | — | — | — | — |
| Karapiro | N. | 78.8 | 130 | e 11 | 41 | + 2 | e 21 | 29 | +12 | — | — | — | — |
| Wellington | | 78.9 | 132 | e 11 | 37 | - 3 | i 21 | 13 | - 5 | i 21 | 47 | ScS | — |
| Athens | | 79.0 | 308 | i 11 | 38 _a | - 2 | e 21 | 12 | - 7 | e 12 | 32 | pP | — |
| Cernauti | | 79.0 | 320 | 11 | 41 | + 1 | 21 | 14 | - 5 | — | — | — | — |
| Tongariro | z. | 79.1 | 130 | e 11 | 45? | + 4 | — | — | — | — | — | — | — |
| Pulkovo | | 79.3 | 331 | i 12 | 41? | +59 | i 22 | 17? | +55 | i 13 | 40 | pP | — |
| Lwow | | 80.5 | 321 | i 11 | 47 | - 1 | i 21 | 30 | - 5 | — | — | — | — |
| Uzhgorod | | 81.5 | 320 | i 11 | 53 | - 1 | 21 | 42 | - 3 | 12 | 51 | pP | — |
| Belgrade | | 82.2 | 315 | e 11 | 57 _a | 0 | e 21 | 47 | - 5 | e 27 | 27 | SS | — |
| Skalnate Pleso | | 82.9 | 320 | e 12 | 14 | +13 | e 22 | 10 | +11 | e 13 | 19 | sP | — |
| Kalossa | | 83.4 | 317 | 12 | 7 | + 4 | 22 | 3 | - 1 | e 15 | 17 | PP | e 31.7 |
| Budapest | | 83.5 | 318 | e 12 | 6 | + 2 | 22 | 0 | - 5 | 23 | 45 | PPS | — |
| Ogyalla | | 84.1 | 318 | i 12 | 8 | + 1 | e 22 | 4 | - 7 | e 23 | 52 | PPS | — |
| Taranto | | 84.2 | 311 | e 12 | 50 | ? | 22 | 15 | + 3 | — | — | — | 36.5 |
| Raciborzu | | 84.3 | 321 | e 12 | 8 | 0 | i 22 | 9 | - 4 | e 12 | 52 | pP | — |
| Reggio Calabria | N. | 85.3 | 308 | e 12 | 14 | + 1 | e 22 | 23 | + 1 | i 22 | 26 | S | — |
| Kiruna | | 85.4 | 338 | i 12 | 10? | - 3 | e 22 | 10 | [- 4] | i 13 | 9? | pP | e 35.2 |
| Messina | | 85.4 | 308 | i 12 | 13 _a | 0 | i 22 | 22 | - 1 | i 13 | 10 | pP | — |
| Upsala | | 85.6 | 330 | i 12 | 13 | - 1 | e 22 | 10? | [- 5] | i 13 | 13 | pP | e 32.9 |
| Prague | | 86.7 | 320 | i 12 | 20 _a | 0 | i 22 | 20 | [- 2] | e 13 | 16 | pP | — |
| Triest | | 87.0 | 316 | i 12 | 20 _k | - 1 | i 22 | 20 | [- 4] | i 22 | 35 | S | — |
| Collmberg | | 87.7 | 321 | i 12 | 24 | 0 | e 22 | 46 | + 1 | e 13 | 22 | pP | — |
| Potsdam | | 87.7 | 323 | i 12 | 24 | 0 | i 22 | 43 | - 2 | i 13 | 21 | pP | — |
| Rocca di Papa | z. | 87.7 | 312 | e 12 | 23 | - 1 | — | — | — | — | — | — | — |
| Rome | | 87.8 | 312 | i 12 | 24 _a | - 1 | i 22 | 46 | 0 | i 13 | 17 | pP | — |
| Cheb | | 88.0 | 320 | e 12 | 26 | 0 | i 22 | 28 | [- 3] | e 13 | 17 | pP | — |
| Copenhagen | | 88.1 | 326 | i 12 | 27 _k | + 1 | i 22 | 49 | 0 | 13 | 22 | pP | — |
| Jena | | 88.6 | 321 | i 12 | 28 | - 1 | e 22 | 28 | [- 6] | e 13 | 25 | pP | — |
| Bologna | | 88.7 | 315 | e 12 | 31 | + 2 | e 22 | 53 | - 1 | e 23 | 47 | pS | — |
| Siena | | 88.7 | 313 | e 12 | 28 | - 1 | 22 | 53 | - 1 | — | — | — | — |
| Florence | | 88.8 | 313 | i 12 | 26 _a | - 4 | i 22 | 35 | [- 1] | i 13 | 27 | pP | — |
| Prato | | 88.9 | 313 | i 12 | 30 | 0 | i 22 | 31 | [- 5] | — | — | — | — |
| Chur | | 89.9 | 317 | e 12 | 35 | 0 | — | — | — | — | — | — | — |
| Stuttgart | | 90.1 | 319 | i 12 | 36 _a | 0 | e 23 | 6 | - 1 | i 13 | 33 | pP | e 48.2 |
| Pavia | | 90.2 | 315 | e 12 | 38 | + 2 | e 22 | 42 | [- 2] | e 13 | 32 | pP | — |
| Karlsruhe | | 90.6 | 319 | i 12 | 39 _k | + 1 | e 23 | 4 | - 8 | i 13 | 37 | pP | — |
| Zürich | | 90.6 | 317 | e 12 | 36 _a | - 2 | e 22 | 41 | [- 5] | e 13 | 32 | pP | — |
| Oropa | | 91.1 | 316 | i 12 | 39 | - 1 | e 22 | 50 | [+ 1] | i 13 | 33 | pP | — |
| Strasbourg | | 91.1 | 319 | e 12 | 39 | - 1 | e 23 | 16 | 0 | e 13 | 39 | pP | — |
| Basle | | 91.3 | 317 | e 12 | 40 _a | - 1 | e 23 | 17 | - 1 | e 14 | 2 | sP | — |
| Witteveen | z. | 91.6 | 324 | e 12 | 42 | - 1 | — | — | — | e 13 | 41 | pP | — |
| Neuchatel | | 91.7 | 317 | e 12 | 42 | - 1 | e 22 | 51 | [- 1] | — | — | — | — |
| De Bilt | | 92.5 | 322 | e 12 | 48 | + 1 | e 22 | 55 | [- 2] | e 13 | 43 | pP | — |
| Uccle | | 93.1 | 321 | e 12 | 44 | - 6 | e 23 | 33 | 0 | e 24 | 42 | pS | — |
| Tamanrasset | z. | 94.2 | 293 | i 12 | 55 | + 1 | i 23 | 46 | + 3 | i 13 | 52 | pP | — |

Continued on next page.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|---------------------|----------|-----|------|-----------------|-------|------|----|--------|-------|----|------|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Clermont-Ferrand | 94.5 | 316 | e 12 | 57 | + 1 | e 23 | 47 | + 2 | e 23 | 5 | SKS | — |
| Paris | 94.5 | 319 | e 12 | 56 | 0 | e 23 | 47 | + 2 | e 13 | 55 | pP | — |
| Chambon-la-Forêt | 94.8 | 319 | i 12 | 56 | - 1 | i 16 | 50 | PP | i 13 | 55 | pP | — |
| Algiers Univ. z. | 95.4 | 307 | e 12 | 59 | - 1 | e 23 | 59 | + 6 | e 13 | 56 | pP | — |
| Kew | 96.0 | 322 | — | — | — | e 25 | 21 | SP | — | — | — | e 47.2 |
| Tortosa | 96.9 | 311 | e 16 | 33 | ? | i 23 | 17 | [- 4] | — | — | — | — |
| Alicante | 98.0 | 309 | e 17 | 10 | PP | e 24 | 23 | + 8 | i 23 | 29 | SKS | e 46.0 |
| College | 98.0 | 24 | e 13 | 13 | 0 | — | — | — | e 16 | 25 | ? | — |
| Rathfarnham C. z. | 99.2 | 325 | e 14 | 33 | pP | — | — | — | — | — | — | — |
| Scoresby Sund | 99.5 | 344 | e 17 | 21 | PP | 23 | 34 | [+ 1] | 26 | 36 | PS | — |
| Granada | 100.6 | 308 | 17 | 25 _a | PP | i 23 | 40 | [+ 1] | 31 | 58 | SS | 54.8 |
| Malaga | 101.3 | 308 | i 17 | 26 | PP | 23 | 38 | [- 4] | 30 | 8 | ? | — |
| Victoria | 117.9 | 32 | 18 | 19 | [- 1] | — | — | — | — | — | — | — |
| Hungry Horse | 122.6 | 26 | i 18 | 28 | [- 1] | — | — | — | i 28 | 26 | PKKP | — |
| Shasta | 123.2 | 38 | e 18 | 32 | [+ 2] | e 25 | 34 | [+ 25] | e 22 | 4 | PKS | — |
| Mineral z. | 123.9 | 38 | e 18 | 31 _a | [- 1] | — | — | — | — | — | — | — |
| Butte | 125.0 | 27 | i 18 | 34 | [0] | — | — | — | — | — | — | — |
| Branner z. | 125.2 | 41 | e 18 | 34 _a | [0] | — | — | — | e 19 | 45 | pPKP | — |
| Reno | 125.5 | 38 | e 18 | 36 _k | [+ 1] | — | — | — | — | — | — | — |
| Fresno z. | 127.2 | 40 | i 18 | 38 _k | [0] | — | — | — | — | — | — | — |
| Tinemaha z. | 128.0 | 39 | e 18 | 41 | [+ 2] | — | — | — | e 20 | 36 | PP | — |
| Logan | 128.5 | 31 | e 18 | 42 | [+ 2] | — | — | — | e 21 | 38 | SKP | — |
| China Lake | 129.2 | 39 | e 18 | 43 | [+ 1] | e 21 | 40 | SKP | — | — | — | — |
| Pasadena | 129.8 | 42 | e 18 | 43 | [0] | i 21 | 43 | SKP | e 20 | 42 | PP | — |
| Riverside z. | 130.4 | 42 | e 18 | 46 | [+ 2] | e 21 | 43 | SKP | e 20 | 57 | PP | — |
| Boulder City | 130.8 | 38 | i 18 | 47 | [+ 2] | — | — | — | — | — | — | — |
| Nelson | 131.0 | 38 | i 18 | 48 | [+ 3] | i 21 | 47 | SKP | i 18 | 30 | ? | — |
| Kirkland Lake z. | 131.1 | 1 | e 18 | 45 | [0] | i 21 | 46 | SKP | — | — | — | — |
| Palomar z. | 131.1 | 42 | i 18 | 48 | [+ 3] | i 21 | 49 | SKP | e 21 | 7 | PP | — |
| Barratt z. | 131.6 | 43 | e 18 | 46 | [0] | i 21 | 48 | SKP | e 21 | 19 | PP | — |
| Seven Falls E. | 131.6 | 352 | e 18 | 48 | [+ 2] | 22 | 11 | PKS | 38 | 17 | SS | — |
| Shawinigan Falls N. | 132.4 | 353 | e 18 | 51 | [+ 3] | 21 | 51 | SKP | — | — | — | — |
| Halifax | 132.5 | 343 | e 18 | 48 | [0] | e 21 | 30 | ? | 21 | 15 | PP | — |
| Ottawa | 133.8 | 356 | e 18 | 49 | [- 1] | i 21 | 54 | SKP | — | — | — | — |
| Tucson | 135.7 | 39 | i 18 | 57 | [+ 3] | i 22 | 5 | SKP | e 18 | 45 | ? | — |
| Harvard | 136.2 | 351 | e 18 | 54 | [- 1] | e 22 | 3 | SKP | — | — | — | — |
| Weston | 136.3 | 351 | i 18 | 56 _a | [+ 1] | i 22 | 0 | SKP | — | — | — | — |
| Cleveland | 137.8 | 2 | i 18 | 59 _a | [+ 1] | e 28 | 12 | SKKS | i 22 | 8 | SKP | — |
| Palisades | 138.0 | 353 | i 18 | 58 | [0] | e 22 | 35 | PKS | e 21 | 47 | PP | — |
| Pittsburgh z. | 138.9 | 1 | i 21 | 56 | PP | — | — | — | — | — | — | — |
| Morgantown | 139.7 | 1 | e 18 | 53 | [- 8] | i 22 | 12 | SKP | — | — | — | — |
| Lubbock | 139.8 | 29 | e 18 | 57 | [- 5] | — | — | — | — | — | — | — |
| Washington | 140.3 | 357 | e 19 | 2 | [0] | i 22 | 15 | SKP | — | — | — | — |
| Fayetteville | 140.8 | 18 | i 18 | 57 | [- 6] | e 28 | 28 | SKKS | e 22 | 36 | PKS | — |
| Bermuda | 144.0 | 339 | i 19 | 8 _a | [- 1] | i 22 | 24 | SKP | — | — | — | — |
| Tacubaya | 152.1 | 43 | i 19 | 30 | [+ 8] | e 33 | 49 | PS | e 37 | 8 | ? | — |
| San Juan | 156.7 | 327 | e 19 | 29 | [+ 1] | — | — | — | i 19 | 59 | PKP | — |
| La Paz | 160.8 | 217 | e 19 | 33 | [0] | 30 | 45 | SKKS | i 23 | 20 | PKS | — |
| Huancayo | 168.2 | 201 | e 19 | 42 | [+ 3] | e 45 | 11 | SS | i 20 | 55 | pPKP | — |

July 7d. 13h. 44m. Kurile Islands.

Suggested epicentre 47°·5N. 156°·0E. (U.S.C.G.S. and U.S.S.R.).

Widely recorded in Europe and North America.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

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July 7d. 17h. 28m. 23s. Epicentre 30°·8N. 141°·4E. (as on 1953, June 28d.).

Epicentre 31°·2N. 142°·1E. Depth 60km. Unfelt.
Seismo. Bull. Cent. Met. Obs. Japan, for July, 1953, Tokyo, 1953, pp. 11-12

A = -·6725, B = +·5368, C = +·5095; $\delta=0$; $h=+1$;
D = +·624, E = +·782; G = -·398, H = +·318, K = -·861.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-------------|----|----------|-----|---------------------|------|----------|------------------|--------|-----------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Torisima | | 1·1 | 252 | 0 38 | +16 | 1 3 | +24 | — | — |
| Hatidyozima | | 2·7 | 330 | e 0 50 | + 5 | e 1 54 | ? | — | — |
| Mera | | 4·3 | 343 | e 1 15 | - 1* | 2 7 | - 5* | — | — |
| Osima | | 4·3 | 337 | e 1 9 | + 1 | e 1 58 | - 2 | e 1 25 | P _g |
| Omaesaki | | 4·6 | 326 | e 1 25 | + 3* | 2 58 | ? | — | e 2·6 3·8 |
| Misima | E. | 4·8 | 335 | e 1 18 | + 3 | 2 17 | + 5 | — | — |
| Shizuoka | | 4·9 | 329 | e 1 22 | + 5 | e 2 22 | + 7 | e 1 56 | ? |
| Yokohama | | 4·9 | 343 | e 1 19 | + 2 | e 2 16 | + 1 | — | — |
| Tokyo | N. | 5·1 | 344 | 1 22 | + 2 | 2 18 | - 2 | — | e 3·1 i 3·0 |
| Kashiwa | | 5·2 | 347 | e 1 28 | - 4* | e 2 38 | 0* | e 3 55 | ? |
| Kohu | | 5·4 | 344 | e 1 27 | + 3 | e 2 35 | + 7 | e 3 28 | ? |
| Kakioka | | 5·5 | 350 | e 1 25 | 0 | e 2 31 | + 1 | e 2 5 | ? |
| Siomisaki | | 5·5 | 301 | e 1 33 | - 4* | e 2 52 | + 5* | e 8 23 | P _{cP} |
| Titibu | | 5·5 | 340 | i 1 29 | + 4 | e 2 35 | + 5 | — | — |
| Tukubasan | | 5·5 | 349 | e 1 25 | 0 | e 2 32 | + 2 | — | — |
| Kumagaya | | 5·6 | 343 | e 1 29 | + 2 | e 2 36 | + 3 | — | — |
| Mito | | 5·6 | 352 | e 1 34 | + 7 | e 2 36 | + 3 | — | — |
| Nagoya | N. | 5·7 | 321 | e 1 37 | - 3* | — | — | e 3 38 | ? |
| Kameyama | | 5·8 | 316 | 1 42 | 0* | 2 51 | - 5* | — | — |
| Maebasi | | 5·9 | 342 | e 1 33 | + 2 | e 2 48 | + 8 | e 3 19 | S _g |
| Utunomiya | | 5·9 | 348 | e 1 30 | - 1 | e 2 37 | - 3 | — | — |
| Matumoto | | 6·1 | 333 | 1 40 | + 6 | e 3 16 | - 6 _g | — | — |
| Onahama | | 6·1 | 355 | e 1 37 | + 3 | e 2 40 | - 5 | — | e 3·8 |
| Hikone | | 6·2 | 317 | e 1 44 | - 5* | — | — | e 7 3 | ? |
| Kyoto | | 6·3 | 313 | e 1 47 | - 3* | e 3 23 | - 5 _g | — | — |
| Matusiro | | 6·3 | 336 | i 1 38 | + 2 | i 2 50 | 0 | i 3 24 | S _g |
| Osaka | | 6·3 | 309 | e 1 49 | - 1* | e 3 1 | - 10* | e 2 18 | ? |
| Nagano | N. | 6·4 | 337 | e 1 45 | + 7 | e 2 59 | + 6 | — | — |
| Shirakawa | | 6·4 | 351 | e 1 38 | 0 | e 2 39 | - 14 | — | — |
| Takayama | N. | 6·4 | 328 | e 1 36 | - 2 | e 2 59 | + 6 | i 1 44 | ? |
| Sumoto | | 6·5 | 305 | 1 48 | - 6* | e 3 42 | + 7 _g | e 2 37 | ? |
| Inawasiro | E. | 6·8 | 351 | e 1 45 | + 1 | e 3 1 | - 2 | — | — |
| Toyama | | 6·8 | 330 | e 1 54 | - 5* | 3 13 | - 13* | e 3 34 | S _g |
| Hukushima | | 7·0 | 354 | e 1 46 | 0 | 3 3 | - 5 | — | — |
| Takamatu | | 7·1 | 301 | e 1 55 | + 7 | e 3 27 | - 8* | — | — |
| Koti | | 7·2 | 294 | e 2 0 | - 6* | 3 53 | - 5 _g | — | — |
| Toyooka | | 7·3 | 312 | e 1 47 | - 3 | e 3 36 | - 5* | — | e 4·2 |
| Sendai | | 7·4 | 357 | e 1 51 | - 1 | e 3 9 | - 9 | e 2 5 | P* |
| Matuyama | | 7·9 | 295 | e 2 19 | + 1* | e 3 51 | - 7* | e 8 29 | P _{cP} |
| Mizusawa | | 8·3 | 358 | 2 4 | 0 | e 3 31 | - 9 | e 2 9 | P |
| Miyazaki | | 8·6 | 280 | e 2 22 | +13 | e 4 28 | + 9* | — | — |
| Ooita | | 8·7 | 289 | e 2 28 | P* | e 3 51 | + 1 | — | — |
| Hamada | | 8·9 | 300 | 2 15 | + 3 | 4 8 | +13 | — | e 4·8 |
| Morioka | | 8·9 | 359 | e 2 10 | - 2 | e 3 47 | - 8 | — | — |
| Akita | | 9·0 | 353 | — | — | e 3 52 | - 6 | e 5 8 | S _g |
| Kagosima | | 9·3 | 277 | e 3 31 | ? | e 4 14 | + 9 | — | — |
| Hukuoka | | 9·7 | 289 | e 2 29 | + 7 | 4 51 | - 1* | e 2 41 | ? |
| Aomori | | 10·0 | 357 | e 2 32 | + 5 | 4 17 | - 5 | e 4 36 | SS |
| Urakawa | | 11·4 | 5 | e 4 41 | S | (e 4 41) | - 15 | e 8 58 | P _{cP} |
| Sapporo | | 12·2 | 0 | e 3 6 | PP | e 5 55 | ? | — | e 6·8 e 7·4 |
| Kusiro | E. | 12·4 | 10 | — | — | e 5 4 | - 17 | — | — |
| Nemuro | | 12·9 | 13 | — | — | e 5 16 | - 17 | — | — |
| Wakkanai | E. | 14·6 | 1 | — | — | e 6 29 | + 16 | e 8 55 | P _{cP} |
| Zô-Sô | Z. | 17·3 | 277 | i 4 7 _a | + 3 | e 7 21 | + 5 | — | — |
| Nanking | | 19·3 | 280 | i 4 29 _a | 0 | e 7 56 | - 6 | 4 44 | PP |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|----------|-----|----------|-------|---------|-------|---------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Baguio | | 23.8 | 239 | i 5 14 | - 1 | i 10 33 | SS | — | — |
| Hong Kong | | 25.7 | 258 | e 5 32 | - 1 | e 10 26 | ? | — | — |
| Shillong | N. | 43.7 | 276 | — | — | e 14 1 | PcS | e 18 52 | e 25.4 |
| Chatra | | 47.3 | 280 | i 8 38 | + 1 | — | — | — | e 29.1 |
| College | | 54.4 | 29 | i 9 28 | - 3 | — | — | — | — |
| Warsak Dam | E. | 58.0 | 294 | e 9 58 | + 1 | — | — | — | e 36.6 |
| Brisbane | | 59.0 | 168 | — | — | i 18 2 | - 8 | e 19 53 | ScS |
| Quetta | Z. | 62.9 | 291 | i 10 28 | - 2 | — | — | — | — |
| Riverview | | 64.9 | 171 | — | — | i 19 24 | 0 | — | e 30.0 |
| Kiruna | | 72.3 | 340 | i 11 28 | - 1 | i 20 52 | 0 | e 21 32 | ScS |
| Shasta | E. | 74.9 | 51 | e 11 48 | + 4 | — | — | — | — |
| Mineral | Z. | 75.6 | 51 | e 11 46k | - 2 | — | — | i 11 58 | PcP |
| Berkeley | | 76.3 | 54 | e 11 55 | + 3 | e 22 31 | +54 | e 31 19 | SSS |
| Hungry Horse | | 76.4 | 41 | i 11 51 | - 2 | — | — | — | e 36.0 |
| Branner | Z. | 76.6 | 54 | i 11 56a | + 2 | — | — | — | — |
| Reno | N. | 77.2 | 51 | e 11 51 | - 6 | — | — | — | — |
| Scoresby Sund | | 78.3 | 355 | e 12 0 | - 3 | — | — | — | — |
| Butte | | 78.5 | 43 | i 12 3 | - 1 | — | — | — | — |
| Upsala | | 78.6 | 335 | i 12 3 | - 2 | e 21 57 | - 5 | e 14 59 | PP |
| Tinemaha | Z. | 79.5 | 53 | e 12 4 | - 6 | — | — | i 12 21 | PcP |
| Woody | Z. | 79.8 | 54 | e 12 8 | - 4 | — | — | — | — |
| China Lake | Z. | 80.6 | 53 | e 12 15 | - 1 | — | — | — | — |
| Mount Wilson | Z. | 81.1 | 55 | e 12 15 | - 3 | — | — | i 12 28 | PcP |
| Logan | | 81.3 | 46 | e 12 18 | - 2 | — | — | — | — |
| Riverside | Z. | 81.7 | 55 | e 12 18 | - 4 | — | — | — | — |
| Boulder City | | 82.4 | 52 | i 12 26 | + 1 | i 12 49 | ? | i 12 33 | PcP |
| Palomar | Z. | 82.4 | 56 | e 12 23 | - 2 | — | — | i 12 35 | PcP |
| Nelson | | 82.6 | 52 | i 12 24 | - 2 | i 13 1 | ? | i 12 44 | ? |
| Barratt | Z. | 82.9 | 56 | i 12 34 | PcP | — | — | — | — |
| Copenhagen | | 83.5 | 334 | e 12 30 | - 1 | 22 52 | 0 | 23 0 | ScS |
| Ksara | | 84.8 | 306 | e 12 40 | + 3 | — | — | e 15 54 | PP |
| Istanbul | | 85.1 | 315 | 12 36 | - 3 | 23 4? | - 4 | — | e 34.6 |
| Potsdam | | 85.7 | 331 | e 12 41 | - 1 | i 23 15 | + 1 | — | e 45.6 |
| Prague | | 86.8 | 329 | e 13 47 | +60 | i 23 25 | 0 | e 24 22 | PS |
| Tucson | | 87.2 | 54 | e 12 51 | + 2 | e 23 16 | [+ 1] | — | e 42.2 |
| Jena | | 87.4 | 331 | e 13 2 | +12 | e 13 36 | ? | e 13 11 | ? |
| Stuttgart | | 90.0 | 331 | e 13 2 | - 1 | e 23 55 | + 1 | e 16 37 | PP |
| Triest | Z. | 90.3 | 326 | e 13 5 | + 1 | — | — | e 16 41 | PP |
| Uccle | | 90.3 | 335 | e 16 40 | PP | e 23 51 | - 6 | e 18 30 | PPP |
| Strasbourg | | 90.8 | 331 | e 13 7 | + 1 | e 24 2 | 0 | e 16 43 | PP |
| Rathfarnham C. | Z. | 91.7 | 341 | i 11 32 | ? | — | — | — | — |
| Taranto | | 92.2 | 321 | — | — | e 30 1 | SS | e 35 37 | Q |
| Paris | | 92.7 | 334 | e 13 15 | 0 | — | — | — | e 47.4 |
| Florence | | 92.9 | 326 | e 17 3 | PP | e 26 39 | ? | — | e 51.6 |
| Oropa | | 93.0 | 329 | e 17 23 | PP | — | — | — | — |
| Chambon-la-Forêt | | 93.4 | 334 | e 13 16 | - 2 | — | — | — | — |
| Rome | | 93.7 | 324 | e 17 6 | PP | e 23 55 | [+ 1] | e 27 25 | ? |
| Messina | | 94.8 | 320 | e 17 6 | PP | e 23 33 | [-27] | e 39 3 | Q |
| Fayetteville | | 95.5 | 42 | i 13 25 | - 3 | e 23 59 | [- 5] | — | e 49.9 |
| St. Louis | | 95.8 | 38 | i 13 30 | + 1 | e 24 2 | [- 3] | — | e 52.6 |
| Weston | | 101.2 | 24 | i 10 7a | ? | — | — | — | — |
| Palisades | | 101.4 | 26 | e 18 6 | PP | e 24 29 | [- 5] | — | e 51.3 |
| Algiers Univ. | Z. | 102.3 | 327 | e 18 12 | PP | — | — | — | 57.6 |
| Granada | | 104.8 | 332 | 18 19a | PP | 28 1 | PS | 33 31 | SSP |
| Tamanrasset | Z. | 112.0 | 316 | e 18 22 | [-15] | e 19 18 | PP | e 21 45 | PPP |
| La Paz | | 149.5 | 68 | i 19 53 | [+ 6] | 30 17 | {+ 1} | 36 19 | PPS |

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July 7d. 20h. 46m. 1s. Epicentre 23°·6N. 44°·9W. (as on 1951, May 27d.).

A = +·6498, B = -·6475, C = +·3981; $\delta = -2$; $h = +4$;
D = -·706, E = -·708; G = +·282, H = -·281, K = -·917.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----------|-----|----------|------|---------|------|----------|------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| San Juan | 20·5 | 260 | e 4 40 | - 2 | e 8 19 | - 8 | — | — |
| Angra do Heroismo | 21·2 | 41 | — | — | i 9 33 | SSS | — | 11·5 |
| Palisades | 29·9 | 314 | — | — | e 11 14 | + 5 | — | — |
| Malaga | 37·1 | 59 | e 7 8 | - 6 | — | — | — | 19·8 |
| Granada | 37·8 | 59 | 7 53k | +33 | 13 35 | +24 | 15 59 | SS |
| Almeria | 38·7 | 60 | 6 38 | -49 | 12 21 | -64 | — | — |
| Alicante | 40·4 | 58 | e 7 46 | + 5 | e 13 58 | + 8 | — | — |
| St. Louis | 41·2 | 303 | i 7 48 | 0 | e 14 4 | + 2 | — | — |
| Rathfarnham C. z. | 41·4 | 35 | e 7 54 | + 4 | — | — | — | — |
| Algiers Univ. z. | 43·1 | 61 | e 9 48 | PP | — | — | — | — |
| Fayetteville | 44·1 | 298 | e 8 14 | + 2 | — | — | — | — |
| Clermont-Ferrand | 44·4 | 48 | e 8 17 | + 3 | e 15 0 | +11 | — | — |
| Chambon-la-Forêt | 44·5 | 45 | e 8 15 | 0 | i 11 52 | ? | e 12 2 | ? |
| Paris | 44·8 | 44 | e 8 19 | + 2 | e 15 1 | + 6 | i 11 55 | ? |
| La Paz | 45·9 | 211 | 8 26 | 0 | — | — | — | — |
| Tamanrasset z. | 46·1 | 80 | e 8 24 | - 4 | e 13 49 | PcS | e 10 11 | PP |
| Florence | 49·9 | 52 | e 9 2 | + 5 | e 16 27 | +20 | e 21 9 | SSS |
| Rome | 50·7 | 55 | e 9 5 | + 2 | e 16 27 | + 9 | e 19 49? | SS |
| Triest | 51·8 | 50 | e 9 12 | 0 | e 19 25 | ? | e 21 29 | ? |
| Messina E. | 53·0 | 59 | e 13 19 | ? | e 16 41 | - 9 | e 22 21 | SSS |
| Tucson | 58·1 | 295 | e 10 1 | + 3 | — | — | — | — |
| Hungry Horse | 59·0 | 314 | e 10 3 | - 1 | — | — | e 13 39 | PPP |
| Boulder City | 60·8 | 300 | e 10 16 | 0 | — | — | — | — |
| Nelson | 60·8 | 300 | e 10 16 | 0 | e 13 53 | PPP | i 10 24 | P |
| Mineral College z. | 65·3 | 305 | e 10 45k | - 1 | — | — | — | — |
| College | 74·2 | 335 | e 11 39 | - 1 | — | — | — | — |

July 8d. 3h. 26m. Epicentre 4°55'N. 73°40'W.
Felt in Bogota.
Seismological Bulletin for Bogota for 1953, p. 14.

July 8d. 7h. 33m. Epicentre 38°·8N. 72°·2E.
Bulletin of Seismo. Stations of the U.S.S.R. for July-September, 1953, Moscow, 1954, pp. 69-70.

July 9d. 0h. 1m. Epicentre 37°·8N. 1°·7W.
Intensity IV in Cehegin and Bullas y Pliego (according to Alicante).
Boletín Sísmico, Instituto Geográfico y Catastral, July-December, 1953, Madrid, 1957, p. 15.

July 9d. 7h. 19m. Epicentre 37°·9N. 69°·1E.
Bulletin of Seismo. Stations of the U.S.S.R. for July-September, 1953, Moscow, 1954, p. 70.

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July 9d. 19h. 2m. 8s. Epicentre 39°·9N. 78°·3E. (as on 1953, March 16d.).

A = +·1560, B = +·7533, C = +·6389; $\delta = -1$; $h = -2$;
D = +·979, E = -·203; G = +·130, H = +·626, K = -·769.

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|------------------|----------|-----|-----|----------------|------|------|----|------------------|-------|----|----------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Naryn | 2·3 | 311 | i 0 | 38 | - 2 | 1 | 8 | - 1 | — | — | — |
| Przhevalsk | 2·6 | 2 | 0 | 44 | 0 | — | — | — | — | — | — |
| Rybach'e | 3·0 | 327 | i 0 | 49 | - 1 | — | — | — | — | — | — |
| Kurmenty | 3·1 | 0 | i 0 | 51 | 0 | — | — | — | — | — | — |
| Almata II | 3·4 | 349 | e 0 | 55 | 0 | — | — | — | — | — | — |
| Almata | 3·5 | 344 | i 0 | 57 | 0 | i 1 | 46 | - 2* | — | — | — |
| Fabrichnaya | 3·6 | 337 | i 0 | 57 | - 1 | — | — | — | — | — | — |
| Chilisk | 3·7 | 1 | e 0 | 59 | - 1 | — | — | — | — | — | — |
| Murgab | 3·7 | 247 | i 1 | 2 | + 2 | — | — | — | — | — | — |
| Frunse | 4·1 | 318 | i 1 | 4 | - 1 | e 1 | 50 | - 5 | i 1 | 12 | P* |
| Andijan | 4·6 | 282 | i 1 | 11 | - 1 | i 2 | 26 | - 6 _g | i 1 | 19 | P* |
| Fergana | 5·0 | 277 | 1 | 16 | - 2 | e 2 | 42 | - 3 _g | — | — | — |
| Namangan | 5·2 | 284 | e 1 | 18 | - 3 | i 2 | 28 | + 6 | — | — | — |
| Dzhergetal | 5·5 | 265 | 1 | 24 | - 1 | — | — | — | — | — | — |
| Khorog | 5·8 | 247 | i 1 | 30 | + 1 | i 3 | 12 | 0 _g | i 2 | 47 | S |
| Garm | 6·3 | 264 | i 1 | 33 | - 3 | i 2 | 48 | - 2 | i 1 | 39 | P |
| Obi-garm | 6·8 | 262 | i 1 | 39 | - 5 | e 2 | 52 | - 11 | — | — | — |
| Kulyab | 6·9 | 256 | 1 | 40 | - 5 | — | — | — | — | — | — |
| Lunacharskoe | 7·0 | 285 | i 1 | 44 | - 2 | — | — | — | — | — | — |
| Tashkent | 7·0 | 284 | e 1 | 43 | - 3 | i 3 | 49 | - 2 _g | — | — | — |
| Tchimkent | 7·0 | 293 | i 1 | 47 | + 1 | 3 | 7 | - 1 | — | — | — |
| Stalinabad | 7·5 | 263 | i 1 | 48 | - 5 | i 3 | 9 | - 11 | — | — | — |
| Warsak Dam | E. 8·0 | 224 | i 1 | 59 | - 1 | — | — | — | — | — | — |
| Samarkand | 8·7 | 272 | 2 | 5 | - 5 | — | — | — | — | — | — |
| New Delhi | 11·3 | 185 | 2 | 44 | - 2 | i 4 | 51 | - 3 | 2 | 59 | PPP 5·2 |
| Bairam-Ali | 12·8 | 267 | 3 | 3 | - 3 | 5 | 21 | - 9 | — | — | — |
| Quetta | 13·4 | 227 | i 3 | 9 _a | - 5 | i 5 | 40 | - 5 | i 3 | 20 | PP 17·0 |
| Chatra | E. 15·0 | 148 | e 3 | 35 | 0 | 6 | 24 | + 1 | 6 | 45 | SS 7·2 |
| Ashkabad | 15·7 | 269 | 3 | 44 | 0 | — | — | — | — | — | — |
| Kizyl-Arvat | 17·0 | 275 | i 4 | 2 | + 1 | i 7 | 28 | SS | — | — | — |
| Shillong | N. 18·3 | 134 | 4 | 19 | + 2 | 7 | 49 | + 10 | 4 | 36 | PP 8·9 |
| Calcutta | E. 19·3 | 151 | i 4 | 35 | + 6 | 8 | 15 | + 13 | 5 | 31 | ? 9·3 |
| Sverdlovsk | 20·5 | 332 | e 4 | 39 | - 3 | e 8 | 27 | 0 | — | — | — |
| Bombay | 21·5 | 194 | i 5 | 2 | + 10 | i 9 | 4 | + 17 | 5 | 23 | PP 9·6 |
| Poona | N. 21·6 | 191 | e 5 | 1 | + 7 | e 8 | 59 | + 10 | — | — | — |
| Irkutsk | 21·7 | 47 | e 4 | 56 | + 1 | e 9 | 0 | + 9 | — | — | — |
| Kyakhta | 22·3 | 52 | 5 | 1 | 0 | e 9 | 11 | + 9 | — | — | — |
| Hyderabad | 22·4 | 179 | i 5 | 6 | + 4 | i 9 | 11 | + 7 | 5 | 30 | PP 12·2 |
| Shemakla | 22·5 | 282 | e 5 | 8 | + 6 | — | — | — | — | — | — |
| Lenkoran | 22·8 | 277 | 5 | 5 | 0 | 9 | 8 | - 3 | — | — | — |
| Kabansk | 23·0 | 48 | e 5 | 8 | + 1 | i 9 | 26 | + 12 | — | — | — |
| Makhach-Kala | 23·2 | 288 | e 5 | 11 | + 2 | i 9 | 27 | + 9 | — | — | — |
| Kirovobad | 24·3 | 282 | e 5 | 19 | - 1 | e 9 | 35 | - 2 | — | — | — |
| Goris | 24·5 | 281 | 5 | 22 | 0 | e 9 | 58 | + 18 | — | — | — |
| Grozny | 24·5 | 288 | e 5 | 21 | - 1 | i 9 | 58 | + 18 | — | — | — |
| Tiflis | 25·3 | 285 | e 5 | 31 | + 1 | — | — | — | — | — | — |
| Duzheti | 25·4 | 286 | e 5 | 36 | + 5 | — | — | — | — | — | — |
| Erevan | 25·8 | 282 | e 5 | 36 | + 2 | — | — | — | — | — | — |
| Gori | 25·8 | 286 | e 5 | 39 | + 5 | — | — | — | — | — | — |
| Madras | E. 26·2 | 175 | e 5 | 1 | - 37 | i 10 | 51 | + 42 | 8 | 52 | PcP 13·8 |
| Tsikhlis-Dzhvari | 26·3 | 284 | i 5 | 40 | + 1 | — | — | — | — | — | — |
| Piatigorsk | 26·4 | 290 | 5 | 36 | - 4 | i 10 | 29 | + 17 | — | — | — |
| Abastumanj | 26·8 | 286 | 5 | 46 | + 2 | — | — | — | — | — | — |
| Zugdidi | 27·4 | 288 | e 5 | 52 | + 3 | — | — | — | — | — | — |
| Sotchi | 28·9 | 291 | e 6 | 3 | 0 | e 10 | 56 | + 3 | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O - C. | S. | O - C. | Supp. | L. |
|------------------|----|--------------|--------------|---------------------|--------|---------|--------|----------|------------|
| | | ^c | ^o | m. s. | s. | m. s. | s. | m. s. | m. |
| Kodaikanal | E. | 29.6 | 182 | i 12 5 | ? | i 15 23 | L | — | (i 15.4) |
| Moscow | | 31.1 | 314 | e 6 20 | - 2 | e 11 15 | -13 | — | — |
| Theodosia | | 31.8 | 294 | e 6 27 | - 1 | e 11 39 | + 1 | — | — |
| Yalta | | 32.7 | 293 | e 6 34 | - 2 | e 11 50 | - 2 | — | — |
| Nanking | | 33.5 | 90 | 6 50 | + 7 | i 12 15 | +10 | — | — |
| Ksara | | 34.2 | 272 | e 6 54 | + 5 | e 13 11 | +55 | — | — |
| Z0-Sè | Z. | 35.7 | 89 | 7 6 | + 4 | e 12 48 | + 9 | — | — |
| Pulkovo | | 35.8 | 319 | e 7 0 | - 3 | e 12 31 | -10 | — | — |
| Kishinev | | 36.1 | 298 | e 7 4 | - 1 | e 12 45 | 0 | — | — |
| Istanbul | | 37.1 | 289 | 7 11 | - 3 | 12 58? | - 3 | — | 17.9 |
| Bucharest | | 38.4 | 295 | e 7 33 | + 8 | e 16 5 | SS | — | 23.9 |
| Helsinki | | 38.5 | 321 | — | — | e 13 22 | 0 | e 13 57 | ? |
| Lwow | | 38.9 | 303 | e 7 27 | - 2 | e 13 28 | 0 | — | — |
| Helwan | | 39.4 | 269 | 7 31 | - 2 | — | — | e 8 25 | ? |
| Uzhgorod | | 40.2 | 302 | e 7 44 | + 4 | e 14 1 | +13 | — | — |
| Skalnate Pleso | | 41.5 | 303 | e 7 47 | - 3 | e 17 30 | SSS | e 9 20 | PP e 21.4 |
| Kiruna | | 41.7 | 330 | i 7 51 | - 1 | e 14 7 | - 3 | e 17 8 | SS i 21.7 |
| Athens | | 41.9 | 285 | e 7 49 | - 5 | i 14 14 | + 1 | i 8 0 | ? |
| Upsala | | 42.1 | 319 | i 7 53 | - 2 | e 14 13 | - 3 | e 13 31 | PcS e 22.0 |
| Belgrade | | 42.3 | 296 | e 7 57 _a | 0 | e 14 21 | + 2 | e 9 40 | PP e 26.9 |
| Budapest | | 42.6 | 301 | e 8 0 | + 1 | e 14 54 | PPS | e 18 22 | SSS 23.1 |
| Raciborzu | | 42.6 | 305 | e 8 0 | + 1 | i 13 44 | PcS | e 9 22 | PP i 20.2 |
| Kalossa | | 42.8 | 300 | e 8 19 | +18 | e 14 28 | + 2 | e 10 15 | PPP e 26.4 |
| Ogyalla | | 43.1 | 302 | e 8 9 | + 5 | e 18 2 | SSS | e 10 22 | PPP e 20.1 |
| Baguio | | 43.5 | 109 | 1 8 12 | + 5 | i 14 48 | +12 | — | — |
| Prague | | 45.0 | 306 | e 8 18 | - 1 | e 14 51 | - 7 | e 10 3 | PP i 24.2 |
| Copenhagen | | 45.2 | 313 | i 8 24 | + 4 | e 15 10 | + 9 | 18 16 | SS 22.4 |
| Uglegorsk | | 45.2 | 56 | e 8 24 | + 4 | — | — | — | — |
| Potsdam | | 45.4 | 309 | e 8 25 | + 3 | e 14 58 | - 6 | e 10 18 | PP e 22.9 |
| Collmberg | | 45.7 | 307 | e 8 21 | - 3 | e 20 46 | Q | e 11 3 | PPP e 24.6 |
| Taranto | | 45.8 | 292 | — | — | 15 2 | - 7 | 18 32 | SS e 22.2 |
| Yuzno-Sakhlinsk | | 46.1 | 59 | e 8 29 | + 1 | — | — | — | — |
| Cheb | | 46.3 | 305 | e 8 42 | +13 | e 15 34 | +18 | e 11 4 | PPP e 22.9 |
| Jena | | 46.6 | 306 | e 8 27 | - 5 | e 10 22 | PP | e 10 36 | PP |
| Triest | | 46.6 | 299 | i 8 32 | 0 | e 15 27 | + 6 | e 10 25 | PP 25.9 |
| Reggio Calabria | N. | 47.8 | 289 | e 8 46 | + 5 | — | — | — | — |
| Messina | | 47.9 | 289 | e 8 43 | + 1 | e 15 41 | + 2 | i 9 2 | ? 24.0 |
| Magadan | | 48.1 | 41 | e 8 43 | 0 | — | — | — | — |
| Rocca di Papa | | 48.6 | 295 | e 8 49 | + 2 | — | — | e 14 21 | PcS |
| Rome | | 48.7 | 295 | e 8 45 | - 3 | e 15 58 | + 8 | e 10 42? | PP |
| Stuttgart | | 48.7 | 304 | e 8 45 | - 3 | e 15 57 | + 7 | e 10 41 | PP e 23.9 |
| Salo | | 48.8 | 301 | e 8 52 | + 3 | — | — | e 9 23 | ? |
| Florence | | 48.9 | 298 | i 8 46 | - 4 | e 15 57 | + 4 | i 10 39 | PP |
| Chur | | 49.0 | 302 | e 9 19 | +29 | — | — | — | — |
| Karlsruhe | | 49.1 | 306 | e 8 59? | + 8 | e 16 1 | + 5 | — | e 24.9 |
| Witteveen | Z. | 49.1 | 312 | e 8 55 | + 4 | — | — | — | — |
| Zürich | | 49.5 | 303 | e 8 54 | 0 | — | — | e 10 54 | PP |
| Strasbourg | | 49.6 | 305 | e 8 54 | - 1 | e 16 7 | + 4 | e 19 50 | SS e 23.8 |
| De Bilt | | 50.2 | 310 | e 9 3 | + 3 | e 16 10 | - 1 | e 19 34 | SS e 23.9 |
| Oropa | | 50.4 | 302 | i 8 22 | -39 | i 15 51 | -23 | 15 8 | ? |
| Neuchatel | | 50.6 | 304 | e 8 57 | - 5 | — | — | — | — |
| Uccle | | 51.0 | 309 | e 9 5 | - 1 | e 16 46 | PPS | e 11 5 | PP e 23.9 |
| Paris | | 52.8 | 306 | e 9 20 | + 1 | e 16 53 | + 6 | e 11 23 | PP e 25.9 |
| Durham | | 53.2 | 314 | e 15 28 | ? | 21 8 | ? | — | — |
| Chambon-la-Forêt | | 53.3 | 305 | e 9 19 | - 4 | — | — | i 9 24 | P |
| Clermont-Ferrand | | 53.6 | 303 | e 9 27 | + 2 | e 17 16 | PPS | e 20 58 | SS 23.4 |
| Kew | | 53.6 | 311 | e 9 36 | +11 | e 20 56 | SS | — | e 25.9 |
| Petropavlovsk | | 54.0 | 47 | e 9 31 | + 3 | — | — | — | — |
| Klyuchi | | 54.1 | 43 | e 9 30 | + 1 | e 17 16 | PS | — | — |
| Scoresby Sund | | 56.2 | 337 | — | — | e 17 40 | + 7 | — | 26.9 |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|------------|------------|----------------------|------|---------|---------|---------|-----------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Rathfarnham C. | z. | 56.3 | 314 | i 9 45 | 0 | — | — | e 10 25 | ? |
| Algiers Univ. | z. | 57.5 | 293 | e 9 48 | - 5 | e 17 0 | -50 | e 13 24 | PPP |
| Alicante | | 59.2 | 296 | e 9 10 | -55 | e 17 34 | -38 | e 13 58 | ? |
| Toledo | | 60.9 | 299 | e 10 14 | - 3 | e 18 31 | - 3 | — | e 35.5 |
| Almeria | | 61.3 | 296 | 10 23 | + 3 | 19 31 | +52 | — | 29.9 |
| Granada | | 61.9 | 297 | i 10 30 _a | + 6 | 18 58 | PS | 22 56 | SS |
| Malaga | | 62.7 | 297 | i 10 25 | - 4 | i 19 12 | PS | 13 0 | PP |
| Tamanrasset | z. | 62.9 | 278 | e 10 26 | - 4 | e 19 11 | PS | e 12 51 | PP |
| Pretoria | z. | 80.3 | 224 | e 12 18 | + 4 | — | — | — | — |
| Kimberley | z. | 84.5 | 225 | e 12 34 | - 2 | — | — | — | — |
| Grahamstown | z. | 87.1 | 221 | e 12 53 | + 4 | — | — | — | — |
| Ottawa | | 91.9 | 342 | e 13 1 | -10 | e 23 52 | { - 3 } | — | — |
| Tinemaha | z. | 101.9 | 13 | e 14 2 | + 5 | — | — | — | — |
| Fayetteville | | 104.1 | 353 | i 13 56 | -11 | — | — | e 18 21 | PP e 53.5 |

July 9d. 19h. 21m. 4s. Epicentre 35°·8N. 140°·8E. Focus at Base of Superficial Layers.
(as on 1953, March 21d.).

Intensity V at Tyosi; IV at Mito, Kashiwa, Kakioka, Tokyo, Tukubasan, Yokohama, Osima, Ajiro, and Hunatu; II-III at Kumagaya, Utunomiya, Onahama, Shirakawa, Maebasi, Hukusima, and Kohu.
Epicentre 35°·7N. 140°·8E. Depth of focus 30km.
Seismo. Bull. Cent. Met. Obs., Japan, for July, 1953, Tokyo, 1953, pp.13-14, with macro-seismic chart.

$$A = -0.6300, B = +0.5138, C = +0.5823; \quad \delta = -4; \quad h = 0;$$

$$D = +0.632, E = +0.775; \quad G = -0.451, H = +0.368, K = -0.813.$$

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. |
|-----------|----|------------|------------|---------------------|------|-------|------|-------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. |
| Tyosi | N. | 0.1 | — | i 0 7 | + 1 | 0 14 | + 3 | — |
| Kakioka | | 0.7 | 311 | e 0 13 | 0 | 0 21 | - 2 | — |
| Mito | N. | 0.7 | 335 | i 0 14 _k | + 1 | 0 28 | + 5 | — |
| Tukubasan | | 0.7 | 306 | i 0 15 _k | + 2 | 0 25 | + 2 | — |
| Tokyo | z. | 0.8 | 263 | i 0 15 | 0 | 0 28 | + 2 | — |
| Yokohama | z. | 1.0 | 249 | i 0 18 _k | 0 | 0 34 | + 3 | — |
| Onahama | | 1.1 | 4 | e 0 22 _a | + 3 | 0 37 | + 4 | — |
| Utunomiya | | 1.1 | 315 | i 0 18 _k | - 1 | 0 36 | + 3 | — |
| Kumagaya | | 1.2 | 287 | (0 24) | + 4 | 0 24 | P | 0 6 |
| Mera | | 1.2 | 222 | 0 19 | - 1 | 0 33 | - 3 | — |
| Shirakawa | | 1.4 | 340 | 0 25 | + 2 | 0 44 | + 3 | — |
| Titibu | | 1.4 | 278 | i 0 18 | - 5 | 0 47 | + 6 | — |
| Maebasi | z. | 1.5 | 293 | i 0 25 _k | + 1 | 0 47 | + 3 | — |
| Osima | | 1.5 | 228 | 0 24 | 0 | 0 40 | - 4 | — |
| Ajiro | | 1.6 | 242 | 0 27 _a | + 1 | 0 46 | 0 | — |
| Hunatu | N. | 1.7 | 260 | 0 29 | + 1 | 0 50 | + 1 | — |
| Misima | | 1.7 | 246 | i 0 26 _k | - 2 | 0 46 | - 3 | — |
| Kohu | | 1.8 | 265 | i 0 29 | 0 | 0 53 | + 2 | — |
| Oiwake | | 1.9 | 286 | 0 29 | - 2 | 0 53 | - 1 | — |
| Hukusima | | 2.0 | 352 | 0 35 _a | + 3 | 1 1 | + 5 | — |
| Shizuoka | | 2.1 | 247 | 0 32 | - 1 | 1 0 | + 1 | — |
| Matusiro | | 2.2 | 291 | i 0 34 | - 1 | 0 56 | - 5 | — |
| Matumoto | E. | 2.3 | 281 | 0 38 | + 2 | 1 12 | + 8 | — |
| Nagano | N. | 2.3 | 292 | e 0 36 | 0 | 1 1 | - 3 | — |
| Omaesaki | z. | 2.4 | 240 | 0 37 | - 1 | 1 10 | + 4 | — |
| Takada | | 2.4 | 302 | 0 41 | + 3 | 1 19 | +13 | — |
| Niigata | | 2.5 | 237 | e 0 48 | + 9 | 1 19 | +10 | — |
| Sendai | | 2.5 | 2 | e 0 42 | + 3 | 1 12 | + 3 | — |
| Yamagata | | 2.5 | 352 | e 0 43 | + 4 | 1 19 | +10 | — |
| Hamamatu | | 2.7 | 247 | e 0 42 | 0 | 1 18 | + 4 | — |
| Isinomaki | | 2.7 | 9 | e 0 43 | + 1 | 1 14 | 0 | — |
| Takayama | N. | 2.9 | 277 | e 0 46 | + 1 | 1 31 | +12 | — |
| Aikawa | | 3.0 | 317 | 0 48 | + 2 | 1 26 | + 4 | — |
| Toyama | z. | 3.0 | 287 | i 0 48 _a | + 2 | 1 25 | + 3 | — |
| Nagoya | E. | 3.2 | 259 | e 0 50 | + 1 | 1 33 | + 6 | — |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | |
|-----------|----------|-----|----------|------|-------|------|---------|----|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | s. |
| Gihu | 3.3 | 263 | e 0 55 | + 4 | 1 44 | +15 | — | — |
| Mizusawa | 3.3 | 5 | 0 56 | + 5 | 1 48 | +19 | — | — |
| Kanazawa | 3.4 | 284 | e 1 6 | +14 | — | — | — | — |
| Wazima | 3.5 | 298 | e 0 56 | + 3 | — | — | — | — |
| Kameyama | 3.7 | 257 | 0 57 | + 1 | 1 44 | + 5 | — | — |
| Tu | 3.7 | 255 | e 1 1 | + 5 | 2 4 | +25 | — | — |
| Akita | 3.9 | 252 | e 1 13 | +14 | 2 4 | +20 | — | — |
| Miyako | z. 3.9 | 13 | 1 2 | + 3 | 2 4 | +20 | — | — |
| Morioka | 3.9 | 4 | e 1 2 | + 3 | 1 46 | + 2 | — | — |
| Tsuruga | E. 3.9 | 269 | i 0 58 | - 1 | 1 58 | +14 | — | — |
| Kyoto | 4.2 | 262 | e 1 12 | + 9 | 2 3 | +11 | — | — |
| Owase | 4.2 | 247 | e 1 1 | - 2 | 1 50 | - 2 | — | — |
| Osaka | 4.5 | 257 | e 1 10 | + 2 | 2 11 | +11 | — | — |
| Hatinohe | 4.8 | 8 | e 1 13 | + 1 | 2 14 | + 7 | — | — |
| Siomisaki | 4.8 | 242 | e 1 4 | - 8 | 2 33 | +26 | — | — |
| Toyooka | 4.9 | 268 | e 1 25 | +12 | 2 25 | +15 | — | — |
| Aomori | 5.0 | 0 | 1 15 | 0 | 2 17 | + 5 | — | — |
| Sumoto | 5.1 | 255 | e 1 34 | +18 | 2 29 | +14 | — | — |
| Takamatu | 5.7 | 258 | e 1 23 | - 1 | 2 42 | +12 | — | — |
| Muroto | 6.0 | 247 | e 1 27 | - 2 | 2 33 | - 4 | — | — |
| Mori | E. 6.3 | 358 | e 1 48 | +15 | 3 0 | +15 | — | — |
| Koti | 6.4 | 252 | e 1 33 | - 1 | — | — | — | — |
| Urakawa | 6.5 | 12 | e 1 43 | + 7 | 2 53 | + 3 | — | — |
| Matuyama | 6.9 | 256 | e 1 39 | - 2 | 3 4 | + 4 | — | — |
| Hirosima | 7.0 | 261 | e 1 53 | +10 | 3 21 | +19 | — | — |
| Kusiro | N. 7.7 | 20 | e 1 41 | -12 | 3 14 | - 6 | — | — |
| Ooita | 8.0 | 254 | e 2 3 | + 6 | 4 15 | +48 | — | — |
| Hukuoka | z. 8.8 | 259 | e 2 8 | + 0 | 4 38 | +51 | — | — |
| Quetta | z. 60.8 | 288 | i 10 8 | - 3 | — | — | — | — |
| Kiruna | z. 67.5 | 339 | i 10 53k | - 2 | — | — | — | — |
| Upsala | z. 73.8 | 334 | i 11 31 | - 2 | — | — | — | — |
| Palomar | z. 80.0 | 56 | e 12 6 | - 2 | — | — | — | — |
| Barratt | z. 80.5 | 57 | e 12 11 | + 1 | — | — | — | — |
| Collmberg | z. 81.9 | 330 | e 12 16 | - 2 | — | — | — | — |
| Jena | z. 82.8 | 330 | e 12 20 | - 2 | — | — | e 12 35 | pP |
| Stuttgart | 85.4 | 330 | e 12 34 | - 1 | — | — | — | — |

July 9d. 19h. 30m. Epicentre 35°·6N. 140°·8E. Depth of focus 40km.
Intensity IV at Tyosi; II-III at Mito, Kakioka, Tokyo, Kashiwa, Tukubasan, Utunomiya, Ajiro, and Kohu.
Seismo. Bull. Cent. Met. Obs., Japan, for July, 1953, Tokyo, 1953, pp.14-15, with macroseismic chart.

July 9h. 20h. 43m. 32s. Epicentre 39°·9N. 78°·3E. (as at 19h. 2m.).

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | | L. |
|------------|----------|-----|--------|------|--------|------------------|--------|----------------|----|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | s. | m. |
| Naryn | 2.3 | 311 | i 0 40 | 0 | i 1 6 | - 3 | i 1 14 | S _g | — |
| Przhevalsk | 2.6 | 2 | 0 44 | 0 | e 1 15 | - 2 | — | — | — |
| Rybach'e | 3.0 | 327 | i 0 50 | 0 | — | — | — | — | — |
| Almata | 3.5 | 344 | i 0 57 | 0 | i 1 42 | + 2 | — | — | — |
| Murgab | 3.7 | 247 | 1 6 | 0* | — | — | — | — | — |
| Frunse | 4.1 | 318 | i 1 6 | + 1 | i 1 54 | - 1 | — | — | — |
| Ili | 4.1 | 348 | e 1 3 | - 2 | i 2 0 | + 5 | — | — | — |
| Andijan | 4.6 | 282 | 1 13 | + 1 | e 2 34 | + 2 _g | i 2 16 | S* | — |
| Fergana | 5.0 | 277 | i 1 20 | + 2 | 2 17 | - 1 | — | — | — |
| Namangan | 5.2 | 284 | e 1 21 | 0 | i 2 50 | - 2 _g | — | — | — |
| Dzhergetal | 5.5 | 265 | 1 27 | + 2 | 2 29 | - 1 | — | — | — |
| Khorog | 5.8 | 247 | i 1 34 | + 5 | i 2 42 | + 4 | — | — | — |
| Garm | 6.3 | 264 | i 1 35 | - 1 | — | — | — | — | — |
| Obi-garm | 6.8 | 262 | i 1 44 | 0 | — | — | — | — | — |
| Tashkent | 7.0 | 284 | i 1 44 | - 2 | — | — | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|----------|-----|---------|------|----------|------------------|---------|------------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Tchimkent | | 7.0 | 293 | i 1 46 | 0 | i 3 52 | + 1 _g | — | — |
| Stalinabad | | 7.5 | 263 | i 1 52 | - 1 | i 4 12 | + 4 _g | — | — |
| Warsak Dam | E. | 8.0 | 224 | i 2 0 | 0 | i 3 22 | -11 | — | — |
| Samarkand | | 8.7 | 272 | e 2 9 | - 1 | — | — | — | — |
| New Delhi | | 11.3 | 185 | e 2 47 | + 1 | i 4 55 | + 1 | 5 8 | SS |
| Bairam-Ali | | 12.8 | 267 | e 3 6 | 0 | — | — | — | — |
| Quetta | | 13.4 | 227 | i 3 11 | - 3 | i 5 41 | - 4 | i 3 37 | PPP |
| Chatra | | 15.0 | 148 | e 3 37 | + 2 | e 6 29 | + 6 | 6 40 | SS |
| Ashkabad | | 15.7 | 269 | e 3 45 | + 1 | e 6 6 | -33 | — | — |
| Kizyl-Arvat | | 17.0 | 275 | i 4 4 | + 3 | — | — | — | — |
| Shillong | N. | 18.3 | 134 | 4 17 | 0 | 7 48 | + 9 | 8 47 | PcP |
| Calcutta | E. | 19.3 | 151 | e 4 33 | + 4 | i 8 14 | +12 | — | — |
| Sverdlovsk | | 20.5 | 332 | i 4 40 | - 2 | e 8 25 | - 2 | — | — |
| Bombay | N. | 21.5 | 194 | e 4 58 | + 6 | i 9 6 | +19 | 9 38 | SSS |
| Poona | | 21.6 | 191 | e 4 57 | + 3 | e 8 52 | + 3 | — | — |
| Irkutsk | | 21.7 | 47 | e 3 53 | - 2 | e 8 55 | + 4 | — | — |
| Kyakhta | | 22.3 | 52 | 5 0 | - 1 | e 9 10 | + 8 | — | — |
| Hyderabad | | 22.4 | 179 | i 5 2 | 0 | 9 7 | + 3 | i 9 15 | ? |
| Lenkoran | | 22.8 | 277 | 5 7 | + 2 | — | — | — | — |
| Kabansk | | 23.0 | 48 | i 5 6 | - 1 | e 9 25 | +11 | — | — |
| Makhach-Kala | | 23.2 | 288 | i 5 11 | + 2 | i 9 26 | + 8 | — | — |
| Kirovobad | | 24.3 | 282 | 5 19 | - 1 | e 9 42 | + 5 | — | — |
| Goris | | 24.5 | 281 | i 5 23 | + 1 | — | — | — | — |
| Grozny | | 24.5 | 288 | i 5 21 | - 1 | — | — | — | — |
| Tiflis | | 25.3 | 285 | i 5 33 | + 3 | e 10 3 | + 9 | — | — |
| Erevan | | 25.8 | 282 | e 5 34 | 0 | e 10 26 | +24 | — | — |
| Gori | | 25.8 | 286 | 5 37 | + 3 | — | — | — | — |
| Leninakan | | 26.2 | 284 | e 5 41 | + 3 | — | — | — | — |
| Madras | E. | 26.2 | 175 | — | — | i 10 45 | SS | — | — |
| Tsikhlis-Dzhvari | | 26.3 | 284 | 5 41 | + 2 | — | — | — | — |
| Akhalkalaki | | 26.4 | 285 | e 5 40 | 0 | — | — | — | — |
| Borzhom | | 26.4 | 284 | 5 39 | - 1 | — | — | — | — |
| Piatigorsk | | 26.4 | 290 | 5 40 | 0 | e 10 24 | +12 | — | — |
| Zugdidi | | 27.4 | 288 | e 5 49 | 0 | e 10 31 | + 3 | — | — |
| Sotchi | | 28.9 | 291 | — | — | e 10 52 | - 1 | — | — |
| Kodaikanal | E. | 29.6 | 182 | — | — | e 12 17 | SS | — | — |
| Moscow | | 31.1 | 314 | e 6 20 | - 2 | — | — | — | — |
| Theodosia | | 31.8 | 294 | 6 24 | - 4 | e 11 36 | - 2 | — | — |
| Yalta | | 32.7 | 293 | 6 34 | - 2 | e 11 51 | - 1 | — | — |
| Pulkovo | | 35.8 | 319 | e 7 3 | 0 | e 12 34 | - 7 | — | — |
| Kishinev | | 36.1 | 298 | e 7 4 | - 1 | — | — | — | — |
| Bucharest | | 38.4 | 295 | e 7 33 | + 8 | — | — | — | — |
| Lwow | | 38.9 | 303 | e 7 36? | + 7 | e 13 26? | - 2 | — | — |
| Helwan | Z. | 39.4 | 269 | 7 35 | + 2 | — | — | e 7 46 | ? |
| Skalnate Pleso | N. | 41.5 | 303 | e 9 24 | PP | — | — | — | — |
| Kiruna | | 41.7 | 330 | i 7 50 | - 2 | e 17 9 | SS | e 9 28? | PP |
| Upsala | | 42.1 | 319 | e 7 54 | - 1 | e 17 11 | SS | e 18 44 | Q |
| Raciborzu | | 42.6 | 305 | e 9 43 | PP | — | — | — | — |
| Ogyalla | | 43.1 | 302 | e 9 50 | PP | e 17 46 | SS | e 13 47 | P _a S |
| Prague | | 45.0 | 306 | e 10 3 | PP | e 15 1 | + 3 | e 10 31 | PPP |
| Copenhagen | | 45.2 | 313 | e 10 2 | PP | e 15 1 | 0 | 18 18 | SS |
| Potsdam | | 45.4 | 309 | e 8 20 | - 2 | e 18 20 | SS | e 10 8 | PP |
| Collmberg | Z. | 45.7 | 307 | e 7 28? | -56 | — | — | e 9 28? | ? |
| Cheb | | 46.3 | 305 | e 10 21 | PP | e 15 20 | + 4 | e 18 53 | SS |
| Jena | | 46.6 | 306 | e 8 32 | 0 | e 10 25 | PP | e 12 23 | ? |
| Messina | | 47.9 | 289 | e 8 41 | - 1 | e 15 39 | 0 | e 19 25 | SS |
| Rome | | 48.7 | 295 | e 8 45 | - 3 | e 16 17 | PPS | e 10 33 | PP |
| Stuttgart | | 48.7 | 304 | e 8 48 | 0 | e 15 50 | 0 | e 10 38 | PP |
| Karlsruhe | | 49.1 | 306 | e 8 45 | - 6 | e 15 43 | -13 | — | — |
| Uccle | E. | 51.0 | 309 | — | — | e 20 5 | SS | e 20 24 | ? |
| Tamanrasset | Z. | 62.9 | 278 | e 10 28 | - 2 | — | — | — | — |
| College | | 69.5 | 19 | e 11 10 | - 2 | — | — | — | — |
| Hungry Horse | | 91.5 | 8 | e 13 8 | - 2 | — | — | — | — |

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July 9d. 21h. 23m. 49s. Epicentre 30°·2N. 42°·7W.

A = +·6362, B = -·5871, C = +·5005; δ = -6; h = +2;
D = -·678, E = -·735; G = +·368, H = -·339, K = -·866.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|---------------------|----------|-----|---------------------|------|---------|------|------------|-----|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Angra do Heroismo | 15·3 | 52 | i 3 43 | + 4 | i 6 57 | SSS | i 5 30 | ? | 7·4 |
| Bermuda | 18·9 | 282 | i 4 25k | + 1 | e 8 4 | +11 | — | — | e 8·7 |
| Halifax | 21·9 | 317 | i 4 57k | 0 | 9 12 | +18 | 5 29 | PPP | — |
| Fort de France | 22·9 | 230 | i 5 5 | - 1 | i 9 27 | +14 | — | — | — |
| San Juan | 24·3 | 246 | i 5 19 | - 1 | e 9 44 | + 7 | — | — | — |
| Weston | 26·0 | 306 | i 5 35 _a | - 1 | i 10 4 | - 2 | — | — | 12·6 |
| Harvard | 26·2 | 306 | i 5 37 | - 1 | e 10 11 | + 2 | i 6 12 | PP | — |
| Fordham | 27·4 | 302 | i 5 49 | 0 | i 10 33 | + 5 | — | — | — |
| Palisades | 27·4 | 302 | i 5 49 _a | 0 | e 10 31 | + 3 | — | — | e 12·7 |
| Seven Falls | E. 27·5 | 316 | e 5 51? | + 1 | 10 31? | + 1 | 6 36? | PP | 14·0 |
| Philadelphia | 28·2 | 299 | e 5 54 | - 2 | e 10 40 | - 1 | — | — | — |
| M'Bour | 28·4 | 117 | i 5 56 | - 2 | i 10 57 | +12 | i 6 46 | PP | 14·7 |
| Shawinigan Falls N. | 28·4 | 314 | e 5 59 | + 1 | 10 39 | - 6 | — | — | — |
| Lisbon | 28·8 | 63 | i 6 4 _a | + 2 | e 10 52 | + 1 | i 12 31 | SSS | i 13·4 |
| Washington | 29·5 | 297 | i 6 8 | 0 | — | — | e 9 28 | PcP | — |
| Coimbra | 29·6 | 60 | 6 9 | 0 | 11 3 | - 1 | 7 4 | PP | 13·7 |
| Ottawa | 29·9 | 310 | i 6 12k | 0 | 11 15 | + 6 | 7 15 | PP | 14·2 |
| Averroes | 30·1 | 74 | e 6 22 | + 9 | e 11 26 | +14 | — | — | 15·1 |
| Buffalo (Larkin) | 31·3 | 304 | i 6 24 | 0 | — | — | — | — | — |
| Morgantown | 31·8 | 296 | i 6 28 | 0 | — | — | — | — | — |
| Pittsburgh | 31·9 | 300 | i 6 31 | + 2 | i 11 50 | +10 | — | — | — |
| Malaga | 32·4 | 67 | i 6 34 | 0 | i 11 54 | + 6 | 12 56 | ScP | 15·3 |
| Columbia | 32·6 | 288 | i 6 36 | + 1 | — | — | — | — | — |
| Toledo | 32·9 | 62 | i 6 39 | + 1 | i 12 5 | + 9 | 9 22 | PcP | 15·0 |
| Granada | 33·1 | 67 | i 6 42k | + 2 | i 12 18 | +19 | 6 48 | pP | 14·3 |
| Cleveland | 33·2 | 301 | i 6 40k | 0 | i 12 1 | + 1 | e 14 11 | SS | — |
| Kingston | 33·3 | 256 | e 6 55 | +14 | — | — | — | — | e 15·1 |
| Kirkland Lake | z. 33·6 | 313 | e 6 43 | - 1 | — | — | e 8 7 | PPP | — |
| Almeria | 34·0 | 67 | i 6 47 | - 1 | i 11 55 | -18 | 13 11 | ScP | 16·2 |
| Rathfarnham Castle | 35·1 | 38 | i 6 57 _a | 0 | e 12 35 | + 5 | i 7 9 | ? | e 16·2 |
| Cincinnati | 35·3 | 296 | i 6 57 | - 2 | i 12 38 | + 5 | — | — | — |
| Alicante | 35·6 | 64 | i 7 2 | + 1 | 12 35 | - 3 | 17 15 | ScS | 16·9 |
| Reykjavik | z. 36·4 | 14 | i 7 11 | + 3 | e 13 31 | +41 | — | — | — |
| Tortosa | 36·4 | 61 | i 7 8 | 0 | i 12 56 | + 6 | — | — | — |
| Barcelona | 37·7 | 59 | e 7 20 | + 1 | 13 16 | + 6 | 8 46 | PP | e 18·1 |
| Chicago | 37·7 | 301 | e 7 15 | - 4 | i 13 15 | + 5 | — | — | — |
| Kew | 37·8 | 43 | e 7 22 | + 2 | e 13 17 | + 6 | (e 16 11?) | SSS | e 16·2 |
| Durham | 38·2 | 38 | i 7 24 | + 1 | i 13 24 | + 7 | — | — | — |
| Algiers Univ. | z. 38·4 | 67 | e 7 24 | - 1 | e 13 11 | - 9 | e 17 29 | ScS | 18·2 |
| Chambon-la-Forêt | 38·5 | 49 | i 7 27 | + 1 | — | — | — | — | — |
| Clermont-Ferrand | 38·7 | 53 | e 7 30 | + 3 | e 13 32 | + 7 | e 9 0 | PP | 17·7 |
| Paris | 38·8 | 48 | i 7 30 | + 2 | i 13 28 | + 2 | i 9 5 | PP | — |
| Aberdeen | E. 38·9 | 34 | — | — | i 13 37 | + 9 | i 15 9 | ? | e 19·3 |
| Bogota | 39·0 | 236 | e 7 33 | + 3 | i 13 39 | +10 | i 16 17 | SS | 18·2 |
| Mobile | 39·0 | 283 | 7 32 | + 2 | 13 30 | + 1 | — | — | — |
| St. Louis | 39·7 | 296 | i 7 35 | - 1 | i 13 48 | + 8 | — | — | — |
| Chinchina | 39·9 | 237 | e 7 36 | - 1 | e 13 43 | 0 | e 9 9 | PP | 19·2 |
| Uccle | 40·4 | 45 | e 7 41 | 0 | e 13 55 | + 5 | e 13 33 | PcS | e 18·2 |
| De Bilt | 41·2 | 43 | e 7 50 | + 2 | i 14 13 | +11 | e 9 41 | PcP | e 19·2 |
| Neuchatel | 41·5 | 51 | e 7 50 | 0 | — | — | — | — | — |
| Basle | 42·0 | 51 | e 7 51k | - 3 | e 14 27 | +13 | — | — | — |
| Scoresby Sund | 42·0 | 9 | i 7 53 | - 1 | e 14 10 | - 4 | 9 14 | PP | 19·2 |
| Oropa | 42·1 | 53 | i 7 57 | + 2 | i 14 22 | + 6 | i 9 53 | PcP | e 26·6 |
| Strasbourg | 42·3 | 49 | i 7 57 | 0 | i 14 21 | + 2 | e 9 35 | PP | e 19·2 |
| Witteveen | z. 42·3 | 42 | i 7 59k | + 2 | — | — | — | — | — |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|----------------|----------|-----|------|-----|------|---------|----|------|-------|----|------|--------|
| | | | m. | s. | | m. | s. | | m. | s. | | |
| Karlsruhe | 42.7 | 48 | i 8 | 2k | + 2 | e 14 | 34 | +10 | e 9 | 54 | PcP | 19.2 |
| Zürich | 42.7 | 51 | e 8 | 2 | + 2 | e 14 | 11 | -13 | e 11 | 26 | ? | — |
| Pavia | 43.0 | 54 | e 8 | 5a | + 2 | e 17 | 8 | SS | e 10 | 24 | PPP | — |
| Fayetteville | 43.1 | 292 | i 8 | 2 | - 2 | e 14 | 31 | + 1 | i 9 | 50 | PcP | — |
| Merida | 43.1 | 269 | e 8 | 7 | + 3 | — | — | — | — | — | — | e 21.5 |
| Stuttgart | 43.2 | 49 | e 8 | 5k | + 1 | e 14 | 37 | + 5 | e 9 | 46 | PP | e 20.2 |
| Chur | 43.3 | 52 | e 8 | 6k | + 1 | e 14 | 41 | + 8 | — | — | — | — |
| Tamanrasset | z. 43.5 | 87 | e 8 | 8 | + 1 | e 14 | 35 | - 1 | e 9 | 51 | PP | 19.9 |
| Bergen | 43.8 | 32 | — | — | — | 14 | 47 | + 7 | e 17 | 51 | SS | e 21.1 |
| Salo | 43.9 | 53 | e 8 | 16 | + 6 | e 14 | 41 | - 1 | e 10 | 19 | PPP | — |
| Prato | 44.3 | 56 | e 8 | 14 | + 1 | i 14 | 51 | + 3 | — | — | — | — |
| Florence | 44.4 | 56 | i 8 | 14a | 0 | i 14 | 53 | + 4 | e 18 | 49 | SSS | — |
| Bologna | 44.5 | 55 | e 8 | 33 | +18 | e 13 | 43 | PcS | — | — | — | — |
| Siena | 44.5 | 56 | e 8 | 15 | 0 | 14 | 55 | + 4 | — | — | — | — |
| Jena | 45.0 | 47 | e 8 | 19 | 0 | e 15 | 5 | PS | e 18 | 7 | SS | e 21.2 |
| Cheb | 45.4 | 48 | i 8 | 23 | + 1 | i 15 | 9 | PS | e 10 | 8 | PP | e 20.2 |
| Rome | 45.4 | 59 | i 8 | 22 | 0 | e 14 | 55 | - 9 | i 15 | 12 | PS | i 21.7 |
| Rocca di Papa | 45.6 | 59 | e 8 | 24 | 0 | e 15 | 15 | + 9 | — | — | — | — |
| Collmberg | 45.9 | 47 | e 8 | 27 | + 1 | e 15 | 24 | PPS | e 10 | 21 | PP | e 23.7 |
| Potsdam | 46.1 | 44 | i 8 | 29a | + 1 | i 15 | 15 | + 1 | i 15 | 23 | PS | e 21.2 |
| Copenhagen | 46.2 | 40 | i 8 | 28 | 0 | i 15 | 21 | + 6 | — | — | — | 21.2 |
| Triest | 46.2 | 53 | i 8 | 27k | - 1 | i 15 | 23 | PS | e 18 | 48 | SS | — |
| Prague | 46.7 | 47 | i 8 | 33 | + 1 | e 15 | 23 | + 1 | e 10 | 19 | PP | e 20.2 |
| Messina | 48.2 | 64 | e 8 | 14 | -30 | i 15 | 47 | + 4 | e 10 | 28 | PP | 23.1 |
| Taranto | 49.1 | 61 | e 8 | 51 | 0 | 15 | 21 | -35 | — | — | — | 21.8 |
| Ogyalla | 49.2 | 51 | e 8 | 54 | + 2 | e 16 | 2 | + 4 | e 10 | 31 | PP | — |
| Raciborzu | 49.2 | 47 | e 8 | 52 | 0 | (20 35) | — | SSS | e 10 | 53 | PP | 20.6 |
| Vera Cruz | 49.4 | 270 | e 8 | 59 | + 6 | e 16 | 13 | PPS | e 19 | 31 | SS | e 25.5 |
| Upsala | 49.6 | 35 | i 8 | 55 | 0 | e 16 | 5 | + 2 | i 10 | 47 | PP | e 23.2 |
| Budapest | 49.8 | 51 | e 8 | 59 | + 3 | 16 | 14 | PS | 14 | 5 | PcS | 24.4 |
| Kalossa | 49.8 | 52 | e 9 | 0 | + 4 | e 16 | 17 | PS | e 10 | 52 | PP | e 23.7 |
| Skalnate Pleso | 50.5 | 48 | e 9 | 2 | 0 | e 16 | 16 | 0 | e 10 | 22 | PcP | — |
| Belgrade | 51.0 | 55 | e 9 | 5k | - 1 | e 16 | 26 | + 4 | e 11 | 14 | PP | e 27.3 |
| Saskatoon | 51.1 | 315 | — | — | — | (16 29) | — | + 5 | — | — | — | 16.5 |
| Puebla | 51.2 | 272 | e 9 | 11 | + 4 | e 16 | 27 | + 2 | — | — | — | — |
| Resolute Bay | 51.4 | 345 | i 9 | 9a | 0 | i 16 | 39 | PS | e 18 | 39 | ScS | e 23.3 |
| Timisoara | 51.4 | 53 | e 8 | 51 | -18 | e 16 | 18 | -10 | e 19 | 22 | SS | — |
| Tacubaya | 51.9 | 272 | e 9 | 18 | + 6 | e 16 | 46 | PS | e 17 | 1 | PPS | e 25.7 |
| Kiruna | 52.3 | 26 | i 9 | 16k | + 1 | e 16 | 44 | + 4 | i 11 | 9 | PP | e 23.2 |
| Huancayo | 52.5 | 221 | e 9 | 13 | - 4 | i 16 | 38 | - 5 | e 12 | 17 | PPP | e 21.4 |
| La Paz | 52.5 | 210 | i 9 | 14k | - 3 | i 16 | 39 | - 4 | 11 | 21 | PP | 25.5 |
| Athens | 54.5 | 63 | e 9 | 30 | - 2 | i 17 | 16 | + 6 | e 11 | 40 | PP | — |
| Bucharest | 55.0 | 54 | e 9 | 34 | - 1 | — | — | — | e 9 | 38 | P | — |
| Butte | 55.5 | 308 | i 9 | 38 | - 1 | e 17 | 17 | - 7 | — | — | — | — |
| Logan | 55.7 | 303 | i 9 | 40 | 0 | — | — | — | e 11 | 49 | PP | — |
| Hungry Horse | 56.1 | 311 | i 9 | 41 | - 2 | — | — | — | e 39 | 35 | P'P' | — |
| Tucson | 57.4 | 291 | e 9 | 51 | - 2 | e 17 | 51 | + 2 | e 13 | 15 | PPP | e 22.9 |
| Istanbul | 57.8 | 58 | 9 | 51 | - 4 | 17 | 59 | + 5 | 21 | 52 | SS | 27.0 |
| Boulder City | 59.5 | 296 | i 10 | 7 | 0 | — | — | — | i 10 | 16 | ? | — |
| Nelson | 59.5 | 296 | i 10 | 7 | 0 | i 10 | 26 | ? | i 39 | 46 | P'P' | — |
| China Lake | z. 61.6 | 297 | e 10 | 21 | - 1 | — | — | — | e 39 | 38 | P'P' | — |
| Tinemaha | z. 61.8 | 298 | i 10 | 22 | - 1 | e 18 | 57 | PS | e 39 | 39 | P'P' | — |
| Barratt | z. 61.9 | 293 | e 10 | 23 | - 1 | — | — | — | e 39 | 33 | P'P' | — |
| Palomar | z. 61.9 | 294 | i 10 | 23 | - 1 | — | — | — | — | — | — | — |
| Riverside | z. 62.1 | 295 | i 10 | 24 | - 1 | — | — | — | e 39 | 40 | P'P' | — |
| Reno | z. 62.2 | 302 | i 10 | 25a | - 1 | — | — | — | — | — | — | — |
| Victoria | z. 62.2 | 312 | i 10 | 22 | - 4 | e 18 | 50 | - 1 | — | — | — | 30.2 |
| Mount Wilson | z. 62.5 | 295 | e 39 | 32 | P'P' | — | — | — | — | — | — | — |
| Pasadena | z. 62.6 | 295 | e 10 | 26 | - 2 | e 18 | 58 | + 2 | — | — | — | e 28.2 |
| Fresno | z. 63.0 | 299 | i 10 | 31a | 0 | — | — | — | — | — | — | — |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|--------------|--------------|----------|-------|---------|-------|---------|--------|
| | ^c | ^c | m. s. | s. | m. s. | s. | m. s. | m. |
| Helwan | 63.0 | 69 | i 10 31 | 0 | e 19 2 | + 1 | 12 48 | PP |
| Corvallis | 63.2 | 307 | e 10 31 | - 1 | e 19 14 | +11 | — | e 31.2 |
| Mineral | z. 63.2 | 303 | e 10 31k | - 1 | — | — | e 10 59 | PcP |
| Shasta | 63.7 | 303 | e 10 35 | - 1 | e 18 55 | -15 | e 13 25 | PP |
| Lick | z. 64.2 | 300 | i 10 40k | + 1 | e 11 57 | ? | e 13 3 | PP |
| Berkeley | 64.5 | 300 | e 10 40k | - 1 | i 19 29 | +10 | e 12 59 | PP |
| Ksara | 65.2 | 64 | i 10 46 | + 1 | 20 49 | ? | — | — |
| La Plata | 66.3 | 193 | 10 53 | + 1 | 19 41 | - 1 | 13 29 | PP |
| College | 69.1 | 334 | i 11 9 | - 1 | e 20 27 | +12 | e 24 31 | SS |
| Kimberley | z. 87.0 | 126 | i 12 48 | 0 | — | — | — | — |
| Pretoria | z. 87.7 | 121 | i 12 52 | 0 | — | — | — | — |
| Quetta | 90.1 | 55 | i 13 4 | + 1 | e 23 45 | (+ 2) | i 24 8 | S |
| Pietermaritzburg | z. 91.5 | 123 | 13 11? | + 1 | — | — | — | — |
| Bombay | N. 101.1 | 60 | e 13 56 | + 3 | e 25 42 | +12 | — | — |
| Nanking | 115.7 | 17 | e 18 51 | [+ 7] | e 35 50 | SS | 19 50 | PP |
| Zô-Sè | z. 117.1 | 15 | e 19 53 | PP | — | — | — | — |
| Baguio | 130.9 | 21 | i 19 15 | [+ 1] | — | — | e 21 36 | PP |
| Tongariro | z. 147.5 | 245 | 19 44? | [+ 1] | — | — | — | — |
| Wellington | 147.9 | 241 | e 19 50 | [+ 6] | — | — | e 20 44 | ? |

July 9d. 22h. 31m. Pamir region. Epicentre 39°·2N. 71°·4E.
Loc. cit., 7h., p. 73.

July 10d. 2h. 19m. Epicentre 40°·2N. 78°·1E.
 Bulletin of Seismo. Stations of the U.S.S.R. for 1953, July-September, Moscow, 1954,
 pp. 73-74.

July 10d. 9h. 55m. Epicentre 39°·1N. 71°·5E.
Loc. cit., 2h., p. 74.

July 10d. 15h. 10m. 42s. Epicentre 5°·8S. 112°·8E. Depth of focus 0·080.

A = -·3856, B = +·9172, C = -·1004; δ = +2; h = +7;
 D = +·922, E = +·388; G = +·039, H = -·093, K = -·995.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------|--------------|--------------|---------------------|------|---------|------|---------|----|
| | ^c | ^c | m. s. | s. | m. s. | s. | m. s. | m. |
| Djakarta | z. 5.9 | 266 | i 1 43 _a | + 5 | i 2 35 | -21 | i 2 18 | ? |
| Baguio | 23.4 | 18 | i 4 28 _a | 0 | i 10 33 | ? | i 6 45 | ? |
| Perth | 26.2 | 173 | — | — | i 8 43 | - 5 | i 11 38 | sS |
| Shillong | N. 37.2 | 329 | i 6 27 | + 1 | i 11 35 | - 1 | 7 29 | PP |
| Madras | E. 37.4 | 301 | i 6 30 | + 2 | i 11 38 | - 1 | — | — |
| Zô-Sè | E. 37.6 | 12 | — | — | e 11 44 | + 2 | — | — |
| Nanking | 38.1 | 7 | i 6 36 _a | + 2 | 11 51 | + 1 | 8 14 | pP |
| Kodaikanal | E. 38.6 | 295 | e 9 7 | PcP | — | — | — | — |
| Chatra | 40.9 | 324 | i 6 58 | + 2 | i 12 24 | - 6 | 8 36 | PP |
| Hyderabad | E. 41.0 | 305 | e 6 56 | - 1 | i 12 29 | - 3 | 8 35 | PP |
| Koti | 43.8 | 25 | e 7 24 | + 5 | e 13 5 | - 6 | — | — |
| Brisbane | N. 43.9 | 123 | — | — | i 13 8 | - 5 | i 16 10 | SS |
| Takamatu | 44.7 | 25 | e 7 26 | 0 | e 13 22 | - 2 | 9 9 | PP |
| Sumoto | 45.1 | 25 | 7 29 | 0 | 13 27 | - 2 | — | — |
| Riverview | 45.2 | 132 | i 7 11 _a | -19 | i 13 31 | 0 | i 7 33 | P |
| Poona | z. 45.4 | 303 | i 7 31 | - 1 | i 13 30 | - 4 | 9 4 | PP |
| Osaka | 45.6 | 26 | e 7 35 | + 2 | — | — | — | — |
| Kyoto | 46.0 | 26 | e 7 32 | - 4 | e 8 9 | ? | e 9 21 | pP |
| Kameyama | 46.2 | 27 | e 7 38 | 0 | — | — | — | — |
| Bombay | 46.4 | 303 | e 9 24 | pP | i 13 46 | - 2 | i 16 34 | SS |
| Nagoya | 46.7 | 28 | e 7 43 | + 1 | e 13 49 | - 3 | — | — |
| Osima | 47.5 | 29 | e 7 46 | - 2 | — | — | — | — |
| Misima | N. 47.6 | 29 | e 7 47 | - 1 | e 14 1 | - 3 | — | — |
| Kohu | 47.8 | 28 | e 7 50 | 0 | e 14 4 | - 3 | — | — |
| Matumoto | N. 48.0 | 27 | 7 53 | + 1 | — | — | — | — |

Continued on next page.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|------|----------|-----|-------------------|------|---------|------|---------|-----|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Toyama | | 48.0 | 26 | 7 51 | - 1 | e 14 9 | - 1 | — | — |
| Titibu | | 48.3 | 28 | e 7 54 | 0 | e 14 12 | - 2 | — | — |
| Matusiro | | 48.4 | 27 | 7 52 ^a | - 2 | i 14 10 | - 5 | 9 50 | PP |
| New Delhi | | 48.4 | 317 | 7 53 | - 1 | i 14 5 | -10 | 9 36 | pP |
| Oiwake | | 48.4 | 27 | e 7 49 | - 5 | e 14 8 | - 7 | — | — |
| Tokyo | | 48.4 | 29 | e 7 56 | + 2 | e 14 8 | - 7 | e 16 2 | ? |
| Wazima | | 48.5 | 25 | e 7 54 | - 1 | e 14 15 | - 1 | — | — |
| Kumagaya | | 48.6 | 28 | e 8 2 | + 6 | e 14 12 | - 6 | — | — |
| Maebasi | | 48.7 | 28 | e 7 54 | - 3 | e 14 13 | - 6 | — | — |
| Dehra Dun | N. | 49.0 | 319 | e 7 57 | - 2 | i 14 16 | - 7 | 9 26 | PcP |
| Utunomiya | | 49.2 | 28 | e 7 59 | - 1 | e 14 13 | -13 | e 15 9 | ? |
| Shirakawa | | 49.8 | 28 | e 8 5 | 0 | e 14 30 | - 4 | — | — |
| Niigata | | 49.9 | 26 | — | — | i 14 34 | - 1 | e 13 44 | ? |
| Hokusima | | 50.4 | 28 | e 8 11 | + 2 | e 14 41 | - 1 | — | — |
| Sendai | | 51.0 | 28 | e 8 15 | + 1 | e 14 43 | - 7 | — | — |
| Vladivostok | | 51.7 | 18 | i 8 17 | - 2 | i 15 4 | + 4 | — | — |
| Warsak Dam | E. | 55.6 | 318 | e 8 47 | + 1 | i 15 40 | -11 | i 10 32 | PP |
| Quetta | | 56.6 | 312 | i 8 52 | - 1 | i 16 0 | - 4 | i 10 42 | PP |
| Przhevalsk | | 57.3 | 331 | 8 58 | 0 | 16 14 | + 1 | — | — |
| Khorog | | 57.7 | 322 | e 9 1 | 0 | e 16 14 | - 4 | e 10 49 | pP |
| Kurmenty | | 57.8 | 332 | i 9 2 | + 1 | — | — | — | — |
| Naryn | | 57.8 | 328 | e 9 1 | 0 | e 16 19 | 0 | — | — |
| Kabansk | | 57.9 | 355 | i 9 1 | - 1 | e 16 17 | - 3 | — | — |
| Chilisk | | 58.1 | 332 | i 9 4 | 0 | — | — | — | — |
| Irkutsk | | 58.3 | 354 | 9 4 | - 1 | 16 25 | - 1 | i 10 53 | pP |
| Almata II | | 58.4 | 331 | i 9 6 | 0 | — | — | — | — |
| Rybach'e | | 58.5 | 329 | i 9 5 | - 1 | i 16 28 | 0 | i 10 54 | pP |
| Almata | | 58.6 | 331 | i 9 8 | + 1 | i 16 31 | + 2 | 10 57 | pP |
| Fabrichnaya | | 58.8 | 330 | i 9 7 | - 1 | — | — | — | — |
| Yuzno-Sakhlinsk | | 58.8 | 23 | i 9 7 | - 1 | i 16 31 | - 1 | — | — |
| Dzhergetal | | 59.0 | 323 | 9 11 | + 1 | — | — | — | — |
| Ili | | 59.1 | 331 | i 9 9 | - 1 | — | — | — | — |
| Kulyab | | 59.1 | 321 | 9 8 | - 2 | 16 29 | - 7 | — | — |
| Andijan | | 59.3 | 325 | i 9 12 | 0 | i 16 37 | - 1 | i 11 1 | pP |
| Fergana | | 59.4 | 324 | i 9 9 | - 3 | i 16 36 | - 4 | e 11 0 | pP |
| Garm | | 59.4 | 323 | e 9 12 | 0 | — | — | — | — |
| Frunse | | 59.6 | 328 | i 9 14 | 0 | i 16 41 | - 1 | i 11 2 | pP |
| Obi-garm | | 59.6 | 323 | e 9 13 | - 1 | — | — | — | — |
| Kurilsk | | 59.7 | 28 | e 9 13 | - 1 | i 16 41 | - 2 | — | — |
| Namangan | | 59.9 | 325 | i 9 16 | 0 | i 16 44 | - 2 | — | — |
| Stalinabad | | 60.1 | 322 | i 9 15 | - 2 | i 16 43 | - 5 | — | — |
| Uglegorsk | | 60.3 | 21 | i 9 17 | - 1 | i 16 48 | - 3 | — | — |
| Lunacharskoe | | 61.5 | 324 | e 9 27 | + 1 | — | — | — | — |
| Tashkent | | 61.5 | 324 | e 9 27 | + 1 | i 17 3 | - 3 | i 11 17 | pP |
| Samarkand | | 61.9 | 321 | i 9 28 | - 1 | — | — | i 11 18 | pP |
| Tchimkent | | 61.9 | 325 | i 9 28 | - 1 | i 17 9 | - 1 | i 11 20 | pP |
| Kaimata | N.E. | 63.2 | 135 | e 9 37 | 0 | — | — | — | — |
| Cobb River | E. | 63.7 | 132 | i 9 36 | - 4 | — | — | — | — |
| Bairam-Ali | | 63.9 | 317 | i 9 41 | 0 | i 17 32 | - 3 | 11 32 | pP |
| Christchurch | | 64.4 | 136 | e 9 44 | - 1 | — | — | — | — |
| Tananarive | | 64.7 | 252 | i 9 46 | 0 | e 10 20 | PcP | e 11 34 | pP |
| Karapiro | N. | 65.0 | 129 | e 9 50 | + 2 | — | — | — | — |
| Tongariro | Z. | 65.3 | 129 | 9 47 | - 3 | — | — | — | — |
| Wellington | | 65.3 | 132 | e 9 46 | - 4 | — | — | — | — |
| Tuai | N. | 66.5 | 129 | e 9 56 | - 2 | — | — | — | — |
| Ashkabad | | 66.7 | 316 | i 9 58 | - 1 | i 18 6 | - 2 | 11 50 | pP |
| Kizyl-Arvat | | 68.6 | 317 | i 10 10 | 0 | i 18 28 | - 2 | 12 3 | pP |
| Petropavlovsk | | 70.3 | 27 | i 10 19 | - 1 | i 18 48 | - 2 | i 12 14 | pP |
| Magadan | | 71.8 | 19 | 10 28 | - 1 | 19 5 | - 1 | — | — |
| Klyuchi | | 73.3 | 25 | — | — | i 19 21 | - 2 | — | — |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------------|----------|-----|----------|------|-----------|-------|----------|------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Baku | 73.7 | 315 | — | — | i 19 20 | - 7 | — | — |
| Lenkoran | 73.8 | 313 | e 10 41 | 0 | 19 27 | - 1 | — | — |
| Sverdlovsk | 75.4 | 333 | i 10 49 | - 1 | i 19 44 | - 2 | i 12 46 | pP |
| Goris | 75.9 | 313 | i 10 51 | - 1 | i 19 49 | - 2 | 12 47 | pP |
| Kirovobad | 76.3 | 314 | 10 54 | 0 | — | — | — | — |
| Makhach-Kala | 76.3 | 317 | — | — | i 19 53 | - 2 | — | — |
| Erevan | 77.4 | 313 | i 11 0 | 0 | i 20 6 | - 1 | i 12 50 | ? |
| Tiflis | 77.7 | 315 | 11 3 | + 1 | i 20 10 | 0 | — | — |
| Duzheti | 77.9 | 315 | i 11 11 | + 8 | — | — | — | — |
| Leninakan | 78.1 | 313 | e 11 2? | - 2 | 20 12? | - 2 | — | — |
| Akhalkalaki | 78.6 | 314 | 11 10 | + 3 | — | — | — | — |
| Tsikhlis-Dzhvari | 78.7 | 314 | i 11 10 | + 3 | e 20 21 | + 1 | — | — |
| Borzhomi | 78.8 | 314 | e 11 10 | + 2 | 20 22 | + 1 | — | — |
| Piatigorsk | 79.7 | 317 | 11 15 | + 2 | 20 31 | 0 | — | — |
| Zugdidi | 80.0 | 315 | e 11 14 | 0 | i 20 33 | - 1 | — | — |
| Pietermaritzburg z. | 80.6 | 241 | i 11 16? | - 1 | — | — | — | — |
| Sotchi | 81.9 | 315 | e 11 23 | - 1 | i 20 51 | - 2 | — | — |
| Ksara | 82.4 | 305 | e 11 32 | + 6 | i 21 9 | +11 | i 13 28 | pP |
| Pretoria z. | 82.7 | 245 | i 11 26k | - 2 | — | — | — | — |
| Grahamstown z. | 83.7 | 337 | i 11 37k | + 4 | — | — | — | — |
| Theodosia | 85.2 | 316 | e 11 40 | 0 | i 21 24 | - 1 | — | — |
| Helwan | 85.5 | 300 | i 11 41a | - 1 | 21 24 | - 3 | i 13 42 | PP |
| Kimberley z. | 85.5 | 242 | i 11 41k | - 1 | — | — | — | — |
| Yalta | 86.0 | 315 | i 11 43 | - 1 | i 21 30 | - 2 | — | — |
| Moscow | 86.5 | 327 | e 11 45 | - 1 | 21 34 | - 3 | e 13 45 | pP |
| Istanbul | 89.1 | 311 | 11 53 | - 6 | 21 28 | [- 8] | 13 55 | pP |
| Kishinev | 90.1 | 317 | — | — | e 22 3 | - 6 | — | — |
| Bucharest | 91.7 | 315 | e 14 12 | PP | i 21 51 | [0] | — | — |
| Lwow | 93.6 | 319 | e 12 17 | - 2 | 22 34 | - 5 | i 21 58 | SKS |
| Uzhgorod | 94.6 | 318 | 16 26 | PP | e 22 5 | [- 2] | — | — |
| Skalnate Pleso | 96.0 | 319 | e 24 41 | SP | e 22 0 | [-14] | e 22 50 | S |
| Kiruna | 96.2 | 338 | e 14 32 | pP | e 22 55 | - 6 | e 15 33 | sP |
| Budapest | 96.8 | 317 | e 14 38 | pP | 23 4 | - 2 | i 22 21 | SKS |
| Kalossa E. | 96.8 | 317 | — | — | 22 17 | [- 1] | — | — |
| Ogyalla | 97.4 | 318 | e 17 59 | ? | e 22 19? | [- 3] | e 24 29 | SP |
| Raciborzu | 97.4 | 320 | e 16 21 | PP | e 22 21 | [- 1] | e 23 14 | S |
| Upsala | 97.6 | 330 | i 14 39 | pP | e 23 9 | - 4 | i 22 17? | SKS |
| Taranto | 97.9 | 310 | — | — | e 22 20 | [- 4] | e 25 25 | PPS |
| Messina | 99.2 | 308 | e 14 49 | pP | e 22 29 | [- 2] | e 26 7 | PPS |
| Prague | 99.8 | 320 | e 16 51 | PP | e 23 34 | + 3 | i 22 31 | SKS |
| Potsdam | 100.5 | 322 | e 17 0? | PP | i 23 40 | + 3 | i 22 33 | SKS |
| Copenhagen | 100.6 | 326 | e 14 53 | pP | 23 38 | 0 | i 22 36 | SKS |
| Cheb | 101.1 | 320 | e 16 28 | PP | e 23 42 | 0 | i 22 38 | SKS |
| Jena | 101.5 | 321 | e 16 58 | PP | e 23 48 | + 2 | e 22 40 | SKS |
| Rome | 101.5 | 312 | e 22 16 | ? | i 22 42 | [0] | i 26 32 | PPS |
| Florence | 102.3 | 314 | — | — | e 22 15 | [-30] | e 31 22 | SS |
| Stuttgart | 103.3 | 319 | e 15 3 | pP | e 22 47 | [- 3] | e 17 22 | PP |
| Strasbourg | 104.3 | 319 | e 15 5 | pP | 22 45 | [- 9] | e 17 26 | PKP |
| De Bilt | 105.4 | 323 | e 19 18? | ? | — | — | — | — |
| Uccle | 106.1 | 322 | — | — | e 23 0 | [- 2] | e 24 23 | pS |
| Paris | 107.7 | 319 | e 15 21 | pP | e 23 10 | [+ 1] | e 18 19 | PP |
| Clermont-Ferrand | 107.8 | 317 | e 26 34 | SP | e 23 13 | [+ 3] | e 24 6 | SKKS |
| Chambon-la-Forêt | 108.0 | 319 | e 15 19 | pP | — | — | — | — |
| Aberdeen E. | 108.2 | 329 | — | — | i 26 25 | SP | — | — |
| Tamanrasset z. | 108.2 | 292 | i 14 34 | pP | e 23 10 | [- 1] | e 17 28 | PKP |
| Durham | 108.7 | 326 | e 19 53 | pPP | i 23 11 | [- 2] | i 24 47 | S |
| Kew | 108.8 | 323 | e 23 10 | SKS | (e 23 10) | [- 4] | e 26 31 | SP |
| Algiers Univ. z. | 109.3 | 307 | e 18 5 | PP | i 26 45 | SP | e 19 57 | pPP |
| Resolute Bay | 109.3 | 8 | — | — | e 23 12 | [- 4] | e 25 37 | S |
| Scoresby Sund | 109.3 | 345 | e 18 12 | PP | i 23 13 | [- 3] | e 24 52 | S |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|------------------|----|------------|------------|----------------------|-------|------------|-------|---------|------|------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Rathfarnham C. | z. | 111.8 | 326 | e 23 18? | SKS | (e 23 18?) | [- 8] | e 26 23 | S | — |
| Granada | | 114.4 | 309 | — | — | i 23 34 | [- 2] | e 27 45 | SP | 46.9 |
| Malaga | | 115.2 | 309 | i 20 35 | pPP | 22 29 | SKS | e 26 55 | sS | — |
| Shasta | | 119.8 | 46 | e 17 50 | [+ 1] | e 25 21 | S | e 20 36 | pPP | — |
| Berkeley | z. | 120.8 | 49 | e 17 51k | [0] | — | — | — | — | — |
| Mineral | z. | 120.9 | 46 | i 17 52 _a | [+ 1] | — | — | — | — | — |
| Lick | z. | 121.4 | 49 | e 17 52k | [0] | — | — | e 19 22 | pPKP | — |
| Tinemaha | | 124.1 | 49 | e 17 58 | [+ 1] | e 27 46 | PKKP | e 31 14 | PPS | — |
| Woody | z. | 124.1 | 50 | i 17 58 | [+ 1] | i 27 45 | PKKP | e 31 26 | PPS | — |
| China Lake | z. | 125.0 | 49 | i 18 0 | [+ 1] | i 27 40 | PKKP | e 19 48 | PP | — |
| Pasadena | | 125.1 | 52 | i 18 0 | [+ 1] | — | — | i 20 10 | PP | — |
| Mount Wilson | z. | 125.2 | 52 | i 18 1 | [+ 2] | e 19 59 | PP | i 20 24 | pPKP | — |
| Riverside | z. | 125.8 | 52 | i 18 0 | [0] | — | — | — | — | — |
| Palomar | z. | 126.4 | 52 | i 18 2 | [+ 1] | e 19 52 | PP | e 27 34 | PKKP | — |
| Barratt | z. | 126.8 | 54 | e 18 4 | [+ 2] | e 20 5 | PP | e 27 33 | PKKP | — |
| Kirkland Lake | z. | 136.4 | 12 | e 18 19 | [- 1] | — | — | — | — | — |
| Seven Falls | E. | 138.7 | 3 | e 20 32? | PP | e 28 29? | PKKP | e 38 3? | P'P' | — |
| Shawinigan Falls | N. | 139.1 | 5 | e 21 7 | PP | — | — | — | — | — |
| Ottawa | | 139.9 | 9 | i 18 20 | [- 7] | 27 25 | SKKS | i 21 10 | PP | — |
| Fayetteville | | 141.0 | 35 | i 18 24k | [- 5] | — | — | i 21 1 | PP | — |
| Halifax | | 141.2 | 355 | e 18 25 | [- 4] | 21 13 | PP | 23 18 | PPP | — |
| Cleveland | | 142.2 | 18 | i 18 28 _a | [- 4] | e 27 35 | SKKS | i 21 16 | PP | — |
| Harvard | | 143.2 | 5 | i 18 32 | [- 1] | e 27 33 | SKKS | i 20 38 | pPKP | — |
| Weston | | 143.4 | 5 | i 18 32k | [- 2] | — | — | i 21 20 | PP | — |
| Pittsburgh | | 143.7 | 16 | i 18 33 | [- 1] | i 27 49 | SKKS | — | — | — |
| Palisades | | 144.4 | 8 | i 18 35k | [0] | i 27 52 | SKKS | 20 37 | PP | — |
| Tacubaya | | 146.1 | 63 | i 18 40 | [+ 2] | — | — | — | — | — |
| La Paz | | 157.8 | 179 | i 18 56 | [+ 2] | i 23 13 | PP | i 33 38 | PPS | — |
| Huancayo | | 160.5 | 156 | e 19 0 | [+ 3] | e 22 38 | pPP | e 32 27 | PPS | — |
| Fort de France | | 169.3 | 327 | — | — | i 30 6 | SKKS | e 44 4 | SS | — |

July 10d. 15h. 36m. Epicentre 40°·2N. 78°·2E.
Bulletin of Seismo. Stations of U.S.S.R. for July-September, 1953, Moscow, 1954, p. 76.

July 10d. 18h. 47m. Epicentre 41°·5N. 78°·8E.
Loc. cit., 15h.36m.

July 10d. 21h. 42m. Epicentre 39°·3N. 72°·7E.
Loc. cit., p. 77.

July 10d. 21h. 59m. Epicentre 38°·4N. 70°·6E.
Loc. cit., 21h.42m.

July 11d. 0h. 58m. Epicentre 38°·5N. 68°·9E.
Bulletin of Seismo. Stations of U.S.S.R. for July-September, 1953, Moscow, 1954, p. 78.

July 11d. 13h. 3m. Epicentre 36°·4N. 140°·5E. Depth 95km.
Intensity IV at Mito and Utunomiya; II-III at Onahama, Shirakawa, Tokyo, Inawasiro, Tukubasan, Kashiwa, Hukusima, and Ajiro.
Seismo. Bull. Cent. Met. Obs., Japan, for July, 1953, Tokyo, 1953, pp. 15-16, with macroismic chart.

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1953

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July 12d. 0h. 53m. 10s. Epicentre 36°·5N. 71°·0E. Depth of focus 0·010.
(as on 1952, November 15d.).

A = +·2623, B = +·7619, C = +·5922; $\delta = -1$; $h = 0$;
D = +·946, E = -·326; G = +·193, H = +·560, K = -·806.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|----|----------|-----|---------------------|------|---------|------|--------|------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Khorog | | 1·1 | 26 | i 0 22 | 0 | — | — | — | — |
| Kulyab | | 1·7 | 325 | 0 30 | + 1 | — | — | — | — |
| Warsak Dam | E. | 2·5 | 170 | i 0 40 | 0 | i 1 9 | - 1 | — | — |
| Garm | | 2·6 | 348 | i 0 41 | 0 | — | — | — | — |
| Dzhergetal | | 2·7 | 4 | i 0 43 | 0 | — | — | — | — |
| Stalinabad | | 2·7 | 319 | i 0 44 | + 1 | — | — | — | — |
| Murgab | | 3·0 | 51 | i 0 48 | + 1 | — | — | — | — |
| Fergana | | 3·9 | 9 | i 0 59 | 0 | e 1 46 | + 2 | i 1 26 | ? |
| Andijan | | 4·4 | 15 | i 1 6 | 0 | i 1 56 | 0 | — | — |
| Namangan | | 4·5 | 7 | i 1 8 | + 1 | — | — | — | — |
| Samarkand | | 4·5 | 317 | i 1 7 | 0 | i 2 0 | + 1 | — | — |
| Lunacharskoe | | 5·0 | 347 | i 1 14 | 0 | i 2 12 | + 1 | — | — |
| Tchimkent | | 5·9 | 349 | i 1 26 | 0 | i 2 30 | - 3 | — | — |
| Naryn | | 6·3 | 37 | i 1 30 | - 2 | i 2 38 | - 5 | i 2 0 | ? |
| Frunse | | 7·0 | 23 | i 1 40 | - 2 | i 2 55 | - 5 | 2 8 | ? |
| Quetta | | 7·1 | 209 | i 1 41 ^a | - 2 | i 3 2 | - 1 | i 2 12 | ? |
| Rybach'e | | 7·1 | 32 | i 1 42 | - 1 | i 3 0 | - 3 | i 2 12 | ? |
| Bairam-Ali | | 7·2 | 282 | 1 42 | - 2 | i 2 8 | ? | — | — |
| Almata | | 8·2 | 33 | i 1 56 | - 2 | 3 27 | - 3 | i 2 26 | ? |
| Przhevalsk | | 8·3 | 42 | i 1 58 | - 1 | — | — | — | — |
| Dehra Dun | | 8·5 | 134 | i 1 59 | - 3 | i 3 23 | -14 | 2 6 | PP |
| Kurmenty | | 8·6 | 38 | i 2 0 | - 3 | — | — | — | — |
| New Delhi | N. | 9·4 | 145 | i 2 7 ^a | - 7 | i 3 47 | -12 | 2 22 | PP |
| Kizyl-Arvat | | 11·9 | 287 | 2 46 | - 2 | e 3 19 | ? | e 4 3 | ? |
| Chatra | Z. | 16·8 | 120 | i 3 43 | - 7 | i 6 38 | -15 | — | 6·5 |
| Baku | | 17·0 | 291 | e 3 53 | 0 | e 7 15 | +18 | — | — |
| Bombay | | 17·6 | 176 | e 4 0 | 0 | i 7 16 | + 5 | e 2 56 | ? |
| Lenkoran | | 17·7 | 285 | 4 4 | + 2 | 8 12 | +59 | — | — |
| Shemakla | | 18·0 | 290 | i 4 5 | 0 | e 7 37 | +18 | — | — |
| Poona | | 18·1 | 171 | e 4 2 | - 4 | e 7 22 | 0 | 7 41 | SS |
| Makhach-Kala | | 19·2 | 299 | i 4 23 | + 4 | e 7 56 | +11 | i 4 51 | sP |
| Goris | | 19·7 | 288 | i 4 27 | + 3 | i 8 4 | + 8 | 4 58 | sP |
| Kirovobad | | 19·7 | 290 | 4 26 | + 2 | e 8 6 | +10 | 4 54 | sP |
| Hyderabad | N. | 20·1 | 159 | i 4 27 | - 1 | 8 10 | + 6 | — | — |
| Grozny | | 20·5 | 298 | i 4 33 | + 1 | i 8 19 | + 8 | — | — |
| Shillong | | 20·9 | 113 | i 4 32 | - 4 | — | — | — | — |
| Tifis | | 21·0 | 293 | i 4 41 | + 4 | i 8 33 | +13 | e 5 9 | sP |
| Duzheti | | 21·1 | 294 | 4 42 | + 4 | — | — | — | — |
| Erevan | | 21·1 | 288 | i 4 41 | + 3 | i 8 37 | +15 | i 5 13 | sP |
| Gori | | 21·5 | 293 | 4 48 | + 6 | — | — | e 8 50 | PcP |
| Sverdlovsk | | 21·5 | 345 | 4 41 | - 1 | e 8 33 | + 3 | e 5 16 | PP |
| Leninakan | | 21·6 | 291 | 4 48 | + 5 | — | — | — | — |
| Borzhomei | | 22·0 | 292 | 4 53 | + 6 | — | — | i 8 57 | PcP |
| Abastumanj | | 22·4 | 292 | e 4 58 | + 7 | — | — | — | — |
| Zugdidi | | 23·2 | 295 | 5 5 | + 6 | — | — | — | — |
| Madras | | 24·8 | 158 | i 5 36 | pP | i 9 39 | +12 | — | 10·2 |
| Sotchi | | 24·9 | 298 | e 5 19 | + 4 | 9 31 | + 2 | — | — |
| Theodosia | | 28·1 | 300 | 5 47 | + 2 | — | — | e 6 23 | sP |
| Ksara | | 28·7 | 275 | i 6 24 | sP | e 12 25 | ScP | — | — |
| Yalta | | 28·9 | 298 | e 5 55 | + 3 | e 10 23 | -11 | e 6 25 | sP |
| Kabansk | | 29·5 | 46 | e 5 55 | - 2 | — | — | — | — |
| Moscow | | 29·7 | 322 | i 5 59 | 0 | 10 48 | + 2 | — | — |
| Istanbul | Z. | 32·8 | 291 | 6 22 | - 4 | 11 15 | -20 | — | — |
| Kishinev | | 32·8 | 304 | i 6 27 | + 1 | 11 40 | + 5 | — | — |
| Helwan | Z. | 33·7 | 271 | e 6 34 | 0 | — | — | e 9 11 | PcP |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----------|-----|---------------------|------|----------|------|---------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Cernauti | 34.8 | 305 | e 6 47 | + 4 | — | — | — | — |
| Pulkovo | 34.9 | 326 | i 6 46 | + 2 | i 12 11 | + 4 | — | — |
| Uzhgorod | 37.3 | 307 | i 7 7 | + 3 | e 12 55 | +11 | e 7 40 | sP |
| Raciborzu | z. 39.9 | 308 | e 7 17? | - 9 | e 16 41 | ? | e 8 57 | PP |
| Ogyalla | 40.0 | 304 | e 9 2 | PP | e 13 11 | -14 | e 9 34 | pPP |
| Upsala | 41.1 | 322 | i 7 37 _a | + 1 | i 13 41 | 0 | i 9 5 | PP |
| Kiruna | z. 42.1 | 334 | i 7 47 _a | + 3 | i 9 24 | PP | i 10 33 | ? |
| Prague | 42.4 | 307 | i 7 48 | + 2 | e 14 7 | + 7 | e 8 24 | pP |
| Potsdam | 43.1 | 311 | e 7 53 | + 1 | e 14 16 | + 6 | e 8 26 | pP |
| Collnberg | 43.2 | 308 | e 7 55 | + 2 | e 9 37 | PP | e 13 22 | ScP |
| Triest | 43.3 | 302 | e 7 54 | 0 | e 14 20 | + 7 | e 9 40 | PP |
| Copenhagen | 43.4 | 317 | i 7 57 | + 3 | i 14 22 | + 7 | 17 40 | SS |
| Messina | 43.6 | 290 | e 7 59 | + 3 | e 14 20 | + 2 | — | — |
| Cheb | 43.7 | 308 | e 10 6 | pPP | e 14 28 | + 9 | — | e 20.9 |
| Jena | 44.1 | 308 | e 8 2 | + 2 | e 14 27? | + 2 | e 8 34 | sP |
| Rome | 44.9 | 296 | e 8 7 | 0 | e 14 45 | + 8 | e 10 11 | PP |
| Florence | 45.4 | 299 | e 8 11 | + 1 | e 15 34 | +50 | e 10 20 | pPP |
| Stuttgart | 45.9 | 306 | e 8 15 | + 1 | e 14 57 | + 6 | e 8 48 | pP |
| Karlsruhe | z. 46.4 | 307 | e 8 20 | + 2 | — | — | — | — |
| Zürich | 46.5 | 305 | e 8 19 | 0 | — | — | — | — |
| Strasbourg | 46.9 | 306 | e 8 22 | 0 | e 15 6 | + 1 | e 8 56 | pP |
| Witteveen | z. 47.0 | 313 | e 8 23 | 0 | — | — | — | — |
| Basle | 47.3 | 305 | e 8 26 | 0 | — | — | — | — |
| De Bilt | 48.0 | 312 | — | — | e 15 20 | 0 | e 19 20 | ? |
| Baguio | 48.1 | 100 | i 8 30 _a | - 2 | — | — | i 8 55 | pP |
| Paris | 50.2 | 307 | i 8 48 | 0 | e 11 21 | pPP | e 9 24 | pP |
| Chambon-la-Forêt | 50.6 | 307 | e 8 51 | 0 | — | — | — | e 33.8 |
| Clermont-Ferrand | 50.6 | 303 | e 8 52 | + 1 | — | — | — | — |
| Tamanrasset | z. 57.5 | 276 | i 9 41 | 0 | e 11 49 | PP | e 10 16 | pP |
| Pretoria | z. 73.9 | 219 | e 11 27 | + 1 | — | — | — | 22.7 |
| College | 74.5 | 16 | i 11 28 | - 2 | — | — | — | — |
| Pietermaritzburg | z. 76.0 | 216 | i 11 38 | 0 | — | — | — | — |
| Kimberley | z. 78.1 | 221 | i 11 48 | - 2 | — | — | — | — |
| Grahamstown | z. 80.9 | 217 | i 12 9 | + 4 | — | — | — | — |
| Hungry Horse | 95.4 | 4 | e 13 14 | - 1 | — | — | — | — |
| Fayetteville | 106.5 | 348 | e 17 14 | ? | — | — | i 18 25 | PKP |

July 12d. 6h. 43m. 7s. Epicentre 2°.4S. 138°.6E.

A = - .7495, B = + .6608, C = - .0416; δ = +14; h = +7;
D = + .661, E = + .750; G = + .031, H = - .028, K = - .999.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|----------|-----|---------------------|------|---------|------|---------|------|
| | ° | ° | n. s. | s. | m. s. | s. | m. s. | m. |
| Baguio | 25.8 | 317 | e 5 31 | - 3 | i 9 53 | - 9 | — | — |
| Brisbane | 28.5 | 151 | i 5 57 | - 2 | i 10 43 | - 3 | e 12 7 | SS |
| Djakarta | z. 31.9 | 263 | e 6 37 | + 8 | — | — | — | — |
| Riverview | 33.4 | 160 | i 6 43 _a | + 1 | i 12 13 | +10 | i 6 53 | pP |
| Melbourne | E. 35.7 | 171 | e 7 4 | + 2 | e 12 51 | +12 | e 15 29 | SSS |
| Siomisaki | 35.8 | 356 | — | — | e 12 32 | - 9 | — | — |
| Koti | 36.1 | 353 | e 7 7 | + 2 | e 12 37 | - 8 | — | — |
| Hukuoka | 36.4 | 349 | e 6 45 | -23 | e 12 45 | - 5 | e 15 12 | SS |
| Perth | 36.4 | 214 | 7 23 | +15 | 13 5 | +15 | 8 43 | PP |
| Matuyama | 36.5 | 352 | e 7 7 | - 2 | e 14 4 | ? | e 11 52 | ? |
| Omaesaki | 36.8 | 0 | e 8 23 | PP | — | — | — | — |
| Takamatu | 36.8 | 354 | e 7 12 | + 1 | e 12 45 | -11 | — | 15.3 |
| Kameyama | 37.1 | 358 | e 7 11 | - 3 | e 12 59 | - 2 | e 9 14 | PPP |
| Mera | 37.1 | 2 | e 6 38 | -36 | — | — | — | — |
| Shizuoka | 37.2 | 359 | e 7 6 | - 9 | — | — | — | — |
| Zō-Sē | E. 37.2 | 336 | e 7 12 | - 3 | e 12 59 | - 3 | — | — |
| Misima | E. 37.3 | 1 | e 7 37 | ? | — | — | — | — |
| Nagoya | N. 37.4 | 359 | e 7 11 | - 5 | — | — | — | — |
| Hamada | 37.6 | 351 | 7 20 | + 2 | 12 55 | -13 | e 8 38 | PP |
| Yokohama | 37.6 | 2 | e 8 23 | PP | — | — | — | — |

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| | Δ | Az. | P. | | O - C. | S. | | O - C. | Supp. | | L. | |
|---------------|----------|-----|------|-----|--------|------|-----|--------|-------|-----|------|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Tokyo | 37.9 | 2 | e 8 | 18 | +58 | e 12 | 55 | -18 | i 9 | 17 | PPP | e 17.4 |
| Toyooka | 37.9 | 356 | e 7 | 24 | + 4 | e 13 | 4 | - 9 | — | — | — | — |
| Kumagaya | 38.4 | 1 | e 7 | 30 | + 5 | 13 | 5 | -15 | — | — | — | — |
| Oiwake | 38.5 | 0 | e 7 | 34 | + 8 | e 13 | 17 | - 5 | — | — | — | — |
| Maebasi | 38.6 | 0 | e 7 | 27 | + 1 | e 13 | 13 | -10 | — | — | — | — |
| Matusiro | 38.7 | 359 | e 7 | 25 | - 2 | i 13 | 12 | -15 | i 8 | 58 | PP | 15.5 |
| Nagano | 38.9 | 359 | e 7 | 31 | + 2 | e 13 | 18 | -10 | — | — | — | — |
| Toyama | 38.9 | 359 | e 7 | 29 | 0 | — | — | — | — | — | — | — |
| Nanking | 39.1 | 333 | e 7 | 28 | - 3 | 13 | 25 | - 6 | — | — | — | — |
| Shirakawa | 39.3 | 3 | e 7 | 28 | - 4 | e 13 | 17 | -17 | — | — | — | — |
| Hokusima | 40.0 | 3 | e 7 | 36 | - 2 | 13 | 37 | - 7 | 16 | 50 | SS | — |
| Niigata | 40.1 | 1 | e 7 | 36 | - 3 | 13 | 46 | 0 | e 7 | 45 | P | — |
| Sendai | 40.5 | 4 | e 7 | 40 | - 2 | e 13 | 28 | PcS | — | — | — | — |
| Mizusawa | E. 41.4 | 4 | e 7 | 59 | + 9 | 8 | 52 | ? | — | — | — | — |
| Akita | 41.9 | 3 | e 7 | 53 | - 1 | e 14 | 7 | - 6 | — | — | — | — |
| Miyako | 41.9 | 5 | e 7 | 49 | - 5 | e 14 | 1 | -12 | — | — | — | — |
| Urakawa | 44.5 | 6 | e 8 | 1 | -14 | e 13 | 47 | PcS | e 17 | 42 | SS | — |
| Obihiro | 45.3 | 5 | e 8 | 26 | + 5 | — | — | — | — | — | — | — |
| Sapporo | 45.3 | 3 | e 8 | 18 | - 3 | i 14 | 54 | - 8 | e 10 | 14 | PP | e 18.3 |
| Auckland | N. 47.8 | 139 | — | — | — | e 19 | 53? | SS | — | — | — | e 19.9 |
| Karapiro | N. 48.9 | 142 | e 8 | 52 | + 2 | — | — | — | — | — | — | — |
| Cobb River | E. 49.3 | 145 | 8 | 53? | 0 | — | — | — | — | — | — | — |
| Tongariro | Z. 49.7 | 142 | e 8 | 56 | 0 | — | — | — | — | — | — | — |
| Wellington | 50.6 | 144 | e 9 | 0 | - 2 | e 19 | 31 | SS | — | — | — | e 22.9 |
| Christchurch | 50.9 | 148 | — | — | — | e 19 | 27 | SS | e 22 | 53? | Q | e 26.9 |
| Shillong | N. 53.1 | 305 | i 9 | 20 | - 1 | 16 | 48 | - 3 | 10 | 31 | PcP | 25.0 |
| Calcutta | 54.9 | 300 | i 9 | 35 | 0 | i 17 | 16 | 0 | — | — | — | — |
| Chatra | 57.5 | 305 | i 9 | 54 | + 1 | i 17 | 53 | + 3 | 19 | 30 | ScS | 26.1 |
| Madras | E. 59.9 | 287 | i 10 | 13 | + 3 | i 18 | 41 | PS | 22 | 21 | SS | — |
| Kodaikanal | E. 62.1 | 283 | e 9 | 41 | ? | — | — | — | — | — | — | — |
| Hyderabad | 62.5 | 291 | i 10 | 27 | - 1 | i 18 | 54 | 0 | 12 | 40 | PP | 29.8 |
| Dehra Dun | N. 66.2 | 305 | e 10 | 52 | 0 | i 19 | 42 | + 2 | 20 | 27 | ScS | — |
| New Delhi | 66.4 | 303 | e 10 | 50 | - 3 | i 19 | 38 | - 5 | 20 | 34 | ScS | — |
| Poona | 67.0 | 291 | i 10 | 56 | - 1 | e 19 | 51 | + 1 | 24 | 15 | SS | — |
| Bombay | 68.0 | 291 | e 11 | 8 | + 5 | e 20 | 5 | + 3 | 13 | 38 | PP | 29.0 |
| Warsak Dam | E. 72.5 | 307 | i 11 | 31 | + 1 | i 20 | 55 | + 1 | i 14 | 6 | PP | e 31.9 |
| Quetta | 75.4 | 302 | i 11 | 45k | - 2 | i 21 | 26 | - 1 | i 14 | 31 | PP | — |
| College | 85.2 | 24 | e 12 | 33 | - 6 | e 22 | 57 | [- 5] | e 14 | 58 | ? | e 34.2 |
| Tananarive | 90.2 | 251 | e 13 | 5 | + 1 | — | — | — | e 13 | 16 | ? | — |
| Shasta | 98.4 | 49 | e 13 | 36 | - 5 | e 24 | 19 | [0] | e 17 | 59 | PP | — |
| Berkeley | 98.7 | 52 | e 13 | 43k | + 1 | e 24 | 20 | [- 1] | e 17 | 44 | PP | — |
| Mineral | Z. 99.0 | 49 | e 13 | 42a | - 2 | e 17 | 47 | PP | i 13 | 51 | P | — |
| Lick | Z. 99.2 | 52 | i 13 | 47a | + 2 | — | — | — | e 13 | 51 | P | — |
| Reno | 100.5 | 50 | e 13 | 51k | 0 | e 25 | 21 | - 4 | e 17 | 49 | PP | — |
| Fresno | E. 100.7 | 52 | — | — | — | e 24 | 31 | [+ 1] | — | — | — | — |
| Resolute Bay | 101.4 | 12 | — | — | — | e 24 | 31 | [- 3] | e 25 | 31 | S | e 50.6 |
| Ksara | 101.9 | 304 | i 14 | 0 | + 3 | e 27 | 21 | PS | i 17 | 31 | ? | — |
| Tinemaha | Z. 102.0 | 53 | e 14 | 2 | + 5 | — | — | — | — | — | — | — |
| Pasadena | 102.3 | 55 | e 14 | 2 | + 3 | i 24 | 39 | [+ 1] | i 18 | 11 | PP | e 45.8 |
| Kiruna | Z. 102.6 | 340 | e 14 | 0 | 0 | e 18 | 14 | PP | i 14 | 7 | P | — |
| Riverside | Z. 103.0 | 55 | e 14 | 2 | 0 | — | — | — | e 18 | 12 | P | — |
| Hungry Horse | 103.3 | 40 | e 13 | 58 | - 5 | e 29 | 58 | PKKP | e 18 | 20 | PP | — |
| Barratt | Z. 103.7 | 57 | e 14 | 3 | - 2 | — | — | — | — | — | — | — |
| Boulder City | 104.8 | 53 | e 14 | 15 | + 5 | — | — | — | e 18 | 25 | PKP | — |
| Butte | 104.8 | 42 | e 14 | 14 | + 4 | — | — | — | — | — | — | — |
| Nelson | 104.8 | 53 | e 14 | 2 | - 8 | — | — | — | — | — | — | — |
| Helwan | 106.1 | 300 | e 14 | 17 | + 1 | e 24 | 59 | [+ 4] | 18 | 35 | PP | — |
| Istanbul | 106.2 | 312 | 14 | 11? | - 5 | 33 | 33 | SS | 18 | 39 | PP | — |
| Saskatoon | 106.9 | 36 | — | — | — | (24 | 53) | [- 6] | — | — | — | 24.9 |
| Upsala | 107.2 | 333 | e 14 | 18 | - 2 | e 25 | 15 | [+15] | e 18 | 52? | PP | e 43.9 |
| Tucson | 108.3 | 56 | e 18 | 27 | [- 3] | e 25 | 12 | [+ 7] | e 27 | 58 | PS | e 49.0 |
| Scoresby Sund | 110.8 | 354 | e 19 | 9 | PP | i 25 | 19 | [+ 4] | 26 | 13 | SKKS | — |
| Copenhagen | 111.6 | 331 | 19 | 21 | PP | 27 | 1 | S | 28 | 41 | PS | — |
| Ogyalla | 111.8 | 322 | e 28 | 45 | PS | e 25 | 28 | [+ 8] | e 34 | 35 | SS | — |
| Potsdam | 112.8 | 328 | e 18 | 53? | [+14] | e 35 | 9 | SS | i 19 | 30 | PP | e 56.9 |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----------|-----|----------------------|-------|----------|-------|---------|------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Prague | 113.2 | 325 | e 19 35 | PP | e 29 0 | PS | e 35 11 | SS |
| Collnberg | 113.4 | 326 | e 18 34 | [- 6] | — | — | e 19 42 | PP |
| Cheb | 114.3 | 326 | e 19 36 | PP | e 25 43 | [+14] | e 35 41 | SS |
| Jena | 114.4 | 326 | e 18 44? | [+ 2] | e 21 1 | ? | e 19 42 | PP |
| Taranto | 115.0 | 315 | e 17 53 | ? | 27 29 | S | 19 58 | PP |
| Triest | 115.5 | 321 | e 17 28 | ? | e 27 32 | S | e 29 23 | PS |
| Stuttgart | 116.8 | 325 | e 18 48 | [+ 1] | e 27 47 | S | e 19 45 | PP |
| Aberdeen | E. 117.1 | 338 | e 19 53? | PP | i 29 33 | PS | e 23 53 | ? |
| Karlsruhe | 117.1 | 326 | e 18 50 | [+ 3] | — | — | 22 53 | PPP |
| Messina | 117.1 | 313 | e 19 15 | ? | e 30 5 | PS | e 20 2 | PP |
| De Bilt | 117.2 | 330 | e 20 3 | PP | e 35 53? | SS | — | — |
| Strasbourg | 117.7 | 326 | e 18 47 | [- 1] | e 36 11 | SS | e 20 2 | PP |
| Florence | z. 117.9 | 320 | e 19 19 | ? | i 30 0 | PS | — | — |
| Rome | 117.9 | 317 | e 19 9 | ? | e 27 45 | S | e 36 10 | SS |
| Zürich | 117.9 | 324 | e 18 49 | [0] | — | — | — | — |
| Uccle | 118.3 | 329 | e 20 7 | PP | e 26 56 | {- 6} | e 31 3 | PPS |
| Oropa | 119.1 | 323 | e 17 18 | ? | e 28 16 | ? | e 19 53 | PP |
| Kew | 120.2 | 331 | e 20 22 | PP | e 26 13 | [+22] | e 31 8 | PPS |
| Paris | 120.5 | 328 | e 18 53 | [- 1] | 36 56 | SS | e 20 20 | PP |
| Fayetteville | 120.9 | 48 | i 18 52 _a | [- 2] | e 25 59 | [+ 6] | e 30 15 | PS |
| Chambon-la-Forêt | 121.1 | 328 | e 18 54 | [- 1] | — | — | — | — |
| Tacubaya | 121.1 | 69 | e 16 5 | P | — | — | — | — |
| Rathfarnham C. | z. 121.6 | 336 | e 17 42 | ? | e 20 1 | PP | e 17 56 | ? |
| Clermont-Ferrand | 121.9 | 325 | e 20 35 | PP | e 37 13 | SS | e 41 35 | SSS |
| St. Louis | 122.7 | 44 | i 18 58 | [0] | i 26 1 | [+ 2] | — | — |
| Kirkland Lake | z. 123.6 | 30 | e 18 52 | [- 8] | — | — | — | — |
| Tortosa | 126.3 | 321 | i 21 3 | PP | — | — | — | — |
| Cincinnati | 126.4 | 41 | e 19 1 | [- 4] | — | — | i 21 1 | PP |
| Cleveland | 127.0 | 37 | e 21 4 | PP | e 26 9 | [- 3] | e 27 56 | SKKS |
| Ottawa | 127.7 | 30 | e 19 4 | [- 4] | 26 9 | [- 5] | 28 2 | SKKS |
| Shawinigan Falls | N. 128.2 | 26 | e 19 8 | [- 1] | — | — | — | — |
| Alicante | 128.3 | 319 | 19 6 | [- 3] | 26 16 | [+ 1] | 38 37 | SS |
| Seven Falls | E. 128.7 | 25 | e 21 52 | PP | 28 39 | {+28} | 23 5 | PKS |
| Toledo | 129.6 | 323 | e 19 14 | [+ 3] | e 22 37 | PKS | e 21 22 | PP |
| Tamanrasset | z. 130.2 | 298 | e 19 13 | [+ 1] | e 33 33 | PPS | i 21 25 | PP |
| Almeria | 130.4 | 319 | i 21 31 | PP | 26 20 | [- 1] | 24 14 | PPP |
| Granada | 131.0 | 320 | 19 18 _k | [+ 4] | 28 11 | {-15} | 21 41 | PP |
| Washington | 131.2 | 37 | i 19 12 | [- 2] | i 22 38 | PKS | — | — |
| Columbia | 131.5 | 44 | — | — | i 22 40 | PKS | — | — |
| Palisades | 131.7 | 32 | i 19 16 | [+ 1] | i 28 27 | {- 3} | e 21 37 | PP |
| Fordham | 131.8 | 32 | e 19 16 | [+ 1] | i 22 42 | PKS | — | — |
| Harvard | 131.8 | 29 | e 19 13 | [- 2] | e 26 17 | [- 7] | e 28 33 | SKKS |
| Malaga | 131.8 | 320 | i 19 18 | [+ 3] | i 26 14 | [-10] | i 21 42 | PP |
| Weston | 132.0 | 29 | i 19 13 _a | [- 3] | 22 41 | PKS | 31 53 | PS |
| Lisbon | 133.4 | 325 | — | — | 22 50 | PKS | — | — |
| Halifax | 133.6 | 21 | e 19 18 | [- 1] | 22 46 | PKS | 24 25 | PPP |
| La Plata | 139.8 | 160 | 35 23 | PPS | 29 41 | {+12} | 46 47 | SSS |
| Bermuda | 143.0 | 33 | e 19 33 | [- 3] | e 23 4 | PKS | e 41 59 | SSP |
| Huancayo | 143.4 | 114 | e 19 35 | [- 1] | e 41 47 | SS | e 22 55 | PP |
| Chinchina | 145.8 | 83 | i 19 40 | [- 1] | e 30 7 | {+12} | e 23 25 | SKP |
| Bogota | 147.3 | 84 | e 19 44 | [+ 1] | e 42 18 | SS | e 33 27 | SKSP |
| La Paz | 147.6 | 126 | i 19 48 | [+ 4] | i 42 23 | SS | i 23 15 | PP |
| San Juan | 151.0 | 54 | i 19 48 | [- 1] | e 30 21 | {- 3} | — | — |

July 12d. 21h. 9m. Epicentre 42°·6N. 44°·7E.
Seismological Bulletin of the U.S.S.R. for July-September, 1953, Moscow, 1954, p.80.

July 12d. 22h. 19m. Epicentre 36°·7N. 70°·5E. Depth 200km.
Loc. cit., 21h., p.80.

July 12d. 22h. 34m. Epicentre 42°·5N. 144°·6E. Depth 60km.
Intensity IV at Kusiro ; II-III at Nemuro and Obihiro.
Seismo. Bull. Cent. Met. Obs., Japan, for July, 1953, Tokyo, 1954, p.17, with macroseismic chart.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

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July 13d. 18h. 4m. Epicentre 38°·5N. 75°·1E. Depth of focus 160km.
Bulletin of Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, pp.80-81

July 13d. 18h. 46m. Epicentre 40°·3N. 78°·3E. Probably aftershock of 9d. 'Quake.
Loc. cit., 18h. 4m., p.81.

July 13d. 19h. 19m. 50s. Epicentre 21°·0S. 174°·0W. (as on 1953, April, 3d.).

A = -·9293, B = -·0977, C = -·3563; $\delta = +9$; $h = +4$;
D = -·105, E = +·995; G = +·354, H = +·037, K = -·934.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | |
|------------------|------|----------|-----|----------------------|------------------|---------|------------------|---------|------------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | |
| Karapiro | N. | 19·1 | 206 | e 4 25 | - 2 | e 7 56 | - 1 | — | — |
| Tuai | N. | 19·3 | 201 | — | — | e 7 55 | - 7 | e 7 40 | ? |
| New Plymouth | E. | 20·7 | 206 | e 4 51 | + 7 | — | — | — | — |
| Wellington | | 22·3 | 204 | e 4 54 | - 7 | e 8 45 | -17 | e 5 5 | P |
| Cobb River | E. | 23·0 | 206 | i 5 7 | 0 | e 8 59 | -15 | — | — |
| Kaimata | N.E. | 24·7 | 207 | e 5 23 | - 1 | e 9 41 | - 3 | e 9 36 | ? |
| Christchurch | | 25·1 | 203 | e 5 36 | + 8 | e 9 52 | + 1 | e 5 45 | ? |
| Berkeley | z. | 76·1 | 40 | i 11 51 _a | 0 | — | — | — | — |
| Lick | z. | 76·1 | 40 | e 11 51 _a | 0 | e 12 8 | PcP | e 12 17 | ? |
| Pasadena | | 76·3 | 45 | i 11 52 _a | 0 | — | — | i 12 9 | PcP |
| Barratt | z. | 76·5 | 47 | i 11 53 _a | - 1 | — | — | i 11 56 | ? |
| Palomar | z. | 76·7 | 46 | i 11 55 _a | 0 | — | — | i 12 15 | PcP |
| Riverside | | 76·8 | 45 | i 11 54 _a | - 1 | — | — | — | — |
| Fresno | z. | 76·9 | 42 | i 11 55 _a | - 1 | — | — | e 12 53 | ? |
| Shasta | | 77·9 | 38 | i 12 1 | 0 | — | — | e 12 48 | ? |
| Mineral | z. | 78·1 | 38 | e 12 2 _a | 0 | — | — | e 13 23 | ? |
| Tinemaha | z. | 78·1 | 43 | i 12 6 _a | + 4 | — | — | — | — |
| Reno | z. | 78·6 | 40 | i 12 6 _a | + 1 | — | — | e 12 22 | ? |
| Seattle | z. | 82·6 | 33 | i 12 25 | - 1 | — | — | — | — |
| Victoria | | 82·6 | 32 | i 13 27 _a | +61 | — | — | — | — |
| Tacubaya | | 83·5 | 67 | e 12 25 | - 6 | — | — | — | — |
| Fayetteville | | 94·3 | 53 | i 13 22 _a | - 1 | — | — | i 13 41 | ? |
| Kimberley | z. | 127·3 | 201 | e 19 6 | [- 1] | — | — | — | — |
| Witteveen | z. | 148·2 | 359 | i 19 48 _a | [+ 3] | — | — | — | — |
| Collmberg | z. | 149·3 | 352 | e 19 44 | [- 2] | e 19 48 | ? | e 20 33 | ? |
| Raciborzu | | 149·4 | 346 | e 19 51 | [+ 5] | — | — | e 20 22 | ? |
| Jena | | 149·8 | 354 | e 19 46? | [- 1] | e 20 1 | PKP ₂ | e 21 53 | ? |
| Prague | | 150·2 | 351 | i 19 52 | [+ 4] | e 20 1 | PKP ₂ | e 21 52 | ? |
| Ksara | | 150·7 | 302 | i 17 32 | ? | — | — | — | — |
| Karlsruhe | z. | 152·0 | 357 | e 19 56 _a | [+ 6] | e 20 5 | PKP ₂ | e 20 14 | ? |
| Stuttgart | | 152·2 | 356 | e 19 49 | [- 2] | i 19 56 | ? | e 20 13 | PKP ₂ |
| Strasbourg | | 152·4 | 358 | e 19 57 | [+ 6] | — | — | e 20 8 | PKP ₂ |
| Paris | | 152·8 | 5 | i 19 56 | [+ 4] | e 20 4 | ? | i 20 14 | PKP ₂ |
| Chambon-la-Forêt | | 152·9 | 5 | e 19 50 | [- 2] | i 19 58 | ? | i 20 8 | PKP ₂ |
| Clermont-Ferrand | | 155·2 | 6 | e 19 55? | [0] | — | — | — | — |
| Granada | | 161·8 | 27 | i 20 52 _a | PKP ₂ | — | — | — | — |
| Tamanrasset | z. | 178·2 | — | i 20 11 | [- 1] | e 22 5 | PKP ₂ | e 25 52 | PP |

July 13d. 21h. 28m. 57s. Epicentre 18°·5S. 169°·1E. Depth of focus 0·030.
(as on 1950, Oct. 5d.).

A = -·9319, B = +·1795, C = -·3154; $\delta = +14$; $h = +5$;
D = +·189, E = +·982; G = +·310, H = -·060, K = -·949.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|------------|----|----------|-----|---------------------|------|--------|------|--------|----|-------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Brisbane | | 17·3 | 236 | i 3 50 | + 1 | i 6 59 | + 6 | i 4 6 | PP | 17·9 |
| Karapiro | N. | 20·1 | 165 | e 4 17 | - 1 | e 7 52 | + 6 | e 4 56 | PP | — |
| Tongariro | z. | 21·3 | 166 | e 4 29 | - 1 | — | — | e 5 15 | pP | — |
| Riverview | | 22·1 | 222 | i 4 40 _k | + 3 | i 8 27 | + 5 | i 5 14 | pP | e 9·6 |
| Cobb River | E. | 22·7 | 173 | e 4 45 | + 2 | — | — | e 5 29 | pP | — |

Continued on next page.

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|------------------|------|------------|------------|------|-----------------|-------|------|----|------------------|-------|-----|------------------|---|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Wellington | | 23.2 | 170 | e 4 | 45 | - 3 | e 8 | 38 | - 2 | e 11 | 33? | ScP | — |
| Kaimata | N.E. | 24.0 | 177 | e 4 | 58 | + 2 | e 5 | 54 | PP | e 5 | 43 | pP | — |
| Baguio | | 59.0 | 302 | i 9 | 39 | + 1 | — | — | — | — | — | — | — |
| Nanking | N. | 69.6 | 315 | — | — | — | 19 | 41 | + 6 | — | — | — | — |
| Berkeley | Z. | 85.4 | 49 | i 12 | 13 _a | 0 | — | — | — | e 18 | 39 | ? | — |
| Lick | Z. | 85.6 | 49 | i 12 | 15 _a | + 1 | — | — | — | e 13 | 15 | pP | — |
| Fresno | Z. | 86.6 | 50 | i 12 | 19 _a | 0 | — | — | — | e 13 | 20 | pP | — |
| Shasta | | 86.6 | 45 | e 12 | 19 | 0 | e 23 | 1 | + 26 | e 12 | 54 | ? | — |
| Pasadena | | 86.7 | 53 | i 12 | 19 _a | - 1 | — | — | — | e 13 | 22 | pP | — |
| Shillong | N. | 86.9 | 297 | i 22 | 25 | ? | i 22 | 44 | + 6 | — | — | — | — |
| Mineral | Z. | 87.0 | 46 | i 12 | 21 _a | 0 | — | — | — | — | — | — | — |
| Barratt | Z. | 87.2 | 55 | i 12 | 22 _a | 0 | — | — | — | — | — | — | — |
| Riverside | | 87.2 | 54 | i 12 | 22 _a | 0 | — | — | — | e 13 | 20 | pP | — |
| Palomar | Z. | 87.4 | 54 | i 12 | 23 _a | 0 | — | — | — | — | — | — | — |
| Reno | Z. | 87.8 | 47 | i 12 | 26 _a | + 1 | — | — | — | — | — | — | — |
| Tinemaha | Z. | 87.9 | 51 | i 12 | 26 | + 1 | — | — | — | — | — | — | — |
| Boulder City | | 89.3 | 52 | i 12 | 36 | + 4 | — | — | — | — | — | — | — |
| College | | 89.4 | 17 | i 12 | 31 | - 1 | — | — | — | — | — | — | — |
| Victoria | | 89.7 | 38 | i 12 | 33 _a | - 1 | — | — | — | — | — | — | — |
| Nelson | | 89.9 | 52 | i 12 | 35 | 0 | i 16 | 3 | PP | i 13 | 33 | pP | — |
| Seattle | Z. | 89.9 | 40 | i 12 | 35 | 0 | — | — | — | — | — | — | — |
| Tucson | | 91.6 | 57 | i 12 | 44 | + 1 | — | — | — | e 16 | 23 | PP | — |
| Logan | | 94.3 | 48 | e 12 | 55 | 0 | — | — | — | e 16 | 44 | PP | — |
| Hungry Horse | | 95.2 | 41 | i 12 | 58 | - 1 | — | — | — | i 16 | 51 | PP | — |
| Butte | | 95.3 | 43 | i 12 | 59 | - 1 | — | — | — | e 13 | 23 | ? | — |
| Fayetteville | | 106.0 | 58 | i 13 | 49 | P | — | — | — | i 18 | 11 | PP | — |
| Ottawa | | 120.6 | 47 | i 18 | 24 _k | [- 1] | 19 | 39 | ? | e 19 | 24 | pPKP | — |
| Palisades | | 122.2 | 52 | e 20 | 1 | PP | — | — | — | — | — | — | — |
| Kiruna | | 126.8 | 346 | i 18 | 39 | [+ 2] | e 28 | 27 | ? | e 20 | 38 | PP | — |
| San Juan | | 127.8 | 80 | i 18 | 38 | [- 1] | — | — | — | — | — | — | — |
| Halifax | | 129.2 | 48 | e 18 | 42 | [0] | — | — | — | 20 | 15 | sPKP | — |
| Ksara | | 136.5 | 299 | e 18 | 57 | [+ 2] | e 22 | 9 | SKP | — | — | — | — |
| Collmberg | Z. | 142.2 | 335 | e 19 | 3 | [- 3] | e 22 | 22 | SKP | — | — | — | — |
| Prague | N. | 142.6 | 333 | i 19 | 5 | [- 1] | e 22 | 47 | PKS | e 19 | 50 | pPKP | — |
| Jena | | 143.0 | 336 | e 19 | 5 | [- 2] | e 22 | 24 | SKP | e 20 | 6 | pPKP | — |
| Witteveen | Z. | 143.1 | 343 | e 19 | 5 | [- 2] | — | — | — | — | — | — | — |
| De Bilt | | 144.2 | 343 | e 19 | 9 | [0] | — | — | — | — | — | — | — |
| Rathfarnham C. | Z. | 145.1 | 355 | i 19 | 10 _a | [- 1] | — | — | — | i 19 | 25 | ? | — |
| Stuttgart | | 145.7 | 336 | e 19 | 12 | [0] | e 22 | 29 | SKP | e 20 | 13 | pPKP | — |
| Karlsruhe | Z. | 145.8 | 337 | i 19 | 15 _a | [+ 3] | e 21 | 9 | ? | e 20 | 15 | pPKP | — |
| Kew | | 146.1 | 348 | e 19 | 13 | [+ 1] | — | — | — | e 20 | 11 | pPKP | — |
| Triest | | 146.1 | 329 | e 19 | 13 | [+ 1] | e 26 | 5 | [+ 8] | e 20 | 16 | pPKP | — |
| Strasbourg | | 146.4 | 338 | i 19 | 17 | [+ 4] | e 20 | 42 | sPKP | e 20 | 17 | pPKP | — |
| Paris | | 147.9 | 343 | i 19 | 20 | [+ 5] | e 20 | 50 | sPKP | e 20 | 20 | pPKP | — |
| Neuchatel | | 148.0 | 337 | e 19 | 16 | [0] | — | — | — | e 20 | 17 | pPKP | — |
| Chambon-la-Forêt | | 148.7 | 343 | e 19 | 17 | [0] | i 19 | 21 | PKP ₂ | i 20 | 23 | pPKP | — |
| Florence | Z. | 149.0 | 328 | i 19 | 19 _a | [+ 2] | — | — | — | e 20 | 34 | pPKP | — |
| Messina | Z. | 149.7 | 317 | i 19 | 24 _a | [+ 6] | — | — | — | i 19 | 30 | PKP ₂ | — |
| Clermont-Ferrand | | 150.4 | 341 | e 19 | 18 | [- 1] | — | — | — | i 19 | 27 | PKP ₂ | — |
| Tamanrasset | Z. | 164.1 | 292 | i 19 | 37 | [+ 1] | e 26 | 10 | [- 6] | e 20 | 33 | PKP ₂ | — |

July 13d. 21h. 55m. Epicentre 42°·8N. 78°·2E.
Bulletin of Seismo Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p.81.

July 14d. 0h. 10m. Epicentre 38°·6N. 70°·7E.
Loc. cit., 13d. 21h., p.82.

July 14d. 12h. 44m. Epicentre 42°·2N. 139°·9E. Depth 20km.
Intensity IV at Mori; II-III at Muroran and Hakodate.
Seismo. Bull. Cent. Met. Obs., Japan, for July, 1953, Tokyo, 1953, p.18, with macroseismic chart.

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July 14d. 17h. 21m. Epicentre 36°·8N. 69°·4E. Depth 160km.
Bulletin of Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p.82.

July 15d. 11h. 15m. Epicentre 37°·8N. 72°·1E. Depth of focus 170km.
Bulletin of Seismo. Stations of the U.S.S.R. for 1953, July-Sept., Moscow, 1954, p.83.

July 15d. 16h. 55m. 44s. Epicentre 36°·6N. 141°·0E. Depth 45km.
Intensity IV at Onahama, Mito; II-III at Shirakawa, Hukusima, and Tokyo.
Seismo. Bull. Cent. Met. Obs., Japan, July, 1953, Tokyo, 1953, p.19, with macroseismic chart.

July 16d. 14h. 32m. 10s. Epicentre 36°·1N. 141°·2E. Depth of focus 0·005.
(as on 1953, May 10d.).

Intensity V at Mito, Onahama, Shirakawa, Tukubasan; IV at Choshi, Utunomiya, Kashiwa, Tokyo, Kumagaya, Hukusima, Titibu; II-III at Maebasi, Sendai, and Kohu.
Epicentre 36°·3N. 141°·2E. Depth 35km.
Seismo. Bull. Cent. Met. Obs., Japan, July, 1953, Tokyo, 1953, p.20-21, with macrosiesmic chart p.20.

$$A = -.6312, B = +.5075, C = +.5866; \quad \delta = +7; \quad h = 0;$$

$$D = +.627, E = +.779; \quad G = -.457, H = +.368, K = -.810.$$

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-------------|----|----------|-----|---------|------|-------|------|-------|----|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Tyosi | N. | 0·4 | 216 | i 0 13 | + 1 | 0 22 | 0 | — | — |
| Mito | Z. | 0·7 | 296 | i 0 12 | - 3 | 0 19 | - 8 | — | — |
| Onahama | | 0·9 | 344 | i 0 12k | - 6 | 0 21 | -10 | — | — |
| Tukubasan | | 0·9 | 277 | i 0 16k | - 2 | 0 27 | - 4 | — | — |
| Kashiwa | | 1·0 | 256 | i 0 20 | + 1 | 0 33 | 0 | — | — |
| Tokyo | Z. | 1·2 | 251 | i 0 22k | 0 | 0 39 | + 1 | — | — |
| Utunomiya | | 1·2 | 293 | i 0 18k | - 4 | 0 31 | - 7 | — | — |
| Shirakawa | | 1·3 | 322 | i 0 19k | - 4 | 0 33 | - 7 | — | — |
| Yokohama | | 1·4 | 242 | 0 27 | + 3 | 0 49 | + 6 | — | — |
| Kumagaya | | 1·5 | 272 | i 0 23 | - 3 | 0 43 | - 2 | — | — |
| Mera | | 1·6 | 223 | 0 33 | + 6 | 0 54 | + 7 | — | — |
| Inawasiro | E. | 1·7 | 329 | e 0 24 | - 4 | 0 45 | - 5 | — | — |
| Titibu | | 1·7 | 266 | i 0 28 | 0 | 0 48 | - 2 | — | — |
| Hukusima | | 1·8 | 340 | i 0 25 | - 5 | 0 44 | - 8 | — | — |
| Maebasi | | 1·8 | 280 | i 0 28k | - 2 | 0 49 | - 3 | — | — |
| Ajiro | N. | 2·0 | 237 | 0 35 | + 3 | 1 4 | + 7 | — | — |
| Hunatu | N. | 2·0 | 253 | i 0 35 | + 3 | 1 0 | + 3 | — | — |
| Osima | | 2·0 | 228 | e 0 35 | + 3 | 1 2 | + 5 | — | — |
| Kohu | | 2·1 | 258 | i 0 36k | + 2 | 1 12 | +13 | — | — |
| Misima | | 2·1 | 242 | i 0 35 | + 1 | 1 4 | + 5 | — | — |
| Oiwake | | 2·1 | 276 | 0 35 | + 1 | 1 13 | +14 | — | — |
| Sendai | | 2·2 | 354 | i 0 30k | - 5 | 0 52 | -10 | — | — |
| Isinomaki | | 2·3 | 2 | 0 32 | - 5 | 0 52 | -12 | — | — |
| Yamagata | | 2·3 | 342 | e 0 32 | - 5 | 0 54 | -10 | — | — |
| Nagano | | 2·5 | 283 | i 0 38k | - 1 | 1 6 | - 3 | — | — |
| Niigata | | 2·5 | 317 | e 0 38 | - 1 | 1 10 | + 1 | — | — |
| Matumoto | E. | 2·6 | 273 | 0 41 | 0 | 1 21 | + 9 | — | — |
| Shizuoka | | 2·6 | 244 | 0 41 | 0 | 1 17 | + 5 | — | — |
| Takada | | 2·6 | 293 | 0 39 | - 2 | 1 18 | + 6 | — | — |
| Iida | | 2·8 | 258 | i 0 40k | - 4 | 1 17 | 0 | — | — |
| Omaesaki | | 2·9 | 239 | e 0 50 | + 5 | 1 29 | +10 | — | — |
| Mizusawa | E. | 3·0 | 359 | 0 44 | - 3 | 1 13 | - 9 | — | — |
| Sakata | | 3·0 | 339 | e 0 48 | + 1 | 1 24 | + 2 | — | — |
| Aikawa | | 3·1 | 309 | 0 44 | - 4 | 1 29 | + 5 | — | — |
| Hamamatu | | 3·2 | 244 | e 0 58 | + 9 | 1 45 | +18 | — | — |
| Hatidyozima | | 3·2 | 201 | e 0 54 | + 5 | 1 43 | +16 | — | — |
| Takayama | E. | 3·2 | 272 | e 0 51 | + 2 | 1 28 | + 1 | — | — |
| Toyama | | 3·3 | 280 | e 0 51 | 0 | 1 30 | + 1 | — | — |
| Miyako | | 3·6 | 11 | e 0 48 | - 7 | 1 24 | -13 | — | — |
| Morioka | | 3·6 | 0 | e 0 52 | - 3 | 1 29 | - 8 | — | — |

Continued on next page.

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| | | Δ | Az. | P. | | O - C. | S. | | O - C. | Supp. | | L. |
|------------------|----|----------|-----|------|----|--------|------|----|--------|-------|----|--------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Nagoya | N. | 3.6 | 256 | 0 | 59 | + 4 | 1 | 43 | + 6 | — | — | — |
| Akita | Z. | 3.7 | 347 | e 0 | 54 | - 2 | 1 | 38 | - 1 | — | — | — |
| Gihu | | 3.7 | 260 | e 0 | 57 | + 1 | 1 | 47 | + 8 | — | — | — |
| Kanazawa | | 3.7 | 278 | e 0 | 57 | + 1 | 1 | 46 | + 7 | — | — | — |
| Wazima | E. | 3.7 | 292 | e 0 | 54 | - 2 | — | — | — | — | — | — |
| Hukui | | 4.0 | 271 | e 1 | 6 | + 5 | — | — | — | — | — | — |
| Ibukisan | N. | 4.0 | 261 | e 1 | 3 | + 2 | 2 | 1 | +14 | — | — | — |
| Hikone | | 4.1 | 260 | e 1 | 6 | + 4 | 2 | 5 | +16 | — | — | — |
| Kameyama | | 4.1 | 253 | e 1 | 3 | + 1 | 1 | 46 | - 3 | — | — | — |
| Tu | | 4.1 | 251 | 1 | 9 | + 7 | 2 | 10 | +21 | — | — | — |
| Tsuruga | E. | 4.2 | 264 | 1 | 3 | 0 | — | — | — | — | — | — |
| Hatinohe | | 4.4 | 4 | e 1 | 3 | - 3 | 1 | 54 | - 3 | — | — | — |
| Kyoto | | 4.6 | 258 | e 1 | 27 | +18 | 2 | 24 | +22 | — | — | — |
| Owase | | 4.6 | 245 | e 1 | 8 | - 1 | 2 | 19 | +17 | — | — | — |
| Aomori | | 4.7 | 356 | e 1 | 10 | 0 | 2 | 2 | - 2 | — | — | — |
| Maizuru | | 4.7 | 264 | e 1 | 11 | + 1 | 2 | 11 | + 7 | — | — | — |
| Osaka | | 4.9 | 254 | e 1 | 38 | +25 | 2 | 38 | +29 | — | — | — |
| Kobe | E. | 5.1 | 256 | e 1 | 40 | +24 | 2 | 40 | +26 | — | — | — |
| Siomisaki | | 5.2 | 241 | e 1 | 26 | + 9 | 2 | 35 | +18 | — | — | — |
| Toyooka | | 5.2 | 266 | e 1 | 17 | 0 | 2 | 25 | + 8 | — | — | — |
| Sumoto | | 5.5 | 253 | e 1 | 30 | + 9 | 2 | 52 | +28 | — | — | — |
| Hakodate | | 5.7 | 357 | e 1 | 31 | + 7 | — | — | — | — | — | — |
| Mori | N. | 6.0 | 356 | 1 | 19 | - 9 | 2 | 32 | - 5 | — | — | — |
| Takamatu | E. | 6.1 | 255 | 1 | 31 | + 1 | 2 | 57 | +18 | — | — | — |
| Urakawa | | 6.2 | 11 | e 1 | 27 | - 4 | 2 | 33 | - 8 | — | — | — |
| Muroto | | 6.4 | 246 | e 1 | 44 | +10 | 3 | 10 | +24 | — | — | — |
| Tomakomai | | 6.4 | 3 | e 1 | 55 | +21 | 3 | 6 | +20 | — | — | — |
| Koti | | 6.8 | 250 | e 1 | 50 | +11 | 3 | 8 | +12 | — | — | — |
| Obihiro | | 7.0 | 12 | — | — | — | i 2 | 57 | - 4 | — | — | — |
| Sapporo | | 7.0 | 1 | e 1 | 40 | - 2 | 3 | 1? | 0 | — | — | — |
| Kusiro | N. | 7.3 | 19 | e 1 | 44 | - 2 | 2 | 55 | -14 | — | — | — |
| Matuyama | | 7.3 | 254 | e 1 | 47 | + 1 | 3 | 34 | +25 | — | — | — |
| Hirosima | | 7.4 | 259 | e 1 | 45 | - 3 | 3 | 16 | + 5 | — | — | — |
| Hamada | | 7.5 | 263 | 2 | 55 | +66 | 3 | 55 | +41 | — | — | — |
| Nemuro | | 8.0 | 24 | — | — | — | e 3 | 9 | -17 | — | — | — |
| Abashiri | | 8.3 | 16 | e 2 | 54 | +54 | — | — | — | — | — | — |
| Ooita | | 8.4 | 253 | e 2 | 20 | +18 | 4 | 13 | +37 | — | — | — |
| Hukuoka | Z. | 9.2 | 257 | e 2 | 15 | + 3 | 4 | 49 | +54 | — | — | — |
| Kumamoto | | 9.3 | 252 | e 2 | 9 | - 5 | — | — | — | — | — | — |
| Zô-Sè | Z. | 17.4 | 290 | 4 | 1 | + 1 | — | — | — | — | — | — |
| Nanking | Z. | 19.0 | 295 | 4 | 15 | - 4 | — | — | — | — | — | — |
| Quetta | Z. | 61.0 | 288 | i 10 | 7 | - 2 | — | — | — | — | — | — |
| Kiruna | | 67.3 | 338 | e 20 | 11 | PS | — | — | — | — | — | e 35.8 |
| Upsala | Z. | 73.7 | 334 | i 11 | 27 | - 2 | — | — | — | i 11 | 39 | pP |
| Tinemaha | Z. | 76.5 | 54 | e 11 | 52 | + 7 | — | — | — | e 12 | 38 | ? |
| Mount Wilson | Z. | 78.3 | 56 | e 12 | 6 | +11 | — | — | — | e 12 | 27 | sP |
| Palomar | Z. | 79.6 | 56 | e 12 | 4 | + 2 | — | — | — | e 12 | 15 | pP |
| Barratt | Z. | 80.1 | 57 | e 12 | 6 | + 2 | — | — | — | i 12 | 20 | pP |
| Collmberg | | 81.8 | 330 | e 12 | 14 | + 1 | — | — | — | e 12 | 26 | pP |
| Stuttgart | Z. | 85.3 | 331 | e 12 | 31 | 0 | — | — | — | e 12 | 44 | pP |
| Triest | Z. | 85.8 | 326 | e 12 | 32 | - 2 | e 13 | 43 | ? | e 12 | 45 | pP |
| Paris | | 87.8 | 334 | e 12 | 44 | + 1 | — | — | — | e 12 | 57 | pP |
| Chambon-la-Forêt | | 88.6 | 334 | e 12 | 47 | 0 | — | — | — | — | — | — |
| Fayetteville | | 91.6 | 42 | i 12 | 58 | - 3 | — | — | — | i 13 | 15 | pP |
| Tamanrasset | Z. | 108.0 | 317 | e 18 | 44 | PP | — | — | — | — | — | — |

July 18d. 17h. 32m. Epicentre 41°·3N. 43°·9E.

Bulletin of Seismo. Stations of U.S.S.R. for 1953, July-September, Moscow, 1954, p. 83.

July 19d. 1h. 28m. Epicentre 38°·4N. 74°·0E. Depth of focus 150km.

Loc. cit., 18d. 17h., p.p. 83, 84.

July 19d. 12h. 59m. Provisional epicentre 20°·0S. 176°·5W. Depth 200km.

Estimated magnitude 6.

Seismological Observatory Bulletin No. E-133, July, August, September, 1953, New Zealand Department of Scientific and Industrial Research, Wellington, 1956, p. 3.

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July 19d. 14h. 45m. Provisional epicentre 24°S. 180°. Depth 500km. (approx.).
Magnitude 6.6.5.
Loc. cit., 12h.

July 19d. 18h. 46m. Epicentre 41°·75N. 16°·0E.
Felt in provinces of Foggia and Bari. Intensity V-VI at Giovanni Rotundo; V at Manfredonia; 4V at Canosa di Puglia.
M. De. Panfilis.
"Attivita sismica in Italia, dal 1953 al 1957." *Annali di Geofisica Istituto nazionale di geofisica Roma*, Vol. X, No. 1, p. 29, chart p. 28.

July 19d. 21h. 56m. 26s. Epicentre 34°·4N. 136°·1E.
Intensity II-III at Tu, Owase, Nagoya, and Gihu.
Seismo. Bull. Cent. Met. Obs., Japan, July, 1953, Tokyo, 1953, p. 22, with macroseismic chart.

July 20d. 4h. 52m. Epicentre 39°·1N. 70°·8E.
Bulletin of Seismo. Stations of the U.S.S.R. for July-September, 1953, Moscow, 1954, p. 84.

July 20d. 8h. 8m. 15s. Epicentre 24°·6S. 176°·7W. Depth of focus 0·015.
(as on 1952, November 12d.).

A = -·9088, B = -·0524, C = -·4140; $\delta = +6$; $h = +3$;
D = -·058, E = +·998; G = +·413, H = +·024, K = -·910.

| | | Δ | | Az. | | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|-----------------|------|----------|-----|------|-----------------|-----|---------|------|------|----|------|-------|--------|------|
| | | m. | s. | m. | s. | s. | m. | s. | s. | m. | s. | | m. | |
| Apia | | 11·7 | 24 | 1 2 | 38 | - 6 | e 4 34 | -19 | | | | | | |
| Auckland | N. | 14·2 | 209 | e 3 | 25 | + 9 | e 6 26 | SSS | e 8 | 43 | | PcP | | |
| Karapiro | N. | 14·8 | 205 | e 3 | 29 | + 5 | | | | | | | | |
| Tuai | N. | 15·1 | 199 | e 3 | 31 | + 3 | e 5 58 | -14 | 15 | 30 | | ScS | | |
| Tongariro | Z. | 16·0 | 203 | e 3 | 45 | + 6 | | | e 5 | 7 | | ? | | |
| New Plymouth | E. | 16·4 | 206 | e 3 | 49 | + 5 | e 4 13 | PPP | e 4 | 52 | | ? | | |
| Wellington | | 18·1 | 202 | e 3 | 58 | - 6 | e 7 2 | -17 | e 16 | 28 | | sScS | e 8·8 | |
| Cobb River | E. | 18·7 | 206 | e 4 | 7 | - 4 | e 7 20 | -11 | | | | | | |
| Kaimata | N.E. | 20·4 | 206 | e 4 | 27 | - 2 | e 7 53 | -12 | e 5 | 0 | | PP | | |
| Christchurch | | 20·8 | 202 | e 4 | 34 | + 1 | e 8 1 | -11 | e 4 | 49 | | pP | 11·2 | |
| Brisbane | | 27·3 | 257 | i 5 | 55 | pP | i 10 7 | + 4 | i 10 | 45 | | sS | | |
| Riverview | | 29·4 | 244 | i 6 | 15k | pP | e 10 34 | - 2 | i 11 | 18 | | sS | e 13·8 | |
| Honolulu | | 49·1 | 23 | e 8 | 35 | - 1 | e 15 36 | + 6 | | | | | | |
| Guam | | 53·4 | 310 | i 9 | 7 | - 2 | | | | | | | | |
| Perth | | 59·0 | 246 | | | | i 17 48 | + 5 | i 18 | 33 | | sS | 28·4 | |
| Baguio | | 73·5 | 297 | i 11 | 15 | - 5 | i 21 15 | SP | | | | | | 35·8 |
| Bandung | | 74·1 | 270 | 11 | 43 | PcP | e 21 27 | SP | e 12 | 11 | | pP | | |
| Mitchell Field | | 76·2 | 6 | e 11 | 32 | - 4 | e 21 8 | 0 | | | | | | |
| Kurilsk | | 76·6 | 334 | e 11 | 38 | 0 | | | | | | | | |
| Yuzno-Sakhlinsk | | 80·1 | 332 | e 11 | 55 | - 2 | | | i 12 | 22 | | pP | | |
| Branner | Z. | 80·2 | 41 | i 11 | 59 _a | + 1 | e 12 47 | sP | e 12 | 22 | | pP | | |
| Petropavlovsk | | 80·3 | 344 | 11 | 53 | - 5 | | | | | | | | |
| Berkeley | | 80·5 | 41 | i 12 | 0 | + 1 | i 22 3 | + 9 | i 12 | 27 | | pP | e 33·2 | |
| Pasadena | | 80·6 | 46 | e 12 | 0 | 0 | i 22 5 | +10 | i 12 | 29 | | pP | e 32·6 | |
| Barratt | Z. | 80·7 | 48 | e 12 | 0 | 0 | | | i 12 | 48 | | sP | | |
| Palomar | Z. | 81·0 | 47 | i 12 | 2 | 0 | | | i 12 | 48 | | sP | | |
| Riverside | Z. | 81·1 | 46 | i 12 | 2 | 0 | | | i 12 | 50 | | sP | | |
| Fresno | Z. | 81·2 | 43 | i 12 | 3 _a | 0 | | | i 12 | 50 | | sP | | |
| Hong Kong | | 81·7 | 299 | e 11 | 58 | - 8 | e 22 13 | + 7 | | | | | | |
| China Lake | Z. | 82·0 | 45 | i 12 | 9 | + 2 | | | i 12 | 56 | | sP | | |
| Uglegorsk | | 82·1 | 334 | 12 | 3 | - 5 | | | | | | | | |
| Shasta | E. | 82·2 | 39 | e 12 | 8 | 0 | e 21 34 | -37 | e 12 | 46 | | ? | | |
| Vladivostok | | 82·3 | 325 | i 12 | 5 | - 4 | i 22 19 | ScS | | | | | | |
| Tinemaha | | 82·4 | 44 | i 12 | 10 | + 1 | e 22 24 | +11 | i 12 | 55 | | sP | | |
| Mineral | Z. | 82·5 | 39 | e 12 | 9k | - 1 | i 12 54 | sP | i 12 | 39 | | pP | | |
| Klyuchi | | 82·8 | 347 | e 12 | 8 | - 3 | | | | | | | | |
| Reno | | 83·0 | 41 | i 12 | 14 _a | + 2 | e 14 56 | ? | i 13 | 1 | | sP | | |
| Nanking | | 83·4 | 309 | i 12 | 12k | - 2 | e 22 15 | - 8 | i 12 | 37 | | pP | | |
| Nelson | | 83·8 | 46 | i 12 | 17 | + 1 | | | i 12 | 44 | | pP | | |
| Boulder City | | 83·9 | 46 | e 12 | 19 | + 2 | e 22 42 | +14 | | | | | | |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|---------------|----------|-----|------|-----|-------|------|-----|-------|-------|----|-------------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Tucson | 84.5 | 51 | i 12 | 22 | + 2 | e 22 | 43 | + 9 | i 12 | 51 | pP e 35.1 |
| Chihuahua | 86.1 | 51 | e 12 | 28 | + 0 | e 22 | 51 | + 2 | e 13 | 11 | sP |
| Seattle | 86.9 | 34 | 12 | 34 | + 3 | e 22 | 57 | 0 | — | — | — |
| Tacubaya | 87.2 | 67 | e 12 | 37 | + 4 | e 23 | 7 | + 7 | e 23 | 44 | sS |
| Puebla | 87.9 | 67 | — | — | — | e 23 | 17 | +11 | e 24 | 13 | SP |
| Magadan | 88.0 | 345 | i 12 | 34 | - 3 | — | — | — | — | — | — |
| Sitka | 88.5 | 21 | e 12 | 38 | - 1 | e 23 | 1 | [+ 7] | — | — | — |
| Vera Cruz | 89.7 | 68 | e 12 | 50 | + 5 | e 23 | 38 | +15 | e 13 | 32 | sP |
| Butte | 91.2 | 39 | i 12 | 51 | + 1 | — | — | — | i 13 | 19 | pP |
| Hungry Horse | 91.7 | 37 | i 12 | 53 | - 1 | e 16 | 32 | PP | e 38 | 17 | P'P' |
| College | 91.9 | 12 | i 12 | 52 | - 3 | e 23 | 45 | + 3 | e 13 | 17 | pP e 36.8 |
| Huancayo | 95.1 | 106 | e 13 | 14 | + 4 | i 23 | 51 | SKKS | e 13 | 54 | sP e 40.2 |
| La Plata | 97.3 | 133 | 17 | 33 | PP | 23 | 45 | [+ 2] | 24 | 33 | SKKS 44.8 |
| Fayetteville | 98.4 | 55 | i 13 | 25 | 0 | 24 | 47 | + 9 | e 13 | 52 | pP |
| La Paz | 99.3 | 113 | i 13 | 36 | + 7 | i 24 | 51 | + 6 | i 14 | 9 | pP 46.2 |
| Kyakhta | 100.7 | 321 | e 12 | 54? | -41 | e 24 | 47 | -10 | 18 | 1 | PP |
| Kabansk | 101.3 | 322 | e 13 | 39 | + 1 | i 24 | 2 | [- 1] | i 26 | 46 | SP |
| Shillong | N. 101.4 | 294 | e 16 | 59 | ? | 24 | 4 | [0] | 26 | 56 | PS 30.9 |
| Chinchina | 102.1 | 90 | e 18 | 22 | PP | e 24 | 20 | [+13] | e 24 | 59 | SKKS |
| Irkutsk | 102.7 | 322 | e 13 | 45 | + 1 | 24 | 12 | [+ 2] | e 17 | 47 | PP |
| Bogota | 103.4 | 91 | e 18 | 17 | PP | e 24 | 24 | [+11] | e 27 | 25 | PS 38.8 |
| Chatra | 105.8 | 294 | e 17 | 51 | ? | e 24 | 20 | [- 4] | i 25 | 12 | SKKS |
| Columbia | 107.8 | 60 | e 14 | 36 | pP | i 27 | 12 | ? | — | — | — |
| Kodaikanal | E. 108.5 | 274 | e 18 | 27 | PP | — | — | — | — | — | — |
| Cleveland | 109.6 | 52 | e 18 | 51k | PP | i 26 | 26 | S | e 19 | 32 | sPP |
| Hyderabad | E. 110.2 | 281 | e 18 | 20 | [+ 4] | 24 | 44 | [+ 1] | — | — | — |
| Resolute Bay | 111.4 | 16 | e 18 | 59 | PP | e 24 | 57 | [+ 9] | e 26 | 35 | S |
| Kirkland Lake | Z. 112.2 | 46 | e 18 | 27 | [+ 7] | — | — | — | e 19 | 53 | sPP |
| Washington | 112.2 | 56 | e 19 | 4 | PP | e 28 | 24 | SP | — | — | — |
| Ottawa | 114.6 | 50 | e 19 | 29 | PP | 25 | 3 | [+ 3] | 35 | 1 | SS 46.3 |
| Poona | E. 114.7 | 280 | i 20 | 0 | pPP | — | — | — | — | — | — |
| Palisades | 115.0 | 55 | e 14 | 36 | P | e 25 | 13 | [+11] | e 19 | 16 | PP e 54.0 |
| San Juan | 115.7 | 81 | i 18 | 31 | [+ 4] | — | — | — | — | — | — |
| Bombay | 115.8 | 280 | e 18 | 5 | [-22] | e 25 | 11 | [+ 6] | e 19 | 27 | PP |
| Harvard | 117.0 | 53 | e 18 | 33 | [+ 3] | e 27 | 33 | S | i 20 | 29 | sPP |
| Weston | 117.2 | 53 | e 18 | 33a | [+ 3] | 27 | 32 | S | 19 | 0 | pPKP |
| Seven Falls | E. 118.2 | 48 | e 20 | 4 | PP | 25 | 31 | [+18] | 22 | 36 | PPP |
| Grahamstown | Z. 118.3 | 203 | e 18 | 31 | [- 1] | — | — | — | — | — | e 55.8 |
| Rybach'e | 118.5 | 307 | e 19 | 45 | PP | — | — | — | — | — | — |
| Frunse | 119.7 | 306 | e 18 | 34 | [- 1] | — | — | — | e 20 | 0 | PP |
| Bermuda | 120.6 | 66 | e 20 | 9 | PP | e 30 | 5 | PS | e 28 | 1 | ? |
| Warsak Dam | E. 120.7 | 296 | e 20 | 11 | PP | — | — | — | — | — | — |
| Andijan | 121.1 | 304 | i 18 | 37 | [0] | — | — | — | — | — | — |
| Fergana | 121.5 | 304 | e 18 | 36 | [- 2] | — | — | — | — | — | — |
| Namangan | 121.6 | 305 | e 18 | 39? | [+ 1] | e 20 | 16 | PP | e 19 | 10 | pPKP |
| Dzhergetal | 121.8 | 303 | e 18 | 38 | [- 1] | — | — | — | — | — | — |
| Obi-garm | 122.9 | 302 | e 18 | 41 | [0] | — | — | — | e 20 | 10 | PP |
| Halifax | 123.0 | 52 | e 18 | 43 | [+ 2] | e 28 | 35 | ? | — | — | — |
| Kimberley | Z. 123.1 | 203 | i 18 | 42 | [+ 1] | — | — | — | i 18 | 50 | ? |
| Tchimkent | 123.3 | 306 | e 18 | 41 | [0] | — | — | — | e 22 | 56 | PPP |
| Tashkent | 123.5 | 305 | e 18 | 41 | [- 1] | — | — | — | — | — | — |
| Quetta | 123.8 | 292 | i 18 | 43 | [0] | e 26 | 25 | sSKS | — | — | — |
| Pretoria | Z. 124.5 | 208 | e 18 | 44 | [0] | — | — | — | — | — | — |
| Samarkand | 125.1 | 302 | e 18 | 48 | [+ 3] | 25 | 36 | [+ 1] | — | — | — |
| Sverdlovsk | 128.0 | 324 | 18 | 50 | [- 1] | 25 | 48 | [+ 4] | 27 | 38 | SKKS |
| Bairam-Ali | 128.7 | 300 | e 18 | 54 | [+ 2] | — | — | — | — | — | — |
| Ashkabad | 131.7 | 300 | 18 | 59 | [+ 1] | — | — | — | — | — | — |
| Scoresby Sund | 131.8 | 12 | e 18 | 59 | [+ 1] | 28 | 8 | SKKS | i 21 | 13 | PP |
| Kizyl-Arvat | 133.4 | 302 | 19 | 1 | [0] | e 21 | 24 | PP | e 24 | 26 | PPP |
| Kiruna | 135.5 | 351 | i 19 | 0 | [- 5] | i 22 | 31 | SKP | i 19 | 37 | pPKP e 63.8 |
| Baku | 138.2 | 305 | e 19 | 10 | [0] | — | — | — | — | — | — |
| Makhach-Kala | 139.5 | 308 | e 19 | 10 | [- 2] | — | — | — | e 19 | 41 | pPKP |
| Moscow | 140.0 | 331 | e 19 | 10 | [- 3] | e 26 | 9 | [0] | e 22 | 11 | PP |
| Pulkovo | 140.1 | 340 | e 19 | 12 | [- 1] | e 22 | 46? | PKS | e 22 | 7 | PP |
| Grozny | 140.7 | 310 | e 19 | 5 | [- 9] | i 22 | 42 | SKP | — | — | — |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|--------------------|----------|-----|----|--------------------|------------------|---------|-------------------|---------|-------------------|--------|----|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Kirovobad | 140.8 | 305 | e | 19 9 | [- 6] | — | — | — | e 22 16 | PP | — |
| Goris | 141.0 | 304 | | 19 12 | [- 3] | 26 12 | [+ 2] | — | — | — | — |
| Tiflis | 141.7 | 307 | e | 19 12 | [- 4] | i 22 54 | PKS | — | — | — | — |
| Erevan | 142.3 | 305 | e | 19 7 | [-11] | 22 49 | SKP | — | — | — | — |
| Piatigorsk | 142.3 | 312 | e | 19 10 | [- 8] | — | — | — | — | — | — |
| Akhalkalaki | 142.7 | 308 | e | 19 17 | [- 1] | — | — | — | — | — | — |
| Borzhomi | 142.7 | 307 | | 19 14 | [- 4] | i 22 49 | SKP | i 19 45 | pPKP | — | — |
| Abastumanj | 143.1 | 307 | e | 19 15 | [- 4] | — | — | — | — | — | — |
| Upsala | 143.4 | 349 | i | 19 14 | [- 5] | e 40 55 | SS | e 20 3 | sPKP | e 62.8 | |
| Zugdidi | 143.6 | 311 | e | 19 20 | [0] | — | — | e 19 51 | pPKP | — | |
| Bergen | N. 144.2 | 359 | e | 19 42 | pPKP | e 22 50 | SKP | — | — | e 53.0 | |
| Sochi | 144.8 | 313 | | 19 19 | [- 3] | — | — | — | — | — | |
| Theodosia | 147.0 | 317 | | 19 27 | [+ 1] | — | — | e 22 45 | PP | — | |
| Aberdeen | 147.2 | 6 | i | 19 56 | pPKP | i 29 40 | SKKS | i 32 57 | SKSP | — | |
| Yalta | 148.0 | 317 | | 19 27 | [0] | e 29 44 | SKKS | 19 57 | pPKP | — | |
| Copenhagen | 148.2 | 352 | i | 19 31 | [+ 4] | 41 51 | SS | 19 57 | pPKP | — | |
| Durham | 149.6 | 6 | | 20 26 | ? | — | — | — | — | — | |
| Kishinev | 149.8 | 326 | e | 19 30 | [0] | — | — | — | — | — | |
| Ksara | 150.2 | 296 | i | 19 30 | [0] | i 23 34 | pPKS | i 20 0 | pPKP | — | |
| Cernauti | 150.4 | 329 | e | 19 38 | [+ 7] | — | — | — | — | — | |
| Rathfarnham Castle | 150.4 | 12 | i | 19 38 | [+ 7] | e 42 43 | SS | i 20 10 | pPKP | e 53.8 | |
| Potsdam | 151.3 | 349 | e | 19 34 | [+ 2] | e 33 15 | SKSP | e 20 8 | pPKP | e 71.8 | |
| Uzhgorod | 151.7 | 335 | i | 19 40 | [+ 7] | 30 3 | SKKS | — | — | — | |
| Witteveen | z. 151.7 | 357 | i | 19 41 | [+ 8] | i 20 30 | sPKP | i 20 10 | pPKP | — | |
| Raciborzu | 152.1 | 341 | e | 19 36 | [+ 3] | e 23 49 | pPKS | e 19 45 | PKP ₂ | — | |
| Skalnate Pleso | 152.1 | 337 | e | 19 31 | [- 2] | e 43 19 | SS | e 19 45 | PKP ₂ | — | |
| Collmburg | z. 152.3 | 348 | e | 19 34 | [0] | e 33 28 | SKSP | i 20 11 | pPKP | — | |
| De Bilt | 152.5 | 358 | e | 19 40 | [+ 6] | e 36 15 | SPP | e 19 58 | pPKP | e 71.8 | |
| Bucharest | 152.9 | 324 | e | 19 58 | pPKP | e 20 13 | ? | — | — | — | |
| Jena | 152.9 | 349 | e | 19 33? | [- 2] | e 20 30 | sPKP | e 20 11 | pPKP | — | |
| Istanbul | z. 153.0 | 315 | e | 19 39 | [+ 4] | 26 39 | [+12] | 20 19 | pPKP | — | |
| Kew | 153.0 | 5 | i | 19 41 | [+ 6] | e 30 8 | SKKS | i 20 1 | pPKP | e 49.8 | |
| Prague | 153.2 | 345 | e | 19 41 | [+ 6] | e 42 39 | SS | e 20 13 | pPKP | — | |
| Cheb | 153.6 | 349 | e | 20 0 | PKP ₂ | e 36 33 | SPP | e 20 31 | pPKP ₂ | — | |
| Ogyalla | 154.0 | 338 | e | 20 10 | pPKP | e 23 5 | PKS | e 20 42 | sPKP ₂ | — | |
| Karlsruhe | 155.3 | 353 | e | 19 38 ^a | [0] | e 31 50 | PKKS | e 20 3 | pPKP | — | |
| Stuttgart | 155.4 | 351 | e | 19 38 | [0] | e 30 24 | SKKS | e 20 7 | pPKP | e 73.8 | |
| Belgrade | 155.5 | 330 | e | 19 51 | [+13] | e 26 11 | [-19] | e 20 4 | pPKP | — | |
| Paris | 155.8 | 2 | e | 19 40 | [+ 1] | e 26 35 | [+ 5] | i 20 5 | pPKP | e 72.8 | |
| Strasbourg | 155.8 | 353 | e | 19 41 | [+ 2] | e 20 30 | sPKP | e 20 8 | pPKP | e 73.8 | |
| Chambon-la Forêt | 156.6 | 3 | e | 19 41 | [+ 1] | i 20 23 | sPKP | i 20 9 | pPKP | — | |
| Basle | 156.9 | 354 | e | 19 41 | [+ 1] | — | — | — | — | — | |
| Zürich | 156.9 | 353 | e | 19 44 | [+ 4] | — | — | — | — | — | |
| Chur | 157.3 | 351 | e | 19 40 | [0] | — | — | — | — | — | |
| Triest | 157.4 | 342 | e | 19 57 | [+17] | e 27 5 | sSKS | e 20 31 | SKKS | — | |
| Oropa | 158.7 | 353 | e | 20 30 | PKP ₂ | e 34 44 | PSKS | — | — | — | |
| Clermont-Ferrand | 158.9 | 0 | e | 19 45 | [+ 3] | e 43 53 | SS | i 20 19 | pPKP | 17.8 | |
| Pavia | 158.9 | 349 | e | 20 23 | PKP ₂ | e 26 26 | [- 7] | e 22 52 | SKP | — | |
| Bologna | 159.1 | 345 | e | 20 35 | PKP ₂ | — | — | e 25 16 | ? | — | |
| Prato | 159.7 | 344 | e | 20 29 | PKP ₂ | — | — | — | — | — | |
| Florence | 159.8 | 344 | e | 19 57 | [+13] | e 33 29 | SKKS ₂ | i 21 7 | ? | — | |
| Siena | 160.2 | 344 | e | 20 23 | PKP ₂ | — | — | — | — | — | |
| Taranto | 160.3 | 328 | | 19 49 | [+ 5] | e 37 39 | PPS | 24 19 | PP | 77.8 | |
| Rome | 161.1 | 340 | e | 20 10 | pPKP | e 30 52 | SKKS | i 24 9 | PP | — | |
| Messina | E. 162.9 | 326 | e | 32 50 | ? | e 45 22 | SSP | e 39 18 | ? | — | |
| Toledo | 163.6 | 20 | | 19 35 | [-13] | — | — | — | — | — | |
| Tortosa | 163.7 | 8 | | 20 47 | PKP ₂ | — | — | i 24 16 | PP | — | |
| Alicante | 165.9 | 12 | e | 19 50 | [+ 1] | e 26 35 | [- 4] | e 20 41 | PKP ₂ | 77.3 | |
| Granada | 166.1 | 24 | i | 20 26 ^k | [+37] | 27 2 | [+23] | i 45 19 | SS | 86.8 | |
| Malaga | 166.2 | 27 | i | 19 50 | [+ 1] | i 26 50 | [+11] | i 20 45 | PKP ₂ | 75.1 | |
| Almeria | 166.8 | 21 | i | 19 52 | [+ 2] | 26 54 | [+15] | 24 24 | PP | 77.9 | |
| Averroes | 167.3 | 45 | e | 20 22 | pPKP | e 26 18 | [-21] | e 25 18 | pPP | — | |
| Algiers Univ. | z. 167.9 | 1 | e | 19 54 | [+ 3] | e 31 34 | SKKS | e 20 18 | pPKP | — | |
| Tamanrasset | z. 177.3 | — | i | 19 57 | [+ 2] | e 32 11 | SKKS | e 20 24 | pPKP | — | |

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July 21d. 12h. 53m. Epicentre 36°·8N. 70°·6E. Depth of focus 200km.
Bulletin of Seismo. Stations of U.S.S.R. for 1953, July-Sept., Moscow, 1954, p.86.

July 21d. 15h. 11m. 29s. Epicentre 38°·2N. 142°·5E. Depth of focus 20km.
Intensity II-III at Hukushima.
Seismo. Bull. Cent. Met. Obs., Japan, for July, 1953, Tokyo, 1953, pp. 23-24, with macroseismic chart.

July 21d. 17h. 22m. 32s. Epicentre 25°·8N. 128°·0E.

A = -·5550, B = +·7104, C = +·4329; $\delta = +10$; $h = +3$;
D = +·788, E = +·616; G = -·267, H = +·341, K = -·901.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------|----------|-----|---------|------|--------|------|--------|----|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Yakusima | 5·1 | 25 | 1 17 | - 3 | 2 5 | -15 | — | — |
| Kagosima | 6·2 | 21 | e 1 31 | - 4 | 2 43 | - 5 | — | — |
| Miyazaki | 6·8 | 25 | e 1 39 | - 5 | i 2 55 | - 8 | — | — |
| Unzendake | 7·2 | 15 | e 1 48 | - 1 | e 3 6 | - 7 | — | — |
| Hukuoka | 8·0 | 14 | e 1 56a | - 4 | e 3 28 | - 5 | i 2 12 | ? |
| Ooita | 8·0 | 22 | e 1 58 | - 2 | e 3 34 | + 1 | i 2 14 | P* |
| Simidu | 8·2 | 31 | e 1 58 | - 5 | e 3 54 | +16 | — | — |
| Simonoseki | 8·5 | 17 | e 2 2 | - 5 | — | — | i 2 12 | P |
| Matuyama | 9·0 | 26 | e 2 11 | - 2 | e 3 39 | -19 | e 3 12 | ? |
| Koti | 9·1 | 31 | e 2 10 | - 4 | e 4 13 | +13 | e 3 42 | ? |
| Hirosima | 9·4 | 23 | e 2 20 | + 2 | 4 1 | - 6 | 2 31 | PP |
| Hamada | 9·7 | 20 | 2 25 | + 3 | 4 3 | -12 | — | — |
| Takamatu | 10·0 | 30 | e 2 20 | - 7 | e 4 1 | -21 | — | — |
| Tokusima | 10·0 | 33 | 2 24 | - 3 | — | — | — | — |
| Nanking | 10·2 | 310 | i 2 28k | - 3 | i 4 18 | - 9 | i 2 46 | ? |
| Sumoto | 10·4 | 33 | i 2 28k | - 6 | e 5 12 | +40 | — | — |
| Kobe | 10·8 | 33 | e 2 36 | - 3 | — | — | — | — |
| Osaka | 11·0 | 35 | e 2 50 | + 8 | e 5 7 | +20 | e 3 0 | ? |
| Toyooka | 11·3 | 30 | e 2 41 | - 5 | e 4 48 | - 6 | — | — |
| Kyoto | 11·4 | 34 | e 2 40 | - 7 | e 4 44 | -12 | e 2 58 | ? |
| Kameyama | 11·6 | 37 | e 2 44 | - 6 | e 4 57 | - 4 | — | — |
| Baguio | 11·6 | 218 | i 3 3 | +13 | i 5 48 | +47 | — | — |
| Hikone | 11·8 | 35 | 2 47 | - 6 | — | — | — | — |
| Nagoya | 12·1 | 38 | 2 53 | - 4 | — | — | — | — |
| Gihu | 12·2 | 36 | e 2 53 | - 5 | — | — | — | — |
| Takayama | 13·0 | 35 | e 3 9 | 0 | — | — | — | — |
| Hong Kong | 13·1 | 257 | 3 22 | +12 | 5 53 | +15 | — | — |
| Misima | 13·2 | 43 | e 3 17 | + 6 | e 6 4 | +24 | — | — |
| Ajiro | 13·3 | 44 | e 3 18 | + 5 | e 6 6 | +24 | — | — |
| Osima | 13·3 | 45 | e 3 9 | - 4 | — | — | e 3 22 | ? |
| Hunatu | 13·4 | 41 | e 3 12 | - 2 | e 6 4 | +19 | — | — |
| Kohu | 13·4 | 40 | e 3 11 | - 3 | e 6 5 | +20 | — | — |
| Matumoto | 13·4 | 37 | 3 24 | +10 | 6 5 | +20 | — | — |
| Mera | 13·7 | 46 | e 3 25 | + 7 | e 6 13 | +21 | — | — |
| Matusiro | 13·8 | 37 | e 3 14 | - 5 | 6 5 | +11 | i 3 27 | ? |
| Oiwake | 13·8 | 38 | e 3 28 | + 9 | e 6 12 | +18 | — | — |
| Nagano | 13·9 | 36 | e 3 27 | + 6 | e 6 9 | +12 | — | — |
| Titibu | 13·9 | 40 | i 3 29 | + 8 | i 6 15 | +18 | — | — |
| Tokyo | 14·1 | 43 | e 3 26 | + 3 | e 6 12 | +10 | — | — |
| Kumagaya | 14·2 | 41 | e 3 32 | + 8 | 6 26 | +22 | — | — |
| Maebasi | 14·2 | 39 | e 3 23 | - 1 | e 6 13 | + 9 | i 3 31 | ? |
| Mito | 15·0 | 42 | e 3 38 | + 3 | — | — | — | — |
| Niigata | 15·3 | 35 | e 3 43 | + 4 | e 5 59 | -31 | e 4 8 | ? |
| Shirakawa | 15·3 | 40 | e 3 36 | - 3 | e 6 28 | - 2 | — | — |
| Hukushima | 15·9 | 39 | e 3 42 | - 5 | e 6 47 | + 3 | — | — |
| Yamagata | 16·2 | 37 | e 3 44 | - 6 | — | — | — | — |
| Sendai | 16·5 | 38 | e 3 50 | - 4 | 6 55 | - 3 | e 4 21 | ? |
| Akita | 17·2 | 34 | e 3 59 | - 4 | — | — | — | — |
| Mizusawa | 17·3 | 36 | 4 4 | 0 | e 4 45 | ? | — | — |
| Morioka | 17·7 | 36 | e 3 49 | -21 | — | — | — | — |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|------------------|----------|-----|------|-----|------|------|-----------|------|-------|----|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Miyako | 18.1 | 36 | e 4 | 8 | - 6 | e 7 | 23 | -12 | — | — | — |
| Aomori | 18.4 | 32 | e 4 | 20 | + 2 | — | — | — | e 4 | 40 | ? |
| Mori | 19.3 | 29 | 4 | 5 | -24 | 7 | 51 | -11 | — | — | — |
| Urakawa | 20.3 | 32 | e 4 | 38 | - 2 | e 8 | 4 | -19 | e 4 | 45 | ? |
| Sapporo | 20.4 | 28 | e 4 | 41 | 0 | i 8 | 25 | 0 | — | — | — |
| Kusiro | 21.8 | 34 | e 5 | 5 | + 9 | i 8 | 52 | 0 | — | — | — |
| Nemuro | 22.6 | 34 | e 5 | 26 | +23 | e 9 | 43 | +36 | — | — | — |
| Shillong | 22.5 | 278 | e 7 | 15 | PP | 13 | 36 | SS | 7 | 54 | PP |
| Calcutta | 23.2 | 273 | i 7 | 6 | 0 | i 12 | 46 | - 1 | — | — | i 17.0 |
| Chatra | 23.5 | 283 | i 7 | 9 | 0 | — | — | — | i 9 | 35 | PcP |
| New Delhi | 45.0 | 286 | i 8 | 18 | - 1 | e 14 | 45 | -13 | 10 | 0 | PP |
| Warsak Dam | 49.1 | 285 | e 8 | 49 | - 2 | e 15 | 51 | - 5 | — | — | — |
| Poona | 50.4 | 273 | i 9 | 3 | + 2 | e 16 | 21 | + 7 | — | — | — |
| Bombay | 51.2 | 274 | i 9 | 9 | + 2 | e 16 | 26 | + 1 | 11 | 9 | PP |
| Quetta | 53.5 | 290 | i 9 | 22k | - 2 | e 16 | 52 | - 5 | i 9 | 36 | ? |
| College | 64.5 | 28 | i 10 | 38 | - 3 | e 19 | 12 | - 7 | e 20 | 48 | ScS |
| Kiruna | 72.7 | 338 | e 11 | 29? | - 3 | i 20 | 44 | -13 | i 11 | 45 | PcP |
| Resolute Bay | 76.0 | 12 | i 11 | 50a | - 1 | e 21 | 41 | + 7 | — | — | — |
| Upsala | 77.6 | 332 | i 11 | 57a | - 3 | 21 | 56 | + 5 | i 12 | 11 | PcP |
| Ksara | 77.8 | 302 | i 12 | 1 | 0 | 21 | 57 | + 4 | 15 | 1 | PP |
| Iasi | 78.2 | 318 | e 12 | 3 | 0 | — | — | — | — | — | — |
| Istanbul | 79.8 | 311 | e 12 | 12 | 0 | — | — | — | — | — | 43.5 |
| Bucharest | 80.3 | 315 | e 12 | 16 | + 2 | — | — | — | — | — | — |
| Scoresby Sund | 81.6 | 351 | i 12 | 17 | - 4 | e 22 | 23 | -10 | — | — | — |
| Skalnate Pleso | 81.6 | 322 | e 11 | 46 | -35 | e 22 | 59 | +26 | e 28 | 12 | SS |
| Copenhagen | 82.1 | 329 | i 12 | 23a | - 1 | e 22 | 34 | - 4 | 15 | 43 | PP |
| Raciborzu | 82.3 | 323 | e 12 | 25 | 0 | — | — | — | e 15 | 23 | PP |
| Victoria | 82.4 | 40 | 12 | 27 | + 2 | — | — | — | — | — | — |
| Helwan | 82.9 | 300 | 12 | 28 | 0 | e 23 | 4 | +18 | e 23 | 54 | PPS |
| Potsdam | 83.7 | 327 | i 12 | 32a | 0 | e 22 | 47 | - 7 | i 12 | 47 | PcP |
| Prague | 84.3 | 324 | i 12 | 34 | - 1 | e 22 | 49 | -11 | e 15 | 38 | PP |
| Collmberg | 84.4 | 325 | i 12 | 35 | - 1 | e 15 | 48 | PP | e 13 | 49 | ? |
| Corvallis | 84.5 | 44 | e 12 | 38 | + 2 | — | — | — | — | — | — |
| Jena | 85.3 | 325 | e 12 | 40 | 0 | e 22 | 43? [-20] | — | e 16 | 5 | PP |
| Cheb | 85.4 | 325 | e 17 | 1 | ? | e 23 | 8 | - 3 | e 23 | 28 | ScS |
| Witteveen | 86.6 | 330 | i 12 | 47a | + 1 | i 13 | 0 | ? | i 13 | 4 | ? |
| Shasta | 87.1 | 46 | i 12 | 50 | + 1 | e 16 | 43 | PP | i 13 | 2 | ? |
| Reykjavik | 87.3 | 348 | i 12 | 52 | + 2 | — | — | — | — | — | — |
| De Bilt | 87.7 | 329 | i 12 | 51 | - 1 | e 23 | 28 | - 5 | i 13 | 7 | PcP |
| Hungry Horse | 87.7 | 36 | i 12 | 53 | + 1 | — | — | — | — | — | — |
| Stuttgart | 87.9 | 325 | e 12 | 52 | - 1 | e 23 | 28 | - 7 | e 13 | 8 | PcP |
| Karlsruhe | 88.1 | 325 | i 12 | 53k | - 1 | — | — | — | — | — | e 47.5 |
| Berkeley | 88.6 | 48 | i 12 | 58a | + 2 | — | — | — | i 13 | 8 | PcP |
| Branner | 88.9 | 48 | e 12 | 58 | 0 | — | — | — | — | — | — |
| Chur | 88.9 | 323 | e 12 | 56? | - 2 | — | — | — | — | — | — |
| Uccle | 89.0 | 329 | e 12 | 56 | - 2 | e 23 | 36 | - 9 | e 13 | 12 | PcP |
| Zürich | 89.1 | 324 | e 12 | 56a | - 2 | e 23 | 39 | - 7 | e 13 | 12 | PcP |
| Bologna | 89.3 | 321 | e 13 | 16 | +17 | — | — | — | — | — | — |
| Reno | 89.4 | 46 | i 13 | 2k | + 2 | — | — | — | — | — | — |
| Basle | 89.5 | 324 | e 13 | 0a | 0 | — | — | — | e 15 | 3 | ? |
| Florence | 89.7 | 320 | i 13 | 3a | + 2 | e 23 | 41 | -11 | i 13 | 18 | PcP |
| Butte | 89.9 | 37 | i 13 | 4 | + 2 | — | — | — | e 14 | 10 | ? |
| Tananarive | 89.9 | 249 | e 13 | 6 | + 4 | — | — | — | e 13 | 16 | PcP |
| Pavia | 90.1 | 322 | e 13 | 4 | + 1 | e 24 | 58 | PS | — | — | e 44.5 |
| Rome | 90.1 | 318 | i 13 | 2a | - 1 | i 23 | 44 [+11] | — | — | — | — |
| Messina | 90.3 | 313 | i 13 | 3a | - 1 | e 23 | 50 | - 7 | e 16 | 33 | PP |
| Kew | 90.7 | 330 | i 13 | 5 | - 1 | — | — | — | — | — | e 37.5 |
| Fresno | 90.9 | 48 | i 13 | 4 | - 3 | — | — | — | — | — | — |
| Paris | 91.2 | 327 | i 13 | 7 | - 1 | e 25 | 7 | PS | i 16 | 43 | PP |
| Rathfarnham C. | 91.8 | 334 | i 13 | 12 | + 1 | — | — | — | — | — | — |
| Tinemaha | 91.8 | 48 | i 13 | 13a | + 2 | — | — | — | — | — | — |
| Chambon-la-Forêt | 91.9 | 327 | e 13 | 9 | - 2 | — | — | — | — | — | — |
| Woody | 92.1 | 48 | i 13 | 14a | + 2 | — | — | — | — | — | — |
| China Lake | 92.9 | 48 | i 13 | 18a | + 2 | — | — | — | i 13 | 30 | pP |
| Clermont-Ferrand | 93.0 | 324 | e 13 | 20 | + 3 | — | — | — | i 17 | 0 | PP |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|---------------|----|----------|-----|----------------------|-------|---------|-------|---------|------------------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Pasadena | z. | 93.5 | 50 | i 13 21 _a | + 2 | — | — | i 13 33 | pP | — |
| Riverside | z. | 94.1 | 50 | i 13 22 _a | 0 | — | — | i 13 34 | pP | — |
| Boulder City | | 94.6 | 47 | i 13 27 | + 3 | — | — | i 13 37 | pP | — |
| Nelson | | 94.8 | 47 | i 13 27 | + 2 | e 17 8 | PP | i 13 36 | pP | — |
| Palomar | z. | 94.8 | 50 | i 13 27 _a | + 2 | — | — | — | — | — |
| Barratt | z. | 95.3 | 51 | i 13 29 _a | + 2 | — | — | i 13 42 | pP | — |
| Tucson | | 99.5 | 48 | e 13 44 | - 2 | — | — | — | — | — |
| Alicante | | 100.0 | 321 | 13 50 | + 2 | — | — | e 17 52 | PP | 47.1 |
| Kirkland Lake | z. | 102.2 | 18 | 13 59 | + 1 | — | — | — | — | — |
| Ottawa | | 105.9 | 17 | e 14 15 | 0 | 18 26 | PP | 28 6 | PS | — |
| Tamanrasset | z. | 106.3 | 306 | e 14 15 | - 1 | e 18 38 | PP | e 30 4 | PKKP | — |
| Fayetteville | | 106.7 | 34 | e 14 18 | 0 | e 18 40 | PP | e 29 51 | PKKP | — |
| Pretoria | z. | 109.0 | 250 | i 14 33 | P | — | — | — | — | — |
| Halifax | | 109.1 | 8 | e 18 54 | PP | — | — | — | — | e 53.4 |
| Harvard | | 109.7 | 14 | e 18 34 | [+ 1] | — | — | — | — | — |
| Palisades | | 110.5 | 17 | — | — | e 25 27 | [+13] | — | — | e 54.0 |
| Bogota | | 143.0 | 38 | e 19 37 | [+ 1] | e 23 20 | SKP | — | — | — |
| Huancayo | | 154.1 | 62 | i 20 0 | [+ 7] | e 24 6 | PP | i 20 33 | PKP ₂ | — |
| La Paz | | 162.3 | 60 | i 20 9 | [+ 6] | 24 52 | PP | 20 52 | PKP ₂ | — |

July 21d. 21h. 39m. Epicentre 41°·3N. 43°·9E.
Loc. cit., 12h.53m., p.86.

July 21d. 21h. 54m. Epicentre 41°·2N. 43°·9E.
Loc. cit.

July 22d. 4h. 18m. Epicentre 39°·2N. 70°·4E.
Loc. cit., p.87.

July 22d. 5h. 11m. 19s. Epicentre 51°·2N. 157°·1E. Depth of focus 0·005.
 (as on 1952, Nov. 16d.).

A = -·5796, B = +·2448, C = +·7773; δ = +6; h = -6;
 D = +·389, E = +·921; G = -·716, H = +·302, K = -·629.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|----|----------|-----|--------|------|--------|------|--------|-----------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Petropavlovsk | | 2.1 | 25 | i 0 37 | + 3 | e 1 7 | + 8 | — | — |
| Klyuchi | | 5.6 | 22 | i 1 28 | + 5 | e 2 38 | +11 | — | — |
| Kurilsk | | 8.6 | 229 | i 1 58 | - 6 | i 3 32 | - 9 | — | — |
| Magadan | | 9.1 | 339 | i 2 16 | + 5 | e 4 7 | SS | — | — |
| Uglegorsk | | 9.9 | 263 | i 2 23 | + 1 | i 4 17 | + 5 | — | — |
| Yuzno-Sakhlinsk | | 10.3 | 252 | i 2 26 | - 1 | — | — | — | — |
| Nemuro | | 11.1 | 229 | e 2 33 | - 5 | e 2 59 | PP | e 4 16 | ? e 5.6 |
| Abashiri | | 11.2 | 235 | e 2 35 | - 5 | e 5 10 | SS | — | — |
| Wakkanai | E. | 11.8 | 247 | e 2 49 | + 1 | 5 5 | + 7 | — | — |
| Kusiro | | 11.9 | 231 | e 2 55 | + 6. | e 5 56 | L | — | (e 5.9) |
| Obihiro | | 12.6 | 234 | e 3 11 | PP | — | — | e 3 40 | ? |
| Sapporo | | 13.3 | 239 | e 3 5 | - 3 | 5 45 | +11 | i 5 56 | SS e 7.4 |
| Urakawa | | 13.3 | 233 | e 3 2 | - 6 | e 5 24 | -10 | e 3 17 | ? e 6.6 |
| Tomakomai | | 13.7 | 237 | e 3 12 | - 1 | 6 3 | SS | — | — |
| Suttsu | | 14.2 | 240 | e 3 22 | + 3 | — | — | — | — |
| Mori | N. | 14.5 | 238 | 3 21 | - 2 | e 5 53 | -10 | 6 17 | SS 10.2 |
| Hatinohe | | 15.2 | 231 | e 3 15 | -17 | 5 56 | -23 | e 3 57 | PPP e 7.3 |
| Aomori | | 15.3 | 234 | e 3 36 | + 3 | 7 7 | +46 | 4 26 | ? 7.8 |
| Miyako | | 15.7 | 228 | e 3 30 | - 8 | 6 55 | SS | e 3 33 | P 7.6 |
| Morioka | | 16.0 | 230 | e 3 29 | -13 | — | — | — | — |
| Akita | | 16.5 | 233 | e 3 47 | - 2 | e 6 58 | + 9 | e 7 22 | SS e 7.9 |
| Mizusawa | | 16.5 | 229 | 3 45 | - 4 | e 6 43 | - 6 | — | — |
| Sendai | | 17.3 | 228 | e 3 53 | - 6 | 7 9 | + 2 | e 6 52 | ? 9.1 |
| Yamagata | | 17.5 | 229 | e 3 58 | - 3 | — | — | — | — |
| Inawasiro | E. | 18.2 | 229 | e 4 3 | - 7 | — | — | — | — |

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| | Δ ° | Az. ° | P. m. s. | | O-C. s. | S. m. s. | | O-C. s. | Supp. m. s. | | L. m. |
|--------------|---------------|----------|-------------|-----------------|------------|-------------|----|------------|----------------|------|----------|
| Onahama | 18.3 | 226 | e 4 | 10 | - 1 | e 7 | 33 | + 4 | — | — | e 10.0 |
| Niigata | 18.4 | 231 | e 4 | 13 | + 1 | e 7 | 27 | - 5 | 7 50 | SS | e 9.2 |
| Shirakawa | 18.5 | 228 | e 4 | 5 | - 8 | e 7 | 31 | - 3 | — | — | — |
| Vladivostok | 18.9 | 254 | i 4 | 13 | - 5 | — | — | — | — | — | — |
| Utunomiya | 19.1 | 226 | e 4 | 15 | - 5 | e 7 | 43 | - 4 | 14 43 | PP | — |
| Maebasi | 19.6 | 228 | e 4 | 20 _a | - 5 | e 7 | 59 | + 1 | — | — | — |
| Kumagaya | 19.7 | 227 | e 4 | 26 | - 1 | 8 | 3 | + 3 | — | — | — |
| Nagano | N. 19.8 | 231 | e 4 | 25 | - 3 | e 8 | 7 | + 5 | — | — | — |
| Matusiro | 19.9 | 234 | e 4 | 22 _a | - 7 | i 8 | 3 | - 1 | — | — | 9.7 |
| Oiwake | 19.9 | 230 | e 4 | 27 | - 2 | e 8 | 20 | +16 | — | — | — |
| Tokyo | 19.9 | 227 | i 4 | 24 | - 5 | e 8 | 2 | - 2 | 14 27 | P | 9.7 |
| Titibu | 20.0 | 229 | e 4 | 23 | - 7 | e 8 | 12 | + 6 | — | — | — |
| Yokohama | 20.2 | 227 | i 4 | 28 | - 4 | e 8 | 12 | + 2 | e 6 18 | ? | — |
| Matumoto | N. 20.3 | 231 | 4 | 30 | - 3 | 8 | 13 | + 1 | — | — | — |
| Hunatu | 20.5 | 229 | e 4 | 31 | - 4 | e 8 | 11 | - 5 | — | — | — |
| Kohu | 20.5 | 229 | i 4 | 31 | - 4 | e 8 | 14 | - 2 | i 8 21 | S | — |
| Mera | 20.5 | 226 | 4 | 35 | 0 | e 8 | 23 | + 7 | — | — | e 12.2 |
| Shizuoka | 21.1 | 230 | 4 | 38 _a | - 3 | 8 | 31 | + 4 | 8 55 | PcP | e 11.1 |
| Nagoya | N. 21.6 | 229 | e 4 | 43 | - 3 | e 8 | 44 | + 8 | — | — | — |
| Tsuruga | 21.7 | 230 | e 4 | 45 | - 2 | 8 | 39 | + 1 | — | — | — |
| Kameyama | 22.1 | 233 | e 4 | 48 | - 3 | 8 | 52 | + 7 | e 5 16 | PP | 10.1 |
| Kyoto | 22.3 | 233 | e 4 | 50 | - 3 | e 8 | 52 | + 3 | — | — | e 10.3 |
| Toyooka | 22.4 | 233 | e 4 | 51 | - 3 | e 8 | 52 | + 1 | — | — | e 11.4 |
| Osaka | 22.7 | 233 | e 4 | 57 | 0 | e 9 | 2 | + 6 | e 7 0 | ? | e 12.2 |
| Owase | 22.9 | 231 | e 4 | 57 | - 2 | e 8 | 59 | - 1 | — | — | — |
| Sumoto | 23.3 | 232 | i 5 | 1 | - 2 | i 8 | 54 | -13 | — | — | 12.7 |
| Siomisaki | 23.6 | 230 | 5 | 3 | - 3 | e 8 | 38 | -34 | — | — | — |
| Takamatu | 23.7 | 233 | e 5 | 5 | - 2 | e 9 | 17 | + 3 | 16 35 | sScS | 11.1 |
| Hamada | 24.3 | 237 | i 5 | 10 _a | - 2 | 9 | 19 | - 5 | — | — | 11.7 |
| Hirosima | 24.5 | 237 | 5 | 14 | 0 | 9 | 30 | + 3 | — | — | — |
| Muroto | 24.5 | 232 | e 5 | 12 | - 2 | e 9 | 19 | - 8 | — | — | e 13.6 |
| Koti | 24.6 | 235 | i 5 | 14 _a | - 1 | e 9 | 21 | - 8 | e 5 49 | pP | — |
| Matuyama | 24.8 | 236 | i 5 | 15 | - 2 | e 9 | 36 | + 4 | e 6 19 | pPP | e 10.3 |
| Simidu | 25.5 | 233 | i 5 | 22 _a | - 2 | 9 | 42 | - 2 | e 12 3 | Q | 13.8 |
| Ooita | 25.8 | 236 | e 5 | 27 | 0 | e 9 | 49 | 0 | — | — | — |
| Hukuoka | 26.2 | 239 | 5 | 29 _a | - 1 | 9 | 57 | + 1 | e 11 35 | SS | 13.0 |
| Kagosima | 27.7 | 235 | e 5 | 38 | - 6 | 10 | 42 | +22 | (e 11 13) | SS | e 11.2 |
| Kabansk | 30.8 | 292 | i 6 | 11 | - 1 | i 10 | 58 | -11 | i 6 28 | pP | — |
| College | 31.1 | 42 | i 6 | 14 | 0 | e 11 | 13 | - 1 | e 11 41 | sS | — |
| Kyakhta | 31.5 | 289 | i 6 | 18 | 0 | — | — | — | — | — | — |
| Irkutsk | 32.1 | 294 | i 6 | 24 | + 1 | — | — | — | — | — | — |
| Nanking | 33.9 | 251 | i 6 | 36 _k | - 3 | i 11 | 55 | - 3 | i 6 56 | sP | — |
| Sitka | 38.5 | 54 | i 7 | 20 | + 2 | i 13 | 17 | + 9 | — | — | — |
| Guam | 38.9 | 201 | e 9 | 31 | PcP | — | — | — | — | — | — |
| Hong Kong | 44.0 | 246 | i 8 | 2 | - 1 | — | — | — | — | — | — |
| Baguio | 45.3 | 234 | i 8 | 9 _a | - 4 | i 14 | 48 | 0 | — | — | — |
| Resolute Bay | 45.8 | 21 | i 8 | 17 _a | 0 | i 14 | 57 | + 2 | i 15 21 | sS | e 22.2 |
| Honolulu | 46.0 | 113 | e 8 | 16 | - 3 | e 14 | 55 | - 3 | — | — | — |
| Victoria | 48.9 | 60 | i 8 | 41 _a | 0 | 15 | 43 | + 4 | 10 40 | PP | — |
| Seattle | 50.0 | 61 | i 8 | 53 | + 3 | i 16 | 4 | +10 | i 9 7 | pP | — |
| Corvallis | N. 51.3 | 65 | e 9 | 1 | + 1 | e 16 | 20 | + 8 | — | — | — |
| Chilisk | 51.4 | 295 | 9 | 1 | + 1 | — | — | — | — | — | — |
| Kurmenty | 51.8 | 295 | e 9 | 3 | 0 | — | — | — | — | — | — |
| Ili | 52.0 | 297 | i 8 | 53 _? | -12 | — | — | — | — | — | — |
| Przhevalsk | 52.1 | 294 | 9 | 5 | - 1 | — | — | — | — | — | — |
| Almata II | 52.2 | 297 | e 9 | 9 | + 3 | — | — | — | — | — | — |
| Sverdlovsk | 52.4 | 317 | i 9 | 7 | - 1 | — | — | — | i 9 23 | pP | — |
| Fabrichnaya | 52.8 | 297 | i 9 | 11 | 0 | — | — | — | — | — | — |
| Rybach'e | 53.5 | 296 | i 9 | 14 | - 2 | — | — | — | — | — | — |
| Frunse | 54.0 | 296 | i 9 | 20 | 0 | i 16 | 51 | + 2 | 9 36 | pP | — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|---------------|----|----------|-----|----------------------|------|---------|------|---------|------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Hungry Horse | | 54.0 | 55 | i 9 20 | 0 | e 16 49 | 0 | e 39 15 | P'P' | — |
| Naryn | | 54.2 | 293 | i 9 21 | 0 | — | — | i 9 39 | pP | — |
| Shasta | | 54.3 | 66 | e 9 21 | - 1 | e 16 58 | + 5 | i 9 37 | pP | — |
| Mineral | z. | 55.0 | 66 | e 9 26 | - 1 | e 17 6 | + 4 | — | — | — |
| Shillong | | 55.1 | 269 | i 9 26 | - 2 | 16 57 | - 7 | 10 23 | PcP | 25.4 |
| Saskatoon | | 55.3 | 48 | e 9 49 | pP | e 17 7 | + 1 | e 17 32 | sS | 24.7 |
| Berkeley | | 56.2 | 70 | i 9 34 _a | - 2 | i 17 25 | + 7 | e 9 49 | pP | e 23.8 |
| Butte | | 56.3 | 66 | e 9 33 | - 3 | e 17 21 | + 1 | — | — | — |
| Reno | z. | 56.5 | 65 | i 9 38 _a | 0 | e 17 24 | + 2 | i 9 52 | pP | — |
| Branner | z. | 56.6 | 70 | e 9 37 _a | - 2 | — | — | — | — | — |
| Andijan | | 56.7 | 295 | i 9 39 | 0 | i 17 27 | + 2 | — | — | — |
| Kiruna | | 56.9 | 342 | i 9 41 _a | 0 | e 17 33 | + 5 | i 10 28 | PcP | e 26.7 |
| Namangan | | 56.9 | 296 | i 9 40 | - 1 | e 17 26 | - 2 | — | — | — |
| Chatra | | 57.2 | 273 | i 9 43 | 0 | e 17 41 | + 9 | 11 55 | PP | 27.6 |
| Tchinkent | | 57.2 | 298 | i 9 42 | - 1 | — | — | — | — | — |
| Bozeman | | 57.3 | 57 | e 9 43 | - 1 | e 17 37 | + 4 | — | — | — |
| Fergana | | 57.3 | 295 | i 9 42 | - 2 | e 17 32 | - 1 | — | — | — |
| Lunacharskoe | | 58.0 | 298 | i 9 48 | 0 | — | — | — | — | — |
| Tashkent | | 58.0 | 298 | i 9 48 | 0 | — | — | — | — | — |
| Dzhergetal | | 58.4 | 295 | i 9 50 | - 1 | — | — | — | — | — |
| Fresno | z. | 58.4 | 69 | i 9 50 _a | - 1 | — | — | i 10 14 | sP | — |
| Scoresby Sund | | 58.6 | 0 | i 9 50 | - 3 | i 17 54 | + 4 | e 11 54 | PP | — |
| Garm | | 59.0 | 295 | i 9 54 | - 1 | — | — | — | — | — |
| Tinemaha | z. | 59.1 | 68 | i 9 55 _a | - 1 | e 18 4 | + 8 | i 10 10 | pP | — |
| Khorog | | 59.3 | 293 | i 9 57 | 0 | i 18 0 | + 1 | — | — | — |
| Calcutta | E. | 59.5 | 270 | e 9 54 | - 5 | 17 51 | - 11 | 18 12 | SP | — |
| Logan | | 59.5 | 60 | i 10 0 | + 1 | i 17 8 | - 54 | — | — | — |
| Woody | z. | 59.7 | 69 | i 9 58 _a | - 2 | i 39 36 | P'P' | i 10 14 | pP | — |
| Stalinabad | | 60.2 | 296 | i 10 2 | - 2 | — | — | — | — | — |
| China Lake | z. | 60.3 | 68 | i 10 3 _a | - 1 | e 39 9 | P'P' | i 10 18 | pP | — |
| Samarkand | | 60.4 | 298 | i 10 4 | - 1 | — | — | — | — | — |
| Pasadena | | 61.2 | 70 | i 10 8 _a | - 2 | i 18 27 | + 4 | i 10 23 | pP | e 28.2 |
| Pulkovo | | 61.3 | 333 | i 10 10 | - 1 | e 18 27 | + 2 | — | — | — |
| Riverside | z. | 61.7 | 70 | i 10 12 _a | - 2 | i 39 26 | P'P' | i 10 26 | pP | — |
| Warsak Dam | E. | 61.8 | 291 | i 10 8 | - 6 | i 18 26 | - 5 | i 18 53 | PS | e 30.7 |
| Boulder City | | 61.9 | 66 | i 10 15 | 0 | e 18 38 | + 6 | i 10 29 | pP | — |
| Nelson | | 62.0 | 66 | e 10 15 | - 1 | i 37 1 | ? | i 10 47 | pP | — |
| Moscow | | 62.2 | 326 | i 10 16 | - 1 | — | — | i 10 35 | pP | — |
| New Delhi | | 62.2 | 282 | i 10 15 | - 2 | i 18 31 | - 5 | 14 6 | PPP | 25.3 |
| Helsinki | | 62.5 | 337 | e 10 22 | + 3 | e 18 41 | + 1 | — | — | — |
| Palomar | z. | 62.5 | 70 | i 10 17 _a | - 2 | i 18 45 | + 5 | i 10 32 | pP | — |
| Rapid City | | 62.5 | 54 | i 10 16 | - 3 | i 18 41 | + 1 | — | — | — |
| Barratt | z. | 63.1 | 72 | i 10 21 _a | - 2 | e 39 16 | P'P' | i 10 36 | pP | — |
| Bairam-Ali | | 64.6 | 300 | i 10 31 | - 2 | e 19 2 | - 4 | — | — | — |
| Upsala | | 64.6 | 339 | i 10 31 | - 2 | e 19 11 | + 5 | i 19 45 | PPS | e 30.7 |
| Reykjavik | | 65.0 | 359 | i 10 38 _a | + 3 | i 10 44 | ? | i 10 48 | pP | — |
| Ashkabad | | 66.4 | 302 | i 10 45 | + 1 | — | — | — | — | — |
| Bergen | N. | 66.5 | 346 | i 10 44 | - 1 | e 19 30 | + 1 | 11 11? | PcP | e 32.9 |
| Kizyl-Arvat | | 66.7 | 305 | i 10 47 | + 1 | e 19 35 | + 4 | — | — | — |
| Tucson | | 66.8 | 67 | i 10 46 | - 1 | i 19 39 | + 6 | i 11 2 | pP | e 27.3 |
| Quetta | | 67.1 | 291 | i 10 48 _k | - 1 | i 19 39 | + 3 | i 39 12 | P'P' | — |
| Makhach-Kala | | 68.1 | 312 | i 10 55? | 0 | — | — | — | — | — |
| Grozny | | 68.6 | 313 | i 10 57 | - 1 | — | — | — | — | — |
| Baku | | 68.9 | 310 | i 11 1 | + 1 | — | — | — | — | — |
| Piatigorsk | | 69.3 | 316 | 11 2 | 0 | — | — | — | — | — |
| Shemakla | | 69.4 | 311 | i 11 2 | - 1 | — | — | — | — | — |
| Copenhagen | | 69.5 | 340 | i 11 3 | - 1 | 20 11 | + 6 | i 20 47 | PS | — |
| Hyderabad | | 69.5 | 273 | i 11 3 | - 1 | i 20 3 | - 2 | 13 38 | PP | 32.9 |
| Kirkland Lake | z. | 69.6 | 37 | i 11 3 _a | - 1 | — | — | i 11 17 | pP | — |
| Duzheti | | 70.1 | 314 | e 11 8 | + 1 | — | — | — | — | — |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------------|----|------------|------------|------|-----------------|------|------|----|-------|-------|----|-------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Tiflis | | 70.3 | 313 | i 11 | 9 | 0 | i 20 | 13 | - 1 | i 11 | 29 | pP | — |
| Gori | | 70.4 | 314 | e 11 | 8 | - 1 | — | — | — | — | — | — | — |
| Kirovobad | | 70.4 | 311 | i 11 | 8 | - 1 | 20 | 15 | 0 | — | — | — | — |
| Aberdeen | | 70.6 | 349 | i 11 | 11 | + 1 | i 20 | 20 | + 2 | i 13 | 51 | PP | 35.2 |
| Lenkoran | | 70.7 | 308 | 11 | 11 | 0 | 20 | 21 | + 2 | — | — | — | — |
| Borzhom | | 70.9 | 314 | i 11 | 12 | 0 | — | — | — | — | — | — | — |
| Sotchi | | 71.1 | 317 | i 11 | 12 | - 1 | e 20 | 23 | 0 | — | — | — | — |
| Abastumanj | | 71.2 | 314 | e 11 | 13 | - 1 | — | — | — | — | — | — | — |
| Akhalkalaki | | 71.3 | 314 | 11 | 15 | 0 | — | — | — | — | — | — | — |
| Goris | | 71.3 | 310 | 11 | 16 | + 1 | — | — | — | — | — | — | — |
| Djakarta | z. | 71.5 | 234 | i 11 | 14 _a | - 2 | e 21 | 4 | [- 9] | — | — | — | — |
| Chicago | | 71.6 | 46 | e 11 | 14 | - 2 | e 20 | 23 | - 6 | — | — | — | — |
| Poona | | 71.6 | 277 | i 11 | 15 | - 1 | 20 | 35 | + 6 | 20 | 46 | SP | 31.8 |
| Bandung | | 71.7 | 233 | e 11 | 18 | + 1 | 20 | 36 | + 6 | e 20 | 58 | SP | — |
| Lwow | | 71.7 | 330 | i 11 | 17 | 0 | i 20 | 29 | - 1 | — | — | — | — |
| Theodosia | | 71.7 | 321 | i 11 | 16 | - 1 | e 20 | 32 | + 2 | — | — | — | — |
| Madras | E. | 71.8 | 269 | i 11 | 20 | + 2 | i 20 | 37 | + 5 | 21 | 10 | PS | — |
| Bombay | | 72.0 | 278 | i 11 | 18 | - 1 | e 20 | 30 | - 4 | 11 | 43 | PcP | — |
| Chihuahua | | 72.2 | 67 | e 11 | 14 | - 6 | e 20 | 37 | + 1 | e 21 | 5 | sS | — |
| Cernauti | | 72.4 | 329 | e 11 | 17 | - 4 | — | — | — | — | — | — | — |
| Potsdam | | 72.4 | 339 | i 11 | 21 _a | 0 | e 20 | 41 | + 3 | e 21 | 18 | PS | e 33.7 |
| Kishinev | | 72.5 | 326 | i 11 | 21 | - 1 | e 20 | 39 | - 1 | — | — | — | — |
| Yalta | | 72.7 | 321 | i 11 | 21 | - 2 | e 20 | 41 | - 1 | — | — | — | — |
| Iasi | | 72.8 | 328 | e 11 | 22 | - 1 | — | — | — | — | — | — | — |
| Simferopol | | 72.8 | 322 | i 11 | 19 | - 4 | e 20 | 37 | - 6 | — | — | — | — |
| Durham | | 72.9 | 348 | i 11 | 25 | + 1 | i 21 | 45 | PPS | — | — | — | — |
| Fayetteville | | 73.0 | 53 | i 11 | 24 | - 1 | 20 | 46 | + 1 | i 11 | 37 | pP | — |
| Raciborzu | | 73.2 | 335 | e 11 | 21 _f | - 5 | e 21 | 50 | PPS | e 11 | 49 | sP | 28.4 |
| Uzhgorod | | 73.3 | 330 | i 11 | 26 | 0 | e 20 | 51 | + 2 | — | — | — | — |
| Collmborg | | 73.4 | 337 | i 11 | 27 | 0 | e 21 | 57 | PPS | e 14 | 12 | PP | e 37.9 |
| Skalnate Pleso | | 73.4 | 333 | i 11 | 30 | + 3 | e 20 | 55 | + 5 | e 14 | 9 | PP | e 38.7 |
| Witteveen | z. | 73.4 | 343 | i 11 | 29 | + 2 | — | — | — | — | — | — | — |
| Ottawa | | 73.5 | 36 | i 11 | 26 _a | - 2 | 20 | 47 | - 4 | 21 | 29 | PS | 29.9 |
| Shawinigan Falls | N. | 73.6 | 33 | e 11 | 28 | 0 | 20 | 54 | + 2 | 14 | 4 | PP | — |
| Seven Falls | E. | 73.7 | 33 | 11 | 31 | + 2 | 20 | 58 | + 5 | 14 | 18 | PP | 33.9 |
| Jena | | 74.1 | 338 | i 11 | 31 | 0 | e 21 | 6 | + 9 | e 11 | 53 | pP | e 37.7 |
| Prague | | 74.2 | 336 | i 11 | 31 | - 1 | e 21 | 0 | + 1 | e 14 | 9 | PP | — |
| De Bilt | | 74.4 | 343 | i 11 | 34 _a | + 1 | e 21 | 6 | + 5 | e 21 | 29 | PS | e 32.7 |
| Cleveland | | 74.5 | 42 | e 11 | 33 | 0 | e 21 | 1 | - 1 | i 11 | 48 | pP | — |
| Cheb | | 74.7 | 338 | e 11 | 36 | + 2 | e 21 | 6 | + 2 | e 11 | 51 | pP | e 36.7 |
| Rathfarnham Castle | | 74.9 | 350 | i 11 | 37 _a | + 1 | e 21 | 7 | + 1 | i 11 | 51 | pP | e 38.7 |
| Cincinnati | | 75.2 | 45 | i 11 | 37 | 0 | i 21 | 10 | 0 | — | — | — | — |
| Ogyalla | | 75.2 | 333 | e 11 | 41 | + 4 | e 21 | 11 | + 1 | e 14 | 14 | PP | — |
| Budapest | | 75.3 | 332 | 11 | 37 | - 1 | 21 | 18 | + 7 | e 14 | 38 | PP | e 37.2 |
| Bucharest | | 75.7 | 326 | e 11 | 43 | + 3 | e 21 | 29 | +14 | e 14 | 4 | ? | 32.7 |
| Uccle | | 75.8 | 344 | e 11 | 40 | - 1 | e 21 | 18 | + 2 | e 12 | 7 | pP | e 38.7 |
| Kew | | 75.9 | 346 | i 11 | 42 _a | + 1 | e 21 | 29 | +12 | e 14 | 38 | PP | e 31.7 |
| Pittsburgh | | 76.0 | 42 | i 11 | 43 | + 1 | i 21 | 22 | + 3 | — | — | — | — |
| Timisoara | | 76.2 | 330 | e 12 | 45 | +62 | e 22 | 54 | PPS | 42 | 38 | P'PKS | e 45.3 |
| Kalossa | | 76.2 | 332 | e 11 | 45 | + 2 | e 21 | 20 | - 1 | e 11 | 57 | PcP | e 36.8 |
| Karlsruhe | | 76.6 | 340 | i 11 | 46 | + 1 | e 21 | 30 | + 5 | e 14 | 42 | PP | e 36.7 |
| Stuttgart | | 76.7 | 339 | i 11 | 46 _a | 0 | e 21 | 24 | - 2 | e 12 | 6 | pP | 38.7 |
| Strasbourg | | 77.2 | 340 | i 11 | 49 | 0 | e 21 | 35 | + 3 | e 12 | 11 | pP | e 38.7 |
| Belgrade | | 77.3 | 330 | i 11 | 49 _k | 0 | e 21 | 33 | 0 | e 12 | 17 | sP | e 46.7 |
| Harvard | | 77.5 | 35 | i 11 | 50 | 0 | i 21 | 37 | + 2 | i 12 | 5 | pP | — |
| Istanbul | | 77.6 | 322 | i 11 | 51 | 0 | 21 | 40 | + 4 | e 12 | 2 | pP | 37.7 |
| Palisades | | 78.0 | 38 | i 11 | 52 _a | - 1 | i 21 | 42 | + 2 | i 12 | 7 | pP | e 34.1 |
| Paris | | 78.0 | 343 | i 12 | 1 | + 8 | i 21 | 42 | + 2 | i 12 | 20 | pP | e 38.7 |
| Fordham | | 78.1 | 38 | i 11 | 55 | + 1 | i 21 | 44 | + 3 | — | — | — | — |
| Basle | | 78.2 | 340 | i 11 | 55 _a | + 1 | e 21 | 46 | + 4 | e 14 | 6 | ? | — |

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| | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|---------------------|---------------|----------|------|-----------------|------------|------|----|------------|-------|-----|----------|--------|
| | | | m. | s. | | m. | s. | | m. | s. | | |
| Halifax | 78.2 | 29 | i 11 | 56 | + 2 | e 21 | 43 | + 1 | e 14 | 58 | PP | — |
| Zürich | 78.2 | 339 | e 11 | 54 _a | 0 | e 21 | 47 | + 5 | e 14 | 48 | PP | — |
| Brisbane | 78.4 | 184 | e 21 | 39 | S | i 21 | 43 | - 1 | i 22 | 11 | sS | — |
| Chur | 78.4 | 338 | e 11 | 59 | + 4 | e 21 | 47 | + 3 | — | — | — | — |
| Washington | 78.5 | 39 | i 11 | 55 | - 1 | e 21 | 48 | + 3 | — | — | — | — |
| Triest | 78.5 | 335 | i 11 | 54 | - 2 | e 21 | 45 | 0 | e 14 | 56 | PP | 36.9 |
| Neuchatel | 78.9 | 340 | i 11 | 59 | + 1 | e 21 | 55 | + 5 | — | — | — | — |
| Salo | 79.4 | 337 | e 11 | 59 _a | - 2 | e 21 | 55 | 0 | e 12 | 35 | pP | — |
| Oropa | 79.9 | 340 | i 12 | 4 | + 1 | i 22 | 10 | +10 | i 22 | 59 | PS | — |
| Pavia | 80.1 | 338 | i 12 | 6 _a | + 2 | e 22 | 3 | + 1 | e 15 | 12 | PP | e 40.7 |
| Bologna | 80.2 | 336 | e 12 | 8 _a | + 3 | e 22 | 34 | sS | — | — | — | — |
| Clermont-Ferrand | 80.8 | 342 | i 12 | 11 | + 3 | e 22 | 18 | + 8 | i 12 | 31 | pP | 40.7 |
| Ksara | 80.8 | 313 | i 12 | 9 | + 1 | 22 | 30 | +20 | — | — | — | — |
| Prato | 80.8 | 335 | i 12 | 8 | 0 | i 22 | 14 | + 4 | — | — | — | — |
| Florence | 80.9 | 335 | i 12 | 8 | - 1 | i 22 | 11 | 0 | i 22 | 59 | SP | — |
| Columbia | 81.0 | 46 | i 12 | 9 | 0 | — | — | — | — | — | — | — |
| Taranto | 82.2 | 331 | 12 | 11 | - 4 | 22 | 21 | - 3 | e 19 | 1 | ? | 41.7 |
| Athens | 82.3 | 324 | i 12 | 14 _a | - 2 | i 22 | 25 | 0 | i 23 | 48 | PPS | — |
| Rome | 82.3 | 335 | i 12 | 16 _a | 0 | i 22 | 27 | + 2 | i 23 | 43 | PPS | — |
| Cherry Point | 82.9 | 43 | i 12 | 14 | - 5 | — | — | — | — | — | — | — |
| Tacubaya | 83.3 | 68 | e 12 | 16 | - 5 | i 22 | 40 | + 5 | e 23 | 7 | sS | — |
| Puebla | 84.2 | 68 | e 12 | 21 | - 5 | — | — | — | — | — | — | — |
| Riverview | 84.8 | 185 | i 12 | 27 _a | - 2 | i 22 | 50 | 0 | i 28 | 39 | SS | e 36.6 |
| Messina | 84.8 | 330 | i 12 | 27 _a | - 2 | 22 | 43 | [- 1] | i 12 | 48 | pP | — |
| Reggio Calabria N. | 84.9 | 330 | e 12 | 26 | - 3 | — | — | — | — | — | — | — |
| Barcelona | 85.2 | 342 | — | — | — | 22 | 57 | + 3 | — | — | — | e 47.3 |
| Vera Cruz | 85.3 | 66 | e 12 | 23 | - 8 | e 22 | 47 | [+ 0] | e 12 | 28 | P | — |
| Tortosa | 86.1 | 343 | i 12 | 31 | - 4 | i 22 | 55 | [+ 3] | — | — | — | — |
| Helwan | 86.2 | 315 | i 12 | 36 _k | + 1 | e 22 | 56 | [+ 3] | e 23 | 8 | S | — |
| Merida | 87.5 | 60 | e 12 | 53 | pP | e 23 | 17 | + 1 | i 23 | 44 | sS | — |
| Toledo | 87.8 | 346 | i 12 | 43 | 0 | e 23 | 25 | + 6 | 12 | 59 | pP | 42.0 |
| Miami | 88.1 | 50 | i 12 | 47 | + 2 | e 23 | 13 | - 8 | — | — | — | — |
| Alicante | 88.7 | 342 | e 12 | 45 | - 2 | i 23 | 38 | +11 | e 29 | 27 | SS | 43.2 |
| Bermuda | 89.0 | 34 | i 12 | 50 | + 1 | e 23 | 37 | + 7 | e 16 | 19 | PP | e 42.3 |
| Bermuda Navy | 89.1 | 34 | i 12 | 51 | + 2 | — | — | — | — | — | — | — |
| Algiers Univ. z. | 89.5 | 336 | i 12 | 50 _a | - 1 | e 23 | 16 | [+ 2] | e 16 | 21 | PP | — |
| Lisbon | 89.7 | 350 | — | — | — | e 23 | 19 | [+ 4] | i 23 | 44 | S | 41.3 |
| Granada | 90.4 | 345 | i 12 | 58 _k | + 3 | e 23 | 46 | + 3 | i 23 | 28 | SKS | i 47.4 |
| Almeria | 90.5 | 343 | i 12 | 51 | - 1 | i 23 | 42 | - 1 | 23 | 19 | SKS | 49.9 |
| Malaga | 90.9 | 345 | i 12 | 58 | 0 | i 23 | 20 | [- 2] | 16 | 37 | PP | 41.7 |
| Wellington | 93.4 | 167 | — | — | — | e 23 | 53 | -16 | — | — | — | e 43.1 |
| Averroes | 94.8 | 347 | i 13 | 10 | - 6 | 24 | 10 | -11 | — | — | — | — |
| Christchurch | 95.3 | 169 | e 25 | 57 | PS | — | — | — | e 39 | 41? | ? | e 44.2 |
| San Juan | 101.0 | 41 | i 13 | 44 | 0 | — | — | — | 19 | 55 | PPP | — |
| Tamanrasset z. | 102.2 | 333 | i 13 | 50 | + 1 | e 29 | 49 | PKKP | e 14 | 7 | pP | — |
| Bogota | 109.3 | 55 | e 18 | 19 | ? | e 29 | 1 | PS | — | — | — | 51.7 |
| Huancayo | 122.4 | 67 | e 18 | 50 | [+ 2] | e 37 | 17 | SSP | i 20 | 30 | PP | e 49.8 |
| La Paz | 130.1 | 63 | i 19 | 6 _a | [+ 3] | i 38 | 41 | SS | i 21 | 20 | PP | 62.2 |
| Pretoria z. | 133.8 | 282 | i 19 | 11 | [+ 1] | — | — | — | e 18 | 54 | ? | — |
| Pietermaritzburg z. | 135.2 | 278 | e 19 | 13 | [+ 1] | — | — | — | — | — | — | — |
| Kimberley z. | 138.1 | 281 | i 19 | 18 | [0] | — | — | — | e 19 | 7 | ? | — |
| Grahamstown z. | 140.1 | 276 | i 19 | 24 | [+ 3] | — | — | — | e 19 | 15 | ? | — |
| La Plata | 150.0 | 70 | i 19 | 43 | [+ 5] | 30 | 5 | SKKS | 33 | 29 | SKSP | 60.9 |

July 22d. 7h. 20m. Epicentre 40°·4N. 43°·2E.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p.88.

July 22d. 12h. 29m. Epicentre 32°·75N. 131°·3E. Depth 100-110km.
Intensity II-III at Uwajima and Simidu.
Seismo. Bull. Cent. Met. Obs., Japan, for July, 1953, Tokyo, 1953, p.24, with macroseismic chart.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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July 22d. 12h. 52m. 12s. Epicentre 41°·4N. 143°·9E. Focus at Base of Superficial Layers.
(as on 1953, Jan. 19d.).

Intensity IV at Urakawa and Kushiro; II-III at Muroran and Hatinohe.

Epicentre 41°·6N. 144°·0E. Depth 50km.

Seismo. Bull. Cent. Met. Obs., Japan, July, 1953, Tokyo, 1953, p.25-26, with macroseismic chart p.25.

A = -·6079, B = +·4433, C = +·6588; $\delta = +7$; $h = -2$;
D = +·589, E = +·808; G = -·532, H = +·388, K = -·752.

| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. |
|-------------|----|---------------|----------|-----|-----------------|------------|------|-----|------------|-------|----|----------|
| | | | | m. | s. | | m. | s. | | m. | s. | |
| Urakawa | | 1·1 | 312 | i 0 | 19 ^k | 0 | 0 31 | - 2 | — | — | — | |
| Kusiro | | 1·6 | 13 | i 0 | 25 ^a | - 1 | 0 41 | - 5 | — | — | — | |
| Obihiro | | 1·6 | 341 | e 0 | 25 | - 1 | 0 46 | 0 | — | — | — | |
| Hatinohe | | 2·0 | 234 | e 0 | 35 ^a | + 3 | 0 58 | + 2 | — | — | — | |
| Tomakomai | | 2·1 | 304 | i 0 | 35 ^a | + 2 | 1 5 | + 6 | — | — | — | |
| Miyako | Z. | 2·3 | 220 | e 0 | 39 | + 3 | 1 5 | + 1 | — | — | — | |
| Nemuro | | 2·3 | 32 | e 0 | 35 | - 1 | 0 58 | - 6 | — | — | — | |
| Aomori | | 2·4 | 256 | i 0 | 51 | +13 | 1 17 | +11 | — | — | — | |
| Hakodate | | 2·4 | 279 | 0 | 39 | + 1 | — | — | — | — | — | |
| Muroran | | 2·4 | 293 | e 0 | 40 | + 2 | 1 11 | + 5 | — | — | — | |
| Sapporo | | 2·5 | 312 | i 0 | 38 ^a | - 1 | 1 9 | 0 | — | — | — | |
| Abashiri | | 2·6 | 6 | e 0 | 39 | - 2 | 1 6 | - 5 | — | — | — | |
| Asahigawa | | 2·6 | 335 | e 0 | 37 | - 4 | — | — | — | — | — | |
| Mori | N. | 2·6 | 286 | i 0 | 41 | 0 | 1 17 | + 6 | — | — | — | |
| Morioka | | 2·7 | 231 | i 0 | 45 ^a | + 3 | 1 18 | + 4 | — | — | — | |
| Mizusawa | | 3·1 | 225 | 0 | 52 | + 4 | 1 27 | + 3 | — | — | — | |
| Suttsu | | 3·1 | 298 | i 0 | 46 | - 2 | — | — | — | — | — | |
| Akita | | 3·3 | 240 | e 0 | 55 | + 4 | 1 39 | +10 | — | — | — | |
| Isinomaki | | 3·6 | 215 | 0 | 58 | + 3 | — | — | — | — | — | |
| Sendai | N. | 3·9 | 218 | e 1 | 2 | + 3 | 1 51 | + 7 | — | — | — | |
| Sakata | | 4·0 | 233 | 1 | 29 | +29 | 2 10 | +23 | — | — | — | |
| Yamagata | | 4·2 | 222 | e 1 | 22 | +19 | 1 55 | + 3 | — | — | — | |
| Wakkanai | E. | 4·3 | 339 | e 1 | 11 | + 6 | 2 8 | +14 | — | — | — | |
| Hokusima | | 4·5 | 217 | e 1 | 11 | + 3 | 2 6 | + 6 | — | — | — | |
| Inawasiro | E. | 4·8 | 219 | e 1 | 12 | 0 | 2 25 | +18 | — | — | — | |
| Onahama | | 5·0 | 209 | e 1 | 21 | + 6 | 2 16 | + 4 | — | — | — | |
| Niigata | | 5·1 | 229 | e 1 | 31 | +15 | 2 33 | +18 | — | — | — | |
| Shirakawa | | 5·1 | 215 | e 1 | 22 | + 6 | 2 22 | + 7 | — | — | — | |
| Aikawa | | 5·5 | 234 | e 1 | 25 | + 3 | 2 19 | - 6 | — | — | — | |
| Mito | | 5·6 | 209 | e 1 | 29 | + 6 | 2 34 | + 7 | — | — | — | |
| Utunomiya | | 5·8 | 214 | e 1 | 30 | + 4 | 2 36 | + 4 | — | — | — | |
| Takada | | 6·1 | 228 | e 1 | 57 | +27 | 3 5 | +25 | — | — | — | |
| Kashiwa | | 6·3 | 210 | e 1 | 51 | +18 | 3 8 | +23 | — | — | — | |
| Kumagaya | | 6·3 | 215 | e 1 | 41 | + 8 | 2 51 | + 6 | — | — | — | |
| Maebasi | Z. | 6·3 | 219 | e 1 | 38 | + 5 | 2 50 | + 5 | — | — | — | |
| Nagano | E. | 6·5 | 225 | e 1 | 46 | +10 | — | — | — | — | — | |
| Oiwake | | 6·5 | 221 | e 1 | 38 | + 2 | 2 52 | + 2 | — | — | — | |
| Matusiro | | 6·6 | 224 | 1 | 39 | + 2 | 2 54 | + 2 | — | — | — | |
| Titibu | | 6·6 | 216 | e 1 | 50 | +13 | 2 55 | + 3 | — | — | — | |
| Tokyo | | 6·6 | 211 | e 1 | 47 | +10 | 2 53 | + 1 | — | — | — | |
| Yokohama | | 6·8 | 210 | e 1 | 59 | +19 | 3 35 | +38 | — | — | — | |
| Matumoto | E. | 6·9 | 224 | 1 | 49 | + 8 | 3 30 | +30 | — | — | — | |
| Toyama | | 7·0 | 230 | e 1 | 47 | + 4 | — | — | — | — | — | |
| Hunatu | E. | 7·1 | 216 | 1 | 59 | +15 | 3 9 | + 4 | — | — | — | |
| Kohu | E. | 7·1 | 218 | e 1 | 51 | + 7 | — | — | — | — | — | |
| Ajiro | E. | 7·4 | 212 | 1 | 56 | + 8 | — | — | — | — | — | |
| Osima | | 7·5 | 210 | e 1 | 55 | + 5 | 3 14 | - 1 | — | — | — | |
| Gihu | | 8·2 | 226 | e 2 | 7 | + 7 | — | — | — | — | — | |
| Nagoya | E. | 8·3 | 223 | 2 | 5 | + 4 | 3 43 | + 8 | — | — | — | |
| Kameyama | | 8·8 | 224 | e 2 | 12 | + 4 | 3 57 | +10 | — | — | — | |
| Tu | | 8·8 | 224 | e 2 | 22 | PP | — | — | — | — | — | |
| Hatidyozima | | 8·9 | 203 | e 2 | 41 | +32 | — | — | — | — | — | |
| Toyooka | | 9·2 | 234 | e 2 | 17 | + 4 | 4 0 | + 3 | — | — | — | |
| Osaka | | 9·4 | 227 | e 2 | 59 | +43 | 5 50 | ? | — | — | — | |
| Sumoto | | 10·0 | 228 | e 2 | 57 | +33 | — | — | — | — | — | |

Continued on next page.

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|------------------|----|----------|-----|------|-----------------|------|------|----|------|-------|----|--------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Takamatu | | 10.5 | 231 | e 2 | 32 | + 1 | 5 | 38 | +69 | — | — | — |
| Matuyama | | 11.6 | 233 | e 2 | 55 | + 9 | 5 | 49 | +53 | — | — | — |
| Nanking | | 22.1 | 254 | 4 | 52 | - 2 | i 8 | 38 | -12 | — | — | — |
| College | | 44.4 | 35 | i 8 | 7 | - 2 | — | — | — | — | — | — |
| Shillong | N. | 45.5 | 267 | e 5 | 51 | ? | e 14 | 52 | - 5 | — | — | — |
| Resolute Bay | | 57.9 | 16 | e 9 | 47 ^k | - 4 | e 17 | 42 | - 5 | e 19 | 34 | ScS |
| Quetta | Z. | 61.5 | 287 | i 10 | 14 | - 2 | — | — | — | i 10 | 50 | PcP |
| Kiruna | | 63.1 | 339 | i 10 | 25 | - 1 | e 18 | 49 | - 5 | i 19 | 10 | SP |
| Poona | Z. | 63.1 | 272 | i 10 | 26 | 0 | — | — | — | — | — | e 32.8 |
| Hungry Horse | | 67.3 | 45 | i 10 | 54 | + 1 | — | — | — | — | — | — |
| Mineral | Z. | 67.7 | 56 | e 10 | 56 ^a | 0 | — | — | — | — | — | — |
| Reno | | 69.3 | 56 | e 11 | 15 ^a | + 9 | — | — | — | — | — | — |
| Upsala | Z. | 69.9 | 334 | i 11 | 7 | - 3 | i 13 | 25 | PP | i 11 | 16 | pP |
| Tinemaha | Z. | 71.7 | 57 | e 11 | 32 | pP | e 11 | 35 | sP | e 11 | 42 | PcP |
| Woody | Z. | 72.2 | 58 | e 11 | 24 | + 1 | — | — | — | i 11 | 34 | pP |
| Logan | | 72.7 | 50 | e 11 | 36 | pP | — | — | — | — | — | — |
| China Lake | Z. | 72.9 | 57 | e 11 | 29 | + 1 | — | — | — | i 11 | 39 | pP |
| Pasadena | | 73.6 | 59 | e 11 | 27 | - 5 | — | — | — | e 11 | 42 | pP |
| Riverside | Z. | 74.2 | 59 | e 11 | 35 | 0 | — | — | — | e 11 | 45 | pP |
| Boulder City | | 74.6 | 56 | i 11 | 39 | + 1 | — | — | — | i 11 | 49 | pP |
| Nelson | | 74.7 | 56 | e 11 | 39 | + 1 | e 11 | 59 | PcP | e 11 | 46 | pP |
| Palomar | Z. | 75.0 | 59 | e 11 | 44 | + 4 | i 12 | 0 | PcP | i 11 | 50 | pP |
| Barratt | Z. | 75.5 | 60 | e 11 | 45 | + 2 | — | — | — | e 11 | 53 | pP |
| Raciborzu | Z. | 77.2 | 329 | e 11 | 51 | - 1 | — | — | — | — | — | — |
| Potsdam | | 77.3 | 333 | — | — | — | e 21 | 37 | - 2 | e 21 | 56 | sS |
| | | | | | | | | | | | | e 39.8 |
| Collmberg | | 78.3 | 331 | e 11 | 56 | - 2 | — | — | — | e 12 | 6 | pP |
| Prague | | 78.7 | 330 | e 11 | 59 | - 1 | e 21 | 53 | - 1 | e 12 | 15 | PcP |
| Jena | | 79.1 | 332 | e 12 | 1 | - 2 | — | — | — | e 12 | 11 | pP |
| Witteveen | Z. | 79.1 | 337 | e 12 | 3 | 0 | — | — | — | — | — | — |
| Tucson | | 79.5 | 56 | e 12 | 7 | + 2 | — | — | — | — | — | — |
| De Bilt | | 80.2 | 337 | e 12 | 0 | - 9 | — | — | — | — | — | e 45.8 |
| Stuttgart | | 81.7 | 332 | e 12 | 15 | - 2 | e 22 | 42 | +17 | e 12 | 25 | pP |
| Karlsruhe | | 81.8 | 333 | e 12 | 28 | PcP | — | — | — | — | — | e 42.8 |
| Strasbourg | | 82.4 | 333 | e 12 | 19 | - 1 | e 22 | 48 | +15 | — | — | e 39.8 |
| Triest | | 82.6 | 328 | e 12 | 18 | - 3 | e 13 | 5 | ? | e 15 | 33 | PP |
| Zürich | | 83.1 | 332 | e 12 | 18 | - 6 | — | — | — | — | — | — |
| Basle | | 83.3 | 332 | e 12 | 25 ^a | 0 | — | — | — | — | — | — |
| Paris | | 83.9 | 336 | e 12 | 39 | pP | — | — | — | e 12 | 51 | ? |
| Chambon-la-Forêt | | 84.7 | 336 | e 12 | 33 | + 1 | — | — | — | — | — | e 49.8 |
| Helwan | Z. | 85.7 | 307 | e 12 | 36 | - 1 | — | — | — | e 12 | 47 | pP |
| Fayetteville | | 86.3 | 44 | i 12 | 40 | 0 | i 13 | 16 | ? | i 12 | 49 | pP |
| Clermont-Ferrand | | 86.4 | 334 | e 12 | 41 | + 1 | — | — | — | e 12 | 52 | pP |
| Tamanrasset | Z. | 105.4 | 321 | 18 | 4 | ? | — | — | — | e 18 | 26 | PP |
| | | | | | | | | | | | | 45.8 |

July 22d. 15h. 9m. 33s. Epicentre 39°·1N. 28°·5E.

A = +·6838, B = +·3713, C = +·6281; $\delta = -4$; $h = +1$;
D = +·477, E = -·879; G = +·552, H = +·300, K = -·778.

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|------------|--|----------|-----|-----|----------------|------|-----|----|------------------|-------|----|----------------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Istanbul | | 2.0 | 12 | i 0 | 36 | + 1 | 1 | 6 | 0 _g | 0 | 40 | P _g |
| Athens | | 3.9 | 255 | e 1 | 0 ^a | - 2 | i 2 | 8 | - 1 _g | i 1 | 54 | S |
| Sofia | | 5.3 | 314 | e 1 | 21 | - 1 | 2 | 26 | + 1 | 2 | 57 | S _g |
| Bucharest | | 5.6 | 342 | e 1 | 27 | 0 | i 3 | 10 | + 5 _g | i 2 | 43 | S |
| Campulung | | 6.7 | 338 | e 1 | 42 | 0 | — | — | — | — | — | — |
| Focsani | | 6.7 | 352 | e 1 | 27 | -15 | — | — | — | — | — | — |
| Yalta | | 6.9 | 36 | i 1 | 42 | - 3 | e 2 | 56 | - 9 | — | — | — |
| Simferopol | | 7.2 | 34 | e 1 | 47 | - 2 | e 3 | 4 | - 9 | — | — | — |
| Bacau | | 7.6 | 352 | e 2 | 21 | + 8* | — | — | — | — | — | — |
| Theodosia | | 7.8 | 39 | e 1 | 56 | - 2 | e 3 | 22 | - 6 | — | — | — |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|------------------|---------|-----|-----|-----------------|----------------|-----|-----|-------------------|-------|-----|----------------|
| | | | m. | s. | | m. | s. | | m. | s. | |
| Kishinev | 7.9 | 2 | 1 | 57 | - 2 | 3 | 22 | - 8 | — | — | — |
| Ksara | 8.0 | 129 | i 2 | 2 | + 2 | i 4 | 10 | + 8* | — | — | — |
| Iasi | 8.1 | 356 | e 2 | 0 | - 2 | e 3 | 43 | + 8 | — | — | — |
| Belgrade | 8.3 | 316 | e 2 | 7k | + 3 | i 4 | 5 | - 5* | e 2 | 45 | P _g |
| Timisoara | 8.5 | 323 | e 2 | 7 | 0 | e 4 | 42 | + 1 _g | e 4 | 0 | ? |
| Helwan | 9.5 | 165 | i 2 | 15k | - 5 | e 4 | 5 | - 5 | e 2 | 21 | P |
| Sotchi | 9.6 | 58 | e 2 | 21 | 0 | e 4 | 5 | - 7 | — | — | — |
| Kecskemet | 10.1 | 323 | — | — | — | e 5 | 19 | - 14 _g | — | — | — |
| Kalossa | 10.2 | 320 | e 3 | 28 | P _g | e 5 | 28 | - 8 _g | e 3 | 52 | ? |
| Messina | 10.2 | 269 | e 2 | 27 | - 4 | e 4 | 12 | - 15 | i 3 | 5 | P* |
| Uzhgorod | 10.5 | 337 | e 2 | 45 | + 10 | e 4 | 43 | + 8 | — | — | — |
| Budapest | E. 10.9 | 324 | e 3 | 27 | P* | e 4 | 47 | + 3 | e 5 | 47 | S _g |
| | N. 10.9 | 324 | e 3 | 55 | P _z | e 4 | 42 | - 2 | e 6 | 7 | S _g |
| Abastumanj | 11.3 | 72 | 2 | 53 | + 7 | — | — | — | — | — | — |
| Akhalkalaki | 11.7 | 74 | 2 | 56 | + 5 | — | — | — | — | — | — |
| Borzhome | 11.7 | 72 | i 2 | 56 | + 5 | 5 | 10 | + 6 | — | — | — |
| Skalnate Pleso | 11.7 | 332 | e 2 | 49 | - 2 | e 5 | 57 | S* | e 3 | 23 | ? |
| Gori | 12.2 | 71 | 3 | 4 | + 6 | — | — | — | — | — | e 6.1 |
| Rocca di Papa | 12.3 | 288 | e 4 | 50? | ? | e 5 | 27? | + 9 | — | — | e 6.1 |
| Rome | 12.5 | 288 | e 3 | 10 | + 8 | e 4 | 58 | - 25 | e 4 | 35 | ? |
| Tiflis | 12.7 | 73 | i 3 | 11 | + 6 | e 5 | 39 | + 11 | — | — | — |
| Triest | 12.7 | 306 | e 3 | 0 | - 5 | e 5 | 17 | - 11 | e 6 | 35 | S _g |
| Raciborzu | 13.2 | 330 | e 3 | 8? | - 3 | e 5 | 47 | + 7 | e 8 | 40 | PcP |
| Grozny | 13.7 | 66 | i 3 | 19 | + 1 | — | — | — | — | — | — |
| Florence | 13.8 | 296 | e 3 | 29 | + 10 | e 6 | 1 | + 7 | — | — | i 7.6 |
| Goris | 13.8 | 83 | i 3 | 25 | + 6 | — | — | — | — | — | — |
| Kirovobad | 13.8 | 78 | 3 | 26 | + 7 | 6 | 7 | + 13 | — | — | — |
| Bologna | 13.9 | 298 | e 3 | 40 | + 19 | e 7 | 40 | ? | e 7 | 59 | ? |
| Prato | 13.9 | 296 | e 3 | 31 | + 10 | e 6 | 4 | + 7 | — | — | e 8.4 |
| Prague | 14.8 | 322 | i 3 | 29 | - 3 | e 6 | 10 | - 8 | e 6 | 33 | SS |
| Makhach-Kala | 14.9 | 69 | i 3 | 38 | + 4 | e 6 | 30 | + 10 | — | — | — |
| Shamakla | 15.5 | 78 | i 3 | 47 | + 5 | — | — | — | — | — | — |
| Pavia | 15.6 | 299 | e 3 | 45 _a | + 2 | e 6 | 48 | + 11 | e 7 | 56 | ? |
| Cheb | 15.8 | 319 | e 3 | 40 | - 5 | e 6 | 46 | + 4 | e 6 | 18 | ? |
| Chur | 15.9 | 305 | e 3 | 50 | + 3 | — | — | — | — | — | — |
| Collenberg | 16.3 | 323 | e 3 | 49 | - 3 | e 7 | 9 | SS | e 4 | 0 | PP |
| Baku | 16.5 | 79 | e 4 | 2 | PP | — | — | — | — | — | — |
| Zürich | 16.7 | 306 | e 3 | 56k | - 1 | e 7 | 7 | + 4 | — | — | — |
| Jena | 16.8 | 320 | e 3 | 54 | - 4 | e 7 | 10 | + 5 | e 7 | 47 | SS |
| Stuttgart | 16.9 | 311 | e 3 | 57 | - 2 | e 7 | 14 | + 7 | e 4 | 47 | ? |
| Potsdam | 17.1 | 326 | e 4 | 1 | - 1 | e 7 | 13 | + 1 | e 7 | 35? | SS |
| Basle | 17.4 | 306 | e 4 | 4 | - 2 | — | — | — | — | — | e 8.4 |
| Karlsruhe | 17.5 | 311 | e 4 | 10 | + 3 | e 7 | 20 | - 1 | e 4 | 30 | PP |
| Neuchatel | 17.6 | 305 | e 4 | 8 | 0 | — | — | — | — | — | e 8.8 |
| Moscow | 17.7 | 16 | 4 | 6 | - 4 | e 7 | 23 | - 3 | — | — | e 9.6 |
| Strasbourg | 17.7 | 309 | e 4 | 12 | + 2 | e 7 | 31 | + 5 | e 4 | 29 | PP |
| Clermont-Ferrand | 19.8 | 297 | e 4 | 33 | - 2 | e 8 | 26 | SS | e 5 | 0 | PP |
| Copenhagen | 19.8 | 332 | e 4 | 32 | - 3 | e 8 | 12 | - 1 | — | — | 10.0 |
| Algiers Univ. | z. 20.2 | 271 | e 4 | 37 | - 2 | e 8 | 33 | + 12 | e 5 | 3 | PP |
| Witteveen | z. 20.4 | 320 | e 4 | 37 | - 4 | — | — | — | — | — | 10.6 |
| De Bilt | 20.7 | 317 | i 4 | 43 | - 1 | e 8 | 30? | - 1 | e 5 | 15 | PP |
| Pulkovo | 20.7 | 2 | e 4 | 43 | - 1 | e 8 | 33 | + 2 | — | — | e 11.0 |
| Uccle | 20.7 | 312 | e 4 | 41 | - 3 | e 8 | 25 | - 6 | e 5 | 15 | PP |
| Chambon-la-Forêt | 20.9 | 303 | e 4 | 46 | 0 | — | — | — | — | — | e 10.4 |
| Paris | 21.0 | 305 | e 4 | 46 | - 1 | e 8 | 43 | + 6 | i 5 | 3 | PP |
| Kizyl-Arvat | 21.5 | 78 | i 4 | 54 | + 2 | — | — | — | — | — | — |
| Tortosa | 21.5 | 283 | i 6 | 2 | + 70 | e 9 | 5 | SS | — | — | — |
| Upsala | 21.9 | 244 | i 4 | 57 | 0 | i 8 | 56 | + 2 | e 9 | 26? | SS |
| Alicante | 22.6 | 278 | e 5 | 16 | + 13 | e 9 | 30 | + 23 | — | — | e 10.8 |
| Ashkabad | 23.3 | 82 | i 5 | 17 | + 7 | — | — | — | — | — | 11.5 |
| Kew | 23.6 | 311 | e 5 | 14 | + 1 | e 9 | 28 | + 3 | — | — | e 13.4 |
| Almeria | 24.5 | 275 | e 5 | 27 | + 5 | 9 | 59 | + 19 | — | — | 14.6 |
| Toledo | 25.1 | 281 | 5 | 29 | + 1 | — | — | — | — | — | — |
| Granada | 25.3 | 276 | i 5 | 32k | + 2 | i 9 | 59 | + 5 | 5 | 57 | PP |
| Tamanrasset | z. 25.4 | 237 | e 5 | 31 | 0 | e 9 | 54 | - 2 | i 7 | 34 | ? |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|----------|-----|---------|------|---------|------|---------|------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Bairam-Ali | 26.3 | 82 | 5 42 | + 3 | — | — | — | — |
| Aberdeen | 26.9 | 322 | — | — | i 10 42 | +22 | — | — |
| Sverdlovsk | 27.5 | 38 | 5 51 | + 1 | 10 31 | + 1 | — | — |
| Kiruna | 29.1 | 354 | i 6 5 | + 1 | e 10 54 | - 2 | e 12 51 | PcS e 13.4 |
| Samarkand | 29.6 | 76 | e 6 10 | + 1 | — | — | — | — |
| Tchimkent | 31.1 | 69 | e 6 25? | + 3 | — | — | — | — |
| Stalinabad | 31.2 | 76 | e 6 21 | - 2 | — | — | — | — |
| Quetta | z. 32.7 | 92 | e 6 51 | +15 | — | — | — | — |
| Dzhergetal | 32.9 | 74 | e 6 41 | + 3 | — | — | — | — |
| Namangan | 32.9 | 72 | e 6 39 | + 1 | — | — | — | — |
| Fergana | 33.1 | 73 | e 6 41 | + 1 | — | — | — | — |
| Frunse | 34.7 | 68 | i 6 56 | + 2 | — | — | — | — |
| Rybach'e | 35.8 | 68 | e 7 8 | + 5 | — | — | — | — |
| Irkutsk | 52.2 | 49 | e 9 16 | + 1 | — | — | — | — |
| Kabansk | 53.7 | 49 | e 9 26 | 0 | e 16 57 | - 2 | — | — |
| Pretoria | z. 64.5 | 180 | e 10 43 | + 2 | — | — | — | — |
| College | 76.3 | 358 | e 11 51 | - 1 | — | — | — | — |
| Fayetteville | 88.4 | 317 | e 13 5 | +10 | — | — | — | — |

July 22d. 17h. 50m. 27s. (I) } Epicentre 26°·7N. 44°·5W.
 18h. 4m. 31s. (II) } (as on 1937, December 13d.)

A = +.6380, B = -.6270, C = +.4469; δ = -11; h = +3;
 D = -.701, E = -.713; G = +.319, H = -.313, K = -.895.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------------|----------|-----|---------|------|---------|------|---------|------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| I Bermuda | 18.4 | 293 | e 4 22 | + 4 | — | — | — | — |
| II | 18.4 | 293 | i 4 17 | - 1 | — | — | — | 7.6 |
| II Angra do Heroismo | 18.8 | 46 | — | — | i 8 12 | SS | — | 9.3 |
| I Fort de France | 19.6 | 234 | i 4 31 | - 1 | — | — | — | — |
| II | 19.6 | 234 | i 4 27 | - 5 | — | — | — | — |
| I San Juan | 21.6 | 252 | i 4 54 | 0 | — | — | — | — |
| II | 21.6 | 252 | 4 52 | - 2 | — | — | — | — |
| I Halifax | 23.6 | 324 | 5 12 | - 1 | — | — | — | — |
| II | 23.6 | 324 | 5 14 | + 1 | — | — | — | — |
| I Harvard | 27.1 | 313 | e 5 48 | + 2 | — | — | — | — |
| II | 27.1 | 313 | e 5 42 | - 4 | — | — | — | — |
| I Philadelphia | 28.7 | 306 | e 6 0 | - 1 | — | — | — | — |
| II | 28.7 | 306 | e 5 57 | - 4 | — | — | — | — |
| II Seven Falls | E. 29.1 | 322 | 6 7 | + 3 | 11 0 | + 4 | — | — |
| I Washington | 29.8 | 303 | e 6 7 | - 4 | — | — | — | — |
| II | 29.8 | 303 | e 6 9 | - 2 | — | — | — | — |
| I Shawinigan Falls | N. 29.9 | 320 | e 6 17 | + 5 | — | — | — | — |
| II | 29.9 | 320 | e 6 17 | + 5 | — | — | — | — |
| I Ottawa | 31.1 | 316 | e 6 23 | + 1 | 11 33 | + 5 | 13 27 | SS |
| II | 31.1 | 316 | e 6 21 | - 1 | 11 31 | + 3 | 13 14 | SS |
| II Averroes | 32.7 | 70 | e 6 42 | + 6 | — | — | — | e 15.2 |
| I Cleveland | E. 33.7 | 306 | e 7 1 | +16 | — | — | — | — |
| II | 33.7 | 306 | i 6 46 | + 1 | i 12 13 | + 5 | i 14 15 | SS |
| I Kirkland Lake | z. 35.0 | 318 | e 6 59 | + 3 | — | — | — | — |
| II | 35.0 | 318 | e 6 56 | 0 | — | — | — | — |
| I Bogota | 35.8 | 238 | 7 40 | +37 | 13 33 | +52 | e 15 36 | SSS |
| II | 35.8 | 238 | 7 11 | + 8 | e 13 5 | +24 | e 8 23 | PP 18.5 |
| I Granada | 36.0 | 63 | i 7 11k | + 6 | 13 2 | +18 | 8 47 | PPP 18.8 |
| II | 36.0 | 63 | i 7 7k | + 2 | 13 6 | +22 | 8 28 | PP 17.1 |
| II Chinchina | 36.7 | 240 | e 7 19 | + 9 | — | — | — | — |
| I Almeria | 36.9 | 63 | e 7 14 | + 2 | 12 54 | - 4 | 8 40 | PP 21.1 |
| II | 36.9 | 63 | i 7 10 | - 2 | 12 50 | - 8 | 8 32 | PP 18.5 |
| I Alicante | 38.6 | 60 | e 7 17 | - 9 | e 12 55 | -28 | e 8 49 | PP 18.5 |
| II | 38.6 | 60 | e 7 21 | - 5 | e 12 59 | -24 | 8 53 | PP 18.6 |
| I Rathfarnham C. | z. 38.8 | 36 | e 7 43 | +15 | — | — | — | — |
| II | 38.8 | 36 | i 7 28 | 0 | e 12 16 | -10 | e 13 29 | PcS e 18.2 |
| I Tortosa | 39.5 | 57 | e 7 21 | -13 | — | — | — | — |
| II | 39.5 | 57 | i 7 36 | + 2 | 13 47 | +10 | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------------|----|----------|-----|---------------------|------|----------|------|---------|-----|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| I St. Louis | | 39.9 | 300 | i 7 34 | - 3 | e 14 2 | +19 | — | — |
| II | | 39.9 | 300 | i 7 38 | + 1 | e 13 49 | + 6 | — | — |
| II Reykjavik | z. | 40.2 | 14 | i 7 43 | + 3 | — | — | — | — |
| I Algiers Univ. | z. | 41.3 | 64 | e 7 40 | - 9 | — | — | e 9 28 | PP |
| II | | 41.3 | 64 | e 7 43 | - 6 | e 14 4 | 0 | e 9 26 | PP |
| II Kew | | 41.4 | 41 | e 7 50 | 0 | e 14 8 | + 3 | e 14 27 | PS |
| II Chambon-la-Forêt | | 42.1 | 47 | e 7 57 | + 2 | — | — | — | — |
| I Clermont-Ferrand | | 42.2 | 51 | — | — | e 14 24 | + 7 | — | — |
| II | | 42.2 | 51 | e 7 59 | + 3 | e 14 25 | + 8 | e 9 35 | PP |
| II Paris | | 42.4 | 46 | i 7 58 | 0 | e 14 11 | - 9 | e 10 11 | PPP |
| II Aberdeen | | 42.7 | 33 | e 7 59 | - 1 | i 14 29 | + 5 | — | — |
| I Fayetteville | | 43.0 | 296 | e 7 59 | - 4 | — | — | e 9 43 | PP |
| II | | 43.0 | 296 | e 8 1 | - 2 | — | — | e 9 39 | PP |
| II Uccle | | 44.0 | 43 | — | — | e 14 45 | + 2 | e 18 17 | ScS |
| II De Bilt | | 44.9 | 42 | e 8 19 | + 1 | e 15 5 | + 9 | — | — |
| I Tamanrasset | z. | 45.4 | 83 | e 8 19 | - 3 | — | — | e 8 36 | ? |
| II | z. | 45.4 | 83 | e 8 23 | + 1 | 15 15 | +11 | e 10 19 | PP |
| II Oropa | | 45.5 | 50 | e 8 56 | +33 | — | — | — | — |
| II Strasbourg | | 45.8 | 47 | e 8 25 | 0 | e 15 14 | + 5 | e 10 11 | PP |
| II Witteveen | z. | 45.9 | 40 | e 8 29 | + 3 | — | — | — | — |
| II Karlsruhe | z. | 46.2 | 46 | e 8 28 | 0 | e 10 18 | PP | e 9 26 | ? |
| II Pavia | | 46.3 | 51 | e 8 30 _a | + 1 | e 15 31 | +15 | e 13 58 | PcS |
| I Stuttgart | | 46.7 | 48 | 8 28 | - 4 | — | — | — | — |
| II | | 46.7 | 48 | 8 31 | - 1 | e 15 29 | + 7 | e 10 23 | PP |
| II Salo | N. | 47.3 | 51 | e 8 52 | +15 | — | — | — | — |
| II Florence | | 47.7 | 54 | e 8 55 | +15 | e 15 51 | +15 | — | — |
| I Jena | z. | 48.6 | 45 | e 8 51 | + 4 | — | — | e 8 57 | ? |
| II | | 48.6 | 45 | e 8 46 | - 1 | e 8 52 | ? | e 10 39 | PP |
| II Rome | | 48.6 | 56 | i 8 47 _a | 0 | i 15 53 | + 4 | — | — |
| II La Paz | | 48.7 | 210 | 8 43 | - 5 | i 15 51 | + 1 | 19 12 | SS |
| I Huancayo | | 48.8 | 222 | e 8 44 | - 5 | — | — | e 9 5 | ? |
| II | | 48.8 | 222 | e 8 51 | + 2 | e 15 49 | - 3 | e 9 14 | ? |
| I Collmberg | z. | 49.5 | 45 | e 8 51 | - 3 | — | — | — | — |
| II | z. | 49.5 | 45 | e 8 53 | - 1 | — | — | e 10 52 | PP |
| I Trieste | z. | 49.6 | 52 | e 8 52 | - 3 | e 9 3 | ? | e 11 1 | PP |
| II | | 49.6 | 52 | i 8 54 _a | - 1 | e 15 57 | - 6 | e 10 42 | PP |
| II Potsdam | | 49.7 | 43 | e 8 56 | 0 | e 16 11 | + 7 | — | — |
| II Copenhagen | | 49.9 | 39 | e 8 57 | 0 | i 16 12 | + 5 | 10 59 | PP |
| I Rapid City | | 49.9 | 307 | e 8 58 | + 1 | — | — | — | — |
| II | | 49.9 | 307 | e 8 54 | - 3 | e 16 17 | +10 | — | — |
| I Prague | | 50.3 | 46 | e 8 55 | - 5 | — | — | e 11 0 | PP |
| II | | 50.3 | 46 | e 9 0 _a | 0 | e 16 10 | - 3 | e 10 59 | PP |
| I Messina | z. | 51.2 | 61 | e 17 4 | PPS | — | — | e 17 28 | ? |
| II | E. | 51.2 | 61 | e 8 57 | -10 | e 16 31 | + 6 | e 11 21 | PP |
| II Raciborzu | | 52.7 | 46 | e 9 10? | - 8 | e 9 56 | ? | e 10 57 | PP |
| II Upsala | | 53.4 | 35 | i 9 24 | 0 | e 16 53 | - 2 | i 11 33 | PP |
| II Skalnaté Pleso | | 54.0 | 47 | e 9 44 | +16 | e 17 7 | + 4 | e 11 15 | PP |
| II Resolute Bay | | 54.4 | 346 | e 9 31 _a | 0 | — | — | — | — |
| I Kiruna | | 56.1 | 25 | e 9 40? | - 3 | e 17 41 | + 9 | e 18 1 | ? |
| II | | 56.1 | 25 | i 9 44 | + 1 | e 17 30? | - 2 | e 11 54 | PP |
| I Logan | | 56.3 | 305 | e 9 42 | - 3 | — | — | — | — |
| II | | 56.3 | 305 | e 9 42 | - 3 | — | — | — | — |
| I Butte | | 56.4 | 310 | e 9 47 | + 2 | — | — | — | — |
| II | | 56.4 | 310 | e 9 42 | - 3 | — | — | — | — |
| I Hungry Horse | | 57.2 | 313 | e 9 51 | 0 | — | — | — | — |
| II | | 57.2 | 313 | e 9 50 | - 1 | — | — | — | — |
| I Tucson | | 57.2 | 293 | e 9 54 | + 3 | — | — | — | — |
| II | | 57.2 | 293 | e 9 49 | - 2 | e 17 51 | + 5 | — | — |
| I Nelson | | 59.7 | 298 | e 10 3 | - 6 | — | — | — | — |
| II | | 59.7 | 298 | e 10 8 | - 1 | — | — | e 10 36 | PcP |
| II Barratt | z. | 61.9 | 295 | e 10 22 | - 2 | — | — | — | — |
| I Palomar | z. | 61.9 | 296 | 10 18 | - 6 | — | — | e 10 29 | P |
| II | z. | 61.9 | 296 | 10 23 | - 1 | — | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-------------|----|------------|------------|----------------------|------|---------|------|---------|------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| I Tinemaha | Z. | 62.1 | 300 | e 10 30 | + 5 | — | — | — | — |
| II | Z. | 62.1 | 300 | e 10 26 | + 1 | — | — | — | — |
| I Mineral | Z. | 63.8 | 305 | e 10 31 _a | - 5 | — | — | i 10 40 | ? |
| II | Z. | 63.8 | 305 | i 10 36 _a | 0 | — | — | e 10 59 | ? |
| II Berkeley | | 65.0 | 301 | — | — | e 19 38 | +12 | e 26 42 | SSS e 33.2 |
| II Helwan | Z. | 65.7 | 68 | 10 48 | 0 | — | — | — | — |
| I Ksara | | 68.3 | 63 | i 11 12 | + 7 | — | — | e 13 38 | PP |
| II | | 68.3 | 63 | i 11 7 | + 2 | — | — | e 13 36 | PP |
| I College | | 71.6 | 335 | e 11 29 | + 4 | — | — | — | — |
| II | | 71.6 | 335 | e 11 23 | - 2 | — | — | — | — |
| II Quetta | Z. | 93.5 | 54 | e 13 19 | 0 | — | — | — | — |

July 23d. 1h. 5m. 44s. Epicentre 26°·5N. 65°·1E.

A = +·3773, B = +·8128, C = +·4438; δ = -4; h = +2;
D = +·907, E = -·421; G = +·187, H = +·403, K = -·896.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----|------------|------------|---------------------|--------|---------|------------------|---------|----------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Quetta | | 4.1 | 25 | i 1 9 _k | + 4 | i 2 22 | + 6 _g | i 1 27 | P _g |
| Warsak Dam | E. | 9.3 | 35 | e 2 24 | + 7 | i 4 16 | +11 | — | i 6.3 |
| Bombay | | 10.4 | 135 | e 2 29 | - 5 | 4 33 | + 1 | 2 43 | PP |
| New Delhi | | 10.9 | 77 | e 2 38 | - 2 | 4 50 | + 6 | 2 46 | PP |
| Poona | | 11.3 | 133 | i 2 41 | - 5 | i 4 41 | -13 | 8 31 | PcP |
| Hyderabad | N. | 15.3 | 124 | 3 47 | + 8 | 7 5 | SSS | — | — 8.7 |
| Madras | E. | 19.5 | 130 | e 9 13 | PcP | — | — | — | — |
| Chatra | | 19.7 | 81 | i 4 33 | - 1 | i 8 5 | - 5 | — | — |
| Calcutta | E. | 21.5 | 95 | e 4 52 | 0 | i 9 58 | SSS | — | — 11.9 |
| Shillong | N. | 24.1 | 85 | e 5 14 | - 4 | i 9 36 | + 2 | — | — i 12.5 |
| Ksara | | 26.2 | 293 | i 5 42 | + 4 | 10 38 | +29 | — | — |
| Helwan | Z. | 29.9 | 285 | 6 12 | 0 | — | — | e 7 43 | ? — |
| Messina | | 43.0 | 299 | i 8 4 _k | + 1 | e 14 36 | + 7 | — | — |
| Triest | Z. | 44.9 | 309 | i 8 17 _k | - 1 | e 8 53 | ? | e 9 56 | PP |
| Prague | | 45.1 | 316 | e 8 22 | + 2 | e 15 6 | + 7 | e 12 4 | ? — |
| Rome | | 45.5 | 304 | i 8 22 | - 1 | e 15 6 | + 1 | — | — e 24.3 |
| Collnberg | | 46.3 | 317 | e 8 29 | 0 | e 9 3 | ? | e 10 51 | PPP |
| Florence | Z. | 46.5 | 307 | i 8 29 | - 2 | e 8 48 | ? | e 10 14 | PP |
| Potsdam | | 46.5 | 319 | e 8 32 | + 1 | — | — | — | — e 27.3 |
| Upsala | | 46.5 | 329 | i 8 31 _a | 0 | e 18 50 | SS | i 10 23 | PP e 24.3 |
| Nanking | Z. | 46.8 | 70 | i 8 32 _a | - 1 | — | — | — | — |
| Jena | | 47.1 | 316 | e 8 36 | + 1 | e 10 30 | PP | e 10 56 | PPP |
| Salo | N. | 47.1 | 309 | e 8 37 | + 2 | e 16 2 | PPS | e 9 4 | ? — |
| Copenhagen | | 47.6 | 323 | i 8 41 | + 2 | e 15 41 | + 6 | — | — 24.3 |
| Pavia | | 48.0 | 309 | — | — | e 19 42 | ? | — | — |
| Stuttgart | | 48.3 | 313 | i 8 44 _a | - 1 | e 20 52 | SSS | — | — |
| Oropa | | 48.9 | 310 | e 8 24 | -26 | — | — | — | — |
| Strasbourg | | 49.2 | 313 | e 8 51 | - 1 | e 16 16 | PPS | — | — |
| Kiruna | | 49.3 | 339 | i 8 56 _a | + 3 | e 16 5 | + 6 | e 10 49 | PP e 26.3 |
| Witteveen | Z. | 50.4 | 320 | e 9 1 | 0 | — | — | — | — |
| Clermont-Ferrand | | 52.3 | 309 | e 9 16 | + 1 | — | — | — | — |
| Paris | | 52.7 | 313 | i 9 17 | - 1 | — | — | — | — |
| Chambon-la-Forêt | | 52.9 | 312 | e 9 13 | - 7 | — | — | — | — |
| Algiers Univ. | Z. | 53.0 | 297 | e 9 21 | 0 | — | — | — | — |
| Tamanrasset | Z. | 53.9 | 280 | i 9 26 | - 1 | e 11 17 | PP | e 12 14 | PPP |
| Kew | | 54.6 | 316 | i 9 32 | 0 | — | — | — | — e 36.3 |
| Alicante | | 55.6 | 301 | e 9 43 | + 3 | e 17 29 | + 4 | — | — 26.9 |
| Almeria | | 57.4 | 299 | i 9 53 | 0 | — | — | — | — 38.3 |
| Toledo | | 58.1 | 303 | i 9 57 | - 1 | — | — | — | — |
| Granada | | 58.2 | 300 | i 9 58 _k | 0 | — | — | — | — 37.9 |
| Rathfarnham Castle | | 58.2 | 319 | i 10 0 | + 2 | — | — | i 10 36 | ? — |
| Malaga | | 58.9 | 300 | i 10 0 | - 3 | e 18 28 | PPS | — | — |
| Pretoria | Z. | 63.0 | 217 | e 10 28 | - 3 | — | — | — | — |
| Kimberley | Z. | 67.2 | 218 | e 10 54 | - 4 | — | — | — | — |
| College | | 85.4 | 13 | i 12 41 | + 1 | — | — | — | — |
| Fayetteville | | 114.7 | 342 | i 18 42 | [0] | i 19 1 | ? | i 19 35 | PP |
| Huancayo | | 140.2 | 283 | e 19 34 | [+ 3] | — | — | — | — |

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July 23d. 18h. 24m. 20s. Epicentre 51°·9N. 159°·9E. (as on 1953, June 3d.).

A = -·5814, B = +·2128, C = +·7853; $\delta = +1$; $h = -6$;
D = +·344, E = +·939; G = -·737, H = +·270, K = -·619.

| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. |
|------------------|----|---------------|----------|------|-----------------|------------|------|-----|------------|-------|-----|----------|
| | | | | m. | s. | | m. | s. | | m. | s. | |
| Matusiro | | 21·7 | 235 | e 4 | 51 | - 4 | e 8 | 56 | + 5 | — | — | — |
| College | | 29·3 | 44 | e 6 | 3 | - 3 | — | — | — | — | — | — |
| Nanking | z. | 35·8 | 253 | 7 | 0 | - 3 | — | — | — | — | — | — |
| Resolute Bay | | 44·5 | 22 | e 8 | 14k | - 1 | e 14 | 50 | - 1 | — | — | — |
| Hungry Horse | | 52·2 | 58 | e 9 | 8 | - 7 | — | — | — | — | — | — |
| Mineral | z. | 53·1 | 70 | e 9 | 19k | - 2 | — | — | — | — | — | — |
| Reno | | 54·7 | 69 | e 9 | 38 _a | + 5 | — | — | — | e 9 | 57 | ? |
| Fresno | z. | 56·5 | 72 | e 9 | 51k | + 5 | — | — | — | — | — | — |
| Kiruna | | 56·8 | 344 | i 9 | 45 | - 3 | e 17 | 49 | + 8 | e 21 | 40? | SS |
| Shillong | n. | 56·9 | 271 | — | — | — | i 17 | 41 | - 1 | — | — | e 24·7 |
| Tinemaha | z. | 57·2 | 71 | e 9 | 56 | + 5 | — | — | — | — | — | — |
| Woody | z. | 57·8 | 72 | e 10 | 26 | +31 | i 10 | 32 | ? | i 10 | 49 | PcP |
| China Lake | z. | 58·5 | 71 | e 10 | 4 | + 4 | — | — | — | — | — | — |
| Riverside | z. | 59·9 | 73 | e 10 | 12 | + 2 | — | — | — | — | — | — |
| Boulder City | | 60·0 | 69 | e 10 | 39 | +28 | — | — | — | — | — | — |
| Nelson | | 60·1 | 69 | e 10 | 8 | - 3 | — | — | — | i 10 | 16 | ? |
| Palomar | z. | 60·6 | 73 | e 10 | 13 | - 2 | — | — | — | e 10 | 19 | ? |
| Barratt | z. | 61·2 | 73 | e 10 | 22 | + 3 | — | — | — | e 10 | 35 | ? |
| Upsala | | 64·5 | 340 | i 10 | 39 | - 2 | i 19 | 17 | - 2 | e 14 | 26 | PPP |
| Tucson | | 64·9 | 70 | e 10 | 43 | 0 | — | — | — | — | — | e 31·7 |
| Quetta | z. | 68·5 | 292 | i 11 | 4 | - 2 | — | — | — | — | — | — |
| Copenhagen | | 69·4 | 342 | — | — | — | e 20 | 21 | + 3 | i 20 | 34 | PS |
| Fayetteville | | 71·2 | 56 | e 11 | 19 | - 4 | — | — | — | — | — | e 36·9 |
| Seven Falls | E. | 72·2 | 34 | — | — | — | e 20 | 51 | 0 | — | — | 34·5 |
| Potsdam | | 72·4 | 340 | e 11 | 30 | 0 | e 20 | 55 | + 2 | i 21 | 10 | sS |
| Poona | n. | 73·2 | 279 | — | — | — | e 20 | 40? | -22 | — | — | — |
| Witteveen | z. | 73·2 | 344 | e 11 | 36 | + 1 | — | — | — | — | — | — |
| Collmberg | z. | 73·4 | 339 | e 11 | 34 | - 2 | — | — | — | — | — | — |
| Jena | z. | 74·1 | 340 | e 11 | 39 | - 1 | — | — | — | e 12 | 7 | ? |
| De Bilt | | 74·2 | 345 | e 11 | 40 | 0 | e 20 | 58 | -16 | e 21 | 34 | PS |
| Prague | | 74·2 | 338 | e 11 | 56 | PcP | e 20 | 59 | -15 | e 12 | 14 | ? |
| Weston | | 76·1 | 37 | i 12 | 26k | +35 | — | — | — | — | — | e 41·7 |
| Stuttgart | | 76·6 | 341 | e 11 | 52 | - 2 | e 21 | 40 | 0 | — | — | e 41·7 |
| Strasbourg | | 77·1 | 342 | e 12 | 1 | + 4 | e 21 | 46 | 0 | e 12 | 24 | ? |
| Paris | | 77·8 | 345 | e 12 | 1 | 0 | — | — | — | e 12 | 7 | ? |
| Istanbul | z. | 78·0 | 325 | e 11 | 59 | - 3 | — | — | — | — | — | e 40·7 |
| Triest | | 78·5 | 337 | e 12 | 2 | - 2 | e 22 | 13 | +12 | e 13 | 6 | ? |
| Chambon-la-Forêt | | 78·6 | 345 | e 12 | 7 | + 2 | — | — | — | — | — | — |
| Oropa | | 79·9 | 341 | e 12 | 28 | +16 | e 23 | 1 | PS | e 23 | 33 | PPS |
| Clermont-Ferrand | | 80·7 | 344 | e 12 | 17 | + 1 | e 22 | 42 | ScS | — | — | 40·7 |
| Florence | | 80·9 | 338 | e 12 | 15 | - 2 | e 22 | 31 | + 5 | e 23 | 3 | PS |
| Ksara | | 81·6 | 316 | i 12 | 22 | + 1 | e 21 | 38 | -55 | — | — | — |
| Rome | | 82·4 | 336 | e 12 | 25 | 0 | e 22 | 42 | + 1 | e 23 | 30 | PS |
| Messina | E. | 85·0 | 333 | — | — | — | e 23 | 18 | ScS | — | — | e 38·2 |
| Helwan | z. | 86·9 | 318 | e 12 | 47 | - 1 | e 13 | 1 | ? | e 14 | 3 | ? |
| Bermuda | | 87·4 | 36 | — | — | — | e 23 | 43 | +13 | e 29 | 46 | SS |

July 25d. 1h. 35m. Epicentre 46°·5N. 13°·1E. (Rome).

46°·8N. 13°·1E. (Strasbourg).

Intensity V at Arta; IV at Paularo in Udine province.

M. De. Panflis.

"Attività sismica in Italia, dal 1953 al 1957," Annali di geofisica rivista dell'Istituto nazionale di geofisica, Vol. XII, No. 1, Rome, p. 29, with macroseismic chart.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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July 25d. 17h. 27m. 0s. Epicentre 19°·7S. 175°·9W. (as on 1950, December 14d.).

Magnitude 5·75-6 (New Zealand).

A = -·9397, B = -·0674, C = -·3351; $\delta = -13$; $h = +5$;
D = -·071, E = +·997; G = +·334, H = +·024, K = -·942.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|------|----------|-----|----------------------|------------------|---------|-------|---------|-------------------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Apia | | 7·1 | 35 | e 1 40 | - 8 | e 2 55 | -15 | — | e 3·3 |
| Karapiro | N. | 19·6 | 200 | — | — | e 8 0? | - 8 | — | — |
| Tuai | N. | 19·9 | 196 | e 4 52 | +16 | e 7 43 | -32 | — | — |
| Wellington | | 22·8 | 197 | e 4 50 | -15 | e 8 45 | -26 | e 5 7 | P e 11·3 |
| Cobb River | E. | 23·4 | 203 | e 5 11 | 0 | e 9 14 | - 7 | — | — |
| Kaimata | N.E. | 25·2 | 203 | e 5 28 | - 1 | — | — | — | — |
| Brisbane | | 29·5 | 249 | e 7 19 | PPP | — | — | — | i 13·8 |
| Baguio | | 72·0 | 296 | e 11 10 | -18 | — | — | — | — |
| Berkeley | | 76·3 | 42 | e 11 56 | + 4 | — | — | — | e 32·9 |
| Lick | Z. | 76·3 | 42 | e 11 56 _a | + 4 | — | — | i 12 2 | PcP |
| Pasadena | Z. | 76·8 | 47 | e 11 58 | + 3 | — | — | i 12 32 | PcP e 37·7 |
| Barratt | Z. | 76·9 | 48 | e 12 1 | + 5 | — | — | — | — |
| Woody | Z. | 77·1 | 45 | e 12 0 | + 3 | — | — | i 12 12 | PcP |
| Fresno | Z. | 77·2 | 44 | e 12 1 _k | + 4 | — | — | — | — |
| Palomar | Z. | 77·2 | 48 | i 11 59 | + 2 | i 12 24 | ? | i 12 6 | PcP |
| Riverside | Z. | 77·2 | 47 | e 12 0 | + 3 | — | — | — | — |
| China Lake | Z. | 78·0 | 45 | e 12 5 | + 3 | — | — | — | — |
| Shasta | Z. | 78·0 | 39 | e 12 5 _a | + 3 | — | — | e 12 18 | PcP |
| Mineral | Z. | 78·2 | 40 | e 12 7 _a | + 4 | e 13 13 | ? | i 12 19 | PcP |
| Tinemaha | Z. | 78·4 | 44 | i 12 7 | + 3 | — | — | i 12 20 | PcP |
| Reno | | 78·8 | 42 | i 12 11 _k | + 5 | — | — | — | — |
| Seattle | Z. | 82·5 | 34 | e 12 33 | + 7 | — | — | — | — |
| Fayetteville | | 95·0 | 54 | i 13 27 | + 1 | — | — | e 17 3 | PP |
| Huancayo | | 95·7 | 106 | e 13 27 | - 2 | e 24 6 | [+ 1] | e 31 7 | SS e 44·7 |
| La Paz | N. | 100·4 | 112 | e 14 2 | +12 | — | — | — | 48·0 |
| Palisades | | 111·5 | 53 | — | — | e 27 4 | S | e 34 58 | SS e 54·2 |
| Kiruna | | 130·8 | 351 | i 19 18 | [+ 4] | e 26 41 | [+19] | e 21 40 | PP e 60·0 |
| Upsala | Z. | 138·7 | 351 | e 19 26 | [- 2] | — | — | — | — |
| Copenhagen | | 143·5 | 353 | i 19 42 | [+ 5] | — | — | — | 81·0 |
| Potsdam | | 146·6 | 351 | e 19 53 | [+11] | — | — | e 20 26 | ? e 88·0 |
| Witteveen | Z. | 146·9 | 357 | i 19 53 | [+11] | — | — | — | — |
| De Bilt | | 147·6 | 358 | i 20 0 | [+16] | — | — | — | e 88·0 |
| Collmberg | | 147·7 | 351 | e 19 48 | [+ 4] | e 24 1 | ? | e 21 0 | ? |
| Raciborzu | | 147·7 | 343 | e 19 46? | [+ 2] | e 20 1 | ? | e 19 56 | PKP ₂ |
| Jena | | 148·3 | 351 | e 19 51 | [+ 6] | e 23 29 | PKS | i 19 57 | PKP ₂ |
| Ksara | | 148·5 | 304 | i 20 0 | [+15] | e 23 17 | PKS | — | — |
| Prague | | 148·6 | 348 | e 20 2 | [+17] | e 20 26 | PKS | e 21 43 | ? |
| Istanbul | Z. | 149·9 | 321 | e 19 54 | [+ 7] | e 33 0? | ? | — | — |
| Karlsruhe | Z. | 150·6 | 355 | e 19 56 | [+ 8] | e 20 30 | ? | e 20 16 | PKP ₂ |
| Stuttgart | | 150·7 | 353 | e 19 55 | [+ 7] | — | — | e 20 0 | PKP ₁ e 89·0 |
| Paris | | 150·9 | 4 | e 19 56 | [+ 7] | e 22 47 | PP | e 20 25 | PKP ₂ e 92·0 |
| Strasbourg | | 151·0 | 356 | e 19 56 | [+ 7] | — | — | e 20 14 | PKP ₂ |
| Chambon-la-Forêt | | 151·7 | 4 | e 19 56 | [+ 6] | — | — | — | — |
| Helwan | Z. | 153·3 | 298 | e 20 25 | PKP ₂ | — | — | e 20 45 | ? |
| Clermont-Ferrand | | 154·0 | 3 | e 19 59 | [+ 6] | — | — | — | 91·5 |
| Florence | | 155·3 | 349 | e 20 32 | PKP ₂ | — | — | e 23 43 | PP |
| Toledo | | 158·7 | 20 | e 20 8 | [+ 9] | 24 26 | PP | e 20 46 | PKP ₂ |
| Tortosa | | 158·7 | 8 | e 20 11 | [+12] | — | — | — | — |
| Alicante | | 161·0 | 13 | e 20 24 | [+22] | 27 26 | [+20] | 25 9 | PP 78·4 |
| Granada | | 161·3 | 20 | 20 11 _k | [+ 9] | 32 1 | {+41} | 20 58 | PKP ₂ 93·3 |
| Malaga | | 161·5 | 22 | i 20 55 | PKP ₂ | — | — | — | — |
| Almeria | | 162·0 | 17 | 20 15 | [+12] | 45 23 | SS | 24 49 | PP 89·4 |
| Algiers Univ. | Z. | 162·9 | 3 | e 20 10 | [+ 6] | e 24 52 | PP | e 21 4 | PKP ₂ |
| Tamanrasset | Z. | 176·6 | — | e 20 18 | [+ 6] | e 26 1 | PP | e 21 55 | PKP ₂ |

July 26d. 4h. 30m. Provisional epicentre 42°·0S. 174°·75E. Magnitude 5 ca.

Felt in Wellington and Southern Manawatu with maximum intensity III.

Seismological Observatory Bulletin No. E-133 for July, August, and September, 1953

New Zealand Department of Scientific and Industrial Research, Wellington, 1956, p. 4.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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July 26d. 6h. 52m. Epicentre 37°·8N. 71°·9E. Depth of focus 130km.
Bulletin of Seismo. Stations of the U.S.S.R. for July-September, 1953, Moscow, 1954, p. 90.

July 26d. 13h. 5m. Epicentre 15°S. 75°W. Depth of focus 60km.
Felt in Peru with intensity IV-V at Ica; IV at Pisco, Nazca, and Marcona; III at Chorillos and Lima; II-III at Chosica, etc.

E. Silgado.
Datos sismológicos del Perú, 1952-1955, Boletín de la Sociedad geológica del Perú, Tome XXIX, Lima, 1957, p. 27.

July 26d. 16h. 53m. 20s. Epicentre 17°·8N. 145°·6E. Depth of focus 0·025.

Magnitude 7 (Pasadena).

Felt in Japan at Ryugasaki and Makabe in Ibaraki Prefecture.

Epicentre 17°·5N. 146°E. Depth of focus 200km.

Seismo. Bull. Cent. Met. Obs., Japan, for July, 1953, Tokyo, 1953, pp. 46-49.

A = -·7861, B = +·5383, C = +·3038; $\delta = +1$; $h = +5$;
D = +·565, E = +·825; G = -·251, H = +·172, K = -·953.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|----------|-----|---------|------|--------|------|----------|------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Guam | 4·4 | 191 | i 1 10 | + 3 | — | — | — | — |
| Mera | 17·8 | 344 | e 3 56 | - 1 | 7 6 | 0 | — | — |
| Osima | 17·8 | 344 | e 3 56 | - 1 | i 7 5 | - 1 | i 5 36 | ? |
| Siomisaki | 17·9 | 334 | e 3 58 | 0 | 7 9 | + 1 | e 4 23 | PP |
| Omaesaki | 18·0 | 341 | 4 0 | + 1 | 7 15 | + 5 | e 8 14 | PcP |
| Ajiro | 18·1 | 344 | 3 59 | - 1 | 7 14 | + 2 | — | — |
| Owase | 18·2 | 337 | e 4 10 | + 9 | e 7 21 | + 7 | — | — |
| Shizuoka | 18·3 | 342 | 4 1 | - 1 | 7 13 | - 3 | 7 54 | SS |
| Yokohama | 18·4 | 344 | i 4 0k | - 3 | 7 19 | + 1 | e 4 51 | PPP |
| Muroto | 18·5 | 329 | e 4 8 | + 4 | e 7 22 | + 2 | — | — |
| Tokyo | 18·6 | 344 | e 4 3 | - 2 | i 7 19 | - 3 | — | — |
| Hunatu | 18·7 | 344 | e 4 4 | - 2 | e 7 25 | + 1 | 15 24 | ScS |
| Tu | 18·7 | 337 | 4 9 | + 3 | i 7 36 | +12 | i 4 50 | PPP |
| Yakusima | 18·7 | 316 | e 4 2 | - 4 | e 7 31 | + 7 | — | — |
| Kameyama | 18·8 | 337 | 4 10 | + 3 | 7 26 | 0 | 11 57 | PcS e 13·5 |
| Kohu | 18·8 | 343 | e 4 8 | + 1 | e 7 22 | - 4 | e 15 18 | ScS |
| Simidu | 18·8 | 325 | 4 6 | - 1 | i 7 28 | + 2 | i 9 26 | ? |
| Nagoya | 18·9 | 339 | 4 8 | 0 | 7 37 | + 9 | 15 21 | ScS |
| Mito | 19·0 | 348 | i 4 9 | 0 | 7 28 | - 2 | — | — |
| Miyazaki | 19·0 | 320 | e 4 11 | + 2 | i 7 40 | +10 | (e 12 4) | PcS e 12·1 |
| Osaka | 19·0 | 334 | e 4 16 | + 7 | e 7 52 | +22 | e 4 29 | PP |
| Titibu | 19·0 | 334 | i 4 8 | - 1 | e 7 29 | - 1 | — | — |
| Koti | 19·1 | 327 | e 4 9 | - 1 | e 7 30 | - 2 | i 4 45 | pP |
| Kumagaya | 19·1 | 334 | i 4 10 | 0 | 7 33 | + 1 | — | — |
| Sumoto | 19·1 | 333 | i 4 13 | + 3 | i 7 28 | - 4 | i 15 19 | ScS |
| Kobe | 19·2 | 334 | e 4 13 | + 2 | e 7 36 | + 2 | i 8 35 | SS |
| Hikone | 19·3 | 338 | 4 12 | 0 | e 7 38 | + 3 | e 15 22 | ScS |
| Kagosima | 19·3 | 328 | 4 14 | + 2 | 7 44 | + 9 | — | — |
| Kyoto | 19·3 | 337 | e 4 16 | + 4 | e 7 33 | - 2 | (e 8 48) | SSS e 8·8 |
| Utunomiya | 19·3 | 345 | e 4 12 | 0 | i 7 37 | + 2 | 15 18 | ScS |
| Maebasi | 19·4 | 334 | e 4 15 | + 2 | 7 38 | + 1 | — | — |
| Takamatu | 19·4 | 330 | e 4 11 | - 2 | e 7 36 | - 1 | i 4 49 | PP |
| Oiwake | 19·5 | 344 | e 4 18 | + 4 | e 7 39 | 0 | e 5 55 | ? |
| Onahama | 19·5 | 350 | i 4 14k | 0 | i 7 41 | + 2 | — | — |
| Matumoto | 19·6 | 341 | 4 16 | + 1 | 7 47 | + 6 | e 15 22 | ScS |
| Matuyama | 19·7 | 328 | e 4 14 | - 2 | e 7 43 | 0 | e 4 49 | PP 8·7 |
| Tsuruga | 19·7 | 340 | i 4 22 | + 6 | 7 46 | + 3 | i 4 50 | PP |
| Matusiro | 19·8 | 344 | i 4 13 | - 4 | i 7 39 | - 6 | 5 13 | pP |
| Okayama | 19·8 | 331 | e 4 18 | + 1 | 7 45 | 0 | — | — |
| Shirakawa | 19·8 | 346 | i 4 18 | + 1 | i 7 48 | + 3 | — | — |
| Nagano | 19·9 | 344 | e 4 31 | +13 | e 7 49 | + 2 | 15 18 | ScS |
| Ooita | 19·9 | 323 | e 4 23 | + 5 | e 7 36 | -11 | i 4 52 | PP |
| Toyooka | 20·1 | 334 | e 4 21 | + 1 | e 7 49 | - 1 | i 15 24 | ScS |
| Toyama | 20·2 | 340 | e 4 18 | - 3 | 7 56 | + 4 | 11 2 | ? |
| Hirosima | 20·3 | 327 | e 4 21 | - 1 | 7 52 | - 2 | e 4 55 | PP i 9·0 |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|-----------------|----------|-----|------|-----------------|------|------|-----------------|------|-------|----|-----|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Kanazawa | 20.3 | 339 | e 4 | 25 | + 3 | e 8 | 0 | + 6 | — | — | — |
| Hokusima | 20.4 | 322 | e 4 | 25 | + 2 | i 8 | 0 | + 4 | — | — | — |
| Hukuoka | 20.8 | 322 | e 4 | 29 | + 2 | 8 | 7 | + 4 | 5 | 4 | pP |
| Sendai | 20.8 | 350 | 4 | 27 | 0 | 8 | 8 | + 5 | 8 | 17 | PcP |
| Simonoseki | 20.8 | 324 | e 4 | 47 | +20 | e 8 | 5 | + 2 | i 9 | 10 | SSS |
| Hamada | 20.9 | 327 | 4 | 26 | - 2 | 8 | 6 | + 1 | 9 | 1 | SS |
| Niigata | E. 20.9 | 346 | e 4 | 32 | + 4 | 8 | 8 | + 3 | e 5 | 11 | pP |
| Yamagata | 20.9 | 348 | 4 | 28 | 0 | 8 | 11 | + 6 | — | — | — |
| Wazima | N. 21.0 | 341 | e 4 | 29 | 0 | e 8 | 7 | 0 | — | — | — |
| Aikawa | 21.2 | 344 | 4 | 31 | 0 | 8 | 9 | - 1 | — | — | — |
| Mizusawa | 21.6 | 351 | 4 | 35 | 0 | 8 | 2 | -15 | — | — | — |
| Sakata | 21.6 | 349 | 4 | 41 | + 6 | 8 | 26 | + 9 | — | — | — |
| Miyako | 22.0 | 353 | 4 | 39 ^k | 0 | 8 | 24 | - 1 | e 5 | 12 | pP |
| Morioka | 22.2 | 351 | e 4 | 42 | + 1 | i 8 | 31 | + 3 | — | — | — |
| Akita | 22.4 | 348 | i 4 | 44 | + 1 | 8 | 38 | + 7 | e 5 | 14 | pP |
| Hatinohe | 22.9 | 353 | i 4 | 50 | + 2 | 8 | 39 | - 1 | 15 | 34 | ScS |
| Aomori | 23.3 | 351 | 4 | 56 | + 4 | i 8 | 44 | - 3 | i 5 | 8 | ? |
| Baguio | 23.9 | 271 | i 5 | 0 ^a | + 3 | i 9 | 1 | + 4 | — | — | — |
| Urakawa | 24.4 | 356 | e 5 | 5 | + 3 | e 9 | 6 | + 1 | e 5 | 44 | pP |
| Mori | 24.6 | 351 | 5 | 4 | 0 | e 9 | 8 | 0 | e 5 | 52 | PP |
| Tomakomai | 24.9 | 354 | e 5 | 2 | - 5 | 9 | 4 | - 9 | 5 | 55 | PP |
| Kusiro | 25.1 | 358 | e 5 | 7 | - 2 | i 9 | 16 | - 1 | i 5 | 40 | pP |
| Suttsu | 25.3 | 353 | e 5 | 36 | pP | — | — | — | — | — | — |
| Nemuro | 25.4 | 0 | e 5 | 11 | 0 | i 9 | 21 | - 1 | e 5 | 40 | pP |
| Sapporo | 25.4 | 354 | i 5 | 11 | 0 | i 9 | 18 | - 4 | i 5 | 49 | pP |
| Asahigawa | 26.0 | 357 | e 5 | 22 | + 5 | — | — | — | — | — | — |
| Abashiri | 26.2 | 359 | 5 | 18 | - 1 | 9 | 33 | - 2 | — | — | — |
| Kurilsk | 27.4 | 4 | i 5 | 29 | - 1 | i 9 | 51 | - 3 | 6 | 8 | pP |
| Vladivostok | 27.8 | 338 | i 5 | 32 | - 1 | 9 | 56 | - 4 | 6 | 10 | pP |
| Nanking | 28.0 | 306 | i 5 | 35 ^a | 0 | 9 | 52 | -12 | i 6 | 19 | pP |
| Yuzno-Sakhlinsk | 29.2 | 356 | i 5 | 45 | - 1 | 10 | 18 | - 5 | 6 | 23 | pP |
| Hong Kong | 29.8 | 285 | i 5 | 52 | + 1 | 10 | 37 | + 5 | — | — | — |
| Uglegorsk | 31.3 | 357 | i 6 | 2 | - 2 | i 10 | 51 | - 5 | 6 | 42 | pP |
| Petropavlovsk | 36.7 | 11 | i 6 | 50 | 0 | i 12 | 16 | - 3 | i 7 | 29 | pP |
| Klyuchi | 40.1 | 13 | i 7 | 19 | + 1 | i 13 | 9 | - 1 | 7 | 58 | pP |
| Magadan | 41.9 | 4 | i 7 | 32 | - 1 | — | — | — | 8 | 12 | pP |
| Bandung | 44.8 | 240 | i 7 | 58 | + 2 | i 14 | 20 | + 2 | i 8 | 43 | pP |
| Kyakhta | 45.0 | 325 | i 7 | 57 | - 1 | i 15 | 38 | sS | — | — | — |
| Djakarta | 45.1 | 242 | i 8 | 1 | + 2 | i 14 | 27 | + 5 | i 9 | 16 | sP |
| Mitchell Field | 45.1 | 32 | e 8 | 0 | + 1 | e 14 | 23 | + 1 | — | — | — |
| Brisbane | 45.6 | 170 | i 8 | 1 | - 2 | i 14 | 27 | - 3 | i 9 | 50 | PP |
| Kabansk | 45.9 | 327 | i 8 | 4 | - 1 | 14 | 32 | - 2 | i 8 | 47 | pP |
| Irkutsk | 47.2 | 326 | i 8 | 13 | - 2 | 14 | 49 | - 3 | e 8 | 54 | pP |
| Shillong | N. 50.3 | 290 | e 8 | 35 | - 4 | 15 | 38 | + 3 | i 9 | 20 | pP |
| Riverview | 51.6 | 174 | i 8 | 49 ^a | 0 | i 15 | 52 | - 1 | i 9 | 27 | pP |
| Honolulu | 52.9 | 76 | i 8 | 50 | - 8 | e 16 | 13 | + 2 | — | — | — |
| Calcutta | E. 53.7 | 286 | i 9 | 0 | - 4 | i 16 | 24 | + 3 | 17 | 48 | sS |
| Chatra | 54.4 | 292 | i 9 | 10 | + 1 | i 16 | 33 | + 2 | 14 | 10 | PcS |
| Melbourne | E. 55.3 | 180 | — | — | — | e 16 | 48 | + 5 | — | — | — |
| Auckland | N. 61.0 | 153 | — | — | — | e 17 | 40 [?] | -17 | — | — | — |
| Chilisk | 61.5 | 311 | i 9 | 59 | 0 | i 18 | 7 | + 4 | — | — | — |
| Kurmenty | 61.6 | 310 | i 10 | 0 | + 1 | — | — | — | — | — | — |
| Karapiro | N. 62.2 | 155 | e 10 | 3 | 0 | e 19 | 40 | sS | — | — | — |
| Almata II | 62.3 | 311 | e 10 | 3 | - 1 | — | — | — | — | — | — |
| New Plymouth | E. 62.5 | 155 | e 10 | 9 | + 4 | — | — | — | — | — | — |
| Almata | 62.6 | 311 | i 10 | 5 | - 1 | i 18 | 18 | + 1 | i 10 | 51 | pP |
| Fabrichnaya | 63.0 | 311 | i 10 | 9 | 0 | — | — | — | — | — | — |
| Madras | E. 63.0 | 277 | i 10 | 10 | + 1 | i 18 | 25 | + 3 | 18 | 46 | SP |
| New Delhi | 63.1 | 294 | e 10 | 7 | - 2 | i 18 | 19 | - 4 | 19 | 35 | sS |
| Rybach'e | 63.2 | 309 | i 10 | 8 | - 2 | i 18 | 25 | + 1 | 10 | 55 | pP |

Continued on next page.

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| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|--------------|------|---------------|----------|------|-----------------|------------|------|----|------------|-------|----|----------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Naryn | | 63.3 | 308 | i 10 | 9 | - 2 | i 18 | 26 | 0 | i 10 | 53 | pP | — |
| Tuai | N. | 63.6 | 153 | e 10 | 13 | + 1 | — | — | — | — | — | — | — |
| Hyderabad | E. | 63.7 | 281 | i 10 | 12 | - 1 | i 18 | 34 | + 3 | 19 | 22 | PS | 29.2 |
| Cobb River | E. | 63.8 | 157 | e 10 | 13 | - 1 | — | — | — | — | — | — | — |
| College | | 64.1 | 25 | i 10 | 12 | - 4 | e 18 | 32 | - 4 | e 10 | 56 | pP | — |
| Frunse | | 64.3 | 310 | i 10 | 16 | - 1 | i 18 | 39 | + 1 | i 11 | 1 | pP | — |
| Kaimata | N.E. | 64.6 | 159 | e 10 | 13 | - 6 | — | — | — | — | — | — | — |
| Wellington | | 64.7 | 156 | e 10 | 18 | - 2 | — | — | — | — | — | — | — |
| Chrischurch | | 65.9 | 159 | 10 | 26 | - 1 | — | — | — | — | — | — | — |
| Andijan | | 66.0 | 307 | i 10 | 27 | - 1 | i 19 | 0 | + 1 | i 11 | 14 | pP | — |
| Kodaikanal | E. | 66.2 | 274 | i 10 | 32 | + 3 | i 18 | 54 | - 7 | 12 | 50 | PP | 28.8 |
| Fergana | | 66.5 | 306 | i 10 | 29 | - 2 | — | — | — | i 11 | 16 | pP | — |
| Namangan | | 66.5 | 307 | i 10 | 31 | 0 | i 19 | 6 | + 1 | i 11 | 18 | pP | — |
| Khorog | | 66.9 | 303 | i 10 | 33 | - 1 | i 19 | 11 | + 2 | — | — | — | — |
| Dzhergetal | | 67.0 | 306 | 10 | 33 | - 1 | i 19 | 11 | 0 | — | — | — | — |
| Warsak Dam | E. | 67.3 | 300 | i 10 | 31 | - 5 | i 19 | 18 | + 4 | i 11 | 16 | pP | — |
| Poona | | 67.7 | 283 | i 10 | 41 | + 2 | i 19 | 22 | + 3 | 13 | 7 | PP | 30.6 |
| Tchimkent | | 68.0 | 309 | i 10 | 39 | - 1 | — | — | — | — | — | — | — |
| Obi-garm | | 68.2 | 305 | i 10 | 39 | - 3 | — | — | — | — | — | — | — |
| Kulyab | | 68.3 | 304 | i 10 | 42 | 0 | 19 | 26 | 0 | — | — | — | — |
| Lunacharskoe | | 68.3 | 308 | i 10 | 41 | - 1 | i 19 | 26 | 0 | e 11 | 32 | pP | — |
| Tashkent | | 68.3 | 308 | i 10 | 42 | 0 | i 19 | 26 | 0 | i 11 | 26 | pP | — |
| Bombay | E. | 68.6 | 284 | e 10 | 46 | + 2 | i 19 | 32 | + 2 | 14 | 45 | PPP | — |
| Stalinabad | | 69.0 | 305 | i 10 | 46 | 0 | i 19 | 34 | 0 | i 11 | 37 | pP | — |
| Sitka | | 69.3 | 34 | i 10 | 48 | 0 | i 19 | 37 | - 1 | — | — | — | — |
| Samarkand | | 70.2 | 306 | i 10 | 52 | - 2 | i 19 | 47 | - 1 | 11 | 40 | pP | — |
| Quetta | | 71.6 | 297 | i 11 | 2 | 0 | e 20 | 1 | - 3 | e 38 | 38 | P'P' | — |
| Sverdlovsk | | 72.6 | 325 | i 11 | 6 | - 2 | i 20 | 12 | - 4 | i 11 | 52 | pP | — |
| Bairam-Ali | | 74.3 | 305 | i 11 | 17 | - 1 | i 20 | 35 | 0 | 12 | 4 | pP | — |
| Alberni | | 76.5 | 42 | 11 | 32 | + 2 | — | — | — | — | — | — | — |
| Ashkabad | | 77.2 | 306 | i 11 | 35 | + 1 | i 21 | 7 | + 1 | 12 | 22 | pP | — |
| Victoria | | 77.5 | 43 | i 11 | 35 _a | - 1 | i 21 | 8 | - 1 | e 12 | 16 | pP | — |
| Seattle | | 78.4 | 44 | i 11 | 42 | + 1 | e 21 | 15 | - 4 | e 12 | 25 | pP | — |
| Kizyl-Arvat | | 78.5 | 308 | i 11 | 42 | + 1 | i 21 | 19 | - 1 | 12 | 29 | pP | — |
| Arcata | E. | 78.8 | 50 | e 11 | 44 | + 1 | e 21 | 23 | 0 | — | — | — | — |
| Shasta | | 80.1 | 50 | i 11 | 49 _a | - 1 | e 21 | 35 | - 2 | e 12 | 32 | pP | — |
| Resolute Bay | | 80.3 | 14 | e 11 | 48 _k | - 3 | i 21 | 34 | - 5 | i 12 | 40 | pP | e 32.9 |
| Mineral | Z. | 80.8 | 50 | i 11 | 52 _a | - 1 | e 21 | 41 | - 3 | i 12 | 44 | pP | — |
| Berkeley | | 80.9 | 53 | i 11 | 54 | 0 | i 21 | 46 | + 1 | i 12 | 39 | pP | — |
| Santa Clara | E. | 81.3 | 53 | e 10 | 57 | -59 | e 20 | 49 | -60 | — | — | — | — |
| Lick | Z. | 81.6 | 53 | i 11 | 57 _a | - 1 | e 21 | 57 | + 5 | i 12 | 42 | pP | — |
| Reno | | 82.3 | 50 | i 12 | 2 _a | + 1 | i 21 | 59 | 0 | — | — | — | — |
| Baku | | 82.9 | 310 | i 12 | 5 | + 1 | i 22 | 2 | - 3 | — | — | — | — |
| Fresno | | 83.1 | 53 | i 12 | 4 _a | - 2 | i 22 | 4 | - 3 | — | — | — | — |
| Hungry Horse | | 83.6 | 41 | e 12 | 8 | 0 | e 22 | 8 | - 4 | i 12 | 52 | pP | — |
| Shemakla | | 83.7 | 310 | i 12 | 7 | - 2 | 22 | 10 | - 3 | — | — | — | — |
| Makhach-Kala | | 83.8 | 314 | i 12 | 8 | - 1 | i 22 | 9 | - 5 | i 12 | 56 | pP | — |
| Lenkoran | | 84.2 | 308 | 12 | 10 | - 1 | 22 | 14 | - 4 | — | — | — | — |
| Tinemaha | | 84.2 | 53 | i 12 | 11 _a | 0 | i 22 | 14 | - 4 | i 12 | 56 | pP | — |
| Woody | Z. | 84.2 | 54 | i 12 | 10 _a | - 1 | e 22 | 12 | - 6 | i 12 | 56 | pP | — |
| Grozny | | 84.9 | 314 | i 12 | 12 | - 3 | i 22 | 12 | [- 5] | — | — | — | — |
| China Lake | Z. | 85.1 | 53 | i 12 | 14 _a | - 1 | e 22 | 14 | [- 4] | i 12 | 58 | pP | — |
| Moscow | | 85.2 | 327 | i 12 | 13 | - 3 | i 22 | 25 | - 3 | i 13 | 0 | pP | — |
| Pasadena | | 85.2 | 56 | i 12 | 14 _a | - 2 | i 22 | 18 | [- 1] | i 13 | 4 | pP | — |
| Butte | | 85.3 | 42 | i 12 | 15 | - 1 | i 22 | 27 | - 2 | — | — | — | — |
| Kirovobad | | 85.3 | 312 | i 12 | 15 | - 1 | 22 | 27 | - 2 | i 13 | 1 | pP | — |
| Kiruna | | 85.8 | 342 | i 12 | 16 _a | - 3 | i 22 | 18 | [- 5] | i 13 | 1 | pP | e 39.7 |
| Riverside | | 85.9 | 56 | i 12 | 18 _a | - 1 | e 22 | 21 | [- 3] | i 13 | 8 | pP | — |
| Duzheti | | 86.1 | 313 | e 12 | 20 | 0 | i 22 | 24 | [- 1] | e 13 | 6 | pP | — |
| Tiflis | | 86.1 | 313 | i 12 | 20 | 0 | i 22 | 36 | 0 | i 13 | 9 | pP | — |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|--------------------|----------|-----|------|-----------------|------|------|-----------------|--------|-------|-----------------|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Saskatoon | 86.3 | 36 | — | — | — | i 22 | 21 | [- 5] | — | — | — |
| Bozeman | 86.4 | 43 | e 12 | 21 | - 1 | e 22 | 25 | [- 2] | — | — | — |
| Gori | 86.5 | 313 | e 12 | 20 | - 2 | i 22 | 26 | [- 2] | e 13 | 13 | pP |
| Palomar | z. 86.5 | 56 | i 12 | 22 ^a | 0 | i 22 | 29 | [+ 1] | i 13 | 11 | pP |
| Piatigorsk | 86.5 | 315 | i 12 | 17 | - 5 | 22 | 25 | [- 3] | i 13 | 3 | pP |
| Barratt | z. 86.8 | 57 | i 12 | 23 ^a | - 1 | e 22 | 30 | [- 0] | i 13 | 8 | pP |
| Pulkovo | 86.8 | 333 | e 12 | 21 | - 3 | i 22 | 24 | [- 6] | e 13 | 9 | pP |
| Borzhomi | 87.1 | 313 | i 12 | 23 | - 2 | i 22 | 31 | [- 1] | 13 | 11 | pP |
| Leninakan | 87.1 | 312 | 12 | 25 | 0 | 22 | 33 | [+ 1] | — | — | — |
| Boulder City | 87.2 | 53 | i 12 | 26 | 0 | e 22 | 34 | [+ 2] | — | — | — |
| Nelson | 87.3 | 53 | i 12 | 26 | 0 | e 22 | 36 | [+ 3] | i 13 | 10 | pP |
| Logan | 87.4 | 46 | i 12 | 27 | 0 | i 22 | 34 | [- 0] | — | — | — |
| Zugdidi | 87.8 | 314 | e 12 | 28 | - 1 | i 22 | 38 | [+ 2] | i 22 | 51 | S |
| Helsinki | 88.8 | 335 | — | — | — | e 22 | 45 | [+ 3] | — | — | — |
| Sotchi | 88.9 | 316 | e 12 | 31 | - 3 | i 22 | 41 | [- 2] | e 13 | 20 | pP |
| Theodosia | 91.1 | 318 | e 12 | 41 | - 3 | i 22 | 53 | [- 3] | e 16 | 20 | PP |
| Scoresby Sund | 91.5 | 356 | e 12 | 44 | - 2 | i 23 | 23 | - 3 | 29 | 28 | SS |
| Tucson | 91.6 | 55 | i 12 | 47 | + 1 | i 23 | 32 | + 5 | i 13 | 32 | pP |
| Simferopol | 91.9 | 319 | i 12 | 45 | - 3 | i 23 | 0 | [- 0] | e 13 | 33 | pP |
| Upsala | 91.9 | 337 | i 12 | 45 | - 3 | i 22 | 53 | [- 7] | i 13 | 34 | pP |
| Yalta | 92.1 | 318 | i 12 | 46 | - 3 | i 23 | 1 | [- 1] | e 16 | 31 | PP |
| Kishinev | 94.1 | 323 | i 12 | 54 | - 4 | i 23 | 8 | [- 5] | i 25 | 0 | sS |
| Iasi | 94.8 | 323 | — | — | — | e 23 | 15 | [- 1] | — | — | — |
| Ksara | 95.7 | 308 | i 13 | 3 | - 2 | i 23 | 24 | [+ 3] | i 24 | 15 | S |
| Chihuahua | 96.8 | 57 | — | — | — | e 23 | 54 | SKKS | — | — | — |
| Copenhagen | 96.8 | 336 | e 17 | 7 | PP | i 24 | 9 | - 2 | i 17 | 47 | pPP |
| Uzhgorod | 96.9 | 326 | e 13 | 8 | - 2 | i 24 | 10 | - 2 | 25 | 30 | sS |
| Bucharest | 97.1 | 321 | e 13 | 9 | - 2 | i 23 | 28 | [- 1] | e 12 | 10 | ? |
| Istanbul | 97.1 | 317 | 13 | 11 [?] | 0 | 23 | 28 | [- 1] | 13 | 54 [?] | pP |
| Skalnate Pleso | 97.6 | 327 | e 13 | 19 | + 5 | i 23 | 24 | [- 7] | e 25 | 34 | sS |
| Raciborzu | 98.1 | 329 | e 13 | 13 | - 3 | e 23 | 26 | [- 8] | e 26 | 14 | PS |
| Potsdam | 98.9 | 333 | i 13 | 17 | - 3 | i 23 | 34 | [- 4] | i 17 | 22 | PP |
| Budapest | 99.3 | 326 | e 13 | 30 | + 9 | 23 | 38 | [- 2] | e 24 | 28 | S |
| Ogyalla | 99.5 | 327 | e 17 | 5 | PP | e 24 | 37 | + 3 | e 26 | 5 | sS |
| Collmberg | 99.7 | 332 | e 13 | 19 | - 4 | e 23 | 39 | [- 3] | e 17 | 27 | PP |
| Sofia | 99.8 | 321 | — | — | — | i 23 | 40 [?] | [- 2] | — | — | — |
| Kalossa | 99.9 | 326 | e 17 | 56 | pPP | — | — | — | e 18 | 31 | ? |
| Prague | 99.9 | 331 | e 13 | 22 | - 2 | i 24 | 34 | - 3 | e 26 | 10 | sS |
| Belgrade | 100.2 | 323 | e 30 | 41 | ? | e 24 | 14 | SKKS | e 26 | 12 | sS |
| Aberdeen | 100.6 | 343 | i 17 | 27 | PP | i 23 | 40 | [- 6] | i 19 | 55 | PPP |
| Jena | z. 100.6 | 332 | e 13 | 29 | + 2 | e 23 | 44 | [- 2] | e 17 | 30 | PP |
| Helwan | 100.9 | 306 | 13 | 28 | - 1 | 23 | 45 | [- 3] | e 14 | 13 | pP |
| Witteveen | z. 101.2 | 336 | i 17 | 30 | PP | i 26 | 18 | sS | e 18 | 7 | pPP |
| Fayetteville | z. 102.1 | 45 | i 13 | 32 ^a | - 2 | e 27 | 10 | PS | i 14 | 20 | pP |
| Athens | 102.2 | 317 | i 18 | 37 | pPP | i 23 | 48 | [- 6] | e 23 | 8 | ? |
| De Bilt | 102.3 | 336 | i 17 | 33 [?] | PP | i 23 | 53 | [- 1] | i 26 | 30 | sS |
| Durham | 102.5 | 341 | — | — | — | i 23 | 51 | [- 4] | — | — | — |
| Kirkland Lake | z. 102.7 | 29 | e 16 | 16 | ? | — | — | — | e 18 | 37 | pPP |
| Karlsruhe | 103.2 | 333 | e 17 | 51 | PP | e 23 | 59 | [- 0] | — | — | e 50.7 |
| Stuttgart | 103.2 | 332 | e 13 | 36 | - 3 | e 23 | 54 | [- 5] | e 14 | 36 | sP |
| St. Louis | 103.3 | 41 | i 13 | 36 | - 3 | i 23 | 56 | [- 3] | — | — | — |
| Triest | 103.3 | 328 | e 16 | 32 | ? | i 23 | 54 | [- 5] | e 17 | 54 | PP |
| Uccle | 103.7 | 336 | e 17 | 57 | PP | e 25 | 6 | - 3 | e 18 | 37 | pPP |
| Strasbourg | 104.0 | 333 | e 13 | 37 | - 5 | e 24 | 43 | SKKS | e 18 | 1 | PP |
| Chur | 104.5 | 330 | e 18 | 1 | PP | e 23 | 59 | [- 5] | — | — | — |
| Zürich | 104.5 | 332 | e 13 | 28 | - 16 | e 23 | 57 | [- 7] | e 18 | 2 | PP |
| Taranto | 104.7 | 322 | 17 | 40 | PP | 24 | 0 | [- 5] | 25 | 35 | S |
| Kew | 104.9 | 339 | e 17 | 58 | PP | e 26 | 54 | sS | e 11 | 54 | ? |
| Rathfarnham Castle | 105.2 | 343 | e 13 | 50 | + 3 | e 24 | 9 | [+ 1] | e 26 | 59 | sS |
| Bologna | 105.3 | 328 | e 19 | 9 | pPP | e 24 | 35 | [+ 27] | e 27 | 49 | PS |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------------|----------|-----|----------------------|--------|---------|--------|---------|------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Neuchatel | 105.6 | 332 | e 18 12 | PP | e 24 6 | [- 3] | — | — |
| Florence | 105.8 | 327 | e 13 48 | - 2 | i 24 30 | [+ 20] | e 18 22 | PP |
| Prato | 105.8 | 327 | e 18 0 | PP | e 27 56 | SSP | — | — |
| Pavia | 105.9 | 330 | e 18 57 | pPP | i 24 9 | [- 2] | e 20 24 | PPP |
| Paris | 106.0 | 336 | e 14 16 | + 25 | i 24 9 | [- 2] | e 17 49 | PKP e 56.7 |
| Oropa | 106.1 | 331 | e 13 42 | P | e 24 6 | [- 6] | i 27 9 | sS |
| Tacubaya | 106.4 | 63 | e 18 24 | PP | e 24 14 | [+ 1] | e 26 55 | sS |
| Rome | 106.5 | 325 | e 13 50 _a | P | i 24 10 | [- 3] | e 33 27 | SS |
| Cleveland | 106.6 | 35 | i 18 3 _a | PKP | i 24 10 | [- 4] | i 24 56 | SKKS |
| Chambon-la-Forêt | 106.7 | 336 | e 17 55 | PKP | — | — | — | — |
| Ottawa | 106.8 | 28 | e 18 28 | PP | 24 8 | [- 7] | e 13 53 | P |
| Messina | 107.2 | 321 | e 18 8 | [+ 6] | i 25 34 | S | i 27 18 | sS |
| Reggio Calabria N. | 107.2 | 321 | — | — | e 27 18 | sS | — | — |
| Shawinigan Falls N. | 107.2 | 26 | e 17 10 | [- 52] | 24 11 | [- 5] | 25 0 | SKKS |
| Puebla | 107.4 | 63 | — | — | e 30 46 | ? | — | — |
| Seven Falls E. | 107.6 | 24 | e 18 28 | PP | 24 13 | [- 5] | 19 4 | pPP |
| Clermont-Ferrand | 108.2 | 333 | e 17 33 | [- 31] | e 24 22 | [+ 1] | e 18 32 | PP 44.7 |
| Vera Cruz | 109.1 | 61 | — | — | e 27 28 | sS | — | — |
| Harvard | 110.9 | 28 | e 18 3 | [- 7] | i 27 57 | SP | e 14 13 | P |
| Palisades | 111.0 | 31 | e 14 6 | P | i 24 31 | [- 1] | e 14 57 | pP 52.0 |
| Weston | 111.1 | 28 | e 17 54 | [- 16] | 27 58 | SP | 18 52 | PP |
| Halifax | 112.4 | 21 | e 18 14 | [+ 1] | 28 6 | SP | 19 2 | PP |
| Tortosa | 113.3 | 332 | e 20 24 | ? | e 29 19 | SPP | — | — |
| Algiers Univ. z. | 115.2 | 327 | e 19 21 | PP | e 24 20 | [- 29] | e 20 4 | pPP |
| Alicante | 115.7 | 331 | e 18 20 | [+ 1] | 24 48 | [- 2] | e 21 45 | PPP |
| Toledo | 116.0 | 334 | e 19 7 | ? | — | — | e 20 17 | pPP |
| Almeria | 117.8 | 331 | e 18 21 | [- 3] | 25 13 | [+ 15] | 19 41 | PP 58.7 |
| Granada | 118.1 | 333 | e 18 52 _a | [+ 28] | 24 59 | [0] | i 19 42 | PP 59.1 |
| Pretoria z. | 121.8 | 251 | e 18 32 | [0] | — | — | — | — |
| Bermuda | 122.3 | 30 | i 20 10 | PP | i 29 39 | SP | — | — |
| Grahamstown z. | 123.6 | 242 | e 18 36 | [+ 1] | — | — | — | — |
| Tamanrasset z. | 123.9 | 315 | i 18 36 | [0] | e 30 41 | PS | e 19 28 | pPKP |
| Kimberley z. | 125.0 | 247 | e 18 39 | [+ 2] | — | — | — | — |
| San Juan | 132.4 | 42 | e 18 38 | [- 14] | — | — | i 21 18 | PP |
| Chinchina | 133.5 | 64 | e 18 55 | [+ 1] | 27 58 | SKKS | e 22 26 | PKS |
| Bogota | 135.0 | 64 | e 19 2 | [+ 6] | — | — | e 22 30 | PKS |
| Huancayo | 140.1 | 87 | e 19 3 | [- 3] | i 40 24 | SS | i 22 22 | SKP |
| Santa Lucia N. | 144.0 | 123 | e 19 13 | [0] | — | — | 19 30 | ? |
| La Paz | 147.8 | 93 | i 19 22 _a | [+ 3] | i 29 48 | SKKS | i 20 10 | pPKP 70.2 |

July 26d. 21h. 11m. Epicentre 39°·9N. 75°·9E.

Bulletin of Seismo. Stations of the U.S.S.R. for July-Sept. 1953, Moscow, 1954, pp. 92, 93.

July 26d. 23h. 30m. 48s. Epicentre 38°·6N. 143°·1E. (as on 1946, May 9d.).

Intensity II-III at Morioka, Hukusima, and Shirakawa.

Epicentre 38°·7N. 143°·3E. Depth of focus 20km.

Seismo. Bull. Cent. Met. Obs., Japan, for July, 1953, Tokyo, 1953, pp. 26-27, with macro-seismic chart.

$$A = -.6266, B = +.4704, C = +.6213; \quad \delta = -8; \quad h = -1;$$

$$D = +.600, E = +.800; \quad G = -.497, H = +.373, K = -.784.$$

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|----------|-----|---------------------|------------------|-------|-------------------|-------|----|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Isinomaki | 1.4 | 263 | 0 28 | 0 _g | 0 46 | 0 | — | — |
| Miyako z. | 1.4 | 320 | i 0 26 _a | - 1 | 0 42 | - 4 | — | — |
| Mizusawa | 1.6 | 289 | 0 34 | + 2 _g | 1 0 | + 7 _g | — | — |
| Sendai | 1.8 | 259 | 0 36 _a | 0 _g | 1 4 | + 4 _g | — | — |
| Morioka | 1.9 | 306 | i 0 35 _a | 0* | 1 0 | 0* | — | — |
| Yamagata | 2.2 | 261 | e 0 44 | 0 _g | 1 14 | + 1 _g | — | — |
| Hatinohe | 2.3 | 328 | 0 37 | - 3 | 1 2 | - 7 | — | — |
| Hukusima | 2.3 | 248 | e 0 44 _a | - 2 _g | 1 28 | + 12 _g | — | — |
| Akita z. | 2.5 | 296 | 0 47 | + 2* | 1 24 | + 1 _g | — | — |
| Onahama | 2.5 | 226 | e 0 46 | + 1* | 1 19 | + 1* | — | — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|----------|-----|---------|------------------|---------|-------------------|---------|------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Inawasiro | | 2.6 | 246 | e 0 50 | - 2 _g | 1 29 | + 3 _g | — | — |
| Sakata | | 2.6 | 276 | 0 52 | 0 _g | 1 30 | + 4 _g | — | — |
| Shirakawa | | 2.7 | 237 | e 0 51 | + 2* | 1 24 | 0* | — | — |
| Aomori | | 2.8 | 321 | 0 52 | + 1* | 1 30 | - 2 _g | — | — |
| Mito | z. | 3.0 | 223 | 0 55 | + 1* | 1 36 | + 3* | — | — |
| Niigata | E. | 3.2 | 258 | e 1 8 | + 4 _g | 1 55 | + 9 _g | — | — |
| Utunomiya | | 3.3 | 231 | e 1 0 | + 1* | 1 39 | - 3* | — | — |
| Hakodate | | 3.7 | 331 | e 1 8 | + 2* | 1 53 | - 1* | — | — |
| Kumagaya | z. | 3.8 | 232 | 1 7 | - 1* | 2 2 | - 4 _g | — | — |
| Aikawa | | 3.9 | 263 | e 1 10 | 0* | 2 7 | - 2 _g | — | — |
| Maebasi | | 3.9 | 237 | e 1 9 | - 1* | 1 59 | - 1* | — | — |
| Tokyo | z. | 3.9 | 225 | e 1 8 | - 2* | 2 10 | + 1 _g | — | — |
| Mori | N. | 4.1 | 332 | 1 12 | - 1* | 2 2 | - 4* | — | — |
| Takada | | 4.1 | 251 | e 1 10 | - 3* | 2 13 | - 3 _g | — | — |
| Titibu | | 4.1 | 233 | i 1 10 | - 3* | 1 56 | + 1 | — | — |
| Tomakomai | | 4.1 | 344 | i 1 10 | - 3* | 2 0 | + 5 | — | — |
| Nagano | N. | 4.3 | 246 | e 1 16 | 0* | 2 17 | + 5* | — | — |
| Oiwake | | 4.3 | 240 | e 1 14 | - 2* | 2 12 | 0* | — | — |
| Matusiro | z. | 4.4 | 244 | i 1 14 | + 4 | 2 19 | + 4* | — | — |
| Mera | | 4.4 | 217 | e 1 18 | 0* | 2 33 | + 8 _g | — | — |
| Kusiro | | 4.5 | 12 | e 1 6 | - 5 | 1 52 | - 13 | — | — |
| Hunatu | N. | 4.7 | 230 | e 1 20 | - 3* | 2 14 | + 4 | — | — |
| Kohu | | 4.7 | 233 | e 1 20 | - 3* | 2 24 | 0* | — | — |
| Matumoto | N. | 4.7 | 242 | 1 21 | - 2* | 2 29 | + 5* | — | — |
| Sapporo | | 4.7 | 343 | e 1 20 | - 3* | 3 9 | ? | — | — |
| Suttsu | | 4.7 | 333 | e 1 41 | + 7 _g | — | — | — | — |
| Ajiro | N. | 4.8 | 224 | e 1 20 | + 5 | 2 42 | + 3 _g | — | — |
| Misima | E. | 4.8 | 226 | e 1 21 | - 4* | — | — | — | — |
| Osima | | 4.9 | 220 | e 1 21 | + 4 | 3 12 | ? | — | — |
| Toyama | | 5.0 | 250 | e 1 23 | + 5 | 2 34 | + 2* | — | — |
| Nemuro | | 5.1 | 21 | e 1 14 | - 6 | 2 4 | - 16 | — | — |
| Wazima | | 5.1 | 258 | e 1 24 | + 4 | — | — | — | — |
| Asahigawa | | 5.2 | 354 | e 1 24 | + 3 | — | — | — | — |
| Iida | | 5.2 | 236 | e 1 26 | + 5 | 2 40 | + 2* | — | — |
| Shizuoka | | 5.3 | 228 | e 1 29 | - 4* | 2 47 | + 6* | — | — |
| Takayama | N. | 5.3 | 244 | e 1 27 | + 5 | 2 30 | + 5 | — | — |
| Abashiri | | 5.5 | 9 | e 1 27 | + 2 | 2 16 | - 14 | — | — |
| Omaesaki | | 5.6 | 227 | e 1 38 | - 1* | 3 14 | + 9 _g | — | — |
| Gihu | | 6.0 | 240 | e 1 39 | - 6* | — | — | — | — |
| Nagoya | E. | 6.0 | 237 | e 1 40 | - 5* | 3 10 | + 8* | — | — |
| Tsuruga | N. | 6.3 | 245 | e 1 44 | - 6* | 3 2 | - 9* | — | — |
| Hikone | | 6.4 | 241 | 1 47 | - 5* | 3 8 | - 6* | — | — |
| Kameyama | | 6.5 | 237 | e 1 46 | + 7 | 3 20 | + 3* | — | — |
| Tu | | 6.6 | 236 | e 1 45 | + 4 | 3 21 | + 1* | — | — |
| Kyoto | | 6.9 | 241 | e 1 42 | - 3 | 3 19 | - 10* | — | — |
| Owase | | 7.2 | 234 | e 2 2 | - 4* | 3 42 | + 4* | — | — |
| Osaka | | 7.3 | 240 | e 2 8 | 0* | 4 9 | + 8 _g | — | — |
| Toyooka | | 7.3 | 248 | e 1 56 | + 6 | 3 26 | + 11 | — | — |
| Kobe | E. | 7.5 | 241 | e 2 0 | + 7 | — | — | — | — |
| Siomisaki | | 7.9 | 232 | e 2 46 | + 8 _g | 4 36 | + 15 _g | — | — |
| Takamatu | | 8.4 | 243 | e 2 9 | + 3 | 4 10 | - 3* | — | — |
| Muroto | | 9.0 | 237 | e 2 31 | P* | 4 17 | - 14* | — | — |
| Koti | | 9.2 | 240 | e 2 26 | + 10 | 4 54 | - 10 _g | — | — |
| Hamada | | 9.6 | 251 | e 2 27 | + 6 | 4 31 | + 19 | — | — |
| Hirosima | E. | 9.6 | 248 | e 2 29 | + 8 | 4 20 | + 8 | — | — |
| Nanking | | 20.9 | 290 | e 4 50 | + 4 | e 8 46 | + 11 | — | — |
| Kiruna | | 65.5 | 339 | i 10 45 | - 2 | e 19 30 | - 2 | e 23 50 | SS e 36.2 |
| Upsala | z. | 72.1 | 335 | i 11 26 | - 2 | — | — | i 12 4 | ? |
| Copenhagen | | 77.1 | 335 | e 11 56 | - 1 | — | — | — | 42.2 |
| Collmberg | | 80.4 | 332 | e 12 14 | - 1 | — | — | e 13 17 | ? |
| Jena | z. | 81.2 | 332 | e 12 19 | 0 | — | — | e 12 34 | PcP |
| Stuttgart | | 83.9 | 332 | e 12 32 | - 1 | — | — | e 12 40 | PcP e 46.2 |
| Strasbourg | | 84.6 | 333 | e 12 36 | 0 | — | — | — | — |
| Paris | | 86.2 | 336 | i 12 44 | 0 | — | — | — | e 49.2 |
| Chambon-la-Forêt | | 87.0 | 336 | e 12 48 | 0 | — | — | — | — |
| Fayetteville | | 88.8 | 43 | i 12 57 | 0 | — | — | i 13 23 | ? |

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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July 27d. 14h. 52m. Epicentre 18°34'N. 102°56'W.
Seismo. Bulletin Estación Sismológica Central de Tacubaya, p. 6.

July 27d. 15h. 6m. 54s. Epicentre 35°·25N. 140°·4E. Depth of focus 50km.
Intensity II-III at Tokyo, Kashiwa, and Hunatu.
Seismo. Bull. Cent. Met. Obs., Japan, for July, 1953, Tokyo, 1953, pp. 28, 29, with macroseismic chart.

July 27d. 15h. 11m. 2s. Epicentre 35°·3N. 140°·4E. Depth of focus 40km.
Intensity V at Yokohama; IV at Kashiwa, Tokyo, Tukubasan, and Hunatu; II-III at Tyosi, Osima, Mito, Kumagaya, Utunomiya, Kohu, Maebasi, and Shirakawa.
Loc. cit., above, p. 29.

July 27d. 16h. 49m. Epicentre 36°·7N. 71°·0E. Depth of focus 200km.
Bulletin of Seismological Stations of U.S.S.R. July-September, 1953, Moscow, 1954 p. 93.

July 28d. 5h. 43m. Epicentre 13°4'N. 88°29'W. Depth of focus 100km.
Seismo. Bulletin Estación Sismológica de Tacubaya, p. 6.

July 28d. 6h. 31m. Epicentre 37°·0N. 71°·0E. Depth of focus 230km.
Loc. cit., 27d. 16h., pp. 93, 94.

July 28d. 7h. 39m. 45s. Epicentre 21°·0S. 178°·0W. Depth of focus 0·080.
(as on 1952, April 14d.).

A = -·9338, B = -·0326, C = -·3563 ; $\delta = -1$; $h = +4$;
D = -·035, E = +·999 ; G = +·356, H = +·012, K = -·934.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|------|--------------|--------------|----------|------|---------|------|---------|--------|
| | | ^e | ^o | m. s. | s. | m. s. | s. | m. s. | m. |
| Apia | | 9·3 | 41 | i 2 8 | - 3 | i 3 48 | - 8 | — | — |
| Auckland | N. | 17·0 | 200 | e 3 32 | + 3 | e 5 40 | -37 | — | — |
| Karapiro | N. | 17·8 | 199 | e 3 38 | + 2 | e 6 41 | +10 | e 14 6 | ScS |
| Tuai | N. | 18·2 | 192 | e 3 42 | + 2 | e 6 37 | - 1 | — | — |
| Tongariro | Z. | 19·0 | 196 | e 3 47 | - 1 | — | — | e 5 14 | ? |
| New Plymouth | E. | 19·3 | 199 | e 3 55 | + 4 | e 6 58 | + 2 | — | — |
| Wellington | | 21·1 | 196 | e 4 7 | 0 | e 7 26 | 0 | e 7 50 | PcP |
| Cobb River | E. | 21·5 | 200 | e 4 12 | + 1 | e 7 30 | - 3 | — | — |
| Kaimata | N.E. | 23·2 | 200 | e 4 26 | 0 | e 7 56 | - 4 | e 14 20 | ScS |
| Christchurch | | 23·8 | 197 | — | — | e 8 32 | +22 | — | — |
| Riverview | | 30·1 | 239 | i 5 27k | 0 | i 9 47 | - 2 | i 15 4 | ScS |
| Guam | | 50·1 | 310 | e 8 7 | 0 | — | — | — | — |
| Baguio | | 70·8 | 298 | i 10 20 | - 3 | i 18 53 | - 2 | — | — |
| Mitchell Field | | 72·6 | 2 | e 10 31 | - 3 | e 19 11 | - 4 | — | — |
| Kurilsk | | 72·9 | 336 | i 10 34 | - 2 | — | — | — | — |
| Yuzno-Sakhlinsk | | 76·4 | 333 | i 10 54 | - 1 | i 19 57 | + 1 | — | — |
| Petropavlovsk | | 76·6 | 346 | i 10 52 | - 4 | e 19 52 | - 6 | — | — |
| Ulegorsk | | 78·3 | 336 | i 11 3 | - 2 | i 20 14 | - 2 | — | — |
| Lick | Z. | 78·6 | 43 | i 11 7k | 0 | — | — | e 13 3 | pP |
| Berkeley | | 78·7 | 43 | i 11 7k | 0 | e 20 19 | - 1 | i 13 4 | pP |
| Vladivostok | | 78·7 | 326 | i 11 4 | - 3 | — | — | — | — |
| Pasadena | | 79·0 | 48 | i 11 8k | - 1 | i 20 29 | + 6 | e 13 6 | pP |
| Klyuchi | | 79·1 | 349 | i 11 7 | - 2 | e 20 21 | - 3 | — | — |
| Barratt | Z. | 79·3 | 50 | i 11 10k | 0 | — | — | e 13 9 | pP |
| Fresno | Z. | 79·5 | 45 | i 11 11 | - 1 | — | — | — | — |
| Palomar | Z. | 79·5 | 49 | i 11 12k | 0 | — | — | i 13 10 | pP |
| Riverside | Z. | 79·5 | 48 | i 11 12k | 0 | e 20 34 | + 5 | e 13 15 | pP |
| Woody | Z. | 79·5 | 46 | i 11 11k | - 1 | — | — | i 13 10 | pP |
| Nanking | | 80·2 | 310 | i 11 14k | - 1 | 20 37 | + 1 | — | i 40·6 |
| Shasta | | 80·2 | 40 | i 11 16k | + 1 | e 20 37 | + 1 | i 13 15 | pP |

Continued on next page.

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1953

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|---------------------|----|------------|------------|------|-----------------|-------|-------|-----|-------|-------|----|------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| China Lake | z. | 80.4 | 47 | i 11 | 15k | - 1 | — | — | — | e 13 | 12 | pP | i 38.0 |
| Tinemaha | | 80.6 | 46 | i 11 | 19k | + 2 | i 20 | 47 | + 7 | — | — | — | e 38.1 |
| Reno | | 81.1 | 42 | i 11 | 21k | + 1 | e 20 | 51 | + 6 | — | — | — | — |
| Corvallis | z. | 82.2 | 37 | i 11 | 27 | + 2 | — | — | — | — | — | — | — |
| Nelson | | 82.2 | 47 | i 11 | 26 | + 1 | i 11 | 39 | PcP | e 13 | 20 | pP | — |
| Boulder City | | 82.3 | 47 | i 11 | 27 | + 1 | e 21 | 0 | + 3 | — | — | — | — |
| Tucson | | 83.2 | 52 | i 11 | 32 | + 2 | e 21 | 5 | 0 | i 13 | 32 | pP | — |
| Seattle | | 84.6 | 35 | i 11 | 38 | + 1 | 21 | 20 | + 1 | e 21 | 26 | SKS | — |
| Victoria | | 84.9 | 34 | i 11 | 37k | - 2 | — | — | — | — | — | — | — |
| Tacubaya | | 86.9 | 69 | e 11 | 45 | - 3 | e 22 | 6 | +26 | i 25 | 55 | ? | — |
| College | | 88.7 | 13 | i 11 | 55 | - 2 | e 21 | 51 | - 6 | e 22 | 55 | ? | — |
| Butte | | 89.1 | 39 | i 11 | 58 | - 1 | — | — | — | i 14 | 0 | pP | — |
| Hungry Horse | | 89.5 | 36 | i 12 | 0 | 0 | e 21 | 35 | [- 4] | e 14 | 0 | pP | — |
| Kyakhta | | 97.1 | 321 | e 12 | 32 | - 3 | — | — | — | e 16 | 36 | PP | — |
| Fayetteville | | 97.3 | 54 | i 12 | 36k | 0 | e 23 | 26 | +16 | i 14 | 35 | pP | — |
| Kabansk | | 97.7 | 322 | i 12 | 35 | - 3 | — | — | — | i 16 | 37 | PP | — |
| Irkutsk | | 99.1 | 322 | e 12 | 50 | + 6 | — | — | — | — | — | — | — |
| Ottawa | | 113.1 | 47 | i 17 | 35 | [0] | — | — | — | 19 | 35 | PP | — |
| Przhevalsk | | 113.7 | 309 | — | — | — | e 23 | 34 | [+ 1] | — | — | — | — |
| Palisades | | 113.9 | 53 | e 23 | 38 | SKS | (e 23 | 38) | [+ 4] | e 33 | 56 | SS | e 43.7 |
| Almata | | 114.9 | 309 | e 18 | 46 | PP | — | — | — | — | — | — | — |
| Shawinigan Falls n. | | 115.3 | 47 | e 17 | 41 | [+ 2] | — | — | — | e 19 | 38 | PP | — |
| Naryn | | 115.4 | 306 | i 17 | 45 | [+ 6] | — | — | — | i 18 | 50 | PP | — |
| Rybach'e | | 115.4 | 308 | e 17 | 39 | [0] | — | — | — | — | — | — | — |
| Harvard | | 115.8 | 51 | i 17 | 41 | [+ 1] | — | — | — | — | — | — | — |
| Weston | | 116.0 | 51 | i 17 | 41 ^a | [0] | — | — | — | — | — | — | e 43.5 |
| San Juan | | 116.3 | 78 | i 17 | 42 | [+ 1] | — | — | — | — | — | — | — |
| Frunse | | 116.6 | 308 | i 17 | 42 | [0] | e 21 | 10 | PKS | i 18 | 57 | PP | — |
| Murgab | | 116.6 | 303 | e 17 | 45 | [+ 3] | — | — | — | — | — | — | — |
| Andijan | | 118.1 | 306 | i 17 | 44 | [- 1] | i 19 | 7 | PP | e 19 | 52 | pPKP | — |
| Khorog | | 118.4 | 302 | e 17 | 49 | [+ 4] | — | — | — | — | — | — | — |
| Namangan | | 118.6 | 306 | i 17 | 47 | [+ 1] | — | — | — | e 19 | 9 | PP | — |
| Dzhergetal | | 118.8 | 304 | i 17 | 47 | [+ 1] | — | — | — | — | — | — | — |
| Garm | | 119.5 | 304 | e 17 | 49 | [+ 1] | — | — | — | — | — | — | — |
| Kulyab | | 119.8 | 303 | e 17 | 51 | [+ 2] | — | — | — | — | — | — | — |
| Bermuda | | 120.0 | 64 | — | — | — | e 34 | 32 | SS | — | — | — | e 38.0 |
| Obi-garm | | 120.0 | 304 | i 18 | 5 [?] | [+16] | — | — | — | — | — | — | — |
| Tananarive | | 120.3 | 232 | i 17 | 51 | [+ 1] | — | — | — | — | — | — | — |
| Lunacharskoe | | 120.4 | 306 | i 17 | 49 | [- 1] | — | — | — | — | — | — | — |
| Stalinabad | | 120.7 | 304 | i 17 | 51 | [+ 1] | — | — | — | — | — | — | — |
| Quetta | | 121.3 | 294 | i 17 | 52 ^a | [0] | e 24 | 20 | [+20] | i 19 | 28 | PP | — |
| Halifax | | 121.7 | 49 | i 17 | 52k | [0] | — | — | — | — | — | — | — |
| Samarkand | | 122.1 | 304 | e 17 | 52 | [- 1] | — | — | — | e 19 | 34 | PP | — |
| Sverdlovsk | | 124.4 | 325 | i 17 | 56 | [- 2] | e 24 | 10 | [0] | i 19 | 47 | PP | — |
| Bairam-Ali | | 125.9 | 302 | i 18 | 1 | [0] | i 19 | 58 | PP | i 21 | 18 | PPP | — |
| Kimberley | z. | 125.9 | 205 | i 18 | 3 | [+ 2] | — | — | — | — | — | — | — |
| Pretoria | z. | 127.0 | 210 | e 18 | 4 [?] | [+ 2] | — | — | — | — | — | — | — |
| Scoresby Sund | | 128.5 | 10 | i 18 | 3 | [- 2] | — | — | — | e 21 | 28 | PKS | — |
| Ashkabad | | 128.9 | 302 | i 18 | 6 | [0] | i 21 | 32 | PKS | i 20 | 19 | PP | — |
| Kizyl-Arvat | | 130.4 | 305 | i 18 | 10 | [+ 1] | i 21 | 35 | PKS | i 20 | 30 | PP | — |
| Kiruna | | 131.8 | 350 | i 18 | 10 | [- 2] | i 21 | 39 | PKS | i 20 | 34 | PP | e 59.2 |
| Reykjavik | z. | 134.0 | 15 | i 18 | 16 | [0] | — | — | — | — | — | — | — |
| Baku | | 135.1 | 307 | e 21 | 8 | PP | — | — | — | — | — | — | — |
| Makhach-Kala | | 136.3 | 311 | e 18 | 21 | [+ 1] | i 22 | 4 | PKS | i 21 | 3 | PP | — |
| Moscow | | 136.3 | 332 | i 18 | 19 | [- 1] | e 24 | 41 | [+ 3] | i 21 | 3 | PP | — |
| Pulkovo | | 136.3 | 340 | i 18 | 21 | [+ 1] | 21 | 52 | PKS | i 21 | 8 | PP | — |
| Grozny | | 137.4 | 312 | e 18 | 13 | [- 9] | — | — | — | i 21 | 53 | PKS | — |
| Kirovobad | | 137.7 | 309 | e 18 | 22 | [- 1] | — | — | — | e 21 | 58 | PKS | — |
| Duzheti | | 138.5 | 311 | e 18 | 22 | [- 2] | — | — | — | i 22 | 3 | PKS | — |
| Tiflis | | 138.6 | 311 | i 18 | 25 | [+ 1] | i 22 | 3 | PKS | i 21 | 9 | PP | — |

Continued on next page.

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| | Δ ° | Az. ° | P. m. s. | | O-C. s. | S. m. s. | | O-C. s. | Supp. m. s. | | L. m. | |
|--------------------|---------------|----------|-------------|-----------------|------------------|-------------|-----|------------------|----------------|----|------------------|--------|
| Piatigorsk | 139.0 | 314 | e 18 | 12? | [-13] | — | — | — | i 21 | 1? | PP | — |
| Borzhom | 139.5 | 310 | e 18 | 22 | [-4] | i 22 | 5 | PKS | — | — | — | — |
| Leninakan | 139.5 | 309 | e 18 | 39 | [+13] | — | — | — | — | — | — | — |
| Upsala | 139.6 | 347 | i 21 | 23 | PP | i 22 | 1 | PKS | — | — | — | — |
| Sotchi | 141.4 | 315 | e 18 | 22? | [-8] | — | — | — | — | — | — | — |
| Theodosia | 143.6 | 319 | i 18 | 30 | [-4] | — | — | — | — | — | — | — |
| Simferopol | 144.4 | 320 | i 18 | 34 | [-1] | e 22 | 14 | PKS | e 20 | 44 | PP | — |
| Copenhagen | 144.5 | 350 | i 18 | 34 | [-1] | — | — | — | — | — | — | — |
| Yalta | 144.6 | 319 | i 18 | 35 | [0] | e 22 | 16 | PKS | e 20 | 43 | PP | — |
| Kishinev | 146.1 | 326 | i 18 | 37 | [-1] | — | — | — | — | — | — | — |
| Lwow | 146.3 | 334 | i 18 | 38 | [0] | e 22 | 3 | PP | e 20 | 49 | pPKP | — |
| Cernauti | 146.7 | 331 | i 18 | 41 | [+2] | — | — | — | e 20 | 8 | PP | — |
| Rathfarnham Castle | 147.1 | 9 | i 18 | 38 _a | [-1] | e 25 | 33 | [+38] | e 22 | 45 | PKS | — |
| Potsdam | 147.5 | 347 | i 18 | 43 _k | [+3] | e 21 | 40? | sPKP | e 20 | 47 | pPKP | — |
| Ksara | 147.5 | 300 | i 18 | 40 | [0] | 22 | 14 | PP | 20 | 52 | pPKP | — |
| Uzhgorod | 148.0 | 335 | e 18 | 41 | [0] | — | — | — | — | — | — | — |
| Witteveen | z. 148.0 | 354 | i 18 | 44 | [+3] | i 20 | 29 | PKP ₂ | i 20 | 55 | pPKP | — |
| Raciborzu | 148.3 | 341 | e 18 | 42 | [+1] | e 20 | 56 | PP | e 21 | 32 | ? | — |
| Skalnate Pleso | 148.3 | 337 | e 19 | 23 | ? | — | — | — | e 21 | 26 | ? | — |
| Collnberg | 148.5 | 347 | i 18 | 41 | [0] | e 22 | 45 | PKS | e 21 | 45 | PP | — |
| De Bilt | 148.9 | 355 | e 18 | 47 | [+5] | e 21 | 47 | PP | e 20 | 53 | pPKP | e 52.2 |
| Jena | 149.1 | 347 | i 18 | 43 | [+1] | e 21 | 47 | ? | e 20 | 31 | pPKP | — |
| Prague | 149.4 | 345 | e 18 | 42 _k | [0] | i 19 | 9 | PKP ₂ | e 20 | 47 | pPKP | — |
| Kew | 149.5 | 2 | i 18 | 40 | [-3] | — | — | — | i 20 | 18 | pPKP | e 50.2 |
| Istanbul | 149.6 | 318 | e 18 | 45 | [+2] | e 21 | 25 | ? | e 20 | 50 | pPKP | — |
| Ogyalla | 150.2 | 339 | e 18 | 52 | [+8] | e 19 | 1 | PKP ₂ | e 22 | 3 | PKS | — |
| Timisoara | 150.7 | 332 | e 18 | 39 | [-5] | — | — | — | — | — | — | — |
| Karlsruhe | 151.6 | 352 | i 18 | 55 _k | [+9] | e 25 | 27 | [+26] | e 19 | 9 | PKP ₂ | — |
| Stuttgart | z. 151.7 | 349 | i 18 | 46 _k | [0] | e 22 | 33 | PP | e 22 | 3 | sPKP | — |
| Belgrade | z. 151.8 | 332 | e 17 | 25 _a | ? | — | — | — | e 21 | 10 | ? | — |
| Helwan | z. 152.1 | 293 | i 18 | 47 _a | [+1] | 19 | 7 | PKP ₂ | 20 | 57 | pPKP | — |
| Strasbourg | 152.1 | 352 | i 18 | 47 | [+1] | — | — | — | i 19 | 6 | PKP ₂ | — |
| Paris | 152.2 | 359 | i 18 | 46 | [-1] | i 19 | 4 | PKP ₂ | e 20 | 59 | pPKP | — |
| Chambon-la-Forêt | 153.0 | 359 | i 18 | 49 | [+1] | — | — | — | i 19 | 9 | PKP ₂ | — |
| Zürich | 153.2 | 350 | e 18 | 46 | [-2] | — | — | — | i 19 | 9 | PKP ₂ | — |
| Chur | 153.5 | 349 | e 18 | 48 _k | [0] | — | — | — | i 19 | 11 | PKP ₂ | — |
| Triest | 153.6 | 341 | i 18 | 48 _k | [-1] | i 19 | 15? | PKP ₂ | e 21 | 16 | pPKP | — |
| Neuchatel | 153.8 | 351 | e 18 | 47 | [-2] | — | — | — | — | — | — | — |
| Athens | 154.7 | 316 | e 18 | 58 _k | [+8] | — | — | — | e 19 | 15 | PKP ₂ | — |
| Clermont-Ferrand | 155.3 | 358 | e 18 | 52 | [+1] | — | — | — | — | — | — | — |
| Florence | 156.0 | 344 | e 18 | 51 _k | [-1] | e 23 | 39 | PP | e 19 | 20 | PKP ₂ | — |
| Prato | 156.0 | 344 | e 18 | 54 | [+2] | — | — | — | — | — | — | — |
| Tortosa | 160.2 | 4 | e 19 | 42 | PKP ₂ | — | — | — | — | — | — | — |
| Toledo | 160.5 | 15 | i 18 | 59 | [+2] | i 19 | 42 | PKP ₂ | e 23 | 23 | PP | — |
| Alicante | 162.6 | 8 | 18 | 50 | [-9] | e 31 | 22 | SKKS | 23 | 34 | PP | 77.2 |
| Granada | 163.2 | 15 | i 19 | 55 _k | PKP | 30 | 51 | SKKS | 23 | 42 | PP | — |
| Almeria | 163.7 | 13 | 19 | 4 | [+4] | 26 | 4 | [+52] | 23 | 44 | PP | 87.1 |
| Algiers Univ. | z. 164.2 | 355 | i 19 | 2 _k | [+1] | 20 | 0 | PKP ₂ | i 21 | 11 | pPKP | — |
| Tamanrasset | z. 176.3 | — | i 19 | 10 | [+3] | e 20 | 53 | PKP ₂ | e 21 | 20 | pPKP | — |

July 29d. 2h. 11m. Epicentre 39°3N. 70°8E.

Bulletin of Seismo. Stations of U.S.S.R. for 1953, July-Sept., Moscow, 1954, p.96.

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1953

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July 29d. 13h. 32m. 36s. Epicentre 2°·8S. 12°·2W.

A = +·9763, B = -·2111, C = -·0485; δ = +8; h = +7;
D = -·211, E = -·977; G = -·047, H = +·010, K = -·999.

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | L. | |
|--------------------|----------|-----|------|-----|------|------|-----|-------|---------|-----|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. s. | m. | |
| M'Bour | 17·7 | 343 | i 4 | 10 | 0 | i 5 | 48 | ? | i 4 24 | PP | i 9·1 |
| Tamanrasset | z. 30·8 | 33 | i 6 | 20 | 0 | e 11 | 19 | - 4 | e 7 17 | PP | 14·4 |
| Almeria | 40·5 | 12 | i 7 | 42 | 0 | 14 | 0 | + 8 | 9 24 | PP | 20·9 |
| Granada | 40·6 | 10 | i 7 | 43k | 0 | i 14 | 1 | + 7 | 8 2 | pP | 19·9 |
| Lisbon | n. 41·4 | 4 | 7 | 56 | + 6 | — | — | — | — | — | — |
| Algiers Univ. | z. 41·9 | 19 | i 7 | 54a | 0 | e 14 | 23 | +10 | e 9 33 | PP | — |
| Alicante | 42·4 | 13 | e 8 | 4 | + 6 | e 14 | 28 | + 8 | 17 33 | SS | 20·8 |
| Toledo | 43·1 | 9 | e 8 | 5 | + 1 | e 14 | 8 | -22 | 9 42 | PP | 23·0 |
| Kimberley | z. 43·6 | 130 | i 8 | 8 | 0 | — | — | — | — | — | — |
| Tortosa | 44·9 | 14 | 8 | 10 | - 8 | 16 | 52? | ? | — | — | — |
| Pretoria | z. 45·0 | 124 | e 8 | 18 | - 1 | — | — | — | — | — | — |
| Messina | 48·2 | 29 | e 8 | 45 | + 1 | i 15 | 52 | + 9 | e 19 37 | SS | 23·5 |
| Rome | 49·8 | 24 | i 8 | 56 | 0 | i 16 | 9 | + 3 | e 10 52 | PP | e 25·9 |
| Clermont-Ferrand | 50·2 | 14 | e 9 | 1 | + 1 | e 16 | 16 | + 5 | e 10 59 | PP | — |
| Florence | 50·9 | 22 | e 9 | 18? | +13 | e 16 | 32? | PS | — | — | — |
| Oropa | 51·4 | 18 | e 8 | 58 | -11 | — | — | — | — | — | — |
| Pavia | 51·4 | 19 | e 9 | 11 | + 2 | e 16 | 34 | + 6 | e 11 49 | ? | — |
| Bologna | 51·6 | 21 | e 8 | 56 | -14 | e 16 | 27 | - 4 | e 10 54 | PP | — |
| Chambon-la-Forêt | 52·2 | 12 | i 9 | 14 | - 1 | — | — | — | — | — | — |
| Helwan | 52·8 | 49 | e 9 | 19 | 0 | e 16 | 41 | - 6 | e 10 39 | ? | — |
| Paris | 53·0 | 12 | e 9 | 16 | - 5 | e 16 | 55 | + 5 | e 11 18 | PP | e 28·4 |
| Zürich | 53·2 | 17 | e 9 | 21 | - 1 | — | — | — | — | — | — |
| Triest | 53·5 | 22 | i 9 | 23 | - 1 | e 17 | 2 | + 5 | e 11 36 | PP | — |
| Strasbourg | 54·0 | 16 | e 9 | 28 | 0 | e 17 | 2 | - 1 | — | — | e 28·4 |
| Karlsruhe | 54·6 | 16 | e 9 | 32a | 0 | e 17 | 0 | -11 | — | — | e 28·4 |
| Stuttgart | 54·6 | 17 | e 9 | 32 | 0 | e 17 | 9 | - 2 | e 18 54 | ScS | e 28·4 |
| Kew | 55·0 | 9 | e 9 | 41 | + 6 | e 17 | 22 | + 5 | e 17 40 | PS | e 27·4 |
| Rathfarnham Castle | 56·1 | 4 | e 9 | 39 | - 4 | e 17 | 24 | - 8 | — | — | e 27·4 |
| De Bilt | 56·6 | 13 | e 9 | 46 | - 1 | e 17 | 44 | + 6 | — | — | e 27·4 |
| La Paz | 56·6 | 252 | e 9 | 38 | - 9 | i 17 | 44 | + 6 | i 21 12 | SS | 26·7 |
| Cheb | 56·8 | 18 | e 10 | 28 | PcP | e 13 | 59 | ? | e 12 43 | PP | — |
| Jena | 57·3 | 18 | e 9 | 50 | - 2 | e 11 | 57 | PP | e 13 9 | PPP | — |
| Prague | 57·4 | 20 | i 9 | 52 | - 1 | e 17 | 49 | 0 | e 10 44 | PcP | — |
| Witteveen | z. 57·7 | 13 | e 9 | 48 | - 7 | — | — | — | — | — | — |
| Collmberg | 58·0 | 19 | e 9 | 56 | - 1 | e 12 | 3 | PP | e 14 7 | PPP | — |
| Ksara | 58·1 | 47 | e 10 | 0 | + 2 | 19 | 9 | +71 | — | — | — |
| Raciborzu | 58·8 | 22 | e 10 | 2 | 0 | — | — | — | e 12 22 | PP | — |
| Skalnate Pleso | 58·9 | 24 | e 10 | 8 | + 5 | e 18 | 16 | + 8 | e 10 41 | PcP | — |
| Potsdam | 59·0 | 17 | e 10 | 4 | 0 | e 18 | 12 | + 2 | e 13 53 | PPP | e 31·4 |
| Aberdeen | 60·3 | 7 | — | — | — | i 18 | 24 | - 2 | — | — | e 33·9 |
| Bermuda | 60·7 | 310 | — | — | — | e 18 | 42 | +10 | — | — | — |
| Copenhagen | 61·7 | 15 | — | — | — | i 18 | 52 | + 8 | 25 24 | SSS | — |
| Huancayo | 63·2 | 258 | e 10 | 35 | + 3 | — | — | — | — | — | e 31·5 |
| Halifax | 65·7 | 323 | i 10 | 49a | + 1 | — | — | — | — | — | — |
| Weston | 69·7 | 318 | i 11 | 14a | 0 | e 20 | 32 | +10 | — | — | e 32·4 |
| Harvard | 69·9 | 318 | i 11 | 16a | + 1 | — | — | — | — | — | e 32·7 |
| Shawinigan Falls | n. 72·3 | 322 | e 11 | 35 | + 6 | — | — | — | — | — | — |
| Washington | 72·5 | 313 | e 11 | 31 | + 1 | — | — | — | e 11 51 | PcP | — |
| Scoresby Sund | 73·4 | 356 | e 11 | 37 | + 1 | 21 | 15 | +10 | — | — | 34·4 |
| Ottawa | 73·8 | 319 | e 11 | 38a | 0 | — | — | — | — | — | — |
| Kiruna | z. 74·1 | 13 | e 11 | 37 | - 3 | e 21 | 13 | + 1 | e 11 52 | PcP | e 33·4 |
| Quetta | 82·1 | 59 | i 12 | 25 | + 1 | — | — | — | — | — | — |
| Fayetteville | 85·2 | 307 | i 12 | 34a | - 5 | — | — | — | — | — | — |
| Riverview | 140·3 | 158 | i 23 | 38 | PKS | i 26 | 25 | [-15] | — | — | — |

July 29d. 15h. 28s. Epicentre 37°·1N. 141°·3E. Depth of focus 40km.

Intensity IV at Onahama; II-III at Shirakawa, Hukusima, and Utunomiya.
Seismo. Bull. Cent. Met. Obs., Japan, 1953, July, Tokyo, 1953, p.31, with macroseismic chart.

July 29d. 16h. 29m. Epicentre 43°·1N. 77°·2E.

Bulletin of Seismo. Stations of U.S.S.R. for 1953, July-Sept., Moscow, 1954, p.96.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

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July 29d. 18h. 15m. 36s. Epicentre 13°·0N. 90°·0W. (as on 1951, Dec. 31d.).

A = -0000, B = -09747, C = +02235; $\delta = -1$; $h = +6$;
D = -1000, E = 000; G = 000, H = -0224, K = -0975.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|------------------|----------|------|----------------------|------|---------|------|---------|-----|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Oaxaca | 7.7 | 302 | 1 54 | - 2 | 3 10 | -15 | — | — | |
| Merida | 7.9 | 3 | e 2 5 | + 6 | e 3 40 | +10 | — | 4.1 | |
| Puebla | 9.9 | 308 | e 2 27 | + 2 | i 4 8 | -12 | i 4 24 | ? | 4.8 |
| Tacubaya | 10.9 | 307 | e 2 40 | 0 | e 5 3 | +19 | i 3 9 | ? | e 5.5 |
| Chinchina | 16.3 | 118 | e 3 55 | + 3 | e 7 4 | +11 | — | — | |
| Bogota | 17.8 | 116 | e 4 14 | + 3 | i 7 49 | +21 | e 4 36 | PP | 8.4 |
| Chihuahua | 21.6 | 319 | e 5 0 | + 6 | e 9 4 | +15 | — | — | e 12.8 |
| Columbia | 22.5 | 19 | i 5 4 | + 2 | — | — | — | — | — |
| Fayetteville | 23.3 | 353 | i 5 7 | - 3 | e 9 26 | + 6 | e 5 26 | PP | — |
| San Juan | 23.6 | 73 | e 5 33 | +20 | — | — | — | — | — |
| St. Louis | 25.5 | 359 | i 6 30 | +58 | i 11 2 | +65 | — | — | — |
| Tucson | 27.0 | 319 | i 5 45 | 0 | e 10 4 | -18 | i 10 34 | ? | e 12.1 |
| Washington | 28.2 | 22 | e 5 55 | - 1 | — | — | i 6 19 | ? | — |
| Chicago | 28.8 | 2 | e 6 2 | 0 | — | — | — | — | — |
| Huancayo | 28.8 | 148 | e 6 5 | + 3 | i 11 0 | + 9 | i 6 51 | PP | e 12.2 |
| Cleveland | 29.3 | 13 | e 6 4 | - 2 | e 10 42 | -17 | e 7 7 | PP | e 13.4 |
| Bermuda | 30.2 | 46 | e 6 15 | + 1 | — | — | — | — | e 14.9 |
| Fordham | 31.1 | 25 | e 6 19 | - 3 | e 11 32 | + 4 | — | — | — |
| Barratt | z. 31.3 | 314 | e 6 22 | - 2 | — | — | e 13 10 | ScP | — |
| Buffalo (Larkin) | 31.4 | 16 | e 6 22 | - 3 | — | — | — | — | — |
| Palomar | z. 31.8 | 315 | i 6 26 | - 2 | — | — | e 13 8 | ScP | — |
| Nelson | 31.9 | 321 | e 6 27 | - 2 | e 13 8 | ScP | i 6 53 | PP | e 17.1 |
| Boulder City | 32.0 | 321 | e 6 29 | - 1 | — | — | — | — | — |
| Riverside | z. 32.5 | 316 | e 6 33 | - 1 | e 9 18 | PcP | e 13 9 | ScP | — |
| Rapid City | 33.0 | 343 | e 6 54 | +15 | e 12 29 | +32 | — | — | — |
| Pasadena | 33.1 | 316 | i 6 39 _a | - 1 | i 12 2 | + 3 | e 9 22 | PcP | e 14.9 |
| Harvard | 33.5 | 26 | i 6 40 _a | - 3 | e 12 4 | - 1 | — | — | e 20.0 |
| Weston | 33.5 | 26 | e 6 42 _a | - 1 | 12 6 | + 1 | 15 8 | Q | 17.1 |
| China Lake | z. 33.7 | 319 | e 6 43 | - 2 | — | — | e 13 15 | ScP | — |
| Woody | z. 34.4 | 318 | e 6 51 | 0 | e 9 27 | PcP | e 13 17 | ScP | — |
| Ottawa | 34.5 | 18 | e 6 49 _k | - 3 | 12 24 | + 4 | 8 13 | PP | — |
| Tinemaha | 34.8 | 319 | i 6 54 | 0 | e 13 21 | ScP | i 17 24 | ScS | — |
| Fresno | 35.6 | 318 | i 7 1 _k | 0 | — | — | — | — | — |
| Kirkland Lake | z. 36.0 | 11 | e 7 3 _k | - 2 | — | — | — | — | — |
| La Paz | 36.4 | 142 | 7 14 | + 6 | i 12 48 | - 2 | i 16 4 | SSS | 17.6 |
| Shawinigan Falls | N. 36.5 | 21 | e 7 7 | - 2 | 12 54 | + 3 | 8 37 | PP | — |
| Lick | z. 37.2 | 317 | e 7 14 _a | - 1 | — | — | e 9 12 | PPP | — |
| Reno | z. 37.3 | 322 | i 7 16 _a | 0 | — | — | — | — | — |
| Santa Clara | E. 37.4 | 317 | e 6 26 | -50 | e 12 20 | -45 | — | — | e 20.1 |
| Seven Falls | E. 37.6 | 22 | e 7 20 | + 2 | 12 29 | -39 | 8 44 | PP | 20.8 |
| Berkeley | 37.9 | 317' | e 7 20 _a | 0 | e 13 14 | + 1 | e 17 37 | ScS | e 22.5 |
| Butte | 38.0 | 335 | e 7 15 | - 6 | — | — | i 7 28 | ? | — |
| Halifax | 38.8 | 31 | e 7 26 | - 2 | 13 26 | 0 | 9 6 | PP | — |
| Mineral | z. 38.9 | 321 | i 7 32 _k | + 3 | — | — | e 9 8 | PP | e 26.6 |
| Shasta | 39.6 | 321 | e 7 32 _a | - 3 | e 13 34 | - 4 | e 9 25 | PPP | e 23.1 |
| Hungry Horse | 40.5 | 336 | i 7 40 | - 2 | e 13 37 | -15 | 19 42 | PcP | — |
| Corvallis | N. 42.4 | 326 | i 7 56 | - 2 | — | — | — | — | e 24.8 |
| Seattle | 43.8 | 330 | e 8 24 | +15 | e 14 11 | -29 | e 15 35 | ? | — |
| Victoria | 44.9 | 330 | 8 17 | - 1 | — | — | — | — | 21.4 |
| Resolute Bay | 61.7 | 359 | e 10 19 | - 3 | e 19 7 | +23 | e 14 17 | PPP | e 28.3 |
| College | 64.9 | 337 | e 10 40 | - 3 | — | — | — | — | — |
| Reykjavik | 68.9 | 26 | e 11 12 | + 3 | e 19 29 | ? | — | — | — |
| Scoresby Sund | 70.6 | 20 | e 11 17 | - 2 | e 20 30 | - 3 | 13 49 | PP | 34.4 |
| Mitchell Field | 77.8 | 322 | e 12 4 | + 3 | — | — | — | — | — |
| Aberdeen | 78.1 | 34 | — | — | e 21 52 | - 4 | e 23 49 | ? | e 34.6 |
| Durham | 78.6 | 37 | — | — | 22 53 | PS | — | — | 31.6 |
| Granada | 79.4 | 54 | i 12 11 _a | + 2 | 22 24 | +14 | 15 25 | PP | 37.6 |
| Kew | 79.8 | 40 | e 12 13 | + 1 | — | — | e 12 26 | ? | e 34.4 |
| Almeria | 80.4 | 55 | e 12 14 | - 1 | e 22 18 | - 3 | 15 20 | PP | 38.2 |
| Alicante | 81.7 | 53 | e 12 6 | -16 | 22 6 | -28 | — | — | 38.2 |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----------|-----|----------|-------|---------|-------|---------|------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Chambon-la-Forêt | 82.0 | 43 | e 12 22 | - 1 | — | — | — | — |
| Paris | 82.0 | 42 | e 12 19 | - 4 | e 22 55 | +18 | e 15 11 | PP e 38.4 |
| Tortosa | 82.0 | 50 | — | — | i 22 40 | + 3 | — | e 42.4 |
| Uccle | E. 82.8 | 40 | e 12 24 | - 3 | e 22 41 | - 4 | e 23 26 | PS e 37.4 |
| De Bilt | 83.0 | 38 | e 12 28 | 0 | e 22 54 | + 7 | — | e 37.4 |
| Algiers Univ. | Z. 84.7 | 55 | e 12 37 | 0 | e 23 7 | + 3 | — | — |
| Strasbourg | 85.4 | 41 | e 12 38 | - 2 | e 23 9 | - 2 | e 24 12 | PS e 38.9 |
| Kiruna | 85.5 | 22 | e 12 38 | - 3 | i 23 6 | - 6 | i 16 1 | PP e 39.4 |
| Karlsruhe | Z. 85.7 | 41 | e 12 42 | 0 | — | — | e 13 5 | ? — |
| Copenhagen | 86.3 | 34 | — | — | e 23 9 | [0] | — | 39.4 |
| Stuttgart | 86.3 | 41 | e 12 43 | - 2 | e 23 17 | - 3 | e 24 24 | PS e 42.4 |
| Jena | 87.2 | 39 | e 12 47 | - 2 | — | — | e 13 27 | ? — |
| Pavia | 87.2 | 44 | e 12 49 | 0 | e 23 40 | +12 | — | — |
| Upsala | 87.5 | 30 | — | — | e 24 11 | PS | — | e 40.4 |
| Potsdam | 87.6 | 37 | e 12 52 | + 1 | e 23 24 | [+ 6] | — | e 42.4 |
| Cheb | 87.9 | 40 | — | — | e 23 56 | +21 | e 25 40 | PPS e 31.5 |
| Collmberg | Z. 87.9 | 39 | e 12 51 | - 2 | e 13 45 | ? — | e 16 24 | PP — |
| Prague | 89.2 | 39 | e 13 5 | + 6 | e 23 49 | + 2 | e 23 31 | SKS — |
| Tamanrasset | Z. 90.0 | 67 | e 13 3 | 0 | e 23 56 | + 2 | e 16 45 | PP — |
| Triest | Z. 90.2 | 43 | e 13 2 | - 2 | — | — | e 15 0 | ? — |
| Rome | 90.5 | 47 | e 13 6 | + 1 | e 23 40 | [+ 4] | e 29 35 | SS — |
| Petropavlovsk | 92.0 | 326 | e 13 12 | 0 | e 23 49 | [+ 5] | e 16 59 | PP — |
| Pulkovo | 93.2 | 26 | 16 52 | PP | e 23 50 | [- 1] | e 25 42 | PS — |
| Messina | E. 93.9 | 49 | e 13 27 | + 6 | e 23 53 | [- 2] | — | — |
| Moscow | 98.8 | 27 | e 13 42? | - 1 | e 24 22 | [+ 1] | — | — |
| Simferopol | 103.3 | 37 | — | — | e 24 44 | [+ 1] | — | — |
| Yalta | 103.6 | 37 | e 18 19 | PP | e 24 45 | [+ 1] | — | — |
| Sverdlovsk | 106.3 | 16 | e 18 42 | PP | e 25 0 | [+ 4] | e 27 59 | PS — |
| Sochi | 107.4 | 35 | — | — | e 25 5 | [+ 4] | — | — |
| Tiflis | 111.5 | 34 | e 19 13 | PP | — | — | — | — |
| Kirovobad | 113.0 | 34 | e 19 15 | PP | — | — | — | — |
| Kabansk | 113.6 | 348 | i 19 35 | PP | e 25 33 | [+ 6] | e 22 20 | PKS — |
| Irkutsk | 113.8 | 350 | e 19 36 | PP | e 28 54 | PS | — | — |
| Kimberley | Z. 117.8 | 116 | e 18 48 | [0] | — | — | — | — |
| Grahamstown | Z. 119.2 | 120 | i 18 56? | [+ 5] | — | — | — | — |
| Pretoria | Z. 120.8 | 112 | 19 0 | [+ 6] | — | — | — | — |
| Ashkabad | 121.3 | 28 | e 20 24 | PP | — | — | — | — |
| Frunse | 122.6 | 13 | e 19 0 | [+ 2] | e 26 8 | [+ 9] | e 20 34 | PP — |
| Tashkent | 122.7 | 18 | e 19 4? | [+ 6] | — | — | e 20 33 | PP — |
| Bairam-Ali | 123.3 | 25 | — | — | e 26 2 | [+ 1] | — | — |
| Rybach'e | 123.4 | 12 | e 18 59 | [0] | — | — | — | — |
| Andijan | 124.1 | 16 | 20 44 | PP | — | — | — | — |
| Nanking | Z. 127.4 | 329 | e 19 22 | [+15] | — | — | — | — |
| Quetta | 131.7 | 27 | i 19 18 | [+ 3] | i 22 45 | PKS | — | — |

July 29d. 23h. 18m. 2s. Epicentre 15°·8S. 172°·8W. (as on 1952, October, 18d.).

A = -·9551, B = -·1207, C = -·2706; $\delta = +1$; $h = +6$;
D = -·125, E = +·992; G = +·268, H = +·034, K = -·963.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|-----------|-----|----------------------|------|---------|------|---------|-----------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Apia | 2.2 | 26 | i 0 38 | 0 | — | — | — | — |
| Auckland | N. 23.7 | 205 | e 5 14 | 0 | e 9 28 | + 1 | — | — |
| Karapiro | N. 24.3 | 204 | 5 23 | + 3 | e 9 37 | 0 | — | — |
| Tongariro | Z. 25.5 | 201 | e 5 32 | 0 | — | — | — | — |
| New Plymouth | E. 25.9 | 203 | e 5 42 | + 7 | — | — | — | — |
| Wellington | 27.6 | 201 | e 5 51 | 0 | — | — | — | e 14.7 |
| Cobb River | E. 28.1 | 204 | e 5 57 | + 2 | — | — | — | — |
| Kaimata | N.E. 29.9 | 204 | e 6 12 | 0 | — | — | — | — |
| Riverview | 37.1 | 234 | i 7 12 _a | - 2 | i 8 53 | PPP | i 7 27 | pP e 17.8 |
| Guam | 51.1 | 302 | 9 6 | 0 | — | — | — | — |
| Mitchell Field | 67.5 | 357 | e 10 58 | - 2 | — | — | — | — |
| Kurilsk | 70.4 | 331 | i 11 17 | - 1 | e 20 30 | 0 | — | — |
| Santa Clara | E. 71.3 | 41 | — | — | e 22 55 | ? — | — | e 33.8 |
| Berkeley | 71.4 | 41 | i 11 25 | + 1 | i 20 46 | + 4 | e 24 54 | ? e 32.4 |
| Lick | Z. 71.5 | 41 | e 11 26 _a | + 2 | — | — | e 11 42 | PcP — |

Continued on next page.

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|-----------------|----|----------|-----|------|-----------------|-------|------|----|-------|-------|----|------|--------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Pasadena | | 71.9 | 46 | i 11 | 28 _a | + 1 | i 20 | 23 | -25 | i 11 | 34 | PcP | e 32.3 |
| Barratt | z. | 72.1 | 47 | e 11 | 29 _a | + 1 | — | — | — | e 11 | 45 | PcP | — |
| Fresno | z. | 72.3 | 43 | i 11 | 30 | + 1 | — | — | — | — | — | — | — |
| Palomar | z. | 72.3 | 47 | i 11 | 30 _a | + 1 | — | — | — | i 11 | 47 | PcP | — |
| Riverside | z. | 72.3 | 46 | i 11 | 29 _a | 0 | — | — | — | — | — | — | — |
| Woody | z. | 72.3 | 44 | i 11 | 30 _a | + 1 | — | — | — | i 11 | 41 | PcP | — |
| Petropavlovsk | | 72.9 | 341 | i 11 | 31 | - 2 | i 20 | 55 | - 4 | — | — | — | — |
| Baguio | | 73.1 | 293 | i 11 | 33 | - 1 | — | — | — | — | — | — | — |
| Shasta | | 73.1 | 38 | i 11 | 35 | + 1 | — | — | — | e 11 | 44 | PcP | — |
| China Lake | z. | 73.2 | 44 | i 11 | 35 _a | 0 | — | — | — | — | — | — | — |
| Mineral | z. | 73.4 | 39 | e 11 | 53 _a | +17 | — | — | — | — | — | — | e 39.2 |
| Tinemaha | | 73.5 | 43 | i 11 | 38 _a | + 2 | e 21 | 6 | 0 | i 11 | 44 | PcP | — |
| Reno | z. | 73.9 | 41 | i 11 | 40 _a | + 1 | — | — | — | — | — | — | — |
| Yuzno-Sakhlinsk | | 74.1 | 330 | i 11 | 40 | 0 | e 21 | 11 | - 1 | — | — | — | — |
| Nelson | | 75.0 | 46 | i 11 | 46 | + 1 | — | — | — | i 12 | 39 | PcP | — |
| Corvallis | n. | 75.1 | 35 | e 11 | 42 | - 4 | — | — | — | — | — | — | — |
| Boulder City | | 75.2 | 46 | i 11 | 48 | + 2 | — | — | — | — | — | — | — |
| Klyuchi | | 75.2 | 346 | e 11 | 45 | - 1 | i 21 | 27 | + 2 | — | — | — | — |
| Tucson | | 76.1 | 51 | i 11 | 53 | + 2 | e 21 | 40 | + 5 | i 12 | 15 | PcP | e 34.6 |
| Vladivostok | | 77.5 | 322 | i 11 | 57 | - 2 | e 21 | 41 | - 9 | — | — | — | — |
| Seattle | | 77.6 | 32 | i 12 | 2 | + 2 | i 21 | 55 | + 4 | e 22 | 0 | ScS | — |
| Victoria | | 77.6 | 31 | 12 | 0 _a | 0 | — | — | — | — | — | — | — |
| Tacubaya | | 80.4 | 67 | e 12 | 26 | +11 | — | — | — | — | — | — | — |
| Magadan | | 80.7 | 343 | 12 | 13 | - 3 | 22 | 19 | - 5 | — | — | — | — |
| Hong Kong | | 80.9 | 296 | 12 | 17 | 0 | — | — | — | — | — | — | — |
| Butte | | 82.0 | 38 | i 12 | 24 | + 1 | — | — | — | i 12 | 39 | PcP | — |
| Hungry Horse | | 82.5 | 35 | i 12 | 25 | - 1 | e 30 | 50 | PKKP | e 38 | 53 | P'P' | — |
| College | | 82.6 | 11 | i 12 | 26 | 0 | e 22 | 38 | - 5 | — | — | — | — |
| Fayetteville | | 90.3 | 52 | i 13 | 5 | + 1 | e 24 | 0 | + 3 | e 16 | 38 | PP | e 43.5 |
| St. Louis | | 94.1 | 51 | i 14 | 24 | +62 | i 24 | 56 | [+60] | — | — | — | — |
| Kyakhta | | 96.2 | 320 | 13 | 29 | - 2 | — | — | — | e 17 | 21 | PP | — |
| Kabansk | | 96.6 | 322 | 13 | 32 | - 1 | 24 | 46 | - 6 | e 17 | 21 | PP | — |
| Chicago | | 96.9 | 48 | — | — | — | e 24 | 14 | [+ 3] | — | — | — | — |
| Irkutsk | | 98.1 | 322 | 13 | 38 | - 2 | e 26 | 58 | PS | e 17 | 55 | PP | — |
| La Paz | | 99.1 | 110 | — | — | — | i 24 | 26 | [+ 3] | e 32 | 28 | SS | 47.0 |
| Bogota | | 99.6 | 88 | — | — | — | e 24 | 29 | [+ 4] | — | — | — | — |
| Cleveland | | 101.2 | 49 | e 14 | 7 _a | +13 | e 24 | 33 | [0] | — | — | — | — |
| Shillong | n. | 101.4 | 294 | — | — | — | e 24 | 33 | [- 1] | — | — | — | — |
| Resolute Bay | | 102.0 | 15 | e 13 | 56 _k | - 1 | e 25 | 38 | + 1 | e 14 | 9 | ? | e 47.9 |
| Ottawa | | 106.0 | 46 | — | — | — | 25 | 0 | [+ 5] | 27 | 58 | PS | — |
| Harvard | | 108.7 | 50 | e 18 | 43 | [+12] | e 25 | 11 | [+ 4] | e 28 | 24 | PS | — |
| Weston | | 108.9 | 50 | — | — | — | 25 | 9 | [+ 1] | 28 | 26 | PS | e 42.8 |
| Seven Falls | e. | 109.5 | 44 | — | — | — | e 24 | 57 | [-13] | e 28 | 33 | PS | 44.8 |
| Bermuda | | 113.4 | 61 | e 19 | 43 | PP | 26 | 32 | {+ 3} | 29 | 28 | PS | e 55.4 |
| Rybach'e | | 116.0 | 310 | e 18 | 46 | [+ 1] | — | — | — | — | — | — | — |
| Frunse | | 117.1 | 310 | e 18 | 47 | [0] | e 25 | 34 | [- 6] | — | — | — | — |
| Andijan | | 118.9 | 308 | 18 | 51 | [0] | — | — | — | e 22 | 37 | PPP | — |
| Fergana | | 119.4 | 308 | e 18 | 52 | [0] | — | — | — | — | — | — | — |
| Namangan | | 119.4 | 308 | i 18 | 53 | [+ 1] | e 25 | 54 | [+ 6] | e 20 | 6 | PP | — |
| Dzhergetal | | 119.9 | 307 | i 18 | 55 | [+ 2] | — | — | — | — | — | — | — |
| Garm | | 120.6 | 307 | e 18 | 55 | [+ 1] | — | — | — | — | — | — | — |
| Tchimkent | | 120.8 | 310 | i 18 | 54 | [0] | i 25 | 43 | [-10] | i 20 | 17 | PP | — |
| Kulyab | | 121.1 | 305 | e 18 | 58 | [+ 3] | — | — | — | — | — | — | — |
| Obi-garm | | 121.1 | 306 | e 18 | 55 | [0] | — | — | — | — | — | — | — |
| Tashkent | | 121.2 | 309 | e 18 | 54 | [- 1] | i 25 | 57 | [+ 3] | i 20 | 22 | PP | — |
| Stalinabad | | 121.8 | 306 | i 18 | 57 | [+ 1] | — | — | — | — | — | — | — |
| Sverdlovsk | | 122.8 | 328 | i 18 | 59 | [+ 1] | i 30 | 24 | PP | i 20 | 34 | PP | — |
| Samarkand | | 123.1 | 307 | 18 | 59 | [0] | — | — | — | 20 | 27 | PP | — |
| Quetta | z. | 123.7 | 297 | i 19 | 2 | [+ 2] | — | — | — | — | — | — | — |
| Bairam-Ali | | 127.2 | 305 | i 19 | 6 | [- 1] | — | — | — | i 21 | 1 | PP | — |
| Kiruna | | 127.3 | 353 | i 19 | 5 _a | [- 2] | i 22 | 21 | PKS | e 21 | 2 | PP | e 59.0 |
| Tananarive | | 127.4 | 231 | e 19 | 10 | [+ 3] | — | — | — | — | — | — | — |
| Reykjavik | z. | 127.7 | 15 | i 19 | 9 | [+ 1] | — | — | — | — | — | — | — |
| Ashkabad | | 130.0 | 307 | i 19 | 13 | [+ 1] | 22 | 37 | PKS | i 21 | 23 | PP | — |
| Kizyl-Arvat | | 131.4 | 310 | i 19 | 15 | [0] | 22 | 42 | PKS | e 21 | 30 | PP | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|------------|------------|----------------------|-------|---------|-------|----------|------------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Kimberley | z. | 132.6 | 202 | i 19 19 | [+ 2] | — | — | — | — |
| Pulkovo | | 132.9 | 344 | e 19 18 | [+ 0] | e 22 42 | PKS | e 21 38 | PP |
| Moscow | | 133.8 | 336 | 19 19 | [+ 0] | 28 38 | (- 6) | 21 45 | PP |
| Upsala | z. | 135.4 | 352 | i 19 19 | [- 3] | — | — | e 22 5 | PP |
| Makhach-Kala | | 136.3 | 318 | e 19 25 | [+ 1] | i 22 59 | PKS | — | — |
| Grozny | | 137.3 | 318 | i 19 28 | [+ 2] | i 23 2 | PKS | — | — |
| Kirovobad | | 138.0 | 315 | 19 27 | [+ 0] | 23 1 | PKS | — | — |
| Goris | | 138.5 | 313 | i 19 29 | [+ 1] | i 23 6 | PKS | — | — |
| Tiflis | | 138.6 | 317 | i 19 29 | [+ 1] | i 23 5 | PKS | — | — |
| Borzhom | | 139.5 | 317 | e 19 33 | [+ 3] | 23 9 | PKS | — | — |
| Copenhagen | | 140.0 | 355 | — | — | 23 11 | PKS | 29 31 | PKKP |
| Zugdidi | | 140.1 | 320 | e 19 32 | [+ 1] | — | — | — | — |
| Sochi | | 140.9 | 322 | e 19 27 | [- 5] | i 23 11 | PKS | e 22 34 | PP |
| Theodosia | | 142.4 | 327 | e 19 29 | [- 6] | — | — | — | — |
| Simferopol | | 143.1 | 328 | i 19 34 | [- 2] | — | — | e 22 40 | PP |
| Witteveen | z. | 143.1 | 0 | e 19 34 | [- 2] | — | — | e 22 53 | PP |
| Potsdam | | 143.2 | 354 | e 19 32 | [- 4] | e 23 14 | PKS | e 22 46 | PP |
| Lwow | | 143.4 | 343 | e 19 34 | [- 2] | — | — | e 22 42 | PP |
| Yalta | | 143.4 | 326 | e 19 32 | [- 4] | 32 56 | SKSP | e 22 44 | PP |
| De Bilt | | 143.7 | 2 | i 19 35 | [- 2] | e 33 22 | PS | i 22 52 | PP |
| Kew | | 143.9 | 7 | e 19 38 | [+ 1] | — | — | e 22 46 | PP |
| Cernauti | | 144.1 | 339 | i 19 36 | [- 2] | — | — | — | — |
| Kishinev | | 144.1 | 336 | i 19 35 | [- 3] | — | — | — | — |
| Collnberg | z. | 144.3 | 352 | e 19 36 | [- 2] | e 30 4 | (+18) | e 23 35 | PP |
| Raciborzu | | 144.7 | 348 | e 19 39 | [+ 0] | — | — | e 22 4 | ? |
| Jena | | 144.8 | 354 | i 19 38 | [- 1] | e 31 10 | ? | e 23 0 | PP |
| Uccle | | 145.0 | 4 | e 19 39 | [+ 0] | e 27 30 | [+43] | e 20 2 | pPKP |
| Uzhgorod | | 145.0 | 343 | i 19 40 | [+ 1] | — | — | e 26 11 | PPP |
| Prague | | 145.3 | 351 | i 19 40 | [+ 0] | e 26 39 | [- 8] | e 22 55 | PP |
| Cheb | | 145.6 | 345 | e 20 13 | ? | e 29 20 | [-34] | e 37 4 | ? |
| Ogyalla | | 146.8 | 346 | e 19 48 | [+ 6] | e 26 37 | [-12] | e 23 28 | PKS |
| Karlsruhe | z. | 146.9 | 358 | e 19 44 | [+ 2] | — | — | e 23 12? | PKS |
| Paris | | 146.9 | 5 | e 19 44 | [+ 2] | e 23 13 | PKS | i 23 9 | PP |
| Stuttgart | | 147.1 | 357 | i 19 44 ^a | [+ 1] | e 33 22 | PSKS | e 23 13 | PP |
| Bucharest | | 147.3 | 334 | i 19 48 | [+ 5] | — | — | — | — |
| Strasbourg | | 147.3 | 358 | e 19 44 | [+ 1] | e 42 58 | SS | e 23 14 | PP |
| Chambon-la-Forêt | | 147.6 | 6 | e 19 44 | [+ 0] | — | — | — | — |
| Timisoara | N. | 147.9 | 342 | e 19 51 | [+ 7] | e 20 21 | ? | — | — |
| Ksara | | 148.5 | 309 | i 19 48 | [+ 3] | — | — | 23 19 | PP |
| Zürich | | 148.5 | 358 | e 19 44 | [- 1] | — | — | e 23 19 | PP |
| Neuchatel | | 148.9 | 359 | e 19 48 | [+ 2] | — | — | — | — |
| Belgrade | | 149.0 | 341 | e 19 53 ^a | [+ 7] | e 20 28 | ? | e 23 14 | PP |
| Chur | | 149.0 | 357 | e 19 47 | [+ 1] | — | — | — | — |
| Triest | z. | 149.7 | 351 | i 19 32 ^k | [-15] | e 23 17 | PP | i 19 52 | pPKP |
| Sofia | | 149.8 | 336 | e 19 49 [?] | [+ 2] | — | — | — | — |
| Clermont-Ferrand | | 149.9 | 5 | i 19 50 | [+ 3] | e 23 29 | PKS | e 23 36 | PP |
| Pavia | | 150.7 | 356 | e 19 47 | [- 1] | e 31 34 | ? | e 20 14 | PKP ₂ |
| Bologna | | 151.2 | 353 | e 20 4 | [+15] | e 23 4 | PKS | e 50 16 | SSS |
| Prato | | 151.8 | 353 | e 19 58 | [+ 8] | — | — | — | — |
| Florence | z. | 151.9 | 353 | i 19 49 ^a | [- 1] | i 23 40 | PP | i 20 11 | PKP ₂ |
| Siena | | 152.3 | 353 | e 20 1 | [+10] | — | — | — | — |
| Athens | | 153.5 | 330 | e 19 49 | [- 3] | — | — | e 20 9 | PKP ₂ |
| Rome | | 153.6 | 350 | i 19 52 | [- 1] | e 43 14 | SS | i 23 43 | PP |
| Helwan | z. | 153.8 | 306 | 19 54 | [+ 1] | 23 48 | PP | 20 14 | PKP ₂ |
| Toledo | | 154.1 | 20 | e 19 55 | [+ 2] | — | — | i 20 18 | PKP ₂ |
| Tortosa | | 154.4 | 11 | 19 52 | [- 2] | e 30 10 | [-32] | — | — |
| Alicante | | 156.5 | 15 | 24 10 | PP | 27 0 | [- 1] | e 34 28 | SKSP |
| Messina | | 156.5 | 345 | e 19 56 | [+ 0] | e 24 2 | PP | i 20 24 | PKP ₂ |
| Granada | | 156.6 | 22 | 19 58 ^a | [+ 1] | 27 40 | [+39] | 20 43 | PKP ₂ |
| Malaga | | 156.7 | 23 | i 19 56 | [- 1] | 26 52 | [- 9] | i 20 29 | PKP ₂ |
| Almeria | | 157.4 | 20 | i 19 59 | [+ 1] | 27 0 | [- 2] | 20 32 | PKP ₂ |
| Algiers Univ. | z. | 158.8 | 8 | e 20 1 | [+ 2] | e 24 18 | PP | e 20 48 | PKP ₂ |
| Tamanrasset | z. | 172.9 | 12 | i 20 14 | [+ 3] | e 25 30 | PP | e 21 41 | PKP ₂ |

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July 30d. 3h. 16m. Epicentre 39°·0N. 70°·7E.
Bulletin of Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p.99.

July 30d. 4h. 20m. Epicentre 40°·2N. 143°·6E. Depth 60km.
Intensity II-III at Miyako.
Seismo. Bull. Cent. Met. Obs., Japan, July, 1953, Tokyo, 1953, pp.31-32, with macroseismic chart.

July 30d. 6h. 2m. Suggested epicentres 23°·5S. 175°·75W. (Strasbourg).
6h. 50m. 23°·0S. 176°·0W. (Wellington).
Seismological Bulletin for New Zealand, E-133, July-Sept., 1953, Wellington, N.Z., 1956, pp.5-6.

July 30d. 8h. 24m. 51s. Epicentre 35°·2N. 132°·7E. (as on 1950, Aug. 22d.).

Intensity VI at Matuyama; IV at Hiroshima, Koti, Okayama, Hamada, Takamatu, Ooita, Simonoseki, Tottori, Matsue, and Uwazima; II-III at Simidu, Yonago, Tokusima, Sumoto, Hukuoka, Saga, and Saigo.

Epicentre 34°·1N. 132°·8E.
Seismo. Bull. Cent. Met. Obs., Japan, July, 1953, Tokyo, 1953, pp.32-34, with macroseismic chart.

A = -·5554, B = +·6019, C = +·5739; $\delta = +11$; $h = 0$;
D = +·735, E = +·678; G = -·389, H = +·422, K = -·819.

| | | Δ | Az. | P. | O-C. | S. | O-C. |
|------------|----|----------|-----|---------------------|------------------|-------|------------------|
| | | ° | ° | m. s. | s. | m. s. | s. |
| Hamada | | 0·4 | 240 | i 0 17 | + 4 | 0 30 | + 9 |
| Matsue | | 0·4 | 50 | 0 32 | +19 | 0 49 | +28 |
| Yonago | | 0·6 | 66 | 0 25 | + 9 | 0 44 | +18 |
| Hiroshima | | 0·9 | 195 | i 0 6 _a | ? | 0 11 | ? |
| Okayama | | 1·1 | 118 | i 0 16 | - 6 _g | 0 30 | - 6 _g |
| Tottori | N. | 1·3 | 77 | i 0 30 _k | + 5 | 0 54 | +10 |
| Matuyama | | 1·4 | 178 | i 0 1 _a | ? | 0 5 | ? |
| Takamatu | | 1·4 | 128 | i 0 18 | - 9 | 0 33 | -13 |
| Koti | | 1·8 | 157 | i 0 14 _a | -18 | 0 24 | -32 |
| Toyooka | | 1·8 | 79 | e 0 37 | + 1 _g | 1 4 | + 4 _g |
| Simonoseki | | 1·9 | 230 | 0 27 | - 7 | 0 46 | -13 |
| Tokusima | | 1·9 | 126 | 0 29 _a | - 5 | 0 49 | -10 |
| Sumoto | Z. | 2·0 | 115 | i 0 28 | - 7 | 0 51 | -11 |
| Uwazima | | 2·0 | 184 | e 0 12 | ? | 0 22 | ? |
| Kobe | N. | 2·1 | 104 | 0 33 | - 4 | 1 3 | - 1 |
| Ooita | | 2·2 | 204 | i 0 24 _k | -14 | 0 46 | -20 |
| Maizuru | | 2·3 | 83 | 0 41 | - 1* | 1 13 | + 1* |
| Muroto | | 2·3 | 148 | 0 23 _k | -17 | 0 42 | -27 |
| Wakayama | | 2·3 | 115 | e 0 34 | - 6 | 1 3 | - 6 |
| Osaka | | 2·4 | 103 | e 0 40 | - 1 | 1 12 | 0 |
| Simidu | Z. | 2·4 | 175 | i 0 22 _a | -19 | 0 39 | -33 |
| Hukuoka | | 2·5 | 229 | 0 36 _a | - 7 | 1 1 | -13 |
| Kyoto | | 2·5 | 94 | 0 41 | - 2 | 1 20 | + 2* |
| Asosan | | 2·7 | 211 | i 0 33 | -12 | 0 59 | -20 |
| Saga | E. | 2·8 | 226 | 0 38 | - 9 | 1 30 | - 2 _g |
| Tsuruga | E. | 2·8 | 81 | 0 50 | - 1* | 1 35 | + 3 _g |
| Kumamoto | | 2·9 | 215 | 0 40 | - 8 | 1 8 | -16 |
| Ituhara | | 3·0 | 251 | 0 52 | + 2 | 1 29 | + 2 |
| Kameyama | | 3·1 | 96 | 0 48 | - 3 | 1 38 | + 2* |
| Owase | | 3·1 | 111 | e 0 45 | - 6 | 1 26 | - 3 |
| Siomisaki | | 3·1 | 115 | e 0 43 | - 8 | 1 24 | - 5 |
| Unzendake | | 3·2 | 219 | e 0 43 _k | - 9 | — | — |
| Gihu | | 3·3 | 87 | e 1 5 | - 1 _g | 1 51 | + 2 _g |
| Miyazaki | | 3·4 | 198 | 0 41 | -14 | 1 16 | -21 |
| Nagasaki | | 3·4 | 224 | 1 3 | + 2* | 1 38 | + 1 |
| Kanazawa | | 3·5 | 66 | 1 11 | + 1 _g | 2 5 | + 9 _g |
| Nagoya | E. | 3·5 | 89 | e 0 57 | 0 | 1 52 | - 4 _g |
| Takayama | N. | 3·8 | 74 | e 1 12 | - 4 _g | 2 7 | + 1 _g |
| Toyama | | 3·9 | 67 | 1 9 | - 1* | 2 37 | +28 _g |
| Kagosima | | 4·0 | 206 | e 0 57 _k | - 7 | 1 46 | - 6 |

Continued on next page.

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. |
|--------------|----|----------|-----|------|----------------|------------------|------|----|------------------|
| | | • | • | m. | s. | s. | m. | s. | s. |
| Hamamatu | | 4.2 | 95 | e 1 | 14 | - 1* | 2 | 25 | + 6 _g |
| Iida | | 4.2 | 84 | i 1 | 9 | + 2 | 2 | 27 | + 8 _g |
| Tomie | | 4.2 | 233 | e 1 | 18 | + 3* | 2 | 2 | - 7* |
| Matumoto | N. | 4.4 | 75 | e 1 | 20 | + 2* | 2 | 33 | + 8 _g |
| Omaesaki | | 4.6 | 96 | e 1 | 17 | - 5* | 2 | 27 | + 7* |
| Matusiro | | 4.7 | 72 | e 1 | 24 | + 1* | 2 | 27 | + 3* |
| Nagano | N. | 4.7 | 70 | e 1 | 19 | + 5 | 2 | 41 | + 6 _g |
| Shizuoka | Z. | 4.7 | 91 | e 1 | 27 | + 4* | 2 | 33 | - 2 _g |
| Kohu | E. | 4.8 | 97 | e 1 | 15 | 0 | 2 | 29 | + 3* |
| Oiwake | | 4.9 | 75 | e 1 | 25 | - 2* | 2 | 44 | + 2 _g |
| Takada | | 4.9 | 66 | — | — | — | e 2 | 14 | - 1 |
| Hunatu | N. | 5.0 | 85 | e 1 | 29 | + 1* | 2 | 41 | - 4 _g |
| Misima | N. | 5.1 | 91 | e 1 | 22 | + 2 | 2 | 41 | + 6* |
| Yakusima | | 5.1 | 202 | e 1 | 3 | - 17 | 2 | 4 | - 16 |
| Ajiro | E. | 5.3 | 90 | e 1 | 38 | + 5* | — | — | — |
| Maebasi | | 5.3 | 76 | e 1 | 25 | + 3 | 2 | 54 | - 1 _g |
| Titibu | | 5.3 | 80 | e 1 | 25 | + 3 | 2 | 51 | - 4 _g |
| Kumagaya | | 5.5 | 79 | e 1 | 30 | + 5 | 2 | 49 | + 2* |
| Osima | | 5.5 | 93 | e 1 | 22 | - 3 | — | — | — |
| Kashiwa | E. | 6.0 | 82 | e 2 | 6 | + 6 _g | 3 | 24 | + 6 _g |
| Utunomiya | | 6.0 | 75 | e 1 | 35 | + 3 | — | — | — |
| Inawasiro | E. | 6.4 | 66 | e 1 | 35 | - 3 | — | — | — |
| Mito | | 6.4 | 77 | e 1 | 48 | - 4* | 3 | 29 | - 3 _g |
| Shirakawa | | 6.4 | 70 | e 1 | 42 | + 4 | — | — | — |
| Onahama | | 6.9 | 73 | e 1 | 47 | + 2 | 3 | 46 | - 2 _g |
| Sendai | | 7.3 | 63 | e 1 | 57 | + 7 | 3 | 27 | + 12 |
| Akita | | 7.4 | 50 | e 2 | 23 | - 5 _g | — | — | — |
| Zô-Sô | Z. | 10.5 | 250 | e 2 | 34 | - 1 | — | — | — |
| Nanking | E. | 12.0 | 259 | e 2 | 58 | + 3 | e 5 | 12 | + 1 |
| College | | 54.4 | 30 | e 9 | 32 | + 1 | — | — | — |
| Quetta | Z. | 54.6 | 285 | i 9 | 29 | - 3 | — | — | — |
| Kiruna | Z. | 65.6 | 337 | i 10 | 47 | - 1 | — | — | — |
| Upsala | Z. | 71.3 | 331 | i 11 | 23 | 0 | — | — | — |
| Copenhagen | | 76.1 | 330 | i 11 | 51 | 0 | — | — | — |
| Shasta | Z. | 77.7 | 48 | e 12 | 0 _a | 0 | e 12 | 6 | P |
| Hungry Horse | | 77.8 | 38 | i 12 | 2 | + 1 | — | — | — |
| Mineral | Z. | 78.4 | 48 | e 12 | 3 _a | - 1 | — | — | — |
| Collmberg | Z. | 78.9 | 326 | e 12 | 7 | 0 | — | — | — |
| Jena | Z. | 79.8 | 327 | e 12 | 12 | 0 | — | — | — |
| Stuttgart | | 82.5 | 326 | e 12 | 26 | 0 | — | — | — |
| Woody | Z. | 83.0 | 50 | i 12 | 26 | - 2 | — | — | — |
| China Lake | Z. | 83.8 | 49 | i 12 | 32 | 0 | — | — | — |
| Boulder City | | 85.3 | 48 | e 12 | 40 | 0 | — | — | — |
| Nelson | | 85.5 | 48 | i 12 | 41 | 0 | — | — | — |
| Palomar | Z. | 85.7 | 52 | i 12 | 41 | - 1 | — | — | — |
| Barratt | Z. | 86.3 | 52 | i 12 | 43 | - 2 | — | — | — |
| Tucson | | 90.3 | 49 | e 13 | 5 | + 1 | — | — | — |
| Fayetteville | | 96.7 | 36 | i 13 | 33 | 0 | i 13 | 53 | ? |

July 30d. 11h. 53m. Gulf of Taranto.

Suggested epicentre : 40°·0N. 17°·2E. (Rome).

39°·5N. 17°·0E. Depth 100-200km. (Strasbourg).

Magnitude 5 (Strasbourg).

E. Peterschmitt.

Quelques données nouvelles sur les séismes profonds de la Mer Tyrrhénienne, *Annali di Geofisica*, Roma, Vol. IX, No. 3, July, 1956, p.318.

July 30d. 19h. 24m. Epicentre 33°·2N. 134°·8E. Depth 20km.

Intensity IV at Siomisaki, Muroto, and Wakayama ; II-III at Tokushima, Sumoto, Koti, Takamatu, Osaka, and Okayama.

Seismo. Bull. Cent. Met. Obs., Japan, July, 1953, Tokyo, 1953, pp.34-35, with macroseismic chart.

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July 30d. 23h. 44m. 51s. Epicentre 18°·7N. 145°·4E. Depth of focus 0·030.
(as on 1950, Nov. 16d.).

A = -·7802, B = +·5382, C = +·3187; δ = -6; h = +5;
D = +·568, E = +·823; G = -·262, H = +·181, K = -·948.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-------------|----------|-----|---------------------|------|--------|------|---------|-----|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Hatidyozima | 15·2 | 342 | e 3 13 | -12 | 5 58 | -9 | — | — |
| Mera | 16·9 | 344 | 3 44 | -1 | 6 44 | 0 | — | — |
| Osima | 16·9 | 343 | e 3 43 | -2 | i 6 43 | -1 | e 4 17 | ? |
| Siomisaki | 17·0 | 332 | i 3 34 | -12 | 6 39 | -7 | e 6 32 | ? |
| Omaesaki | 17·1 | 342 | e 3 45 | -2 | 6 49 | +1 | — | — |
| Ajiro | 17·2 | 343 | i 3 47 _a | -1 | 6 49 | -1 | — | — |
| Misima | 17·3 | 343 | i 3 48 | -1 | i 6 55 | +2 | — | — |
| Owase | 17·4 | 335 | e 3 47 | -3 | e 6 50 | -5 | — | — |
| Shizuoka | 17·4 | 341 | 3 47 | -3 | e 6 51 | -4 | 7 43 | SSS |
| Muroto | 17·6 | 327 | e 3 54 | +2 | e 7 2 | +3 | e 8 29 | PcP |
| Hunatu | 17·7 | 344 | 3 52 | -1 | 7 2 | +1 | — | — |
| Tokyo | N. 17·7 | 345 | e 3 52 | -1 | i 7 1 | 0 | i 6 53 | ? |
| Tu | 17·8 | 338 | e 3 54 | 0 | i 7 55 | SSS | i 5 29 | ? |
| Kameyama | 17·9 | 338 | 3 54 | -2 | 6 58 | -7 | i 4 21 | PPP |
| Kohu | 17·9 | 343 | i 3 55 _a | -1 | i 7 4 | -1 | e 15 6 | ScS |
| Simidu | 17·9 | 324 | i 3 55 _a | -1 | 7 7 | +2 | — | — |
| Nagoya | 18·0 | 341 | e 3 58 | +1 | i 7 9 | +2 | e 15 12 | ScS |
| Iida | 18·1 | 341 | e 3 56 | -2 | e 7 6 | -3 | — | — |
| Mito | 18·1 | 347 | e 3 59 | +1 | 7 14 | +5 | — | — |
| Osaka | 18·1 | 334 | e 3 58 | 0 | e 7 0 | -9 | e 4 19 | PP |
| Titibu | 18·1 | 334 | i 3 56 _a | -2 | i 7 9 | 0 | — | — |
| Koti | 18·2 | 327 | e 3 57 | -2 | e 7 11 | 0 | e 15 12 | ScS |
| Kumagaya | 18·2 | 344 | i 3 56 _a | -3 | i 7 10 | -1 | — | — |
| Sumoto | 18·2 | 335 | 3 57 | -2 | 7 10 | -1 | i 15 11 | ScS |
| Gihu | 18·3 | 340 | e 3 58 | -2 | — | — | — | — |
| Kobe | 18·3 | 334 | e 3 58 | -2 | e 7 13 | +1 | e 7 56 | SSS |
| Hikone | 18·4 | 339 | 4 0 | -1 | e 7 19 | +5 | e 15 13 | ScS |
| Kyoto | 18·4 | 335 | e 4 2 | +1 | e 7 13 | -1 | — | — |
| Utunomiya | 18·4 | 345 | e 3 58 | -3 | i 7 12 | -2 | e 4 17 | PP |
| Maebasi | 18·5 | 344 | i 3 59 _a | -3 | e 7 14 | -2 | e 7 8 | ? |
| Oiwake | 18·6 | 343 | e 4 3 | 0 | e 7 15 | -3 | e 4 59 | ? |
| Onahama | 18·6 | 349 | e 4 5 | +2 | i 7 17 | -1 | — | — |
| Takamatu | 18·6 | 330 | e 4 1 | -2 | e 7 17 | -1 | 15 12 | ScS |
| Matumoto | 18·7 | 339 | i 4 3 | -1 | 7 23 | +3 | e 15 13 | ScS |
| Matuyama | 18·8 | 327 | e 4 3 | -2 | e 7 15 | -7 | e 8 9 | SS |
| Tsuruga | 18·8 | 340 | e 4 3 | -2 | 7 21 | -1 | 15 13 | ScS |
| Matusiro | 18·9 | 342 | 4 4 | -2 | e 7 25 | +1 | 4 59 | ? |
| Shirakawa | 18·9 | 348 | i 4 6 | 0 | i 7 27 | +3 | — | — |
| Nagano | E. 19·0 | 342 | e 4 5 | -2 | e 7 25 | -1 | — | — |
| Ooita | 19·0 | 322 | e 4 11 | +4 | 7 26 | 0 | — | — |
| Hukui | 19·1 | 340 | e 4 5 | -3 | e 7 28 | 0 | — | — |
| Toyooka | 19·2 | 333 | e 4 6 | -3 | e 7 28 | -2 | — | — |
| Toyama | 19·3 | 342 | 4 9 | -1 | 7 33 | +2 | 7 41 | S |
| Hirosima | 19·4 | 326 | 4 9 | -2 | 7 35 | +2 | — | — |
| Takada | 19·4 | 344 | e 4 14 | +3 | 7 33 | 0 | — | — |
| Hokusima | 19·5 | 349 | i 4 11 | -1 | i 7 38 | +3 | — | — |
| Sendai | 19·9 | 351 | 4 17 | +1 | 7 48 | +6 | e 4 43 | PP |
| Isinomaki | 20·0 | 352 | e 4 21 | +4 | — | — | — | — |
| Wazima | 20·0 | 341 | e 4 17 | 0 | e 7 46 | +2 | — | — |
| Yamagata | 20·0 | 349 | 4 19 | +2 | 7 49 | +5 | — | — |
| Alkawa | 20·2 | 343 | 4 18 | -1 | 7 50 | +2 | — | — |
| Mizusawa | N. 20·7 | 351 | 4 24 | 0 | 8 2 | +5 | — | — |
| Sakata | 20·7 | 349 | 4 29 | +5 | 8 14 | +17 | — | — |
| Miyako | 21·1 | 353 | e 4 20 _? | -8 | e 8 4 | 0 | e 4 27 | P |
| Morioka | 21·2 | 352 | e 4 26 | -3 | i 8 13 | +7 | — | — |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|----------------|-----------|-----|------|-----------------|------|------|----|------|-------|----|-----|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Akita | 21.4 | 350 | 4 | 31 | 0 | i 8 | 18 | + 9 | e 5 | 45 | sP | — |
| Hatinohe | 22.0 | 352 | e 4 | 36 | - 1 | 8 | 20 | 0 | e 12 | 26 | PcS | — |
| Aomori | 22.4 | 351 | e 4 | 43 | + 3 | 8 | 29 | + 2 | e 7 | 24 | ? | — |
| Urakawa | 23.5 | 357 | e 4 | 51 | 0 | e 8 | 46 | + 1 | e 11 | 45 | ScP | — |
| Mori | 23.7 | 352 | 4 | 54 | + 1 | 8 | 51 | + 2 | e 5 | 16 | PP | 10.9 |
| Bagnio | 23.8 | 269 | e 4 | 57 ^a | + 3 | i 8 | 40 | -10 | — | — | — | — |
| Kusiro | 24.2 | 358 | e 5 | 5 | + 7 | i 8 | 59 | + 2 | e 9 | 38 | ? | — |
| Sapporo | 24.5 | 353 | e 4 | 57 | - 3 | e 9 | 0 | - 2 | e 5 | 42 | pP | — |
| Nemuro | 24.6 | 0 | e 5 | 7 | + 6 | i 9 | 1 | - 3 | e 5 | 40 | pP | — |
| Abashiri | 25.3 | 358 | e 5 | 30 | +22 | e 9 | 15 | 0 | — | — | — | — |
| Vladivostok | 26.9 | 338 | i 6 | 2 | pP | — | — | — | — | — | — | — |
| Hong Kong | 29.4 | 283 | 5 | 44 | - 1 | e 10 | 21 | 0 | 6 | 44 | PP | — |
| Ulegorsk | 30.4 | 357 | e 5 | 54 | + 1 | — | — | — | — | — | — | — |
| Petropavlovsk | 35.9 | 13 | i 6 | 39 | - 1 | i 11 | 59 | - 2 | i 7 | 24 | pP | — |
| Magadan | 41.0 | 5 | 7 | 22 | - 1 | 13 | 17 | - 1 | 8 | 8 | pP | — |
| Mitchell Field | 44.6 | 32 | e 7 | 51 | - 1 | e 14 | 8 | - 2 | — | — | — | — |
| Kabansk | 45.0 | 328 | 7 | 56 | + 1 | — | — | — | i 8 | 40 | pP | — |
| Irkutsk | 46.3 | 327 | e 8 | 6 | + 1 | 14 | 32 | - 2 | i 8 | 50 | pP | — |
| Brisbane | 46.5 | 171 | i 8 | 7 | 0 | i 10 | 1 | PP | e 8 | 53 | pP | — |
| Shillong | N. 49.8 | 289 | — | — | — | i 15 | 16 | - 7 | i 16 | 43 | sS | — |
| Riverview | 52.5 | 174 | i 8 | 51 ^k | - 1 | i 16 | 4 | + 4 | i 18 | 47 | ? | e 22.4 |
| Chatra | 53.9 | 272 | i 9 | 5 | + 3 | i 16 | 21 | + 3 | — | — | — | — |
| Przhevalsk | 60.8 | 310 | 9 | 49 | - 2 | — | — | — | 10 | 41 | pP | — |
| Kurmenty | 60.9 | 311 | e 9 | 50 | - 1 | — | — | — | — | — | — | — |
| Almata II | 61.5 | 311 | e 9 | 55 | 0 | — | — | — | — | — | — | — |
| Almata | 61.8 | 311 | i 9 | 57 | 0 | i 18 | 3 | + 2 | — | — | — | — |
| Ili | 61.8 | 312 | i 9 | 56 | - 1 | — | — | — | — | — | — | — |
| Fabrichnaya | 62.2 | 311 | i 10 | 1 | + 1 | — | — | — | — | — | — | — |
| Rybach'e | 62.5 | 309 | e 10 | 0 | - 2 | i 18 | 9 | - 1 | i 10 | 52 | pP | — |
| Naryn | 62.6 | 308 | 10 | 1 | - 1 | — | — | — | i 10 | 52 | pP | — |
| Karapiro | N. 63.0 | 154 | e 10 | 7 | + 2 | — | — | — | — | — | — | — |
| College | 63.4 | 26 | i 10 | 6 | - 2 | e 18 | 13 | - 8 | — | — | — | — |
| New Plymouth | E. 63.4 | 155 | e 10 | 9 [?] | + 1 | — | — | — | — | — | — | — |
| Frunse | 63.6 | 309 | e 10 | 9 | 0 | i 18 | 23 | 0 | i 11 | 0 | pP | — |
| Tongariro | Z. 64.1 | 155 | e 10 | 13 | + 1 | — | — | — | — | — | — | — |
| Andijan | 65.3 | 308 | i 10 | 19 | - 1 | i 18 | 43 | - 1 | 11 | 10 | pP | — |
| Kaimata | N.E. 65.5 | 159 | e 10 | 21 | 0 | — | — | — | — | — | — | — |
| Wellington | 65.6 | 157 | e 10 | 20 | - 2 | — | — | — | — | — | — | — |
| Fergana | 65.8 | 308 | e 10 | 22 | - 1 | 18 | 48 | - 2 | i 11 | 14 | pP | — |
| Namangan | 65.8 | 308 | i 10 | 23 | 0 | i 18 | 50 | 0 | i 11 | 15 | pP | — |
| Khorog | 66.2 | 304 | e 10 | 27 | + 1 | e 18 | 57 | + 2 | e 11 | 22 | pP | — |
| Warsak Dam | E. 66.6 | 301 | e 11 | 16 | pP | e 18 | 56 | - 4 | — | — | — | — |
| Garm | 67.1 | 306 | e 10 | 27 | - 4 | e 19 | 1 | - 5 | e 11 | 17 | pP | — |
| Poona | E. 67.3 | 283 | i 10 | 33 | + 1 | i 19 | 8 | 0 | 20 | 13 | ScS | 29.9 |
| Tchimkent | 67.3 | 310 | i 10 | 34 | + 2 | i 19 | 7 | - 1 | 11 | 24 | pP | — |
| Kulyab | 67.6 | 305 | i 10 | 35 | + 1 | 19 | 10 | - 2 | 11 | 30 | pP | — |
| Obi-garm | 67.6 | 306 | i 10 | 33 | - 1 | i 19 | 9 | - 3 | — | — | — | — |
| Tashkent | 67.6 | 308 | e 10 | 34 | 0 | — | — | — | i 11 | 24 | pP | — |
| Bombay | 68.2 | 284 | i 18 | 2 | ? | e 19 | 19 | 0 | i 20 | 54 | sS | — |
| Stalinabad | 68.3 | 305 | i 10 | 38 | - 1 | i 19 | 17 | - 3 | i 11 | 30 | pP | — |
| Samarkand | 69.5 | 305 | 10 | 45 | - 1 | 19 | 28 | - 6 | 11 | 36 | pP | — |
| Quetta | 71.0 | 297 | i 10 | 55 | 0 | i 19 | 52 | 0 | i 11 | 48 | pP | — |
| Sverdlovsk | 71.7 | 325 | e 11 | 0 | + 1 | i 19 | 55 | - 5 | 11 | 48 | pP | — |
| Bairam-Ali | 73.6 | 304 | e 11 | 11 | + 1 | i 20 | 23 | + 2 | i 12 | 3 | pP | — |
| Ashkabad | 76.5 | 306 | e 11 | 26 | - 1 | e 20 | 55 | + 2 | e 12 | 19 | pP | — |
| Victoria | 77.0 | 43 | i 11 | 29 | - 1 | e 21 | 5 | + 7 | — | — | — | — |
| Kizyl-Arvat | 77.8 | 308 | i 11 | 33 | - 1 | i 21 | 4 | - 2 | e 12 | 29 | pP | — |
| Seattle | 77.9 | 44 | i 11 | 36 | + 2 | i 21 | 13 | + 6 | e 15 | 21 | pPP | — |
| Corvallis | N. 78.0 | 48 | e 11 | 38 | + 3 | — | — | — | — | — | — | — |
| Resolute Bay | 79.5 | 14 | e 11 | 42 | - 1 | e 21 | 19 | - 5 | e 12 | 34 | pP | — |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------------|----|----------|-----|------|-----------------|------|------|----|--------|-------|----|------|--------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Shasta | | 79.7 | 51 | i 11 | 44 _a | 0 | e 21 | 26 | 0 | e 12 | 38 | pP | — |
| Mineral | z. | 80.4 | 51 | i 11 | 47 _a | - 1 | i 12 | 59 | sP | i 12 | 47 | pP | — |
| Berkeley | | 80.5 | 53 | e 11 | 49 _a | + 1 | i 21 | 34 | - 1 | i 22 | 53 | sS | e 36.8 |
| Santa Clara | E. | 80.9 | 53 | — | — | — | i 20 | 48 | ? | — | — | — | — |
| Lick | z. | 81.2 | 53 | i 11 | 53 _a | + 1 | i 13 | 33 | sP | i 12 | 41 | pP | — |
| Reno | | 81.9 | 51 | i 11 | 56 | 0 | e 21 | 48 | - 1 | — | — | — | — |
| Fresno | | 82.8 | 53 | i 12 | 0 _a | 0 | e 21 | 56 | - 2 | — | — | — | — |
| Hungry Horse | | 83.0 | 41 | i 12 | 2 | + 1 | e 21 | 59 | - 1 | i 13 | 2 | pP | — |
| Shemakla | | 83.0 | 311 | e 12 | 1 | 0 | 21 | 58 | - 2 | — | — | — | — |
| Makhach-Kala | | 83.1 | 315 | e 12 | 1 | - 1 | i 22 | 0 | - 1 | e 12 | 51 | pP | — |
| Tinemaha | | 83.8 | 53 | i 12 | 5 | 0 | i 22 | 3 | - 5 | i 13 | 1 | pP | — |
| Woody | z. | 83.8 | 54 | i 12 | 5 | 0 | i 13 | 26 | sP | i 13 | 1 | pP | — |
| Grozny | | 84.2 | 314 | i 12 | 5 | - 2 | i 22 | 3 | - 9 | — | — | — | — |
| Moscow | | 84.4 | 327 | 12 | 5 | - 3 | i 22 | 9 | - 5 | 12 | 59 | pP | — |
| Kirovobad | | 84.6 | 312 | 12 | 8 | - 1 | 22 | 13 | - 3 | 13 | 1 | pP | — |
| China Lake | z. | 84.7 | 54 | i 12 | 10 | 0 | — | — | — | — | — | — | — |
| Butte | | 84.8 | 53 | i 12 | 10 | 0 | — | — | — | i 14 | 21 | ? | — |
| Pasadena | | 84.8 | 56 | i 12 | 10 | 0 | i 22 | 17 | - 1 | e 13 | 6 | pP | — |
| Kiruna | | 84.9 | 342 | i 12 | 8 | - 3 | i 22 | 5 | [- 5] | i 13 | 2 | pP | e 40.2 |
| Goris | | 85.0 | 311 | i 12 | 10 | - 1 | i 22 | 10 | [- 1] | 22 | 28 | ScS | — |
| Duzheti | | 85.3 | 313 | e 12 | 16 | + 3 | — | — | — | — | — | — | — |
| Tiflis | | 85.4 | 313 | e 12 | 12 | - 1 | i 22 | 12 | [- 2] | e 13 | 5 | pP | — |
| Riverside | z. | 85.5 | 56 | i 12 | 13 | - 1 | — | — | — | — | — | — | — |
| Gori | | 85.8 | 313 | — | — | — | e 22 | 24 | - 3 | — | — | — | — |
| Pulkovo | | 85.9 | 333 | e 13 | 9 | pP | e 22 | 11 | [- 6] | e 23 | 58 | sS | — |
| Palomar | z. | 86.1 | 56 | i 12 | 17 | 0 | — | — | — | — | — | — | — |
| Akhalkalaki | | 86.4 | 313 | 12 | 19 | + 1 | e 22 | 33 | 0 | — | — | — | — |
| Barratt | z. | 86.5 | 57 | i 12 | 19 | 0 | — | — | — | — | — | — | — |
| Boulder City | | 86.8 | 53 | i 12 | 21 | + 1 | — | — | — | — | — | — | — |
| Nelson | | 86.9 | 53 | i 12 | 21 | 0 | e 16 | 12 | PP | i 13 | 4 | pP | — |
| Zugdidi | | 87.1 | 315 | e 12 | 22 | 0 | i 22 | 27 | [+ 2] | — | — | — | — |
| Sotchi | | 88.1 | 316 | e 12 | 27 | + 1 | e 22 | 29 | [- 2] | e 13 | 24 | pP | — |
| Upsala | | 91.0 | 336 | i 12 | 37 | - 3 | i 22 | 42 | [- 7] | i 13 | 32 | pP | e 40.2 |
| Simferopol | | 91.1 | 319 | e 12 | 38 | - 2 | e 22 | 47 | [- 2] | e 24 | 25 | sSKS | — |
| Tucson | | 91.3 | 55 | i 12 | 42 | + 1 | e 23 | 19 | + 1 | i 24 | 29 | SP | e 36.4 |
| Yalta | | 91.3 | 318 | e 12 | 39 | - 2 | e 22 | 50 | [0] | e 13 | 34 | pP | — |
| Kishinev | | 93.3 | 323 | e 12 | 50 | - 1 | e 22 | 59 | [- 3] | — | — | — | — |
| Ksara | | 95.0 | 307 | e 17 | 42 | pPP | e 22 | 30 | ? | — | — | — | — |
| Copenhagen | | 95.9 | 335 | e 17 | 43 | pPP | e 23 | 55 | - 2 | i 23 | 15 | SKS | 43.2 |
| Istanbul | N. | 96.3 | 317 | — | — | — | e 23 | 14 | [- 3] | e 26 | 9? | SPP | — |
| Uzhgorod | | 96.6 | 326 | e 14 | 5 | pP | e 23 | 16 | [- 3] | e 24 | 56 | sSKS | — |
| Potsdam | | 98.0 | 332 | e 17 | 58 | PP | e 23 | 22 | [- 5] | e 25 | 8 | sSKS | e 50.2 |
| Collmberg | | 98.8 | 332 | e 13 | 14 | - 1 | e 23 | 28 | [- 2] | e 14 | 8 | pP | — |
| Prague | | 99.0 | 330 | e 17 | 36 | PP | e 23 | 30 | [- 1] | e 18 | 20 | pPP | — |
| Aberdeen | N. | 99.7 | 342 | e 27 | 26 | PPS | i 23 | 28 | [- 6] | i 25 | 11 | sSKS | — |
| Jena | | 99.7 | 331 | e 13 | 29? | + 9 | e 23 | 48 | [+ 14] | e 14 | 14 | pP | — |
| Cheb | | 100.0 | 331 | — | — | — | e 23 | 35 | [- 1] | e 32 | 39 | ? | — |
| Helwan | | 100.2 | 305 | e 14 | 53 | sP | e 23 | 36 | [- 1] | — | — | — | — |
| De Bilt | | 101.4 | 335 | e 14 | 9 | pP | e 25 | 21 | sSKS | e 26 | 14 | SP | e 45.2 |
| Fayetteville | | 101.6 | 45 | i 13 | 27 | - 1 | e 23 | 41 | [- 3] | e 14 | 22 | pP | — |
| Stuttgart | | 102.3 | 332 | e 13 | 34? | + 3 | e 23 | 45 | [- 2] | e 14 | 24 | pP | e 51.2 |
| Uccle | E. | 102.8 | 336 | — | — | — | e 23 | 46 | [- 4] | — | — | — | e 45.2 |
| Strasbourg | | 103.1 | 332 | e 17 | 51 | PP | e 23 | 53 | [+ 2] | e 18 | 29 | pPP | e 50.2 |
| Kew | | 104.0 | 338 | e 18 | 46 | pPP | e 23 | 53 | [- 2] | e 25 | 31 | sSKS | e 45.2 |
| Bologna | | 104.1 | 328 | e 19 | 17 | ? | e 24 | 51 | - 15 | — | — | — | — |
| Rathfarnham Castle | | 104.2 | 343 | e 14 | 3 | ? | e 25 | 38 | sSKS | — | — | — | — |
| Pavia | | 105.0 | 330 | e 20 | 14 | PPP | e 23 | 58 | [- 2] | e 25 | 17 | S | — |
| Paris | | 105.1 | 335 | e 17 | 36 | ? | e 21 | 33 | PKS | e 27 | 52 | SPP | e 58.2 |
| Rome | | 105.7 | 326 | e 19 | 5 | pPP | i 23 | 54 | [- 9] | e 33 | 2 | SS | — |
| Chambon-la-Forêt | | 105.8 | 335 | e 17 | 46 | ? | — | — | — | — | — | — | — |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|------------------|----------|-----|--------------------|--------|---------|-------|---------|------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Cleveland | 106.0 | 35 | — | — | e 23 59 | [- 5] | e 28 32 | SPP | — |
| Ottawa | 106.1 | 28 | e 16 58 | ? | 23 59 | [- 6] | 17 59 | PP | — |
| Messina | 106.4 | 321 | e 17 32 | ? | e 24 3 | [- 3] | e 27 6 | SP | — |
| Seven Falls | E. 106.8 | 24 | 28 41 | PPS | e 24 11 | [+ 3] | 33 6 | SS | — |
| Clermont-Ferrand | 107.3 | 333 | — | — | e 25 0 | SKKS | — | — | 45.2 |
| Harvard | 110.2 | 28 | — | — | e 27 44 | SP | — | — | e 45.8 |
| Washington | 110.2 | 33 | e 18 44 | PP | — | — | — | — | — |
| Palisades | 110.3 | 29 | e 14 54 | pP | i 24 22 | [- 1] | e 25 57 | sSKS | e 42.5 |
| Weston | 110.4 | 28 | — | — | 27 17 | ? | 44 29 | ? | — |
| Algiers Univ. | z. 114.4 | 327 | e 18 54 | PP | e 28 20 | SP | e 19 57 | pPP | — |
| Almeria | 117.0 | 331 | 18 41 | [+ 23] | 25 34 | SKKS | 20 1 | PP | 56.8 |
| Granada | 117.2 | 332 | 20 23 _k | pPP | 25 24 | SKKS | 35 3 | SS | 60.8 |
| Malaga | 117.9 | 333 | e 20 23 | pPP | e 30 3 | SPP | e 34 46 | SS | 47.0 |
| Bermuda | 121.6 | 29 | e 21 16 | ? | e 29 29 | SP | e 49 26 | ? | — |
| Pretoria | z. 121.9 | 252 | e 18 28 | [0] | — | — | — | — | — |
| Tamanrasset | z. 123.1 | 315 | e 18 31 | [+ 1] | e 30 29 | PSKS | e 19 26 | pPKP | — |
| Kimberley | z. 125.2 | 248 | e 18 35 | [+ 1] | — | — | — | — | — |
| San Juan | 131.9 | 41 | e 18 44 | [- 3] | i 21 50 | SKP | — | — | — |
| Chinchina | 133.2 | 62 | e 18 50 | [+ 1] | — | — | — | — | — |
| Bogota | 134.7 | 62 | — | — | e 22 9 | SKP | — | — | — |
| Huancayo | 140.2 | 86 | e 19 0 | [- 2] | — | — | — | — | — |
| La Paz | 148.0 | 90 | i 19 23 | [+ 7] | i 40 27 | ? | 22 54 | PP | — |

July 31d. 3h. 58m. Tian-Shan Mountains. Epicentre 43°·2N. 78°·3E.
Seismological Bulletin of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p.101.

July 31d. 22h. 57m. 33s. Epicentre 34°·0S. 69°·8W.

Felt in Chili, with Intensity IV between 33° and 34°S. Lat.

A = +·2869, B = -·7797, C = -·5566; $\delta = +5$; $h = 0$;
D = -·938, E = -·345; G = -·192, H = +·522, K = -·831.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|--------------|----------|-----|----------------------|------------------|---------|------------------|---------|-----|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Santa Lucia | E. 1.0 | 307 | 0 20 | 0 _g | 0 36 | 0 | e 0 15 | ? | — |
| Concepción | N. 3.4 | 212 | i 0 59 | - 2 _g | i 1 49 | - 3 _r | — | — | i 2.1 |
| Copiapo | E. 6.6 | 356 | e 1 43 | + 2 | 2 58 | 0 | — | — | i 3.8 |
| Buenos Aires | 9.4 | 97 | 2 19 | + 1 | 4 23 | +16 | — | — | — |
| La Plata | 9.8 | 99 | 2 21 | - 3 | 4 27 | +10 | i 2 25 | P | 5.0 |
| Antofagasta | E. 10.4 | 357 | — | — | e 4 14 | -18 | 4 56 | SSS | — |
| La Paz | 17.5 | 6 | i 4 8 _k | + 1 | i 7 31 | +10 | i 8 7 | SS | 9.4 |
| Punta Arenas | N. 19.2 | 182 | — | — | e 7 53 | - 6 | — | — | e 10.5 |
| Huancayo | 22.4 | 345 | i 5 4 | + 2 | i 9 12 | + 8 | e 5 32 | PP | e 10.2 |
| Chinchina | 39.1 | 351 | e 7 31 | 0 | e 13 38 | + 7 | — | — | — |
| San Juan | 52.2 | 4 | i 9 11 | - 4 | — | — | — | — | — |
| Vera Cruz | 58.6 | 331 | e 10 19 | +18 | — | — | — | — | — |
| Tacubaya | 60.0 | 328 | e 10 13 | + 2 | — | — | — | — | — |
| Bermuda | 66.2 | 5 | — | — | e 19 42 | + 2 | e 24 5 | SS | e 36.0 |
| Washington | 72.8 | 354 | i 11 32 | 0 | — | — | — | — | — |
| Fayetteville | 73.4 | 340 | i 11 33 | - 3 | e 21 3 | - 2 | e 11 46 | PcP | — |
| Morgantown | 73.9 | 352 | i 11 37 | - 2 | — | — | — | — | — |
| Palisades | 74.7 | 357 | e 11 42 | - 1 | e 21 22 | + 3 | — | — | e 35.1 |
| Cleveland | 75.9 | 351 | e 11 48 | - 2 | i 21 33 | + 1 | e 14 30 | PP | — |
| Weston | 76.0 | 359 | i 11 10 _a | -41 | — | — | — | — | e 37.6 |
| Harvard | 76.1 | 359 | e 11 50 | - 1 | — | — | e 14 45 | PP | e 41.0 |
| Tucson | 76.4 | 325 | i 11 53 | 0 | e 21 39 | + 1 | — | — | — |
| Grahamstown | z. 76.9 | 120 | i 12 26 _? | +30 | — | — | — | — | — |
| Kimberley | z. 78.0 | 116 | i 12 1 | - 1 | — | — | — | — | — |
| Halifax | 78.5 | 5 | e 12 3 | - 1 | — | — | — | — | — |

Continued on next page.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------------|----------|-----|----------------------|------------------|---------|------------------|----------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Ottawa | 79.2 | 356 | e 12 7 | - 1 | — | — | — | — |
| Shawinigan Falls N. | 80.2 | 358 | e 12 18 | + 4 | — | — | — | — |
| Nelson | 81.1 | 324 | i 12 18 | 0 | — | — | — | — |
| Boulder City | 81.3 | 324 | e 12 19 | - 1 | — | — | — | — |
| Pasadena | 81.6 | 321 | i 12 21 | 0 | — | — | — | e 62.7 |
| Pietermaritzburg z. | 81.6 | 119 | e 12 22 | + 1 | — | — | — | — |
| Pretoria z. | 82.2 | 115 | e 12 23 | - 1 | — | — | — | — |
| Kirkland Lake z. | 82.3 | 353 | e 12 24 | - 1 | — | — | — | — |
| China Lake z. | 82.6 | 323 | e 12 25 | - 1 | — | — | — | — |
| Tinemaha z. | 83.9 | 323 | i 12 27 | - 6 | — | — | — | — |
| Fresno z. | 84.4 | 322 | i 12 35 _a | - 1 | — | — | — | — |
| Lick z. | 85.8 | 321 | e 12 42 _k | 0 | i 12 46 | PcP | e 12 58 | ? |
| Berkeley | 86.5 | 321 | e 12 47 _a | + 1 | e 23 19 | - 3 | e 23 27 | ScS |
| Reno z. | 86.6 | 323 | e 12 46 _k | 0 | — | — | — | — |
| Mineral z. | 88.1 | 323 | e 13 2 _a | + 8 | — | — | — | — |
| Shasta z. | 88.7 | 323 | e 12 55 _k | - 2 | — | — | e 13 16? | — |
| Hungry Horse | 91.0 | 332 | i 13 7 | 0 | — | — | e 16 38 | PP |
| Tamanrasset z. | 91.1 | 63 | e 13 8 | 0 | e 23 42 | [+ 3] | e 16 42 | PP |
| Malaga | 93.1 | 47 | e 13 14 | - 3 | e 24 27 | + 5 | — | — |
| Granada | 93.9 | 47 | 16 56 _a | PP | i 24 38 | + 9 | — | — |
| Almeria | 94.3 | 48 | — | — | 24 42 | +10 | — | — |
| Alicante | 96.5 | 47 | — | — | 24 41 | -10 | — | — |
| Algiers Univ. z. | 97.8 | 51 | e 13 38 | 0 | e 25 14 | +12 | e 17 35 | PP |
| Tortosa | 98.6 | 46 | — | — | 24 21 | [+ 1] | — | — |
| Pavia | 106.3 | 46 | — | — | e 25 3 | [+ 7] | — | — |
| Rome | 106.7 | 50 | — | — | e 28 41 | PPS | — | — |
| Copenhagen | 113.3 | 37 | — | — | 26 40 | {+12} | — | — |
| College | 115.4 | 332 | e 18 44 | [0] | — | — | — | — |
| Istanbul z. | 117.5 | 57 | 20 27? | PP | 30 27? | PPS | — | — |
| Kiruna z. | 121.1 | 26 | i 18 55 | [0] | — | — | — | — |
| Kizyl-Arvat | 136.9 | 65 | e 19 28 | [+ 3] | i 23 2 | PKS | — | — |
| Ashkabad | 138.3 | 68 | e 19 30 | [+ 3] | e 23 3 | PKS | — | — |
| Sverdlovsk | 139.6 | 39 | i 19 33 | [+ 3] | e 40 45 | SS | i 22 23 | PP |
| Magadan | 143.2 | 326 | e 19 31 | [- 5] | — | — | e 22 49 | PP |
| Quetta z. | 143.4 | 82 | i 19 40 | [+ 4] | — | — | e 22 51 | PP |
| Samarkand | 145.2 | 68 | i 19 40 | [0] | — | — | e 22 57 | PP |
| Warsak Dam E. | 148.1 | 77 | e 19 57 | PKP ₁ | — | — | — | — |
| Dzhergetal | 148.5 | 67 | e 19 53 | PKP ₁ | — | — | — | — |
| Khorog | 148.6 | 71 | e 19 53 | PKP ₁ | — | — | — | — |
| Namangan | 148.8 | 65 | i 19 49 | [+ 4] | — | — | — | — |
| Andijan | 149.4 | 65 | i 19 47 | [+ 1] | — | — | — | — |
| Frunse | 150.9 | 61 | i 19 52 | [+ 3] | — | — | e 23 28 | PP |
| Naryn | 152.1 | 64 | i 19 53 | [+ 2] | i 20 0 | PKP ₁ | e 23 39 | PP |
| Rybach'e | 152.1 | 61 | i 19 52 | [+ 1] | — | — | — | — |
| Yuzno-Sakhlinsk | 152.3 | 308 | e 19 58 | [+ 7] | — | — | — | — |
| Almata | 152.6 | 59 | e 19 53 | [+ 2] | — | — | — | — |
| Przhevsk | 153.7 | 60 | e 20 0 | [+ 7] | — | — | — | — |
| Irkutsk | 161.3 | 11 | e 20 2 | [0] | — | — | — | — |
| Kabansk | 161.8 | 8 | i 20 3 | [0] | — | — | — | — |
| Kyakhta | 163.4 | 8 | e 19 55 | [- 9] | — | — | — | — |

Aug. 1d. 0h. 30m. 5s. Epicentre 18°-6S. 174°-0W. (as on 1952, July 9d.).

A = -.9432, B = -.0991, C = -.3170; $\delta = -6$; $h = +4$;
D = -.105, E = +.995; G = +.315, H = +.033, K = -.948.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|----------|-----|---------|------|---------|------|-------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Apia | 5.2 | 24 | e 1 22? | + 1 | e 2 18? | - 4 | — | — |
| Auckland N. | 20.7 | 206 | e 4 47 | + 3 | e 8 39 | + 8 | — | e 11.9 |
| Karapiro N. | 21.3 | 204 | e 4 49 | - 1 | e 8 44 | + 1 | — | — |
| Tuai N. | 21.6 | 200 | — | — | e 8 47 | - 2 | — | — |
| Tongariro z. | 22.5 | 202 | e 5 7 | + 5 | e 9 23 | +18 | — | — |

Continued on next page.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|------------------|------|----------|-----|------|-----------------|------------------|------|----|--------|-------|----|-------------------------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| New Plymouth | E. | 22.9 | 204 | 5 | 4 | - 2 | e 9 | 20 | + 7 | — | — | — |
| Wellington | | 24.6 | 201 | e 5 | 7 | -16 | e 9 | 53 | +11 | — | — | e 10.8 |
| Cobb River | E. | 25.1 | 204 | e 5 | 26 | - 2 | e 9 | 55 | + 4 | — | — | — |
| Kaimata | N.E. | 26.9 | 204 | e 5 | 44 | - 1 | e 10 | 30 | +10 | i 6 | 2 | ? |
| Christchurch | | 27.3 | 201 | e 6 | 3 | +15 | e 10 | 39 | +12 | e 11 | 6 | SS e 11.9 |
| Brisbane | | 31.5 | 248 | e 6 | 28 | + 2 | — | — | — | — | — | e 15.5 |
| Riverview | | 34.5 | 237 | i 8 | 24 | PPP | i 12 | 10 | -10 | — | — | e 15.7 |
| Berkeley | | 74.3 | 40 | e 11 | 41 _a | 0 | e 21 | 20 | + 5 | e 22 | 25 | PPS e 30.8 |
| Lick | Z. | 74.3 | 40 | e 11 | 41 _k | 0 | — | — | — | — | — | — |
| Pasadena | Z. | 74.7 | 45 | e 11 | 41 | - 2 | — | — | — | — | — | — |
| Barratt | Z. | 74.9 | 47 | e 11 | 44 | 0 | — | — | — | — | — | — |
| Fresno | Z. | 75.1 | 42 | i 11 | 46 _a | 0 | — | — | — | — | — | — |
| Palomar | Z. | 75.1 | 47 | i 11 | 44 | - 2 | i 12 | 2 | PcP | i 12 | 17 | ? |
| China Lake | Z. | 76.0 | 44 | e 11 | 50 | - 1 | — | — | — | — | — | — |
| Shasta | Z. | 76.0 | 37 | e 11 | 50 _k | - 1 | — | — | — | e 12 | 3 | PcP |
| Mineral | Z. | 76.3 | 38 | e 11 | 50 _a | - 2 | — | — | — | e 13 | 8 | ? |
| Tinemaha | Z. | 76.3 | 43 | e 11 | 53 | + 1 | — | — | — | — | — | — |
| Reno | Z. | 76.8 | 40 | e 11 | 53 _a | - 2 | — | — | — | — | — | — |
| Nelson | | 77.8 | 45 | e 12 | 1 | 0 | — | — | — | — | — | — |
| Boulder City | | 77.9 | 45 | e 12 | 1 | 0 | — | — | — | — | — | — |
| Tucson | | 78.8 | 50 | e 12 | 6 | 0 | — | — | — | e 15 | 1 | PP e 34.3 |
| Butte | | 84.9 | 37 | e 12 | 6 | -32 | — | — | — | e 13 | 25 | ? |
| Hungry Horse | | 85.4 | 35 | e 12 | 41 | + 1 | — | — | — | — | — | — |
| College | | 85.6 | 11 | e 12 | 43 | + 2 | e 23 | 8 | - 5 | e 24 | 16 | PS e 31.3 |
| Fayetteville | | 92.9 | 53 | i 13 | 14 | - 2 | e 24 | 10 | -10 | e 16 | 57 | PP |
| La Paz | | 99.2 | 111 | i 17 | 49 | PP | 24 | 23 | [0] | i 26 | 35 | PS 47.9 |
| Palisades | | 109.5 | 52 | e 19 | 2 | PP | e 26 | 52 | S | e 28 | 48 | PS e 54.2 |
| Bermuda | | 115.7 | 62 | — | — | — | e 29 | 31 | PS | — | — | e 57.4 |
| Kiruna | Z. | 129.9 | 353 | e 19 | 13 | [+ 1] | — | — | — | — | — | — |
| Upsala | Z. | 137.9 | 352 | — | — | — | i 27 | 45 | [+ 69] | — | — | — |
| Copenhagen | | 142.7 | 353 | e 19 | 36 | [+ 1] | — | — | — | — | — | — |
| Rathfarnham C. | Z. | 144.1 | 12 | i 19 | 49 | [+11] | e 24 | 34 | ? | e 22 | 34 | ? |
| Potsdam | | 145.8 | 354 | i 19 | 46 | [+ 5] | — | — | — | e 19 | 57 | PKP ₂ e 78.9 |
| Witteveen | Z. | 145.8 | 359 | i 19 | 46 _a | [+ 5] | — | — | — | — | — | — |
| De Bilt | | 146.5 | 0 | i 19 | 47 _a | [+ 5] | — | — | — | e 41 | 21 | SS e 74.9 |
| Kew | | 146.8 | 7 | i 19 | 48 | [+ 6] | e 25 | 6 | ? | e 20 | 46 | PKP ₂ e 77.9 |
| Collmberg | | 146.9 | 352 | e 19 | 45 | [+ 3] | e 23 | 30 | PP | e 20 | 4 | PKP ₂ |
| Raciborzu | | 147.1 | 347 | e 19 | 40? | [- 3] | — | — | — | e 20 | 7 | PKP ₂ |
| Jena | | 147.4 | 352 | e 19 | 46 | [+ 3] | — | — | — | e 20 | 58 | ? |
| Uccle | | 147.8 | 2 | e 19 | 42? | [- 2] | e 42 | 33 | SS | e 20 | 23 | PKP ₂ e 74.9 |
| Prague | | 147.9 | 350 | e 19 | 50 _k | [+ 6] | e 23 | 11 | PKS | e 20 | 3 | PKP ₂ |
| Ksara | | 149.3 | 307 | e 19 | 58 | [+12] | — | — | — | e 20 | 17 | KPP ₂ |
| Karlsruhe | Z. | 149.6 | 358 | e 19 | 51 | [+ 4] | — | — | — | — | — | — |
| Paris | | 149.7 | 5 | i 19 | 50 | [+ 3] | e 23 | 17 | PKS | e 23 | 32 | PP e 79.9 |
| Stuttgart | | 149.8 | 356 | e 19 | 50 | [+ 3] | e 33 | 37 | PSKS | e 20 | 15 | PKP ₂ |
| Strasbourg | | 150.0 | 357 | e 19 | 51 | [+ 4] | — | — | — | e 20 | 26 | PKP ₂ |
| Zürich | | 151.2 | 356 | e 20 | 3 | [+14] | — | — | — | — | — | — |
| Triest | Z. | 152.3 | 349 | e 19 | 52 | [+ 1] | — | — | — | e 20 | 22 | PKP ₂ |
| Clermont-Ferrand | | 152.8 | 5 | e 20 | 0 | [+ 8] | — | — | — | e 20 | 39 | PKP ₂ 88.9 |
| Oropa | | 153.0 | 357 | e 19 | 28 | [-24] | — | — | — | e 24 | 24 | PP |
| Pavia | | 153.4 | 355 | e 20 | 8 | [+16] | e 29 | 13 | ? | e 22 | 52 | ? |
| Florence | Z. | 154.5 | 351 | e 19 | 42 | [-12] | e 24 | 44 | PP | e 20 | 29 | PKP ₂ |
| Rome | | 156.1 | 348 | e 19 | 43 | [-13] | e 30 | 48 | (- 4) | e 24 | 25 | PP |
| Toledo | | 157.1 | 20 | e 20 | 35 | PKP ₂ | — | — | — | — | — | — |
| Messina | E. | 158.8 | 340 | e 19 | 50 | [- 9] | e 25 | 10 | ? | — | — | e 100.2 |
| Granada | | 159.6 | 23 | i 20 | 52 _a | PKP ₂ | 31 | 13 | {+ 3} | 24 | 55 | PP 89.4 |
| Malaga | | 159.7 | 23 | i 20 | 9 | [+ 9] | 27 | 4 | { 0} | i 20 | 50 | PKP ₂ 84.4 |
| Almeria | | 160.3 | 20 | 20 | 44 | PKP ₂ | 27 | 44 | [+39] | 25 | 10 | PP 89.2 |
| Algiers Univ. | Z. | 161.7 | 7 | e 20 | 0 | [- 2] | e 24 | 40 | PP | e 20 | 56 | PKP ₂ |
| Tamanrasset | Z. | 175.8 | — | i 20 | 14 | [+ 2] | e 36 | 12 | PSKS | i 21 | 57 | PKP ₂ |

Aug. 1d. 13h. 36m. Provisional epicentre 44°-8S, 175°-8W. Magnitude 5.3.
Seismological Observatory Bulletin No. E-133, New Zealand Department of Scientific and Industrial Research, Wellington, 1956, p. 6. Only recorded in New Zealand.

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1953

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Aug. 2d. 8h. 44m. 50s. Epicentre 21°·0S. 169°·5E. (as on 1952, January 6d.).

A = -·9187, B = +·1703, C = -·3563; $\delta = -4$; $h = +4$;
D = +·182, E = +·983; G = +·350, H = -·065, K = -·934.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | | |
|------------------|----------|-------|-------|----------|------------------|---------|--------|---------|------------------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | | |
| Brisbane | | 16·3 | 244 | i 3 53k | + 1 | e 7 1 | + 8 | i 7 15 | SS | e 7·8 |
| Auckland | N. | 16·4 | 165 | e 4 0 | + 7 | e 6 55 | - 1 | — | — | — |
| Karapiro | N. | 17·7 | 163 | e 4 6 | - 4 | — | — | — | — | — |
| Tuai | N. | 18·9 | 163 | e 3 20 | - 64 | — | — | — | — | — |
| Cobb River | E. | 20·2 | 172 | e 4 38 | - 1 | e 8 16 | - 5 | — | — | — |
| Riverview | | 20·6 | 228 | 4 43 | 0 | e 8 32 | + 3 | i 8 47 | PcP | e 9·9 |
| Wellington | | 20·7 | 169 | e 4 40 | - 4 | e 8 30 | - 1 | — | — | — |
| Christchurch | | 22·6 | 174 | — | — | e 9 5 | - 2 | e 9 12 | ? | e 11·2 |
| Lick | z. | 86·9 | 48 | e 12 47k | - 1 | — | — | e 12 57 | PcP | — |
| Fresno | z. | 88·0 | 50 | e 12 55 | + 2 | — | — | — | — | — |
| Mineral | z. | 88·4 | 46 | e 12 55a | 0 | — | — | e 13 26 | ? | — |
| Palomar | z. | 88·5 | 54 | e 12 57 | + 1 | — | — | — | — | — |
| China Lake | z. | 89·1 | 49 | e 12 59 | + 1 | — | — | — | — | — |
| Tinemaha | z. | 89·2 | 50 | e 13 1 | + 2 | — | — | e 13 37 | ? | — |
| Reno | z. | 89·3 | 47 | e 12 59 | 0 | — | — | — | — | — |
| Nelson | | 91·1 | 52 | e 13 8 | 0 | — | — | e 19 50 | PPP | — |
| Boulder City | | 91·2 | 52 | e 13 10 | + 2 | — | — | — | — | — |
| College | | 91·7 | 17 | e 13 11 | + 1 | — | — | — | — | — |
| Palisades | | 123·3 | 54 | — | — | e 32 13 | PPS | — | — | e 59·3 |
| Kiruna | z. | 129·3 | 346 | i 19 14 | [+ 3] | i 22 36 | PKS | — | — | — |
| Ksara | | 137·2 | 297 | e 20 2 | [+ 37] | e 25 46 | [- 49] | e 31 38 | PS | — |
| Potsdam | | 143·8 | 335 | e 19 37 | [0] | — | — | — | — | e 79·2 |
| Collmberg | z. | 144·6 | 335 | e 19 40 | [+ 2] | — | — | e 19 55 | ? | — |
| Prague | | 144·9 | 333 | e 19 41 | [+ 2] | — | — | e 20 21 | ? | — |
| Jena | | 145·5 | 334 | i 19 42 | [+ 2] | — | — | e 20 59 | ? | — |
| De Bilt | | 146·7 | 343 | i 19 48 | [+ 6] | — | — | — | — | e 79·2 |
| Rathfarnham C. | z. | 147·6 | 356 | i 19 47 | [+ 3] | — | — | — | — | — |
| Stuttgart | | 148·1 | 336 | e 19 46 | [+ 2] | e 23 40 | PP | e 27 46 | PPP | — |
| Strasbourg | | 148·8 | 337 | i 19 52 | [+ 7] | — | — | e 20 5 | PKP ₂ | — |
| Paris | | 150·4 | 342 | e 19 49 | [+ 1] | — | — | i 20 5 | PKP ₂ | e 80·2 |
| Chambon-la-Forêt | | 151·1 | 342 | e 19 58 | [+ 9] | — | — | — | — | — |
| Alicante | | 160·7 | 336 | 20 49 | PKP ₂ | 27 8 | [+ 3] | 24 39 | PP | 76·5 |
| Malaga | | 163·5 | 342 | 20 7 | [+ 3] | 27 8 | [+ 1] | 21 1 | PKP ₂ | 88·5 |
| Tamanrasset | z. | 165·1 | 280 | e 20 9 | [+ 3] | e 24 44 | PP | e 20 57 | PKP ₂ | — |

Aug. 2d. 17h. 20m. 2s. Epicentre 21°·6S. 169°·7E. (as on 1944, December 8d.).

A = -·9156, B = +·1664, C = -·3660; $\delta = -3$; $h = +4$;
D = +·179, E = +·984; G = +·360, H = -·065, K = -·931.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | | |
|--------------|----------|------|-------|----------|-------|---------|-------|--------|----|-------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | | |
| Auckland | N. | 15·8 | 165 | e 3 45 | 0 | e 6 56 | +14 | — | — | — |
| Brisbane | | 16·3 | 246 | i 3 53k | + 1 | i 7 3 | +10 | i 7 7 | Q | e 7·8 |
| Karapiro | N. | 17·0 | 163 | e 4 0 | - 1 | e 7 18 | + 8 | — | — | — |
| Tuai | N. | 18·3 | 163 | e 4 14 | - 3 | e 7 43 | + 4 | — | — | — |
| Apia | | 19·3 | 71 | i 4 29 | 0 | — | — | — | — | — |
| Cobb River | E. | 19·6 | 172 | e 4 36 | + 4 | e 8 33 | +15 | — | — | — |
| Wellington | | 20·1 | 170 | e 4 34 | - 4 | e 8 22 | + 3 | — | — | — |
| Riverview | | 20·4 | 229 | i 4 42k | + 1 | e 8 32 | + 7 | i 4 52 | pP | e 9·5 |
| Christchurch | | 22·0 | 175 | e 4 59 | + 1 | e 9 0 | + 4 | — | — | — |
| Melbourne | E. | 26·8 | 228 | — | — | 10 23 | + 4 | — | — | 14·3 |
| Berkeley | z. | 87·0 | 47 | e 12 46 | - 2 | — | — | — | — | — |
| Santa Clara | E. | 87·0 | 47 | e 18 46 | PPP | — | — | — | — | — |
| Lick | z. | 87·2 | 47 | e 12 45k | - 4 | — | — | — | — | — |
| Pasadena | | 88·1 | 53 | i 12 53 | - 1 | e 24 40 | PS | — | — | — |
| Fresno | z. | 88·2 | 49 | i 12 58 | + 4 | — | — | — | — | — |

Continued on next page.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

472

| | | Δ | Az. | P. | | O-C. | S. | O-C. | Supp. | | L. |
|--------------------|----|----------|-----|------|-----------------|------------------|------|------|------------------|------|------------------|
| | | ° | ° | m. | s. | s. | m. | s. | m. | s. | m. |
| Shasta | | 88.4 | 46 | e 12 | 53 | - 2 | — | — | — | — | — |
| Mineral | z. | 88.7 | 45 | e 12 | 56 _a | - 1 | — | — | e 13 | 24 | ? |
| Palomar | z. | 88.7 | 54 | i 12 | 50 | - 7 | — | — | — | — | — |
| China Lake | z. | 89.3 | 48 | i 12 | 57 | - 2 | — | — | — | — | — |
| Tinemaha | z. | 89.4 | 50 | i 12 | 59 | - 1 | — | — | — | — | — |
| Reno | z. | 89.5 | 46 | e 12 | 58 _a | - 2 | — | — | e 13 | 30 | ? |
| Nelson | | 91.3 | 51 | e 13 | 6 | - 3 | — | — | — | — | — |
| College | | 92.2 | 17 | e 13 | 7 | - 6 | — | — | — | — | — |
| Tucson | | 92.9 | 57 | e 13 | 15 | - 1 | — | — | — | — | — |
| Hungry Horse | | 97.2 | 41 | e 13 | 34 | - 2 | — | — | — | — | — |
| La Paz | | 111.8 | 120 | i 15 | 32 | P | i 28 | 58 | PS | i 19 | 34 |
| Ottawa | | 122.2 | 50 | i 18 | 54 | [- 3] | — | — | — | — | — |
| Palisades | | 123.5 | 55 | e 20 | 40 | PP | — | — | — | — | e 56.1 |
| Harvard | | 125.3 | 53 | e 19 | 0 | [- 3] | — | — | — | — | — |
| Weston | | 125.4 | 53 | i 19 | 2 _a | [- 1] | — | — | — | — | e 60.8 |
| San Juan | | 127.7 | 83 | i 19 | 6 | [- 2] | — | — | — | — | — |
| Kiruna | | 130.0 | 345 | i 19 | 10 | [- 2] | i 22 | 30 | PKS | i 21 | 23 |
| Bermuda | | 130.8 | 66 | — | — | — | e 22 | 37 | PKS | — | e 61.5 |
| Halifax | | 130.8 | 49 | e 19 | 13 | [- 1] | 22 | 32 | PKS | — | — |
| Reykjavik | z. | 136.8 | 9 | e 19 | 22 | [- 3] | — | — | — | — | — |
| Upsala | z. | 137.0 | 341 | e 19 | 25 | [0] | i 23 | 1 | PKS | — | — |
| Ksara | | 137.7 | 298 | e 19 | 30 | [+ 4] | — | — | — | e 22 | 29 |
| Istanbul | z. | 141.6 | 311 | e 19 | 23 | [- 10] | e 26 | 35? | [- 7] | e 22 | 35 |
| Copenhagen | | 142.0 | 340 | e 19 | 28 | [- 6] | 46 | 22 | SSS | 22 | 40 |
| Potsdam | | 144.4 | 337 | i 19 | 36 | [- 2] | e 23 | 16 | PKS | e 20 | 22 |
| Collmberg | z. | 145.2 | 335 | e 19 | 37 | [- 3] | e 23 | 19 | PP | e 19 | 57 |
| Prague | | 145.5 | 333 | e 19 | 40 | [0] | e 20 | 29 | PKP ₂ | e 22 | 32 |
| Belgrade | z. | 145.7 | 321 | e 19 | 41 | [+ 1] | — | — | — | e 20 | 5 |
| Jena | z. | 146.1 | 333 | e 19 | 42 | [+ 1] | e 20 | 26 | ? | e 19 | 52 |
| Witteveen | z. | 146.2 | 343 | i 19 | 43 _k | [+ 2] | — | — | — | — | — |
| De Bilt | | 147.3 | 343 | i 19 | 45 | [+ 2] | — | — | — | e 42 | 24 |
| Rathfarnham Castle | | 148.2 | 356 | e 19 | 47 _k | [+ 2] | e 29 | 7 | PKKP | e 19 | 59 |
| Stuttgart | | 148.7 | 336 | e 19 | 44 | [- 1] | e 27 | 34 | [+ 42] | e 23 | 10 |
| Uccle | | 148.7 | 344 | e 19 | 45 | [0] | e 26 | 24 | [- 28] | e 20 | 3 |
| Karlsruhe | | 148.8 | 337 | e 19 | 51 | [+ 6] | — | — | — | — | e 62.0 |
| Kew | | 149.2 | 349 | e 19 | 48 | [+ 2] | e 25 | 36 | [- 77] | — | e 80.0 |
| Strasbourg | | 149.4 | 338 | e 19 | 45 | [- 1] | — | — | — | e 19 | 55 |
| Chur | | 150.1 | 332 | e 19 | 52 | [+ 4] | — | — | — | — | PKP ₂ |
| Zürich | | 150.1 | 334 | i 19 | 50 | [+ 2] | — | — | — | — | — |
| Paris | | 151.0 | 344 | e 19 | 49 | [0] | e 23 | 33 | PP | e 20 | 1 |
| Neuchatel | | 151.1 | 335 | e 19 | 51 _k | [+ 2] | — | — | — | — | — |
| Florence | | 151.6 | 328 | e 19 | 47 | [- 3] | e 43 | 28 | SS | e 20 | 4 |
| Pavia | | 151.6 | 332 | e 19 | 56 | [+ 6] | e 28 | 12 | ? | e 39 | 53? |
| Oropa | | 151.7 | 333 | e 20 | 3 | PKP ₂ | — | — | — | — | — |
| Chambon-la-Forêt | | 151.8 | 344 | e 19 | 44 | [- 6] | — | — | — | i 19 | 56 |
| Rome | | 152.1 | 323 | e 19 | 54 _k | [+ 3] | e 23 | 19 | PKS | e 36 | 39 |
| Messina | | 152.3 | 314 | e 19 | 33 | [- 18] | e 30 | 17 | {- 14} | e 20 | 2 |
| Clermont-Ferrand | | 153.5 | 340 | e 20 | 1 | [+ 8] | — | — | — | 50 | 58? |
| Algiers Univ. | z. | 161.0 | 326 | e 20 | 1 | [- 1] | e 27 | 10 | [+ 4] | e 20 | 42 |
| Toledo | | 161.0 | 346 | — | — | — | e 28 | 18 | PPP | e 28 | 38 |
| Almeria | | 163.4 | 338 | 20 | 8 | [+ 4] | 31 | 36 | {+ 6} | 25 | 54 |
| Granada | | 163.4 | 341 | 20 | 3 _a | [- 1] | 31 | 40 | {+ 10} | 24 | 39 |
| Tamanrasset | z. | 165.3 | 278 | e 20 | 6 | [0] | e 24 | 53 | PP | e 21 | 6 |

Aug. 2d. 20h. 59m. Epicentre 21°·75N. 144°·0E. Depth approximately 250km.
Seismo. Bull. Cent. Met. Obs., Japan, 1953, August, Tokyo, 1953, p. 21.

Aug. 3d. 2h. 35m. Epicentre 42°·9N. 77°·6E.
Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 102.

Aug. 3d. 10h. 43m. Epicentre 41°·9N. 75°·4E.
Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 102.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

473

Aug. 3d. 14h. 17m. 34s. Epicentre 17°·5S. 172°·2W. Focus at Base of Superficial Layers.
(as on 1951, November 19d.).

A = -·9455, B = -·1295, C = -·2989; $\delta = +8$; $h = +5$;
D = -·136, E = +·991; G = +·296, H = +·041, K = -·954.

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|------------------|------|----------|-----|------|-----------------|-------|------|----|------------------|-------|----|--------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Apia | | 3·7 | 6 | i 1 | 2 | + 6 | i 1 | 50 | +11 | — | — | — |
| Auckland | N. | 22·4 | 208 | e 4 | 58 | + 1 | e 8 | 49 | - 7 | — | — | — |
| Karapiro | N. | 23·0 | 207 | e 4 | 57 | - 6 | — | — | — | — | — | — |
| Tuai | N. | 23·2 | 201 | e 5 | 26 | PP | e 9 | 1 | - 9 | — | — | — |
| Tongariro | Z. | 24·1 | 204 | e 5 | 7 | - 6 | — | — | — | — | — | — |
| New Plymouth | E. | 24·6 | 205 | e 5 | 17 | - 1 | — | — | — | — | — | — |
| Wellington | | 26·2 | 203 | e 5 | 22 | -11 | e 9 | 56 | - 5 | — | — | e 10·9 |
| Cobb River | E. | 26·8 | 206 | e 5 | 35 | - 4 | e 10 | 13 | + 3 | — | — | — |
| Kaimata | N.E. | 28·6 | 206 | e 5 | 54 | - 1 | e 10 | 40 | 0 | — | — | — |
| Christchurch | | 29·0 | 203 | e 6 | 10 | +11 | e 10 | 54 | + 8 | — | — | e 13·4 |
| Lick | Z. | 72·4 | 40 | e 11 | 27 _a | + 2 | e 11 | 45 | PcP | e 11 | 36 | pP |
| Pasadena | Z. | 72·7 | 45 | e 11 | 28 | + 2 | — | — | — | — | — | — |
| Mount Wilson | Z. | 72·8 | 45 | i 11 | 28 | + 1 | — | — | — | i 11 | 47 | PcP |
| Barratt | Z. | 72·9 | 47 | e 11 | 28 | 0 | — | — | — | e 11 | 39 | pP |
| Palomar | Z. | 73·1 | 46 | i 12 | 0 _a | +31 | — | — | — | i 12 | 10 | pP |
| Fresno | | 73·2 | 41 | i 11 | 31 | + 2 | — | — | — | — | — | — |
| China Lake | Z. | 74·0 | 43 | e 11 | 35 | + 1 | — | — | — | e 11 | 45 | pP |
| Shasta | Z. | 74·1 | 37 | e 11 | 36 _a | + 1 | — | — | — | i 11 | 46 | pP |
| Mineral | Z. | 74·3 | 38 | e 11 | 37 _a | + 1 | i 11 | 55 | PcP | e 12 | 8 | ? |
| Tinemaha | Z. | 74·3 | 42 | i 11 | 38 | + 2 | — | — | — | i 11 | 49 | pP |
| Reno | | 74·9 | 39 | e 11 | 41 _k | + 2 | — | — | — | e 11 | 51 | pP |
| Nelson | | 75·8 | 45 | i 11 | 46 | + 2 | i 12 | 3 | sP | i 11 | 57 | pP |
| Boulder City | | 76·0 | 45 | i 11 | 47 | + 1 | — | — | — | — | — | — |
| Tucson | | 76·8 | 49 | i 11 | 52 | + 2 | — | — | — | i 12 | 3 | pP |
| Tacubaya | | 80·5 | 66 | e 12 | 27 | sP | — | — | — | — | — | — |
| Nanking | Z. | 82·4 | 307 | 12 | 21 | + 1 | — | — | — | — | — | — |
| Butte | | 83·0 | 37 | i 12 | 36 | +13 | — | — | — | i 12 | 45 | pP |
| Hungry Horse | | 83·5 | 35 | i 12 | 26 | 0 | e 15 | 42 | PP | e 12 | 39 | pP |
| College | | 84·2 | 10 | i 12 | 29 | 0 | i 12 | 45 | sP | e 12 | 40 | pP |
| Fayetteville | | 90·8 | 52 | i 13 | 2 _a | + 1 | i 13 | 32 | sP | i 13 | 14 | pP |
| Rathfarnham C. | Z. | 142·6 | 14 | e 19 | 36? | [+ 6] | — | — | — | e 20 | 33 | ? |
| Witteveen | Z. | 144·8 | 0 | i 19 | 34 | [0] | — | — | — | i 19 | 48 | pP' |
| Potsdam | Z. | 145·0 | 355 | e 19 | 34 | [0] | — | — | — | — | — | — |
| De Bilt | | 145·4 | 3 | i 19 | 36 _a | [+ 1] | — | — | — | e 19 | 49 | pP' |
| Collmberg | | 146·0 | 354 | i 19 | 36 | [0] | e 19 | 39 | PKP ₂ | i 19 | 48 | pP' |
| Raciborzu | | 146·4 | 348 | e 19 | 38 | [+ 2] | — | — | — | e 19 | 53 | pP' |
| Jena | | 146·5 | 355 | e 19 | 36 | [0] | i 19 | 39 | PKP ₂ | i 19 | 49 | pP' |
| Uccle | Z. | 146·7 | 5 | e 19 | 39 | [+ 2] | — | — | — | — | — | — |
| Prague | | 147·1 | 352 | e 19 | 38 | [+ 1] | e 20 | 4 | ? | e 21 | 54 | ? |
| Paris | | 148·5 | 7 | e 19 | 41 | [+ 1] | i 19 | 45 | PKP ₂ | i 19 | 56 | pP' |
| Karlsruhe | Z. | 148·6 | 359 | e 19 | 46 | [+ 6] | — | — | — | — | — | — |
| Stuttgart | Z. | 148·8 | 358 | e 19 | 40 | [0] | e 19 | 45 | PKP ₂ | e 19 | 57 | pP' |
| Strasbourg | | 149·0 | 359 | e 19 | 46 | [+ 5] | e 19 | 57 | PKP ₂ | e 20 | 2 | pP' |
| Chambon-la-Forêt | | 149·2 | 7 | e 19 | 42 | [+ 1] | i 19 | 52 | PKP ₂ | i 19 | 57 | pP' |
| Ksara | | 150·1 | 308 | i 19 | 50 | [+ 8] | — | — | — | 22 | 53 | PP |
| Tamanrasset | Z. | 174·4 | — | e 20 | 6 | [0] | e 20 | 18 | PKP ₂ | e 25 | 33 | PP |

Aug. 3d. 16h. 39m. Epicentre 38°·5N. 70°·06E.

Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 102-103.

Aug. 4d. 4h. 44m. Epicentre 38°·4N. 68°·7E.

Bull. of Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 103.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

474

Aug. 4d. 13h. 53m. 16s. Epicentre 15°·9S. 167°·9E. Depth of focus 0·020.
(as on 1952, December 9d.).

A = -·9408, B = +·2017, C = -·2722; δ = -12; h = +6;
D = +·210, E = +·978; G = +·266, H = -·057, K = -·962.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|-----------------|------|----------|-----|----------------------|-------|------------|-------|---------|------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Brisbane | | 18·0 | 228 | i 4 0 | - 1 | i 7 15 | + 1 | i 8 4 | sS | — |
| Apia | | 19·8 | 87 | i 4 20 | 0 | — | — | — | — | — |
| Auckland | N. | 21·8 | 166 | i 4 38 | - 2 | — | — | e 5 14 | pP | — |
| Karapiro | N. | 23·0 | 168 | 4 49 | - 2 | — | — | — | — | — |
| Riverview | | 23·4 | 217 | i 4 54 _a | - 1 | i 8 49 | - 4 | i 15 35 | ScS | — |
| New Plymouth | E. | 23·7 | 168 | e 4 30 | -28 | e 8 18 | -40 | — | — | — |
| Tongariro | Z. | 24·2 | 167 | i 4 59 | - 4 | — | — | — | — | — |
| Tuai | N. | 24·2 | 163 | e 4 56 | - 7 | e 8 56 | -11 | — | — | — |
| Cobb River | E. | 25·5 | 173 | e 5 14 | - 1 | e 9 37 | + 9 | — | — | — |
| Wellington | | 26·0 | 170 | i 5 14 _a | - 6 | e 9 39 | + 3 | e 5 39 | pP | — |
| Kaimata | N.E. | 26·7 | 175 | i 5 22 | - 4 | e 9 58 | +10 | i 6 8 | sP | — |
| Christchurch | | 27·8 | 173 | e 5 31 | - 5 | (e 11 44?) | SS | — | — | e 11·7 |
| Baguio | | 56·7 | 303 | i 9 30 _k | + 1 | i 17 10 | + 3 | i 10 24 | pP | — |
| Bandung | | 59·6 | 273 | e 9 50 | + 1 | i 17 48 | + 3 | — | — | — |
| Djakarta | | 60·5 | 273 | e 9 55 _k | 0 | i 17 58 | + 2 | i 12 9 | PP | — |
| Kurilsk | | 63·5 | 345 | e 10 17 | + 2 | — | — | — | — | — |
| Yuzno-Sakhlinsk | | 66·5 | 341 | i 10 38 | + 4 | 19 14 | + 4 | 11 21 | pP | — |
| Nanking | | 67·0 | 316 | i 10 38 _k | 0 | e 19 18 | + 2 | i 11 23 | pP | — |
| Uglegorsk | | 68·6 | 343 | i 10 48 | 0 | — | — | 11 31 | pP | — |
| Berkeley | | 84·5 | 49 | i 12 17 _a | + 1 | e 22 27 | 0 | e 13 4 | pP | — |
| Lick | Z. | 84·7 | 49 | e 12 19 _a | + 2 | — | — | e 13 7 | pP | — |
| Shillong | N. | 84·7 | 299 | i 22 21 | ? | e 22 34 | + 5 | — | — | — |
| Kyakhta | | 85·1 | 326 | e 12 20 | + 1 | — | — | — | — | — |
| Shasta | | 85·6 | 46 | i 12 22 _a | + 1 | — | — | i 13 10 | pP | — |
| Fresno | Z. | 85·8 | 50 | i 12 23 _a | + 1 | — | — | i 13 16 | pP | — |
| Kabansk | | 85·9 | 326 | i 12 19 | - 4 | i 22 32 | [+ 2] | — | — | — |
| Pasadena | | 86·1 | 53 | e 12 24 | 0 | e 22 43 | 0 | e 13 11 | pP | e 34·8 |
| Barratt | Z. | 86·7 | 55 | e 12 29 | + 2 | — | — | e 13 17 | pP | — |
| Palomar | Z. | 86·8 | 54 | i 12 30 | + 3 | — | — | i 13 17 | pP | — |
| Reno | Z. | 86·9 | 48 | e 12 29 _a | + 1 | — | — | — | — | — |
| China Lake | Z. | 87·1 | 52 | i 12 31 | + 2 | — | — | i 13 19 | pP | — |
| Tinemaha | Z. | 87·1 | 51 | i 12 31 | + 2 | — | — | e 13 19 | pP | — |
| College | | 87·2 | 17 | i 12 28 | - 1 | — | — | i 13 15 | pP | — |
| Irkutsk | | 87·2 | 327 | 12 29 | 0 | 22 40 | [+ 2] | e 13 14 | pP | — |
| Chatra | | 89·1 | 298 | e 12 39 | + 1 | i 22 51 | [0] | — | — | — |
| Nelson | | 89·2 | 53 | i 12 39 | 0 | — | — | i 13 28 | pP | — |
| Boulder City | | 89·3 | 53 | e 12 41 | + 2 | — | — | e 13 29 | pP | — |
| Tucson | | 91·2 | 57 | e 12 49 | + 1 | — | — | e 13 39 | pP | — |
| Hungry Horse | | 94·0 | 41 | e 12 59 | - 2 | — | — | — | — | — |
| Almata | | 101·4 | 312 | e 17 40 | PP | i 24 8 | [+11] | — | — | — |
| Naryn | | 101·7 | 310 | i 17 49 | PP | i 24 0 | [+ 2] | — | — | — |
| Frunse | | 103·0 | 311 | i 17 59 | PP | i 24 6 | [+ 2] | i 27 7 | PS | — |
| Andijan | | 104·3 | 308 | i 18 7 | PP | i 24 9 | [- 1] | — | — | — |
| Namangan | | 104·9 | 308 | e 18 2 | PP | — | — | — | — | — |
| Tchimkent | | 106·6 | 310 | e 18 5 | PP | i 24 20 | [0] | — | — | — |
| Tashkent | | 106·7 | 309 | e 17 59 | PKP | i 24 22 | [+ 1] | i 18 24 | PP | — |
| Stalinabad | | 106·8 | 306 | e 18 10 | PKP | i 24 26 | [+ 5] | — | — | — |
| Samarkand | | 108·3 | 307 | 18 38 | PP | — | — | — | — | — |
| Bairam-Ali | | 111·9 | 305 | — | — | e 24 43 | [0] | — | — | — |
| Sverdlovsk | | 112·6 | 326 | 19 7 | PP | 24 44 | [- 2] | — | — | — |
| Ottawa | | 119·6 | 47 | e 18 30 | [- 1] | — | — | — | — | — |
| Harvard | | 123·0 | 49 | e 18 37 | [0] | — | — | — | — | — |
| Kimberley | Z. | 123·1 | 219 | i 18 38 | [0] | — | — | — | — | — |
| Grozny | | 124·0 | 312 | i 20 26 | PP | 27 7 | SKKS | — | — | — |
| Kirovobad | | 124·0 | 310 | e 20 29 | PP | e 25 26 | [+ 1] | e 27 6 | SKKS | — |

Continued on next page.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

475

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|------------------|----------|-----|------|-----------------|--------|------|----|--------|-------|----|------|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Tiflis | 125.0 | 311 | e 20 | 38 | PP | e 27 | 14 | SKKS | e 23 | 18 | PPP | — |
| Borzhomi | 126.0 | 310 | e 18 | 37 | [- 6] | — | — | — | i 20 | 37 | PP | — |
| Zugdidi | 127.0 | 312 | — | — | — | i 27 | 28 | SKKS | — | — | — | — |
| Halifax | 128.2 | 46 | i 18 | 47 | [0] | — | — | — | — | — | — | — |
| Sotchi | 128.3 | 314 | e 20 | 56 | PP | e 25 | 39 | [+ 1] | e 27 | 35 | SKKS | — |
| San Juan | 128.5 | 79 | i 18 | 47 | [- 1] | — | — | — | — | — | — | — |
| Upsala | 131.0 | 341 | i 18 | 53 | [0] | i 22 | 1 | SKP | e 22 | 17 | PKS | e 62.7 |
| Simferopol | 131.6 | 318 | e 21 | 17 | PP | 27 | 56 | SKKS | — | — | — | — |
| Yalta | 131.8 | 316 | e 21 | 18 | PP | e 27 | 57 | SKKS | — | — | — | — |
| Ksara | 133.4 | 302 | e 19 | 52 | [+ 55] | e 28 | 54 | SKKS | i 22 | 14 | SKP | — |
| Kishinev | 134.1 | 322 | e 21 | 32 | PP | — | — | — | — | — | — | — |
| Copenhagen | 136.1 | 341 | e 22 | 19 | SKP | — | — | — | — | — | — | — |
| Istanbul | z. 136.5 | 314 | e 18 | 52 | [- 11] | e 21 | 18 | PP | e 22 | 42 | PKS | — |
| Uzhgorod | 136.9 | 328 | i 22 | 47 | PKS | e 28 | 28 | SKKS | — | — | — | — |
| Helwan | z. 137.9 | 297 | e 19 | 6 | [0] | e 26 | 26 | [+ 28] | 19 | 57 | pPKP | — |
| Potsdam | z. 138.5 | 338 | e 22 | 25 | SKP | — | — | — | — | — | — | — |
| Prague | 139.7 | 334 | e 21 | 22 | ? | e 23 | 7 | PKS | e 22 | 28 | PP | — |
| Stuttgart | z. 142.9 | 337 | e 19 | 13 | [- 2] | e 22 | 55 | SKP | e 20 | 5 | pPKP | — |
| Strasbourg | 143.5 | 338 | e 19 | 15 | [- 1] | e 22 | 31 | PP | e 20 | 5 | pPKP | e 52.2 |
| Zürich | 144.2 | 337 | i 19 | 17k | [0] | e 29 | 9 | SKKS | e 22 | 38 | PP | — |
| Chur | 144.3 | 334 | i 19 | 18k | [+ 1] | — | — | — | e 22 | 38 | PP | — |
| Paris | 145.1 | 344 | i 19 | 19 | [+ 1] | e 22 | 42 | PP | i 20 | 9 | pPKP | — |
| Neuchatel | 145.2 | 337 | i 19 | 20 | [+ 1] | — | — | — | e 20 | 9 | pPKP | — |
| Pavia | z. 145.7 | 333 | e 19 | 22 | [+ 3] | — | — | — | e 20 | 9 | pPKP | — |
| Chambon-la-Forêt | 145.8 | 344 | i 19 | 22 | [+ 2] | — | — | — | i 20 | 12 | pPKP | — |
| Florence | z. 145.8 | 330 | i 19 | 19 | [- 1] | i 22 | 42 | PP | i 20 | 12 | pPKP | — |
| Oropa | 145.9 | 335 | e 19 | 25 | [+ 5] | — | — | — | e 20 | 10 | pPKP | — |
| Rome | 146.5 | 326 | i 19 | 25 _a | [+ 4] | e 29 | 24 | SKKS | i 20 | 13 | pPKP | — |
| Messina | 147.0 | 318 | e 19 | 20 | [- 2] | e 29 | 22 | SKKS | i 20 | 14 | pPKP | — |
| Clermont-Ferrand | 147.6 | 340 | e 19 | 28 | [+ 5] | e 23 | 28 | PP | e 20 | 18 | pPKP | — |
| Granada | 157.5 | 343 | 19 | 56k | [+ 19] | 43 | 50 | SS | 23 | 56 | PP | 69.0 |
| Tamanrasset | z. 162.0 | 295 | e 19 | 44 | [+ 2] | e 30 | 5 | SKKS | i 20 | 32 | pPKP | — |

Aug. 4d. 18h. 29m. Epicentre 40°·9N. 47°·8E.

Bull. of Seismo. Stations of the U.S.S.R. for 1953, July-Sept., Moscow, 1954, pp. 104-105.

Aug. 5d. 15h. 49m. 9s. Epicentre 41°·0N. 143°·0E. Depth of focus 40km.

Intensity IV at Morioka; II-III at Hatinobe, Miyako, and Aomori.

Seismo. Bull. Cent. Met Obs., Japan, for August, 1953, Tokyo, 1953, pp. 8-9, with macroseismic chart.

Aug. 6d. 1h. 45m. Epicentre 39°·3N. 71°·1E.

Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 105.

Aug. 6d. 10h. 1m. Epicentre 40°·0N. 76°·5E.

Bull. of the Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 105.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

476

Aug. 6d. 18h. 55m. 36s. Epicentre 43°·5N. 86°·5E. (as on 1953, April 25d.).

$\Delta = +0.0444$, $B = +0.7263$, $C = +0.6859$; $\delta = -6$; $h = -3$;
 $D = +0.998$, $E = -0.061$; $G = +0.042$, $H = +0.685$, $K = -0.728$.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----------|-----|---------------------|------|---------|------|--------|-----------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Chilisk | 5.9 | 273 | i 1 31 | 0 | — | — | — | — |
| Kurmenty | 6.0 | 269 | i 1 32 | 0 | — | — | — | — |
| Przhevalsk | 6.0 | 263 | 1 34 | + 2 | — | — | — | — |
| Ili | 6.8 | 263 | e 1 41 | - 3 | — | — | — | — |
| Almata | 7.0 | 271 | i 1 55 | + 9 | — | — | — | — |
| Fabrichnaya | 7.4 | 271 | e 1 51 | - 1 | — | — | — | — |
| Naryn | 8.0 | 259 | e 2 0 | 0 | — | — | — | — |
| Frunse | 8.7 | 270 | e 2 10 | 0 | — | — | — | — |
| Murgab | 10.8 | 246 | e 2 40 | + 1 | i 4 41 | - 1 | — | — |
| Andijan | 10.9 | 260 | e 2 43 | + 3 | — | — | — | — |
| Namangan | 11.3 | 262 | e 2 49? | + 3 | i 4 57? | + 3 | — | — |
| Fergana | 11.4 | 259 | e 2 44 | - 3 | — | — | — | — |
| Dzhergetal | 12.3 | 255 | 2 59 | 0 | — | — | — | — |
| Tchimkent | 12.4 | 275 | i 3 3 | + 2 | i 5 27 | + 6 | — | — |
| Khorog | 12.8 | 247 | 3 8 | + 2 | e 5 34 | + 4 | — | — |
| Tashkent | 12.9 | 266 | e 3 4 | - 3 | e 5 31 | - 2 | — | — |
| Garm | 13.0 | 255 | e 3 8 | - 1 | i 5 40 | + 5 | — | — |
| Obi-garm | 13.5 | 255 | i 3 16 | + 1 | e 5 51 | + 4 | — | — |
| Kulyab | 13.9 | 252 | 3 18 | - 3 | — | — | — | — |
| Stalinabad | 14.3 | 256 | i 3 24 | - 2 | i 6 10 | + 4 | — | — |
| Irkutsk | 14.8 | 47 | 3 32 | 0 | e 6 20 | + 2 | — | — |
| Warsak Dam | E. 15.0 | 236 | e 3 37 | + 2 | i 6 25 | + 2 | i 6 50 | SS |
| Samarkand | 15.1 | 262 | 3 35 | - 1 | — | — | — | i 8.4 |
| Kyakhta | 15.2 | 56 | 3 39 | + 1 | 6 27 | - 1 | — | — |
| Kabansk | 16.0 | 51 | e 3 54 | + 6 | — | — | — | — |
| Chatra | Z. 16.6 | 178 | i 3 59 | + 3 | — | — | — | — |
| Shillong | N. 18.4 | 163 | i 4 19 | + 1 | e 7 50 | + 9 | 4 37 | pP |
| Bairam-Ali | 19.4 | 261 | i 4 53 | PP | — | — | — | 9.0 |
| Quetta | 20.4 | 236 | i 4 40 ^k | - 1 | i 8 30 | + 5 | i 5 9 | PP |
| Calcutta | 21.0 | 175 | i 4 45 | - 2 | i 8 55 | +18 | i 4 50 | ? i 14.2 |
| Sverdlovsk | 21.1 | 318 | 4 54 | + 6 | i 8 53 | +14 | — | — |
| Ashkabad | 22.0 | 265 | 4 56 | - 2 | 9 0 | + 4 | — | — |
| Kizyl-Arvat | 23.1 | 270 | i 4 58 | -10 | — | — | — | — |
| Hyderabad | 26.9 | 197 | e 5 36 | - 9 | 10 38 | +18 | 11 43 | SS |
| Bombay | 27.1 | 209 | e 5 44 | - 2 | e 10 41 | +17 | i 6 27 | PP i 13.1 |
| Poona | N. 27.1 | 207 | — | — | e 10 40 | +16 | — | — |
| Baku | 27.3 | 277 | — | — | e 10 32 | + 5 | — | — |
| Nanking | 27.8 | 103 | 5 53 | 0 | e 10 34 | - 1 | — | — |
| Shemakla | 28.1 | 278 | e 5 54 | - 1 | 10 42 | + 2 | — | — |
| Kirovobad | 29.7 | 279 | 6 8 | - 2 | — | — | — | — |
| Goris | 30.2 | 277 | e 6 14 | 0 | — | — | — | — |
| Duzheti | 30.5 | 282 | e 6 20 | + 3 | — | — | — | — |
| Tiflis | 30.5 | 282 | e 6 24 | + 7 | — | — | — | — |
| Gori | 30.9 | 282 | e 6 24 | + 4 | — | — | — | — |
| Madras | E. 30.9 | 192 | — | — | e 16 44 | ScS | — | — |
| Hong Kong | 31.2 | 122 | — | — | 13 45 | SSS | — | 17.4 |
| Borzhomi | 31.5 | 282 | 6 26 | 0 | e 11 37 | + 3 | — | — |
| Tsikhlis-Dzhvari | 31.5 | 282 | 6 26 | 0 | e 11 35 | + 1 | — | — |
| Akhalkalaki | 31.6 | 281 | e 6 27 | + 1 | — | — | — | — |
| Zugdidi | 32.4 | 285 | 6 35 | + 1 | — | — | — | — |
| Moscow | 33.2 | 309 | e 6 47 | + 7 | — | — | — | — |
| Sotchi | 33.6 | 287 | e 6 52? | + 8 | — | — | — | — |
| Simferopol | 37.0 | 291 | e 7 10 | - 3 | 12 54? | - 5 | — | — |
| Yalta | 37.1 | 290 | e 7 14 | 0 | — | — | — | — |
| Pulkovo | 37.2 | 316 | e 7 17 | + 2 | — | — | — | — |
| Kishinev | 40.0 | 297 | e 7 34 | - 4 | — | — | — | — |
| Kiruna | 41.7 | 329 | i 7 49 | - 3 | e 16 46 | SS | i 9 28 | PP e 18.9 |
| Istanbul | 41.8 | 288 | e 7 50 | - 3 | e 14 7? | - 4 | e 9 28 | PP e 17.4 |
| Lwow | 42.2 | 301 | e 7 54 | - 2 | — | — | — | — |
| Upsala | 43.6 | 317 | i 8 5 | - 3 | i 13 53 | PcS | e 9 50 | PP i 22.8 |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----------|-----|----------------------|------|-----------|-------|---------|------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Skalnata Pleso | 44.8 | 302 | e 8 10 | - 7 | e 14 53 | - 2 | e 20 7 | ? e 23.8 |
| Raciborzu | 45.7 | 304 | — | — | e 15 6? | - 2 | e 20 23 | ? e 23.4 |
| Ogyalla | 46.5 | 300 | e 9 8 | + 37 | e 15 12 | - 7 | e 16 41 | ? — |
| Copenhagen | 47.3 | 313 | e 8 41 | + 4 | — | — | — | 22.4 |
| Potsdam | 48.0 | 308 | — | — | (e 19 24) | SS | — | e 19.4 |
| Prague | 48.0 | 305 | e 8 47 | + 4 | e 15 35 | - 6 | e 9 27 | ? — |
| Collnberg | 48.4 | 306 | e 8 45 | - 1 | e 15 42 | - 4 | e 12 38 | ? — |
| Cheb | E. 49.2 | 306 | e 8 59 | + 7 | e 21 16 | ? | e 9 26 | ? — |
| Jena | 49.4 | 307 | e 8 50 | - 3 | e 10 37 | PP | e 9 14 | ? — |
| Stuttgart | 51.7 | 305 | e 9 15 | + 4 | e 16 24 | - 8 | — | — e 27.4 |
| Messina | 52.4 | 290 | e 9 16 | 0 | 16 37 | - 5 | e 21 1 | ? 28.7 |
| Rome | 52.7 | 296 | e 9 24 | + 6 | e 16 42 | - 4 | e 20 24 | SS — |
| Uccle | E. 53.6 | 309 | e 19 6 | ScS | e 20 53 | SS | e 23 1 | SSS e 25.4 |
| Durham | N. 55.0 | 314 | 17 26 | PS | 19 48 | ? | — | — 24.9 |
| Paris | 55.6 | 307 | e 9 38 | - 2 | e 17 20 | - 5 | e 17 27 | PS e 28.4 |
| Kew | 55.9 | 311 | e 19 4 | ? | — | — | e 24 22 | ? e 26.4 |
| Chambon-la-Forêt | 56.1 | 307 | e 9 40 | - 3 | — | — | — | — — |
| Resolute Bay | 62.1 | 1 | e 10 28 | + 3 | e 18 45 | - 4 | — | — 36.4 |
| College | 64.0 | 23 | i 10 34 | - 4 | — | — | — | — — |
| Toledo | 64.4 | 301 | e 10 38 | - 2 | — | — | e 11 22 | PcP — |
| Almeria | 65.2 | 298 | 10 47 | + 2 | 19 22 | - 6 | 13 11 | PP 31.3 |
| Granada | 65.7 | 299 | 10 4 _a | - 44 | 19 16 | - 18 | 21 13 | ? 28.8 |
| Malaga | 66.5 | 299 | e 31 14 | PKKP | — | — | e 36 8 | ? 39.1 |
| Tamanrasset | Z. 68.3 | 281 | i 11 3 | - 2 | e 11 19 | PcP | e 13 26 | PP — |
| Hungry Horse | 86.8 | 14 | i 12 45 | - 2 | — | — | — | — — |
| Pretoria | Z. 87.2 | 230 | i 12 49 | 0 | — | — | — | — — |
| Pietermaritzburg | Z. 89.1 | 226 | e 13 0 | + 2 | — | — | — | — — |
| Butte | 89.4 | 13 | e 12 58 | - 2 | — | — | — | — — |
| Ottawa | 90.1 | 347 | e 13 1 | - 2 | — | — | — | — — |
| Harvard | 92.1 | 343 | e 13 17 | + 5 | — | — | — | — — |
| Shasta | Z. 92.2 | 21 | e 13 12 _a | - 1 | — | — | e 13 19 | PcP — |
| Mineral | Z. 92.8 | 21 | e 13 14 _k | - 2 | — | — | e 13 21 | PcP — |
| Grahamstown | Z. 94.0 | 226 | e 13 22 | + 1 | — | — | — | — — |
| Palisades | 94.0 | 344 | e 25 38 | PS | e 23 50 | [- 6] | e 41 50 | Q e 47.8 |
| Nelson | 98.8 | 17 | i 13 43 | 0 | — | — | — | — — |
| Fayetteville | 100.8 | 0 | i 13 49 | - 3 | — | — | — | — — |

Aug. 7d. 11h. 14m. Epicentre 41°·2N. 44°·0E.
Bulletin of Seismo. Stations of U.S.S.R. for 1953, July-Sept., Moscow, 1954, pp.106-107.

Aug. 7d. 17h. 30m. Epicentre 38°·6N. 72°·7E.
Loc. cit., p.107.

Aug. 7d. 18h. 49m. Epicentre 36°·6N. 70°·4E. Depth of focus 200km.
Loc. cit., p.107.

Aug. 7d. 23h. 44m. Epicentre 43°·0N. 76°·9E.
Loc. cit., p.107.

Aug. 8d. 13h. 13m. 44s. Epicentre 42°·2N. 143°·2E. Depth of focus 60-70km.
Intensity V at Obihiro, Kusiro; IV at Urakawa, Sapporo, Iwamizawa; II-III at Murooran, Tomakomai, Hatinohe, Nemuro, and Otaru.
Seismo. Bull. Cent. Met. Obs., Japan, for 1953, Aug., Tokyo, 1953, pp.9-10, with macroseismic chart.

Aug. 8d. 13h. 35m. 46s. Epicentre 37°·9S. 176°·4E. Depth of focus 300km.
Magnitude 5.1.
Seismological Observatory Bulletin, New Zealand Department of Scientific and Industrial Research, No. E-133, Wellington, 1956, 0p.7-8. Only recorded in New Zealand.

Aug. 8d. 18h. 51m. 23s. Epicentre 32°·7N. 131°·3E. Depth of focus 120km.
Intensity II-III at Uwazima
Seismo. Bull. Cent. Met. Obs., Japan, for 1953, Aug., Tokyo, 1953, pp.10-11, with macroseismic chart.

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Aug. 9d. 5h. 53m. 29s. Epicentre 22°·1S. 68°·7W. Depth of focus 0·015.
(as on 1952, March 24d.).

A = +·3369, B = -·8641, C = -·3740 ; $\delta = +5$; $h = +4$;
D = -·932, E = -·363 ; G = -·136, H = +·348, K = -·927.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|----------|-----|----------|-------|---------|-------|---------|-----|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Montezuma | | 0·5 | 262 | i 0 18 | - 1 | i 0 32 | - 2 | — | — |
| Antofagasta | E. | 2·2 | 226 | i 0 38 | + 1 | i 1 2 | - 3 | — | — |
| Copiapo | E. | 5·4 | 195 | e 1 20 | 0 | 2 23 | + 2 | — | — |
| La Paz | | 5·6 | 6 | i 1 21k | - 1 | i 2 21 | - 5 | i 1 39 | PPP |
| Santa Lucia | N. | 11·4 | 188 | e 3 21 | PPP | 4 45 | 0 | e 5 35 | SSS |
| Huancayo | | 11·8 | 327 | i 2 48 | + 3 | e 5 4 | + 9 | i 2 38 | PP |
| Buenos Aires | | 15·3 | 146 | e 3 24 | - 6 | 6 51 | +35 | — | — |
| La Plata | | 15·9 | 146 | i 3 33 | - 5 | 6 19 | -11 | 6 55 | SS |
| Bogota | | 27·1 | 349 | e 5 32 | - 1 | e 10 5 | + 5 | e 5 58 | pP |
| Chinchina | | 27·7 | 348 | e 5 37 | - 1 | e 10 16 | + 7 | e 6 2 | pP |
| San Juan | | 40·3 | 5 | i 7 21 | - 5 | — | — | i 7 49 | pP |
| Tacubaya | | 50·9 | 322 | 8 50 | 0 | e 18 26 | ScS | — | — |
| Bermuda | | 54·3 | 5 | e 7 57 | -78 | e 17 37 | +56 | — | — |
| Washington | | 61·2 | 354 | i 10 31 | pP | — | — | — | — |
| Morgantown | | 62·3 | 350 | i 10 41 | pP | — | — | — | — |
| Cincinnati | | 62·7 | 346 | e 10 8 | - 5 | — | — | i 10 41 | pP |
| Fayetteville | | 62·7 | 337 | i 10 11k | - 2 | e 18 32 | + 2 | i 10 41 | pP |
| Fordham | | 62·8 | 357 | i 10 42 | pP | — | — | — | — |
| Palisades | | 63·0 | 357 | e 10 12 | - 4 | — | — | — | — |
| Weston | | 64·2 | 358 | i 8 55a | ? | e 18 46 | - 3 | i 9 39 | ? |
| Harvard | | 64·3 | 358 | i 10 21k | - 3 | i 18 52 | + 2 | i 10 51 | pP |
| Cleveland | | 64·4 | 350 | e 10 21a | - 4 | i 18 49 | - 2 | e 10 51 | pP |
| Buffalo (Larkin) | | 65·3 | 352 | i 10 58 | pP | — | — | — | — |
| Halifax | | 66·6 | 5 | e 10 48 | + 9 | 11 23 | sP | i 11 5 | pP |
| Tucson | | 67·4 | 323 | e 10 44 | 0 | — | — | — | — |
| Ottawa | | 67·5 | 355 | e 10 41 | - 3 | 19 31 | + 2 | i 11 12 | pP |
| Shawinigan Falls | N. | 68·4 | 358 | e 11 19 | pP | — | — | — | — |
| Seven Falls | E. | 68·9 | 359 | e 11 4 | +11 | e 19 57 | +12 | 20 53 | PPS |
| Kirkland Lake | Z. | 70·7 | 353 | e 11 2 | - 2 | — | — | i 11 33 | pP |
| Barratt | Z. | 71·2 | 319 | i 11 7k | 0 | i 11 50 | sP | i 11 37 | pP |
| Palomar | Z. | 71·8 | 320 | i 11 11 | + 1 | i 11 55 | sP | i 11 41 | pP |
| Nelson | | 72·2 | 322 | i 11 12 | - 1 | i 11 56 | sP | i 11 46 | pP |
| Boulder City | | 72·4 | 322 | e 11 14 | 0 | e 20 31 | + 5 | — | — |
| Pasadena | | 73·1 | 319 | i 11 18k | 0 | i 20 41 | + 7 | i 11 48 | pP |
| China Lake | Z. | 73·9 | 321 | i 11 22k | - 1 | i 12 6 | sP | i 11 52 | pP |
| Woody | Z. | 74·6 | 319 | i 11 27k | 0 | i 12 11 | sP | i 11 58 | pP |
| Tinemaha | | 75·1 | 321 | i 11 32 | + 2 | — | — | i 12 1 | pP |
| Fresno | Z. | 75·8 | 321 | i 11 33a | 0 | e 12 17 | sP | — | — |
| Lick | Z. | 77·3 | 320 | e 11 42k | 0 | i 12 26 | sP | i 12 14 | pP |
| Reno | Z. | 77·7 | 323 | e 11 35k | - 9 | — | — | — | — |
| Berkeley | Z. | 78·0 | 320 | e 11 46 | 0 | e 12 29 | sP | e 12 16 | pP |
| Butte | | 78·6 | 331 | i 11 49 | 0 | — | — | i 12 20 | pP |
| Mineral | Z. | 79·3 | 322 | e 11 51k | - 2 | i 12 37 | sP | e 12 22 | pP |
| Shasta | Z. | 79·9 | 322 | i 11 55k | - 1 | i 12 39 | sP | e 12 25 | pP |
| Hungry Horse | | 81·0 | 332 | i 12 2 | 0 | i 12 47 | sP | i 12 33 | pP |
| Grahamstown | Z. | 82·4 | 122 | i 12 9 | 0 | — | — | — | — |
| Kimberley | Z. | 82·6 | 118 | i 12 10 | 0 | — | — | — | — |
| Malaga | | 84·2 | 47 | i 12 21 | + 3 | i 22 47 | ScS | 15 28 | PP |
| Granada | | 85·0 | 47 | i 12 21a | - 1 | 22 51 | +12 | 12 54 | pP |
| Tamanrasset | Z. | 85·0 | 63 | i 12 22 | 0 | e 22 49 | +10 | i 12 53 | pP |
| Almeria | | 85·6 | 48 | 12 25 | 0 | 22 49 | + 4 | 28 21 | SS |
| Toledo | | 86·2 | 45 | i 13 1 | pP | e 22 21 | [-18] | — | — |
| Pretoria | Z. | 86·5 | 116 | e 12 30 | 0 | — | — | — | — |
| Alicante | | 87·7 | 47 | e 12 21 | -14 | e 22 49 | [0] | 17 51 | PPP |
| Algiers Univ. | Z. | 89·4 | 50 | e 12 41 | - 2 | — | — | e 13 15 | pP |
| Chambon-la-Forêt | | 94·3 | 39 | e 13 5 | - 1 | — | — | — | — |
| Stuttgart | | 98·7 | 41 | e 13 25 | - 1 | — | — | e 13 58 | pP |
| Messina | E. | 99·0 | 52 | — | — | e 23 53 | [+ 1] | e 27 13 | PPS |
| Quetta | Z. | 139·7 | 68 | i 19 16 | [+ 3] | e 19 48 | sPKP | i 22 9 | PP |

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Aug. 9d. 7h. 41m. 7s. Epicentre 38°·3N. 20°·8E. (as on 1951, December 27d.).

Fore-shock of the earthquake on the 12th August at 9h.
 Heavy damage in the islands of Ithica and Cephalonia with many casualties.
 Felt in the islands of Ithaca (Stavros VIII+); Cephalonia (Sami VII; Asprogherakas VII+; Phiskardon, Valsamata VI; Argostolion, Lixourion VI); Leukas (Vasiliki, Hag, Petros VIII; Kalamitsi, Ano Exanthia VI+; Eglouvi, Karyae, Leukas VI); Zante (Volimes VI+; Zante VI, Ano Korakiana IV) and Corfou (Gastouni VI; Corfou, Avliotes IV+); and in the districts of Aetolia (Aetolikon VII+; Messolonghi, Astakos, Zaverda VI; Agrinion V+; Vonitsa, Amphiloehia V, Stamna IV+); Achaia (Kato Achaia V+; Patras V; Kalavryta IV+; Aeghion III+); Elis (Pyrgos V+; Lechaena, Amalias, Zacha IV+), Messinia (Kyparissia, Philiatra IV; Gargalianoe III+), Corinthia (Xylokastron IV+), Preveza (Preveza, Philippias V), Arta (Arta V), Thesprotia (Philates V, Margarition, Egouminitsa IV+), Trikkala (Trikkala IV, Karditsa III+), Larissa (Tyrnavos III+).
 Felt as far as Triest. Macroseismic area 150,000 sq. km.

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, p. 74-75.

$$A = +.7355, B = +.2794, C = +.6172; \quad \delta = -4; \quad h = -1;$$

$$D = +.355, E = -.935; \quad G = +.577, H = +.219, K = -.787.$$

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | I. | |
|-----------------|----|----------|-----|---------------------|------------------|---------|------|---------|----------------|-------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Athens | | 2.3 | 98 | i 0 42 _a | 0* | i 1 13 | + 1* | i 1 17 | S _g | — |
| Taranto | | 3.5 | 309 | 0 57 | 0 | — | — | — | — | — |
| Reggio Calabria | | 4.1 | 269 | e 1 4 _k | - 1 | i 1 51 | - 4 | i 1 11 | P* | — |
| Messina | | 4.1 | 270 | i 1 6 _k | + 1 | i 1 56 | + 1 | — | — | — |
| Sofia | | 4.8 | 23 | i 1 16? | + 1 | i 2 27? | + 1* | i 2 16? | S | — |
| Belgrade | | 6.5 | 358 | e 1 40 _a | + 1 | i 2 58 | + 3 | i 3 39 | S _g | — |
| Istanbul | | 7.0 | 64 | e 1 45 | - 1 | i 3 5 | - 3 | i 1 53 | PP | 3.4 |
| Rocca di Papa | | 7.1 | 302 | e 1 47 | - 1 | i 3 9 | - 1 | i 2 26 | P _g | — |
| Bucharest | | 7.3 | 32 | i 1 54 | + 4 | i 3 24 | + 9 | i 2 13 | P* | — |
| Rome | | 7.3 | 302 | i 1 49 _k | - 1 | i 3 15 | 0 | i 2 27 | P _g | i 4.2 |
| Timisoara | E. | 7.4 | 2 | e 1 53 | + 1 | e 3 45? | + 1* | — | — | — |
| | N. | 7.4 | 2 | e 1 46? | - 6 | e 3 16 | - 2 | e 2 25 | P _g | — |
| Campulung | | 7.6 | 23 | e 2 0 | + 5 | e 3 34 | +11 | — | — | — |
| Kalossa | N. | 8.3 | 351 | e 2 9 | + 5 | 3 39 | - 1 | 4 30 | S _g | — |
| Kecskemet | | 8.7 | 355 | 1 59 | -11 | 3 43 | - 7 | e 4 42 | S _g | e 4.9 |
| Siena | | 8.8 | 308 | e 2 21 | +10 | 3 55 | + 2 | — | — | 4.9 |
| Florence | | 9.0 | 310 | e 2 16 | + 3 | i 3 58 | 0 | — | — | — |
| Triest | | 9.0 | 327 | e 2 12 | - 1 | i 3 48 | -10 | e 2 52 | P _g | i 5.1 |
| Prato | | 9.2 | 310 | e 2 19 | + 3 | i 4 3 | 0 | — | — | — |
| Budapest | | 9.3 | 353 | 2 15 | - 2 | 4 2 | - 3 | 5 3 | S _g | 5.4 |
| Bacau | | 9.4 | 27 | e 2 23 | + 5 | e 4 1 | - 6 | — | — | — |
| Bologna | | 9.5 | 314 | e 3 6 | - 4 _k | e 4 45 | - 1* | e 4 49 | ? | e 5.9 |
| Ogyalla | | 9.7 | 350 | e 2 33 | PP | e 4 11 | - 4 | e 3 3 | ? | — |
| Tolmezzo | | 9.9 | 327 | e 2 31 | + 6 | i 4 17 | - 3 | i 4 31 | SS | i 5.0 |
| Iasi | | 10.2 | 27 | e 2 33 | + 2 | e 4 36 | SS | — | — | — |
| Uzhgorod | | 10.4 | 6 | i 2 34 | 0 | e 4 32 | 0 | — | — | — |
| Vienna | | 10.4 | 343 | e 2 33 | - 1 | 4 38 | + 6 | i 5 51 | S _g | i 6.2 |
| Kishinev | | 10.5 | 32 | i 2 35? | 0 | 4 45? | +10 | — | — | — |
| Cernauti | | 10.7 | 19 | e 2 46 | PP | — | — | — | — | — |
| Skalnate Pleso | | 10.9 | 358 | e 2 30 | -10 | e 4 41 | - 3 | e 4 31 | S | — |
| Pavia | | 11.1 | 312 | e 2 45 _a | + 2 | e 4 43 | - 6 | e 2 58 | PPP | e 5.2 |
| Lwow | | 11.8 | 11 | i 2 53 | 0 | i 5 9 | + 3 | — | — | — |
| Yalta | | 11.8 | 54 | e 2 51 | - 2 | e 5 3 | - 3 | — | — | — |
| Chur | | 11.9 | 320 | e 2 55 | + 1 | e 5 0 | - 9 | — | — | — |
| Raciborzu | | 11.9 | 352 | e 2 56 | + 2 | e 5 8 | - 1 | e 3 3 | PP | i 6.5 |
| Oropa | | 12.0 | 312 | i 3 7 | PP | i 4 58 | -13 | e 4 50 | ? | e 6.3 |
| Simferopol | | 12.0 | 52 | e 2 55 | 0 | e 5 10 | - 1 | — | — | — |
| Helwan | | 12.1 | 131 | i 2 50 _k | - 7 | e 5 7 | - 7 | — | — | — |
| Ravensburg | z. | 12.5 | 323 | e 3 5 | + 3 | — | — | i 3 8 | PP | — |
| Prague | | 12.6 | 341 | e 3 0 | - 3 | i 5 24 | - 2 | e 5 46 | SS | e 6.2 |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|--------------------|----------|-----|-----|-----|------|------|----|------|-------|----|-----------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Zürich | 12.7 | 319 | e 3 | 4 | - 1 | e 5 | 25 | - 3 | — | — | — |
| Theodosia | 12.8 | 54 | i 3 | 18 | PP | 5 | 51 | SS | — | — | — |
| Ksara | 13.0 | 106 | i 3 | 12 | + 3 | i 5 | 29 | - 6 | — | — | — |
| Ebingen | z. 13.1 | 323 | e 3 | 11? | + 1 | — | — | — | — | — | — |
| Cheb | 13.2 | 336 | e 3 | 12? | + 1 | e 5 | 35 | - 5 | — | — | — |
| Neuchatel | 13.4 | 315 | e 3 | 12 | - 2 | e 5 | 32 | -13 | — | — | — |
| Stuttgart | 13.4 | 325 | e 3 | 11 | - 3 | i 5 | 51 | + 6 | i 3 | 17 | P e 6.7 |
| Karlsruhe | 13.9 | 324 | 3 | 23 | + 2 | i 5 | 52 | - 5 | i 3 | 35 | PP e 6.9 |
| Strasbourg | 14.0 | 322 | e 3 | 18? | - 4 | e 5 | 53 | - 6 | e 6 | 21 | SS e 6.9 |
| Collmberg | 14.1 | 340 | e 3 | 23 | 0 | e 6 | 22 | SS | e 3 | 34 | PP e 7.9 |
| Algiers Univ. | z. 14.2 | 269 | e 3 | 20 | - 4 | i 3 | 31 | PP | e 3 | 40 | PPP e 6.9 |
| Jena | 14.2 | 336 | e 3 | 25 | + 1 | i 5 | 59 | - 5 | i 3 | 33 | PP i 7.2 |
| Barcelona | 14.7 | 288 | 3 | 35 | + 4 | 6 | 23 | SS | — | — | 7.6 |
| Potsdam | 15.1 | 342 | i 3 | 37k | + 1 | i 6 | 24 | - 1 | i 6 | 41 | SS i 7.4 |
| Sotchi | 15.2 | 64 | e 3 | 38 | 0 | — | — | — | — | — | — |
| Tortosa | 15.9 | 286 | i 3 | 52 | + 5 | i 6 | 43 | - 1 | — | — | — |
| Chambon-la-Forêt | 16.6 | 312 | e 3 | 57 | + 1 | — | — | — | i 4 | 7 | PP |
| Zugdidi | 16.6 | 69 | i 3 | 58 | + 2 | — | — | — | — | — | — |
| Alicante | 16.7 | 277 | i 3 | 57 | 0 | i 7 | 6 | + 3 | 4 | 12 | PP 8.3 |
| Paris | 16.9 | 314 | e 3 | 58 | - 1 | i 7 | 5 | - 2 | i 4 | 12 | PP i 8.6 |
| Uccle | 17.1 | 322 | e 4 | 3 | + 1 | e 7 | 13 | + 1 | i 4 | 13 | PP e 8.3 |
| Abastumanj | 17.2 | 73 | e 4 | 11 | + 8 | — | — | — | — | — | — |
| Witteveen | z. 17.5 | 332 | e 4 | 13 | + 6 | — | — | — | — | — | — |
| Borzhomi | 17.6 | 71 | i 4 | 10 | + 2 | — | — | — | — | — | — |
| De Bilt | 17.6 | 328 | i 4 | 12k | + 4 | i 7 | 35 | +12 | i 4 | 30 | PPP e 9.0 |
| Tsikhli-Dzhvari | 17.7 | 71 | i 4 | 10 | 0 | — | — | — | — | — | — |
| Leninakan | 18.0 | 74 | e 4 | 21 | + 8 | — | — | — | — | — | — |
| Gori | 18.2 | 72 | 4 | 19 | + 3 | — | — | — | — | — | — |
| Copenhagen | 18.3 | 345 | e 4 | 16 | - 1 | i 7 | 45 | + 6 | — | — | 9.4 |
| Almeria | 18.5 | 273 | i 4 | 23 | + 4 | i 7 | 53 | + 9 | i 4 | 43 | PP 12.4 |
| Erevan | 18.5 | 76 | i 4 | 19 | 0 | — | — | — | — | — | — |
| Duzheti | 18.6 | 70 | e 4 | 23 | + 2 | — | — | — | — | — | — |
| Tiflis | 18.7 | 71 | i 4 | 22 | 0 | — | — | — | — | — | — |
| Granada | 19.3 | 274 | i 4 | 34a | + 5 | i 8 | 0 | - 2 | 4 | 58 | PPP 11.2 |
| Toledo | 19.3 | 283 | e 4 | 29 | 0 | i 8 | 6 | + 4 | 4 | 51 | PP 10.0 |
| Grozny | 19.5 | 67 | i 4 | 32 | + 1 | i 8 | 6 | 0 | — | — | — |
| Jersey | E. 19.7 | 312 | e 4 | 23 | -11 | e 8 | 12 | + 2 | — | — | 10.0 |
| Kew | 19.8 | 318 | i 4 | 37k | + 2 | i 8 | 19 | + 6 | i 4 | 43 | PP e 11.9 |
| Goris | 19.9 | 77 | i 4 | 32 | - 4 | — | — | — | — | — | — |
| Kirovobad | 19.9 | 75 | 4 | 32 | - 4 | — | — | — | — | — | — |
| Malaga | 20.1 | 275 | i 4 | 34 | - 4 | i 8 | 12 | - 7 | 9 | 4 | PcP 9.9 |
| Tamanrasset | z. 20.3 | 225 | i 4 | 37 | - 3 | i 8 | 31 | + 8 | e 8 | 47 | SS |
| Moscow | 20.8 | 27 | i 4 | 43 | - 2 | 8 | 34 | + 1 | — | — | — |
| Shemakla | 21.6 | 74 | 4 | 54a | 0 | — | — | — | — | — | — |
| Upsala | 21.7 | 356 | i 4 | 52a | - 3 | i 8 | 47 | - 4 | i 9 | 23 | SS i 13.9 |
| Pulkovo | 22.3 | 13 | i 4 | 59 | - 2 | i 8 | 59 | - 3 | — | — | — |
| Durham | 22.4 | 325 | i 5 | 2 | 0 | i 9 | 5 | + 1 | i 16 | 21 | ScS |
| Baku | 22.6 | 74 | e 5 | 5 | + 2 | — | — | — | — | — | — |
| Coimbra | 22.7 | 285 | 5 | 13 | + 9 | i 9 | 8 | - 1 | 9 | 53 | SS 11.9 |
| Averroes | 23.4 | 267 | i 5 | 12 | + 1 | 9 | 28 | + 7 | e 5 | 28 | PP |
| Lisbon | 23.4 | 281 | e 5 | 16 | + 5 | i 9 | 21 | 0 | 5 | 51 | PPP |
| Edinburgh | E. 23.8 | 326 | e 5 | 19 | + 4 | 9 | 38 | +10 | 12 | 41 | PcS |
| Rathfarnham Castle | 23.9 | 319 | 5 | 16? | 0 | i 9 | 33 | + 3 | e 10 | 19 | SS i 12.6 |
| Aberdeen | 24.2 | 330 | i 5 | 20 | + 1 | i 9 | 33 | - 2 | i 12 | 23 | ? 14.5 |
| Bergen | 24.2 | 342 | i 5 | 17k | - 2 | i 9 | 39 | + 4 | 10 | 30 | SS i 12.5 |
| Kizyl-Arvat | 27.6 | 75 | i 5 | 55 | + 4 | — | — | — | — | — | — |
| Ashkabad | 29.4 | 78 | 6 | 7 | 0 | — | — | — | — | — | — |
| Kiruna | 29.6 | 0 | i 6 | 7a | - 2 | i 10 | 52 | -12 | i 12 | 12 | SS i 17.2 |
| Sverdlovsk | 32.0 | 41 | e 6 | 28 | - 2 | i 11 | 41 | - 1 | — | — | — |
| Samarkand | 35.6 | 73 | 6 | 59 | - 2 | — | — | — | — | — | — |
| Reykjavik | N. 36.1 | 331 | i 7 | 11 | + 6 | — | — | — | — | — | — |
| Tchimkent | 37.0 | 67 | i 7 | 13 | 0 | — | — | — | — | — | — |
| Stalinabad | 37.2 | 73 | i 7 | 14 | - 1 | — | — | — | — | — | — |
| Obigarm | 37.9 | 73 | i 7 | 19 | - 1 | e 13 | 13 | 0 | — | — | — |
| Kulyab | 38.2 | 75 | 7 | 23 | 0 | — | — | — | — | — | — |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. m. | |
|------------------|----|----------|-----|------|-----|------|------|-----|-------|-------|----|----------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Quetta | | 38.7 | 87 | i 7 | 23 | - 4 | e 13 | 21 | - 4 | i 8 | 52 | PP | — |
| Namangan | | 38.8 | 70 | e 7 | 28 | 0 | — | — | — | — | — | — | — |
| Dzhergetal | | 38.9 | 71 | e 7 | 29 | 0 | e 13 | 27 | - 1 | — | — | — | — |
| Fergana | | 39.0 | 70 | e 7 | 29 | - 1 | — | — | — | — | — | — | — |
| Scoresby Sund | | 39.2 | 339 | e 7 | 31 | 0 | e 13 | 32 | 0 | e 9 | 6 | PP | 19.9 |
| Andijan | | 39.4 | 70 | e 7 | 32 | - 1 | — | — | — | — | — | — | — |
| Khorog | | 39.7 | 75 | 7 | 35 | - 1 | 13 | 37 | - 3 | — | — | — | — |
| Frunse | | 40.5 | 66 | e 7 | 43 | + 1 | — | — | — | — | — | — | — |
| Warsak Dam | E. | 40.8 | 79 | e 7 | 45 | 0 | e 14 | 1 | + 5 | — | — | — | e 24.9 |
| M'Bour | | 41.0 | 247 | i 7 | 53 | + 7 | i 14 | 1 | + 2 | i 9 | 31 | PP | e 19.2 |
| Murgab | | 41.2 | 73 | e 7 | 52 | + 4 | — | — | — | — | — | — | — |
| Rybach'e | | 41.7 | 66 | 7 | 52 | 0 | 14 | 9 | - 1 | — | — | — | — |
| Naryn | | 41.9 | 68 | e 7 | 54 | 0 | — | — | — | — | — | — | — |
| Almata | | 42.1 | 64 | i 7 | 56 | + 1 | — | — | — | — | — | — | — |
| Kurmenty | | 43.1 | 64 | 8 | 4 | 0 | — | — | — | — | — | — | — |
| Przhevsk | | 43.4 | 65 | 8 | 6 | 0 | — | — | — | — | — | — | — |
| New Delhi | N. | 47.4 | 84 | e 8 | 33 | - 5 | e 15 | 29 | - 3 | 15 | 43 | PPS | 21.7 |
| Bombay | N. | 48.9 | 98 | e 8 | 50 | 0 | e 15 | 53 | 0 | 10 | 45 | PP | 21.8 |
| Poona | | 49.9 | 98 | i 8 | 59 | + 2 | e 16 | 6 | - 1 | 16 | 13 | PS | — |
| Hyderabad | | 54.2 | 96 | e 9 | 26 | - 3 | i 17 | 8? | + 2 | — | — | — | 29.0 |
| Chatra | | 56.0 | 80 | e 9 | 39 | - 4 | e 17 | 27 | - 3 | 11 | 46 | PP | 26.4 |
| Irkutsk | | 57.2 | 46 | 9 | 51 | 0 | e 17 | 46 | 0 | — | — | — | — |
| Kodaikanal | E. | 57.7 | 103 | — | — | — | e 18 | 3 | +10 | — | — | — | — |
| Kabansk | | 58.6 | 46 | e 9 | 58 | - 3 | — | — | — | — | — | — | — |
| Calcutta | E. | 59.1 | 84 | e 9 | 55 | - 9 | 18 | 11 | 0 | — | — | — | — |
| Kyakhta | | 59.2 | 48 | 10 | 4 | - 1 | e 18 | 6 | - 6 | — | — | — | — |
| Resolute Bay | | 59.7 | 345 | e 10 | 15 | + 6 | e 18 | 24 | + 5 | — | — | — | 35.1 |
| Shillong | N. | 60.3 | 79 | e 10 | 12 | - 1 | i 18 | 22 | - 4 | 18 | 45 | PPS | 27.7 |
| Halifax | | 60.9 | 306 | i 10 | 14 | - 3 | 18 | 14 | -20 | 11 | 2 | PcP | — |
| Tananarive | | 62.2 | 151 | e 10 | 25 | - 1 | — | — | — | e 10 | 59 | PcP | — |
| Pretoria | Z. | 64.1 | 173 | e 10 | 39 | + 1 | — | — | — | — | — | — | — |
| Seven Falls | E. | 64.2 | 311 | e 10 | 50? | +11 | 19 | 27? | +11 | 23 | 39 | SS | — |
| Shawinigan Falls | N. | 65.6 | 311 | e 10 | 51 | + 3 | — | — | — | — | — | — | — |
| Kimberley | Z. | 66.8 | 176 | i 10 | 54 | - 2 | — | — | — | — | — | — | — |
| Harvard | | 66.9 | 306 | i 10 | 57 | + 1 | e 19 | 53 | + 4 | e 15 | 3 | PPP | e 27.0 |
| Weston | | 66.9 | 306 | i 10 | 12a | -44 | e 19 | 51 | + 2 | 10 | 55 | P | — |
| Bermuda | | 67.6 | 295 | — | — | — | e 20 | 3 | + 6 | — | — | — | e 31.2 |
| Ottawa | | 68.0 | 311 | i 11 | 2k | - 1 | 20 | 1 | - 1 | 15 | 17 | PPP | — |
| Kirkland Lake | Z. | 69.0 | 316 | e 11 | 12 | + 3 | — | — | — | — | — | — | — |
| Palisades | | 69.2 | 306 | i 11 | 8 | - 2 | i 20 | 15 | - 1 | e 24 | 37 | SS | e 32.0 |
| Fordham | | 69.3 | 306 | i 11 | 14 | + 3 | e 20 | 19 | + 2 | — | — | — | — |
| Buffalo Larkin | | 71.1 | 310 | i 11 | 24 | + 2 | — | — | — | — | — | — | — |
| Grahamstown | Z. | 71.5 | 175 | e 11 | 25 | + 1 | — | — | — | — | — | — | — |
| Washington | | 72.4 | 306 | i 11 | 32 | + 2 | — | — | — | — | — | — | — |
| Cleveland | | 73.7 | 310 | i 11 | 46k | + 8 | i 21 | 16 | + 8 | e 21 | 52 | PPS | — |
| Morgantown | | 73.8 | 307 | i 11 | 43 | + 5 | — | — | — | i 12 | 16 | ? | — |
| Magadan | | 74.1 | 24 | e 11 | 30 | -10 | — | — | — | — | — | — | — |
| Nanking | | 76.5 | 60 | — | — | — | 21 | 40 | + 1 | — | — | — | — |
| San Juan | | 76.5 | 283 | i 11 | 53 | - 1 | — | — | — | — | — | — | — |
| College | | 76.8 | 356 | e 11 | 54 | - 1 | — | — | — | — | — | — | — |
| Cincinnati | | 76.9 | 310 | e 11 | 55 | - 1 | — | — | — | — | — | — | — |
| Vladivostok | | 77.7 | 44 | e 11 | 59 | - 1 | 21 | 49 | - 3 | — | — | — | — |
| Columbia | | 77.9 | 304 | — | — | — | e 22 | 4 | +10 | — | — | — | — |
| Uglegorsk | | 78.7 | 35 | e 12 | 5 | - 1 | — | — | — | — | — | — | — |
| Z6-Sè | Z. | 78.7 | 59 | 12 | 3 | - 3 | — | — | — | — | — | — | — |
| Hong Kong | | 79.0 | 70 | — | — | — | e 22 | 13 | + 7 | — | — | — | — |
| Klyuchi | | 79.8 | 22 | e 12 | 14 | + 2 | i 22 | 17 | + 3 | — | — | — | — |
| Yuzno-Sakhlinsk | | 80.5 | 37 | 12 | 14 | - 1 | — | — | — | — | — | — | — |
| Petropavlovsk | | 81.9 | 25 | e 12 | 21 | - 2 | e 22 | 34 | - 2 | — | — | — | — |
| Fayetteville | | 84.7 | 313 | i 12 | 36 | - 1 | e 23 | 5 | + 1 | — | — | — | e 41.0 |
| Hungry Horse | | 84.8 | 332 | i 12 | 38 | + 1 | — | — | — | i 15 | 57 | PP | — |
| Butte | | 86.2 | 330 | i 12 | 42 | - 2 | — | — | — | i 13 | 15 | ? | — |
| Baguio | | 87.4 | 71 | i 11 | 49k | -61 | 23 | 21 | [+ 4] | — | — | — | — |
| Djakarta | | 90.7 | 97 | e 25 | 7 | PS | e 24 | 5 | + 4 | e 24 | 45 | ? | — |
| Bogota | N. | 91.0 | 277 | e 25 | 25 | PS | e 23 | 35 | [- 4] | e 30 | 37 | PKKP | 43.9 |

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| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Mineral | z. | 94.5 | 332 | e 13 | 22 _a | - 1 | — | — | — | i 13 | 30 | ? | — |
| Reno | z. | 94.5 | 330 | e 13 | 24 _k | + 1 | — | — | — | — | — | — | — |
| Shasta | z. | 94.5 | 333 | e 13 | 24 | + 1 | — | — | — | e 13 | 31 | ? | — |
| Nelson | | 95.7 | 325 | i 13 | 29 | 0 | — | — | — | i 13 | 52 | ? | — |
| China Lake | z. | 96.8 | 327 | e 13 | 34 | 0 | — | — | — | — | — | — | — |
| Berkeley | | 96.9 | 331 | e 17 | 33 | PP | e 24 | 13 | [+ 2] | e 26 | 13 | PS | — |
| Fresno | z. | 96.9 | 329 | e 13 | 37 _a | + 3 | — | — | — | — | — | — | — |
| Lick | z. | 97.1 | 331 | e 13 | 36 _k | + 1 | — | — | — | — | — | — | — |
| Pasadena | | 98.5 | 326 | e 13 | 40 | - 2 | e 26 | 42 | PS | e 17 | 38 | PP | e 39.9 |
| Palomar | z. | 98.6 | 325 | e 13 | 42 | 0 | — | — | — | e 13 | 46 | ? | — |
| Barratt | z. | 99.0 | 325 | e 13 | 45 | + 1 | — | — | — | — | — | — | — |
| La Paz | | 99.2 | 256 | e 13 | 33 | -12 | 24 | 25 | [+ 2] | 26 | 43 | PS | 49.4 |

Aug. 9d. 16h. 11m. Epicentre 26°·0N. 144°·0E. Depth about 150km.
Seismo. Bull. Cent. Met. Obs., Japan, for Aug., 1953, Tokyo, 1953, p.11-12.

Aug. 10d. 1h. 13m. Tonga Islands region.
Epicentre 18°·5S. 174°·0W. (Strasbourg). Depth greater than normal (Wellington).
Seismological Observatory Bulletin No. E-133, July-Sept., 1953, Wellington, N.Z., 1956, p.8

Aug. 10d. 23h. 2m. Epicentre 36°·8N. 141°·6E. Depth 60km.
Intensity II-III at Hukusima and Utunomiya.
Seismo. Bull. Cent. Met. Obs., Japan, for Aug., 1953, Tokyo, 1953, p.12, with macroseismic chart.

Aug. 11d. 3h. 32m. 22s. Epicentre 38°·3N. 20°·8E. (as on 9d.).

Epicentre 38°·2N. 20°·8E. (Strasbourg).
Intensity IX-X at Asproghesakas, Chavdata, Valsamata, Hag, Euthymia, Argostolion, and Lixourion; VIII at Phiscardon in the island of Cephalonia. Also felt in the islands of Zante (IX-X at Volimes; IX at Zante), Ithaca (VIII at Stavros), Leukas, Corfu, and Euboea, and in the provinces of Aetolia, Achaea, Elides, Messinia, Arcadia, Argolis, Corinthia, Preveza, Arta, Thesprotia, Trikkala, and Phtiotis.
Macroseismic radius 180,000sq.km.

A. Galanopoulos.
Seismological Institute Bulletin, 1953, Athens, 1954, p.76.

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|-----------------|--|------------|------------|-----|-----------------|----------------|-----|-----|------------------|-------|-----|----------------|-------|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Athens | | 2.3 | 98 | e 0 | 44 | + 2* | i 1 | 12 | 0* | i 1 | 17 | S _g | — |
| Taranto | | 3.5 | 309 | 0 | 56 | - 1 | — | — | — | — | — | — | — |
| Reggio Calabria | | 4.1 | 269 | e 1 | 4 | - 1 | i 1 | 59 | + 4 | i 1 | 25 | P _g | — |
| Messina | | 4.1 | 270 | i 1 | 5 _k | 0 | i 1 | 54 | - 1 | i 2 | 2 | S* | — |
| Sofia | | 4.8 | 23 | e 1 | 12? | - 3 | i 2 | 18? | + 6 | i 2 | 34? | S _g | — |
| Istanbul | | 7.0 | 64 | e 1 | 45 | - 1 | i 3 | 6 | - 2 | i 2 | 4 | P* | 3.3 |
| Rocca di Papa | | 7.1 | 302 | e 1 | 44 | - 4 | i 3 | 58 | + 3 _g | i 1 | 50 | P | e 4.1 |
| Bucharest | | 7.3 | 32 | i 1 | 52 | + 2 | i 3 | 26 | +11 | i 2 | 31 | P _g | — |
| Rome | | 7.3 | 302 | e 1 | 46 | - 4 | i 3 | 24 | + 9 | i 3 | 58 | S _g | i 4.4 |
| Timisoara | | 7.4 | 2 | i 1 | 51? | - 1 | e 3 | 23? | + 5 | i 2 | 27 | P _g | — |
| Campulung | | 7.6 | 23 | e 1 | 59 | + 4 | e 2 | 5 | ? | e 2 | 8 | P* | — |
| Kalossa | | 8.3 | 351 | 2 | 8 | + 4 | 3 | 46 | + 6 | e 4 | 40 | S _g | — |
| Kecskemet | | 8.7 | 355 | 2 | 14 | + 4 | 3 | 51 | + 1 | 4 | 53 | S _g | — |
| Focsani | | 8.8 | 31 | e 2 | 19 | PP | i 4 | 4 | SS | — | — | — | — |
| Siena | | 8.8 | 308 | 2 | 14 | + 3 | e 4 | 21 | - 4* | 4 | 40 | S _g | — |
| Florence | | 9.0 | 310 | i 2 | 14 | + 1 | e 3 | 58 | 0 | — | — | — | — |
| Triest | | 9.0 | 327 | i 2 | 10 _a | - 3 | i 3 | 49 | - 9 | i 4 | 40? | S* | — |
| Prato | | 9.2 | 310 | i 2 | 15 | - 1 | i 3 | 45 | -18 | — | — | — | — |
| Budapest | | 9.3 | 353 | 2 | 17 | 0 | 4 | 8 | + 3 | 5 | 8 | S _g | 5.4 |
| Bacau | | 9.4 | 27 | e 2 | 25 | PP | e 4 | 41 | - 2* | e 4 | 32 | ? | — |
| Bologna | | 9.5 | 314 | i 3 | 7 _a | P _g | i 4 | 55 | + 9* | i 3 | 24 | ? | e 5.9 |
| Ogyalla | | 9.7 | 350 | e 2 | 30 | PP | e 4 | 11 | - 4 | e 3 | 5 | ? | — |
| Tolmezzo | | 9.9 | 327 | e 2 | 28 | + 3 | i 3 | 43 | ? | i 2 | 41 | PPP | — |
| Iasi | | 10.2 | 27 | e 2 | 31 | 0 | i 4 | 40 | SS | e 2 | 37 | ? | — |
| Uzhgorod | | 10.4 | 6 | e 2 | 33 | - 1 | e 4 | 33 | + 1 | — | — | — | — |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
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| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Vienna | 10.4 | 343 | e 2 | 32 | - 2 | e 4 | 38 | + 6 | e 5 | 53 | S _g | — |
| Kishinev | 10.5 | 32 | 2 | 33 | - 2 | 4 | 33 | - 2 | — | — | — | — |
| Cernauti | 10.7 | 19 | 2 | 43 | + 5 | — | — | — | — | — | — | — |
| Skalnate Pleso | 10.9 | 358 | i 2 | 25 | -15 | e 4 | 41 | - 3 | i 2 | 56 | PPP | — |
| Pavia | 11.1 | 312 | e 2 | 42 _k | - 1 | e 4 | 49 | 0 | i 2 | 53 | PP | — |
| Lwow | 11.8 | 11 | i 2 | 51 | - 2 | — | — | — | — | — | — | — |
| Yalta | 11.8 | 54 | e 2 | 51 | - 2 | e 5 | 11 | + 5 | — | — | — | — |
| Chur | 11.9 | 320 | e 2 | 53 | - 1 | e 5 | 6 | - 3 | — | — | — | — |
| Raciborz | 11.9 | 352 | e 2 | 54 | 0 | i 4 | 58 | -11 | e 3 | 2 | PP | i 6.0 |
| Oropa | 12.0 | 312 | i 2 | 55 | 0 | i 5 | 2 | - 9 | e 3 | 1 | PP | e 6.5 |
| Simferopol | 12.0 | 52 | 2 | 53 | - 2 | — | — | — | — | — | — | — |
| Helwan | 12.1 | 131 | e 2 | 53 | - 4 | e 5 | 5 | - 9 | — | — | — | — |
| Ravensburg | z. | 12.5 | e 3 | 1 | - 1 | — | — | — | — | — | — | — |
| Prague | 12.6 | 341 | e 3 | 0 _a | - 3 | e 5 | 18 | - 8 | i 3 | 16 | PP | e 6.4 |
| Zürich | 12.7 | 319 | e 3 | 1 | - 4 | e 5 | 21 | - 7 | — | — | — | — |
| Theodosia | 12.8 | 54 | i 3 | 7 | + 1 | — | — | — | — | — | — | — |
| Ksara | 13.0 | 106 | i 3 | 11 | + 2 | 5 | 32 _? | - 3 | — | — | — | — |
| Ebingen | 13.1 | 323 | e 3 | 10 | 0 | e 5 | 48 | SS | — | — | — | — |
| Cheb | 13.2 | 336 | i 3 | 10 | - 1 | e 5 | 42 | + 2 | e 4 | 21 | ? | — |
| Neuchatel | 13.4 | 315 | e 3 | 11 | - 3 | — | — | — | — | — | — | e 6.1 |
| Stuttgart | 13.4 | 325 | e 3 | 11 | - 3 | (e 5 | 38) | - 7 | i 3 | 34 | PPP | e 5.6 |
| Karlsruhe | 13.9 | 324 | i 3 | 21 _a | 0 | 6 | 8 | +11 | i 3 | 33 | PP | e 8.0 |
| Strasbourg | 14.0 | 322 | i 3 | 21 | - 1 | e 5 | 56 | - 3 | i 3 | 35 | PP | i 7.0 |
| Collmberg | 14.1 | 340 | e 3 | 22 | - 1 | e 5 | 58 | - 4 | e 3 | 36 | PP | e 7.9 |
| Algiers Univ. | z. | 14.2 | e 3 | 21 | - 3 | e 6 | 5 | + 1 | e 3 | 37 | PP | 7.2 |
| Jena | 14.2 | 336 | e 3 | 23 | - 1 | e 6 | 6 | + 2 | i 3 | 33 | PP | i 6.8 |
| Barcelona | 14.7 | 288 | 3 | 26 | - 5 | 6 | 37 | SS | — | — | — | 7.1 |
| Potsdam | 15.1 | 342 | i 3 | 42 _k | + 6 | i 6 | 44 | SS | i 3 | 55 | PP | 8.9 |
| Sotchi | 15.2 | 64 | e 3 | 39 | + 1 | — | — | — | — | — | — | — |
| Tortosa | 15.9 | 286 | i 3 | 45 | - 2 | i 6 | 48 | + 4 | — | — | — | — |
| Chambon-la-Forêt | 16.6 | 312 | e 3 | 56 | 0 | — | — | — | i 4 | 2 | PP | — |
| Zugdidi | 16.6 | 69 | i 3 | 56 | 0 | — | — | — | — | — | — | — |
| Alicante | 16.7 | 277 | i 3 | 54 | - 3 | i 6 | 59 | - 4 | 4 | 8 | PP | 8.3 |
| Paris | 16.9 | 314 | e 3 | 57 | - 2 | i 7 | 7 | 0 | i 4 | 11 | PP | e 8.6 |
| Uccle | 17.1 | 322 | e 4 | 2 | 0 | e 7 | 7 | - 5 | e 4 | 14 | PP | i 9.3 |
| Abastumanj | z. | 17.2 | e 4 | 14 | +11 | — | — | — | — | — | — | — |
| Witteveen | 17.5 | 332 | i 4 | 11 | + 4 | — | — | — | — | — | — | — |
| Borzhome | 17.6 | 71 | i 4 | 12 | + 4 | i 7 | 35 | +12 | — | — | — | — |
| De Bilt | 17.6 | 328 | i 4 | 10 | + 2 | i 7 | 38 | +15 | i 5 | 17 | ? | e 9.6 |
| Akhalkalaki | 17.7 | 72 | e 4 | 12 | + 2 | e 7 | 37 | +11 | — | — | — | — |
| Tsikhlis-Dzhvari | 17.7 | 71 | i 4 | 12 | + 2 | — | — | — | — | — | — | — |
| Gori | 18.2 | 72 | i 4 | 15 | - 1 | 7 | 45 | + 8 | — | — | — | — |
| Copenhagen | 18.3 | 345 | i 4 | 19 | + 2 | i 7 | 49 | +10 | — | — | — | — |
| Almeria | 18.5 | 273 | i 4 | 28 | + 9 | i 8 | 27 | SSS | 4 | 55 | PPP | 11.1 |
| Erevan | 18.5 | 76 | i 4 | 20 | + 1 | 7 | 53 | + 9 | — | — | — | — |
| Duzheti | 18.6 | 70 | e 4 | 24 | + 3 | 8 | 3 | +17 | — | — | — | — |
| Tiflis | 18.7 | 71 | i 4 | 23 | + 1 | i 8 | 1 | +13 | — | — | — | — |
| Nakhichevan | 19.2 | 77 | i 4 | 28 | 0 | — | — | — | — | — | — | — |
| Granada | 19.3 | 274 | i 4 | 28 _a | - 1 | i 8 | 27 | SS | 12 | 16 | PcS | 11.1 |
| Toledo | 19.3 | 283 | i 4 | 28 | - 1 | i 8 | 5 | + 3 | i 4 | 44 | PP | 9.5 |
| Grozny | 19.5 | 67 | i 4 | 32 | + 1 | — | — | — | — | — | — | — |
| Jersey | E. | 19.7 | i 4 | 32 | - 2 | i 8 | 21 | +11 | i 5 | 23 | ? | 10.1 |
| Kew | 19.8 | 318 | i 4 | 34 | - 1 | e 8 | 20 | + 7 | e 8 | 59 | SSS | e 11.6 |
| Goris | 19.9 | 77 | i 4 | 36 | 0 | i 8 | 24 | + 9 | — | — | — | — |
| Kirovobad | 19.9 | 75 | i 4 | 33 | - 3 | — | — | — | — | — | — | — |
| Malaga | z. | 20.1 | i 4 | 38 | 0 | i 8 | 25 | + 6 | 5 | 30 | ? | — |
| Tamanrasset | 20.3 | 225 | i 4 | 40 | 0 | i 8 | 30 | + 7 | — | — | — | — |
| Moscow | 20.8 | 27 | i 4 | 43 | - 2 | i 8 | 39 | + 6 | — | — | — | — |
| Shemakla | 21.6 | 74 | i 4 | 52 | - 2 | — | — | — | — | — | — | — |
| Upsala | 21.7 | 356 | i 4 | 52 _a | - 3 | i 8 | 52 | + 1 | i 9 | 0 | PcP | e 10.3 |
| Helsinki | 22.0 | 4 | e 4 | 49 | - 9 | e 8 | 38 | -18 | — | — | — | — |
| Pulkovo | 22.3 | 13 | i 4 | 59 | - 2 | i 9 | 4 | + 2 | — | — | — | — |
| Durham | 22.4 | 325 | i 5 | 0 | - 2 | i 9 | 3 | - 1 | i 16 | 13 | ScS | — |
| Baku | 22.6 | 74 | i 5 | 8 | + 5 | — | — | — | — | — | — | — |
| Coimbra | 22.7 | 285 | 5 | 4 _a | 0 | i 9 | 6 | - 3 | i 5 | 30 | PP | 13.5 |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------------|----------|-----|------|-----------------|------|------|-----|------|-------|-----|-----|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Averroes | 23.4 | 267 | i 5 | 11 | 0 | i 9 | 21 | 0 | 5 | 42 | PP | 11.5 |
| Lisbon | 23.4 | 281 | 5 | 10? | - 1 | e 9 | 18 | - 3 | 8 | 54 | PcP | — |
| Edinburgh | 23.8 | 326 | 5 | 19 | + 4 | 9 | 39 | +11 | 16 | 27 | ScS | — |
| Rathfarnham Castle | 23.9 | 319 | e 5 | 13 _a | - 3 | i 9 | 31 | + 1 | i 5 | 58 | PPP | e 15.1 |
| Aberdeen | 24.2 | 330 | i 5 | 16 | - 3 | i 9 | 35 | 0 | i 10 | 38 | SSS | 13.0 |
| Bergen | 24.2 | 342 | e 5 | 19 _a | 0 | i 9 | 37 | + 2 | e 8 | 57 | PcP | 11.8 |
| Ashkabad | 29.4 | 78 | 6 | 7 | 0 | — | — | — | — | — | — | — |
| Kiruna | 29.6 | 0 | i 6 | 6 _a | - 3 | i 11 | 4 | 0 | i 6 | 59 | PP | i 14.8 |
| Sverdlovsk | 32.0 | 41 | i 6 | 29 | - 1 | 11 | 44 | + 2 | — | — | — | — |
| Bairam-Ali | 32.4 | 78 | i 6 | 33 | - 1 | — | — | — | — | — | — | — |
| Reykjavik | 36.1 | 331 | i 7 | 8 | + 3 | e 12 | 47 | + 2 | — | — | — | e 20.6 |
| Tashkent | 37.0 | 69 | 7 | 8 | - 5 | — | — | — | — | — | — | — |
| Tchimkent | 37.0 | 67 | i 7 | 12 | - 1 | 13 | 0 | + 1 | — | — | — | — |
| Angra do Heroismo | 37.3 | 286 | e 7 | 22 | + 6 | — | — | — | e 8 | 49 | PP | — |
| Garm | 38.3 | 72 | i 7 | 23 | - 1 | e 13 | 22 | + 3 | — | — | — | — |
| Quetta | 38.7 | 87 | i 7 | 27 _k | 0 | i 13 | 19 | - 6 | i 17 | 40 | ScS | i 20.2 |
| Namangan | 38.8 | 70 | i 7 | 29 | + 1 | i 13 | 30 | + 4 | — | — | — | — |
| Dzhergetal | 38.9 | 71 | e 7 | 30 | + 1 | — | — | — | — | — | — | — |
| Fergana | 39.0 | 70 | i 7 | 26 | - 4 | — | — | — | — | — | — | — |
| Scoresby Sund | 39.2 | 339 | e 7 | 33 | + 2 | — | — | — | — | — | — | — |
| Andijan | 39.4 | 70 | i 7 | 32 | - 1 | 13 | 38 | + 3 | — | — | — | — |
| Khorog | 39.7 | 75 | i 7 | 37? | + 1 | — | — | — | — | — | — | — |
| Frunse | 40.5 | 66 | i 7 | 43 | + 1 | i 13 | 57 | + 5 | — | — | — | — |
| M'Bour | 41.0 | 247 | i 7 | 51 | + 5 | i 14 | 2 | + 3 | i 9 | 54 | PcP | 19.4 |
| Naryn | 41.9 | 68 | i 7 | 54 | 0 | — | — | — | — | — | — | — |
| Almata | 42.1 | 64 | i 7 | 56 | + 1 | i 14 | 20 | + 4 | — | — | — | — |
| Kurmenty | 43.1 | 64 | e 7 | 53? | -11 | — | — | — | — | — | — | — |
| Przhevalsk | 43.4 | 65 | 8 | 7 | + 1 | — | — | — | — | — | — | — |
| Dehra Dun | 47.3 | 81 | i 8 | 43 | + 6 | i 15 | 31 | 0 | e 18 | 52 | SS | — |
| New Delhi | 47.4 | 84 | e 8 | 35 | - 3 | i 15 | 31 | - 1 | 10 | 28 | PP | — |
| Bombay | 48.9 | 98 | i 8 | 52 | + 2 | i 16 | 0 | + 7 | 19 | 25 | SS | 21.3 |
| Poona | 49.9 | 98 | i 8 | 59? | + 2 | i 16 | 10? | + 3 | 18 | 46? | ScS | — |
| Chatra | 56.0 | 80 | 9 | 43? | 0 | i 17 | 34? | + 4 | 10 | 43? | PcP | 26.3 |
| Irkutsk | 57.2 | 46 | 9 | 49 | - 2 | 17 | 45 | - 1 | — | — | — | — |
| Kodaikanal | 57.7 | 103 | i 9 | 55 | 0 | i 17 | 53 | 0 | 12 | 4 | PP | 27.0 |
| Kabansk | 58.6 | 46 | 9 | 58 | - 3 | — | — | — | — | — | — | — |
| Calcutta | 59.1 | 84 | 10 | 2 | - 2 | i 18 | 6 | - 5 | 14 | 51 | PcS | 27.7 |
| Kyakhta | 59.2 | 48 | 10 | 3 | - 2 | — | — | — | — | — | — | — |
| Resolute Bay | 59.7 | 345 | i 10 | 6 _k | - 3 | i 18 | 23 | + 4 | i 20 | 5 | ScS | — |
| Shillong | 60.3 | 79 | i 10 | 10 | - 3 | i 18 | 29 | + 3 | 12 | 29 | PP | 29.1 |
| Halifax | 60.9 | 306 | e 10 | 15 | - 2 | 18 | 39 | + 5 | 12 | 29 | PP | — |
| Colombo | 61.6 | 105 | 10 | 26 | + 4 | i 18 | 45 | + 3 | — | — | — | 31.5 |
| Tananarive | 62.2 | 151 | i 10 | 26 | 0 | e 18 | 55 | + 4 | 11 | 3 | PcP | e 34.3 |
| Pretoria | 64.1 | 173 | i 10 | 38 | 0 | — | — | — | — | — | — | — |
| Seven Falls | 64.2 | 311 | e 10 | 40 | + 1 | 19 | 18 | + 2 | 20 | 41 | ScS | — |
| Shawinigan Falls | 65.6 | 311 | e 10 | 51 | + 3 | — | — | — | — | — | — | — |
| Hartford | 66.8 | 307 | 11 | 8 | +12 | 20 | 8 | +20 | — | — | — | — |
| Kimberley | 66.8 | 176 | i 10 | 55 | - 1 | — | — | — | — | — | — | — |
| Harvard | 66.9 | 306 | i 10 | 56 _k | 0 | e 19 | 54 | + 5 | e 21 | 4 | ScS | 27.3 |
| Weston | 66.9 | 306 | i 10 | 56 _a | 0 | i 19 | 53 | + 4 | e 23 | 37 | i | 36.0 |
| Bermuda | 67.6 | 295 | i 11 | 3 | + 2 | i 20 | 2 | + 5 | i 21 | 11 | ScS | e 32.2 |
| Bermuda (Navy) | 67.8 | 295 | e 10 | 57 | - 5 | — | — | — | — | — | — | — |
| Ottawa | 68.0 | 311 | e 11 | 2 _a | - 1 | 20 | 2 | 0 | 13 | 36 | PP | — |
| Pietermaritzburg | 68.2 | 170 | i 11 | 5 | + 1 | — | — | — | — | — | — | — |
| Kirkland Lake | 69.0 | 316 | e 11 | 10 _a | + 1 | — | — | — | — | — | — | — |
| Palisades | 69.2 | 306 | i 11 | 10 | 0 | i 20 | 16 | 0 | i 21 | 19 | ScS | e 32.7 |
| Fordham | 69.3 | 306 | e 11 | 13 | + 2 | e 20 | 25 | + 8 | — | — | — | — |
| Buffalo (Larkin) | 71.1 | 310 | i 11 | 22 | 0 | e 20 | 42 | + 4 | — | — | — | — |
| Grahamstown | 71.5 | 175 | i 11 | 25 | + 1 | — | — | — | — | — | — | e 37.7 |
| Washington | 72.4 | 306 | i 11 | 30 | 0 | e 21 | 2 | + 9 | — | — | — | — |
| Pittsburgh | 73.3 | 309 | i 11 | 37 | + 2 | i 21 | 15 | +11 | — | — | — | — |
| Cleveland | 73.7 | 310 | i 11 | 37 _a | - 1 | i 21 | 9 | + 1 | e 21 | 54 | PPS | — |
| Morgantown | 73.8 | 307 | i 11 | 39 | + 1 | e 21 | 16 | + 7 | — | — | — | — |
| Magadan | 74.1 | 24 | 11 | 39 | - 1 | 21 | 16 | + 4 | — | — | — | — |
| Fort de France | 74.8 | 277 | i 11 | 47 | + 3 | i 21 | 27 | + 7 | — | — | — | — |

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| | Δ | Az. | P. | | O-C. | S. | O-C. | Supp. | | L. |
|-----------------|----------|-----|------|----|------|---------|--------|---------|------|--------|
| | ° | ° | m. | s. | s. | m. s. | s. | m. s. | | m. |
| Cherry Point | 75.2 | 302 | i 11 | 42 | - 4 | e 20 48 | - 37 | — | — | — |
| Roosevelt Roads | 76.2 | 283 | e 11 | 53 | + 1 | — | — | — | — | — |
| Nanking | 76.5 | 60 | 11 | 51 | - 3 | 21 37 | - 2 | 14 49 | PP | — |
| College | 76.8 | 356 | i 11 | 55 | 0 | e 21 40 | - 2 | e 26 39 | SS | — |
| Cincinnati | 76.9 | 310 | i 11 | 55 | - 1 | e 21 57 | + 14 | — | — | — |
| Chicago | 77.1 | 314 | e 11 | 56 | - 1 | e 21 43 | - 3 | — | — | — |
| Vladivostok | 77.7 | 44 | 11 | 59 | - 1 | i 21 52 | 0 | — | — | — |
| Columbia | 77.9 | 304 | i 12 | 4 | + 3 | — | — | — | — | — |
| Uglegorsk | 78.7 | 35 | i 12 | 5 | - 1 | i 22 4 | + 1 | — | — | — |
| Zô-Sê | 78.7 | 59 | 12 | 5 | - 1 | 22 5 | + 2 | — | — | — |
| Hong Kong | 79.0 | 70 | e 12 | 12 | + 5 | 22 10 | + 4 | — | — | — |
| Saskatoon | 79.0 | 330 | 12 | 5 | - 2 | 22 7 | + 1 | — | — | 34.1 |
| Klyuchi | 79.8 | 22 | e 12 | 12 | 0 | — | — | — | — | — |
| Yuzno-Sakhlinsk | 80.5 | 37 | i 12 | 15 | 0 | i 22 22 | 0 | — | — | — |
| Petropavlovsk | 81.9 | 25 | i 12 | 15 | - 8 | — | — | — | — | — |
| Guantanamo Bay | 82.3 | 289 | i 12 | 29 | + 4 | e 22 53 | ScS | — | — | — |
| Miami | 82.4 | 298 | i 12 | 29 | + 4 | i 22 49 | + 8 | — | — | — |
| Sapporo | 82.7 | 39 | e 12 | 27 | 0 | e 22 43 | - 1 | i 12 36 | PcP | e 43.8 |
| Mori | 83.0 | 40 | 12 | 30 | + 2 | e 24 5 | PPS | e 15 20 | PP | 43.9 |
| Hukuoka | 83.1 | 52 | e 12 | 28 | - 1 | e 22 43 | - 5 | e 28 4 | SS | e 43.7 |
| Hamada | 83.3 | 51 | 13 | 3 | + 33 | e 24 24 | PPS | e 26 27 | ? | — |
| Obihiro | 83.7 | 38 | e 12 | 2 | - 30 | e 23 49 | PS | — | — | — |
| Kumamoto | 83.8 | 46 | e 11 | 45 | ? | — | — | — | — | e 48.0 |
| Hirosima | 83.9 | 51 | e 12 | 25 | - 8 | e 22 48 | - 8 | — | — | e 40.3 |
| Milton | 84.0 | 304 | i 12 | 26 | - 7 | e 22 44 | - 13 | — | — | — |
| Aomori | 84.1 | 42 | e 12 | 36 | + 2 | 22 53 | - 5 | e 15 40 | PP | 46.1 |
| Urakawa | 84.1 | 39 | e 12 | 40 | + 6 | e 22 48 | - 10 | e 24 31 | PPS | — |
| Kurilsk | 84.2 | 35 | i 12 | 33 | - 1 | i 22 58 | - 1 | — | — | — |
| Matuyama | 84.4 | 51 | e 12 | 36 | 0 | e 23 0 | - 1 | e 28 7 | SS | e 38.5 |
| Wazima | 84.4 | 46 | e 12 | 49 | + 13 | e 23 4 | + 3 | — | — | 47.0 |
| Akita | 84.5 | 43 | e 12 | 38 | + 2 | 23 3 | + 1 | — | — | e 53.3 |
| Toyooka | 84.5 | 49 | e 12 | 37 | + 1 | e 23 7 | + 5 | — | — | — |
| Kagosima | 84.6 | 54 | e 12 | 59 | ? | — | — | — | — | e 50.5 |
| Nemuro | 84.6 | 37 | e 12 | 42 | + 6 | e 23 5 | + 2 | — | — | e 47.1 |
| Aikawa | 84.7 | 45 | e 12 | 37 | 0 | — | — | — | — | 46.6 |
| Hatinohe | 84.7 | 42 | e 12 | 36 | - 1 | 22 58 | [- 1] | — | — | 39.6 |
| Hungry Horse | 84.8 | 332 | i 12 | 38 | + 1 | e 23 5 | 0 | e 38 44 | P'P' | — |
| Kanazawa | 84.9 | 47 | e 12 | 38 | 0 | — | — | — | — | — |
| Takamatu | 84.9 | 51 | e 12 | 34 | - 4 | e 23 1 | [+ 1] | — | — | 46.1 |
| Koti | 85.1 | 51 | e 12 | 39 | 0 | e 23 3 | [+ 2] | — | — | — |
| Morioka | 85.1 | 42 | e 12 | 40 | + 1 | — | — | — | — | — |
| Niigata | 85.2 | 44 | e 12 | 50 | + 11 | 23 15 | + 6 | — | — | — |
| Kobe | 85.3 | 49 | e 12 | 44 | + 4 | e 23 0 | [- 3] | i 12 50 | PcP | — |
| Simidu | 85.3 | 52 | i 12 | 40 | 0 | e 23 0 | [- 3] | — | — | e 46.2 |
| Yakusima | 85.3 | 55 | e 12 | 44 | + 4 | — | — | — | — | — |
| Kyoto | 85.4 | 48 | e 12 | 42 | + 2 | — | — | e 13 10 | ? | — |
| Sumoto | 85.4 | 49 | e 12 | 40 | 0 | e 23 6 | [+ 3] | — | — | e 46.5 |
| Mizusawa | E. 85.5 | 43 | 12 | 47 | + 6 | 22 39 | [- 25] | — | — | — |
| Osaka | 85.5 | 49 | e 12 | 45 | + 4 | e 13 19 | ? | e 14 57 | ? | — |
| Miyako | 85.6 | 42 | e 12 | 41 | 0 | e 23 8? | - 5 | e 12 46 | PcP | e 45.3 |
| Nagano | N. 85.6 | 46 | e 12 | 44 | + 3 | e 23 24 | + 11 | — | — | e 47.4 |
| Gihu | 85.7 | 47 | e 12 | 45 | + 3 | — | — | — | — | — |
| Matusiro | 85.7 | 45 | 12 | 51 | + 9 | 23 19 | + 5 | e 16 6 | PP | 46.1 |
| Muroto | 85.7 | 51 | e 12 | 40 | - 2 | e 23 10 | { 0} | e 12 53 | ? | e 44.4 |
| Yamagata | 85.7 | 44 | e 12 | 46 | + 4 | e 23 25 | ScS | — | — | e 46.4 |
| Matumoto | E. 85.8 | 46 | 12 | 50 | + 8 | — | — | — | — | — |
| Kameyama | 85.9 | 49 | e 12 | 46 | + 3 | — | — | — | — | 48.5 |
| Nagoya | N. 86.0 | 47 | e 12 | 42 | - 1 | e 23 16 | - 1 | — | — | — |
| Sendai | 86.0 | 43 | e 12 | 47 | + 4 | 23 2 | [- 5] | e 15 53 | PP | i 45.7 |
| Hokusima | 86.1 | 43 | e 12 | 50 | + 6 | e 23 6 | [- 2] | — | — | e 46.0 |
| Oiwake | 86.1 | 46 | e 15 | 56 | PP | e 23 20 | + 2 | — | — | — |
| Butte | 86.2 | 330 | e 12 | 45 | + 1 | — | — | — | — | — |
| Maebasi | 86.3 | 46 | e 12 | 45 | 0 | e 23 22 | + 2 | e 16 12 | PP | e 54.0 |
| Shirakawa | 86.4 | 44 | e 12 | 53 | + 8 | — | — | — | — | — |
| Siomisaki | 86.5 | 50 | e 12 | 50 | + 4 | e 23 8 | [- 3] | e 30 48 | ? | e 47.0 |

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| | | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|--------------|------|---------------|----------|----------------------|------------|-------------|------------|----------------|------------|
| Titibu | | 86.6 | 47 | e 12 52 | + 6 | — | — | — | — |
| Kohu | E. | 86.6 | 47 | e 12 38 | - 8 | — | — | — | — |
| Kumagaya | | 86.7 | 46 | e 12 50 | + 3 | e 23 18 | { 0 } | — | — |
| Utunomiya | | 86.7 | 45 | e 12 44 | - 3 | e 23 15 | { + 3 } | 16 18 | PP e 47.3 |
| Hunatu | | 86.8 | 47 | e 12 49 | + 2 | e 23 25 | 0 | — | — |
| Onahama | | 87.0 | 44 | — | — | e 23 14 | { 0 } | — | e 44.3 |
| Shizuoka | | 87.0 | 47 | e 12 54 | + 6 | e 23 14 | { 0 } | e 13 16 | ? e 47.8 |
| Omaesaki | | 87.1 | 47 | e 13 7 | +18 | 23 34 | + 6 | — | e 50.0 |
| Misima | E. | 87.2 | 47 | e 12 58 | + 9 | e 23 23 | { + 2 } | — | — |
| Tokyo | | 87.2 | 46 | e 12 54 | + 5 | e 23 29 | + 1 | e 25 30 | PPS |
| Yokohama | | 87.3 | 47 | e 12 52 | + 2 | e 23 18 | { + 2 } | — | — |
| Baguio | | 87.4 | 71 | i 12 51 _a | + 1 | i 23 23 | { 0 } | i 24 47 | PPS |
| Mera | | 87.8 | 46 | e 13 34 | ? | e 23 34 | 0 | — | 48.3 |
| Victoria | | 87.9 | 337 | 12 52 _a | - 1 | 23 22 | { + 2 } | — | — |
| Swan Island | | 90.4 | 291 | i 12 58 | - 6 | — | — | i 21 28 | ? — |
| Djakarta | | 90.7 | 97 | e 13 8 _a | + 2 | e 24 1 | 0 | i 23 40 | SKS e 49.0 |
| Bogota | | 91.0 | 277 | e 13 14 | + 7 | e 23 33 | { - 6 } | e 30 27 | SSP 40.6 |
| Corvallis | N. | 91.4 | 325 | e 13 20 | +11 | e 23 48 | { - 4 } | — | — |
| Bandung | | 91.8 | 97 | e 13 17 | + 6 | i 23 44 | { + 1 } | i 24 16 | SKS |
| Chinchina | | 92.0 | 278 | e 13 12 | 0 | e 24 7 | - 5 | e 24 23 | SKS |
| Mineral | Z. | 94.5 | 332 | e 13 23 _a | 0 | e 17 12 | PP | e 30 28 | PKKP |
| Reno | Z. | 94.5 | 330 | i 13 24 _a | + 1 | — | — | e 17 12 | PP |
| Shasta | | 94.5 | 333 | e 13 22 _a | - 1 | e 23 43 | { - 15 } | e 30 25 | PKKP |
| Boulder City | | 95.5 | 325 | i 13 35 | + 7 | — | — | — | — |
| Nelson | | 95.7 | 325 | i 13 36 | + 7 | e 28 23 | ? | i 13 59 | ? — |
| Tinemaha | | 96.0 | 328 | i 13 33 | + 3 | e 24 17 | { + 10 } | e 17 25 | PP |
| Tucson | | 96.6 | 321 | e 13 34 | + 1 | e 26 16 | PS | e 17 30 | PP e 39.3 |
| China Lake | Z. | 96.8 | 327 | i 13 34 | 0 | e 34 27 | SKKP | e 17 33 | PP |
| Berkeley | | 96.9 | 331 | e 13 36 | + 2 | e 24 18 | { + 7 } | e 26 23 | PS |
| Fresno | | 96.9 | 329 | i 13 35 _a | + 1 | — | — | e 17 33 | PP |
| Lick | Z. | 97.1 | 331 | e 13 37 _k | + 2 | e 17 28 | PP | e 30 15 | PKKP |
| Santa Clara | | 97.2 | 331 | e 17 43 | PP | — | — | — | e 45.6 |
| Woody | Z. | 97.4 | 328 | e 13 36 | - 1 | e 17 37 | PP | e 30 14 | PKKP |
| Pasadena | | 98.5 | 326 | e 13 44 | + 2 | i 24 25 | { + 5 } | i 17 41 | PP e 39.0 |
| Barratt | Z. | 99.0 | 325 | e 13 44 | 0 | e 17 48 | PP | e 30 27 | PKKP |
| La Paz | | 99.2 | 256 | e 13 42 | - 3 | i 24 24 | { + 1 } | i 26 52 | PS 48.3 |
| Huancayo | | 102.1 | 265 | e 14 19 | ? | e 24 44 | { + 7 } | i 25 51 | S e 41.9 |
| La Plata | | 103.0 | 236 | 27 26 | PS | 24 38 | { - 3 } | 32 56 | SS 48.9 |
| Brisbane | | 138.9 | 89 | e 19 34 | { + 5 } | i 23 6 | PKS | e 22 24 | PP |
| Riverview | | 140.0 | 99 | i 19 32 _a | { + 1 } | i 26 30 | { - 9 } | i 41 0 | SS e 57.1 |
| Kaimata | N.E. | 157.3 | 110 | e 20 38 | { + 40 } | — | — | 20 53 | ? — |
| Christchurch | | 158.1 | 113 | — | — | e 44 8? | SS | — | e 92.6 |
| Wellington | | 159.8 | 106 | — | — | e 44 38? | SS | — | e 87.6 |

Aug. 11d. 10h. 7m. Pamir region. Epicentre 38°·9N. 67°·0E.
Bulletin of Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 110.

Aug. 11d. 12h. 43m. 22s. Epicentre 38°·3N. 20°·8E. (as at 3h.).

| | | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|-----------------|----|---------------|----------|---------------------|------------------|-------------|------------------|----------------|------------------|
| Athens | | 2.3 | 98 | i 0 49 _a | + 3 _g | i 1 19 | + 3 _g | i 0 53 | ? — |
| Taranto | | 3.5 | 309 | e 0 41 | ? | e 1 28 | - 12 | e 1 6 | ? — |
| Reggio Calabria | E. | 4.1 | 269 | e 1 10 | - 3* | e 1 57 | + 2 | i 1 25 | P _g — |
| Messina | Z. | 4.1 | 270 | i 1 5 _k | 0 | i 1 57 | + 2 | i 1 23 | P _g — |
| Sofia | | 4.8 | 23 | 1 16? | + 1 | 2 13? | + 1 | 2 39? | S _g — |
| Belgrade | | 6.5 | 358 | e 1 25 _a | - 14 | e 2 59 | + 4 | e 3 34 | S _g — |
| Istanbul | | 7.0 | 64 | e 1 50 | + 4 | e 3 11 | + 3 | e 1 58 | P* — |
| Bucharest | | 7.3 | 32 | e 1 58 | + 8 | e 3 28 | + 13 | e 3 36 | S* — |
| Rome | | 7.3 | 302 | e 1 48 _a | - 2 | e 3 9 | - 6 | i 3 38 | S* i 4.3 |
| Timisoara | | 7.4 | 2 | e 2 22 | - 6 _g | e 3 44? | 0* | e 3 56? | S _g — |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|------------|------------|----------------------|----------------|---------|--------------------|---------|----------------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Kalossa | 8.3 | 351 | e 2 9 | + 5 | i 4 1 | - 9* | e 3 56 | ? |
| Kecskemet | 8.7 | 355 | e 2 48 | P _g | 4 21 | - 1* | e 4 56 | S _g |
| Siena | 8.8 | 308 | e 2 18 | + 7 | — | — | — | — |
| Florence | 9.0 | 310 | e 2 4 | - 9 | e 3 43 | -15 | i 5 18 | S _g |
| Triest | 9.0 | 327 | e 2 10 | - 3 | e 3 44 | -14 | e 4 41 | S* |
| Prato | 9.2 | 310 | e 2 22 | + 6 | e 4 14 | +11 | — | — |
| Budapest | 9.3 | 353 | e 2 44 | P* | 5 8 | + 1 _g * | e 4 28 | S* |
| Bologna | 9.5 | 314 | e 3 24 | ? | e 4 53 | + 7* | — | — |
| Ogyalla | 9.7 | 350 | e 3 48 | ? | e 4 17 | + 2 | — | — |
| Pavia | 11.1 | 312 | — | — | e 5 18 | SSS | — | e 5.8 |
| Chur | 11.9 | 320 | e 2 52 | - 2 | e 4 52 | -17 | — | — |
| Raciborzu | 11.9 | 352 | e 2 56 | + 2 | e 5 0 | - 9 | e 3 50 | ? |
| Oropa | 12.0 | 312 | i 2 26 | -29 | — | — | e 4 7 | ? |
| Helwan | 12.1 | 131 | e 2 57 | 0 | 5 8 | - 6 | 3 13 | PPP |
| Prague | 12.6 | 341 | e 2 59 | - 4 | e 5 31 | + 5 | e 3 59 | ? |
| Zürich | 12.7 | 319 | e 2 56 | - 9 | e 5 21 | - 7 | e 3 15 | PP |
| Ksara | 13.0 | 106 | e 3 26 | PPP | e 5 42 | + 7 | — | — |
| Cheb | 13.2 | 336 | e 3 20 | PP | — | — | — | — |
| Stuttgart | 13.4 | 325 | e 3 10 | - 4 | e 5 30 | -15 | e 3 23 | PP |
| Karlsruhe | 13.9 | 324 | e 3 20 | - 1 | e 5 52 | - 5 | i 3 31 | PP |
| Strasbourg | 14.0 | 322 | e 3 19 | - 3 | e 6 0? | + 1 | e 3 29 | PP |
| Collmberg | z. 14.1 | 340 | e 3 24 | + 1 | e 6 2 | 0 | e 3 31 | PP |
| Algiers Univ. | z. 14.2 | 269 | e 3 24 | 0 | — | — | e 5 26 | ? |
| Jena | 14.2 | 336 | e 3 21? | - 3 | e 6 3? | - 1 | e 3 32 | PP |
| Clermont-Ferrand | 15.1 | 305 | e 3 51 | PPP | — | — | — | — |
| Potsdam | 15.1 | 342 | e 3 42 | + 6 | i 6 39 | SS | — | e 8.6 |
| Tortosa | 15.9 | 286 | 3 53 | + 6 | 6 53 | + 9 | — | — |
| Chambon-la-Forêt | 16.6 | 312 | e 3 52 | - 4 | — | — | e 3 57 | P |
| Alicante | 16.7 | 277 | e 3 57 | 0 | e 7 5 | + 2 | — | 8.2 |
| Paris | 16.9 | 314 | e 3 56 | - 3 | e 4 8 | PP | i 4 1 | P |
| Uccle | 17.1 | 322 | e 4 2 | 0 | e 7 0? | -12 | e 4 20 | PPP |
| De Bilt | 17.6 | 328 | e 4 10 | + 2 | e 7 50 | SS | — | e 10.5 |
| Almeria | 18.5 | 273 | e 4 27 | + 8 | 7 59 | SS | 4 47 | PPP |
| Granada | 19.3 | 274 | i 4 40 | PP | 8 28 | SS | 4 58 | PPP |
| Kew | 19.8 | 318 | e 4 36 | + 1 | e 8 8 | - 5 | — | e 10.6 |
| Malaga | 20.1 | 275 | i 4 39 | + 1 | i 8 15 | - 4 | — | — |
| Tamanrasset | z. 20.3 | 225 | i 4 41 | + 1 | e 8 28 | + 5 | e 5 3 | PP |
| Upsala | 21.7 | 356 | i 4 52 | - 3 | e 9 12 | SS | i 5 20 | PP |
| Rathfarnham C. | z. 23.9 | 319 | i 5 16k | 0 | — | — | — | — |
| Kiruna | 29.6 | 0 | i 6 7 | - 2 | e 13 25 | ? | e 15 48 | Q |
| Quetta | z. 38.7 | 87 | e 7 30 | + 3 | — | — | — | — |
| Resolute Bay | 59.7 | 345 | e 10 7 | - 2 | — | — | — | — |
| Weston | 66.9 | 306 | i 10 52 _a | - 4 | — | — | — | — |
| College | 76.8 | 356 | e 11 54 | - 1 | — | — | — | — |
| Hungry Horse | 84.8 | 332 | i 12 38 | + 1 | — | — | — | — |
| Butte | 86.2 | 330 | e 12 46 | + 2 | — | — | — | — |
| Shasta | E. 94.5 | 333 | e 16 35 | ? | — | — | — | — |
| Boulder City | 95.5 | 325 | e 13 30 | + 2 | — | — | — | — |
| Nelson | 95.7 | 325 | i 13 31 | + 2 | — | — | — | — |

Aug. 11d. 13h. 11m. 4s. Epicentre 38°·3N. 20°·8E. (as at 12h.).

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|------------|------------|---------------------|------|---------|------------------|--------|----------------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Athens | 2.3 | 98 | e 0 40 | 0 | i 1 14 | + 2* | e 1 18 | S _g |
| Taranto | 3.5 | 309 | 0 59 | + 2 | 1 52 | - 4 _g | — | — |
| Reggio Calabria | 4.1 | 269 | e 1 6 | + 1 | i 1 49 | - 6 | i 2 9 | S* |
| Messina | z. 4.1 | 270 | i 1 5 _a | 0 | i 1 53 | - 2 | i 2 27 | S _g |
| Sofia | 4.8 | 23 | 1 15? | 0 | e 2 24? | - 2* | — | 3.2 |
| Belgrade | 6.5 | 358 | e 1 39 _a | 0 | e 3 21 | + 4* | e 2 10 | P _g |
| Istanbul | 7.0 | 64 | — | — | e 3 11 | + 3 | e 3 53 | S _g |
| Rocca di Papa | 7.1 | 302 | e 1 49 | + 1 | e 3 56 | + 1 _g | e 1 53 | ? |
| Bucharest | 7.3 | 32 | e 2 3 | - 5* | e 3 36 | - 5* | — | — |
| Rome | 7.3 | 302 | e 1 51 | + 1 | i 3 47 | + 6* | e 2 14 | P* |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|------------------|----|----------|-----|----------|------------------|---------|------------------|--------|----------------|----------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Timisoara | | 7.4 | 2 | e 2 21? | - 7 _g | e 3 41 | - 3* | e 3 59 | S _g | — |
| Kalossa | | 8.3 | 351 | e 2 34 | P* | e 4 35 | + 1 _g | e 2 48 | P _g | — |
| Siena | | 8.8 | 308 | e 2 15 | + 4 | — | — | — | — | — |
| Florence | z. | 9.0 | 310 | e 2 21 | + 8 | e 3 52 | - 6 | — | — | — |
| Triest | | 9.0 | 327 | e 2 20 | + 7 | e 3 53 | - 5 | e 4 51 | S _g | — |
| Prato | | 9.2 | 310 | e 2 46 | P* | e 4 31 | - 6* | — | — | — |
| Budapest | | 9.3 | 353 | — | — | e 3 51 | - 14 | e 4 43 | S* | 5.7 |
| Bologna | | 9.5 | 314 | e 3 14 | ? | e 6 38 | ? | — | — | — |
| Ogyalla | | 9.7 | 350 | — | — | e 4 36 | ? | e 5 29 | ? | — |
| Chur | | 11.9 | 320 | e 2 57 | + 3 | e 5 8 | - 1 | — | — | — |
| Raciborzu | | 11.9 | 352 | e 3 21 | PPP | e 5 7 | - 2 | e 4 15 | ? | e 6.3 |
| Oropa | | 12.0 | 312 | e 3 12 | PPP | e 8 3 | ? | — | — | — |
| Helwan | | 12.1 | 131 | e 2 53 | - 4 | e 5 2 | - 12 | 3 3 | PP | — |
| Prague | | 12.6 | 341 | e 3 28 | PPP | e 5 21 | - 5 | e 4 48 | ? | e 6.2 |
| Zürich | | 12.7 | 319 | e 3 6 | + 1 | e 5 27 | - 1 | — | — | — |
| Ksara | | 13.0 | 106 | e 3 22? | PP | — | — | — | — | — |
| Cheb | | 13.2 | 336 | e 3 26 | PP | — | — | e 4 43 | ? | — |
| Stuttgart | | 13.4 | 325 | e 3 13 | - 1 | — | — | — | — | — |
| Karlsruhe | | 13.9 | 324 | 3 20 | - 1 | — | — | — | — | 7.9 |
| Strasbourg | | 14.0 | 322 | e 3 15 | - 7 | e 3 31 | PP | e 3 27 | P | — |
| Collmberg | z. | 14.1 | 340 | e 3 32 | PP | — | — | — | — | e 7.8 |
| Algiers Univ. | z. | 14.2 | 269 | e 3 22 | - 2 | e 6 20 | SS | — | — | — |
| Jena | | 14.2 | 336 | e 3 25 | + 1 | e 4 30 | ? | e 3 40 | PP | — |
| Clermont-Ferrand | | 15.1 | 305 | e 3 36 | 0 | — | — | — | — | 8.9 |
| Potsdam | | 15.1 | 342 | — | — | e 7 8 | ? | — | — | e 8.9 |
| Chambon-la-Forêt | | 16.6 | 312 | e 3 52 | - 4 | — | — | e 3 59 | P | — |
| Paris | | 16.9 | 314 | e 4 0 | + 1 | i 4 18 | PP | i 4 4 | P | — |
| Uccle | | 17.1 | 322 | e 4 26 | PPP | e 7 37 | SS | — | — | e 9.9 |
| De Bilt | | 17.6 | 328 | e 4 17 | PP | — | — | — | — | e 9.9 |
| Granada | | 19.3 | 274 | i 4 28k | - 1 | — | — | — | — | 12.6 |
| Kew | | 19.8 | 318 | e 8 55 | PcP | e 11 51 | L | — | — | (e 11.8) |
| Tamanrasset | z. | 20.3 | 225 | i 4 39 | - 1 | e 8 14 | - 9 | — | — | — |
| Upsala | | 21.7 | 356 | i 4 52 | - 3 | — | — | i 5 3 | ? | e 10.4 |
| Averroes | | 23.4 | 267 | e 5 15 | + 4 | — | — | — | — | — |
| Rathfarnham C. | z. | 23.9 | 319 | i 5 16 | 0 | — | — | — | — | — |
| Kiruna | | 29.6 | 3 | i 6 7 | - 2 | e 12 14 | SS | i 6 46 | PP | e 16.3 |
| Quetta | z. | 38.7 | 87 | e 7 28 | + 1 | — | — | — | — | — |
| Resolute Bay | | 59.7 | 345 | e 10 7 | - 2 | — | — | — | — | — |
| Halifax | | 60.9 | 306 | i 10 17 | 0 | — | — | — | — | — |
| Weston | | 66.9 | 306 | i 11 5a | + 9 | — | — | — | — | — |
| Ottawa | | 68.0 | 311 | e 11 2 | - 1 | — | — | — | — | — |
| College | | 76.8 | 356 | e 11 54 | - 1 | — | — | — | — | — |
| Hungry Horse | | 84.8 | 332 | i 12 38 | + 1 | — | — | — | — | — |
| Butte | | 86.2 | 330 | i 12 45 | + 1 | — | — | — | — | — |
| Mineral | z. | 94.5 | 332 | e 13 24k | + 1 | — | — | — | — | — |
| Reno | z. | 94.5 | 330 | e 13 24a | + 1 | — | — | — | — | — |
| Boulder City | | 95.5 | 325 | i 13 29 | + 1 | — | — | — | — | — |
| Nelson | | 95.7 | 325 | i 13 30 | + 1 | — | — | — | — | — |
| China Lake | z. | 96.8 | 327 | e 13 36 | + 2 | — | — | — | — | — |
| Lick | z. | 97.1 | 331 | e 13 36k | + 1 | — | — | — | — | — |
| Palomar | z. | 98.6 | 325 | e 13 43 | + 1 | — | — | — | — | — |

Aug. 11d. 13h. 58m. Epicentre 38°·25N. 20°·75E. (Strasbourg).

Intensity V at Pyrgos ; III at Amalias.

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, p.79.

Many other foreshocks of the 12d. 9h. earthquake occurred on this day. See bulletin quoted above, pp.76-80, and maps.

Aug. 11d. 20h. 6m. Epicentre 18°·5S. 177°·75W. (Strasbourg).

Depth 500km. Magnitude 5.5 (Wellington).

Seismological Observatory Bulletin, E-133, July-Sept., 1953, Wellington, N.Z., 1956, p.8.

Aug. 12d. 1h. 51m. Caucasus region. Epicentre 42°·6N. 44°·8E.

Bulletin of the Seismological Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p.110.

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Aug. 12d. 6h. 8m. 1s. Epicentre 38°·3N. 20°·8E. (as on 11d.). Foreshock of 9h. quake.

Intensity III at Corfu.
Epicentre 38°·5N. 20°·6E. (Strasbourg).
38°·0N. 20°·0E. (U.S.S.R.).

A. Galanopoulos.
Seismological Institute Bulletin, 1953, Athens, 1954, p.81.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----------|-----|---------------------|------------------|---------|------------------|---------|----------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Athens | 2·3 | 98 | e 0 47 | + 1 _g | i 1 25 | + 9 _g | i 0 50 | ? |
| Taranto | 3·5 | 309 | 1 0 | + 3 | 2 1 | + 5 _g | e 1 27 | ? |
| Reggio Calabria | 4·1 | 269 | e 1 6 | + 1 | i 1 51 | - 4 | i 1 23 | P _g |
| Messina | 4·1 | 270 | e 1 5 | 0 | i 1 52 | - 3 | i 1 11 | P* |
| Sofia | 4·8 | 23 | e 1 9? | - 6 | i 2 25? | - 1* | i 2 44? | S _g |
| Belgrade | 6·5 | 358 | e 1 39 _a | 0 | i 2 59 | + 4 | e 2 7 | P _g |
| Istanbul | 7·0 | 64 | e 1 52 | + 6 | e 3 13 | + 5 | e 3 50 | S _g |
| Rocca di Papa | 7·1 | 302 | e 1 49 | + 1 | e 3 54 | - 1 _g | — | — |
| Bucharest | 7·3 | 32 | e 1 47 | - 3 | e 3 23 | + 8 | — | — |
| Rome | 7·3 | 302 | i 1 49 | - 1 | i 3 54 | - 7 _g | i 2 12 | P* |
| Timisoara | 7·4 | 2 | i 2 21 | - 7 _g | e 3 56 | - 8 _g | i 4 24 | S _g |
| Siena | 8·8 | 308 | e 2 14 | + 3 | 3 53 | 0 | e 3 59 | ? |
| Florence | 9·0 | 310 | e 2 16 | + 3 | e 3 50 | - 8 | — | — |
| Triest | 9·0 | 327 | e 2 11 | - 2 | e 3 47 | - 11 | e 4 51 | S _g |
| Prato | 9·2 | 310 | e 2 21 | + 5 | e 4 41? | + 4* | — | — |
| Budapest | 9·3 | 353 | e 2 40 | P* | e 4 39 | - 1* | e 5 19 | S _g |
| Bologna | 9·5 | 314 | e 3 9 | P _g | e 4 48 | + 2* | — | — |
| Ogyalla | 9·7 | 350 | e 3 30 | ? | e 4 16 | + 1 | e 5 6 | S _g |
| Vienna | 10·4 | 343 | e 2 34 | 0 | e 4 37 | + 5 | e 4 57 | ? |
| Skalnate Pleso | 10·9 | 358 | e 3 8 | + 28 | — | — | — | — |
| Pavia | 11·1 | 312 | e 4 19 | ? | e 5 12 | + 23 | e 5 23 | ? |
| Chur | 11·9 | 320 | e 2 54 _k | 0 | e 4 58 | - 11 | — | — |
| Raciborzu | 11·9 | 352 | e 2 56 | + 2 | e 3 22 | PPP | e 3 28 | ? |
| Oropa | 12·0 | 312 | e 4 21 | ? | i 5 2 | - 9 | — | — |
| Helwan | 12·1 | 131 | i 2 57 _k | 0 | e 5 7 | - 7 | i 5 28 | SS |
| Zürich | 12·7 | 319 | e 3 0 | - 5 | e 5 22 | - 6 | — | — |
| Ksara | 13·0 | 106 | e 3 25 | PPP | e 5 45 | SS | — | — |
| Cheb | 13·2 | 336 | e 3 54 | ? | e 5 41 | + 1 | — | — |
| Neuchatel | 13·4 | 315 | e 3 13 | - 1 | — | — | — | — |
| Stuttgart | 13·4 | 325 | e 3 9 | - 5 | e 5 31 | - 14 | e 3 26 | PP |
| Karlsruhe | 13·9 | 324 | e 3 23 | + 2 | e 5 45 | - 12 | i 3 32 | PP |
| Strasbourg | 14·0 | 322 | e 3 21 | - 1 | e 6 1? | + 2 | e 3 33 | PP |
| Collmberg | 14·1 | 340 | e 3 24 | + 1 | e 6 17 | SS | e 3 33 | PP |
| Algiers Univ. | 14·2 | 269 | i 3 23 _a | - 1 | e 6 1 | - 3 | e 6 19 | SS |
| Jena | 14·2 | 336 | e 3 24 | 0 | e 3 34 | PP | e 4 15 | ? |
| Clermont-Ferrand | 15·1 | 305 | e 3 34? | - 2 | — | — | — | — |
| Potsdam | 15·1 | 342 | e 3 42 | + 6 | e 6 38 | SS | — | — |
| Tortosa | 15·9 | 286 | i 3 22 | - 25 | 6 20 | - 24 | — | — |
| Chambon-la-Forêt | 16·6 | 312 | e 3 59 | + 3 | — | — | — | — |
| Alicante | 16·7 | 277 | i 3 55 | - 2 | e 7 10 | + 7 | 4 11 | PP |
| Paris | 16·9 | 314 | e 3 59 | 0 | e 7 13? | + 6 | i 4 15 | PP |
| Uccle | 17·1 | 322 | e 4 4 | + 2 | e 7 21 | + 9 | e 4 19 | PP |
| Witteveen | 17·5 | 332 | e 4 11 | + 4 | — | — | — | — |
| De Bilt | 17·6 | 328 | e 4 10 | + 2 | e 7 35 | + 12 | — | — |
| Copenhagen | 18·3 | 345 | (4 59) | PPP | — | — | — | — |
| Almeria | 18·5 | 273 | i 4 5 | - 14 | 7 29 | - 15 | 4 25 | PP |
| Granada | 19·3 | 274 | i 4 29 _a | 0 | 8 19 | SS | 5 1 | PPP |
| Kew | 19·8 | 318 | i 4 36 | + 1 | e 8 12 | - 1 | — | — |
| Malaga | 20·1 | 275 | i 4 38 | 0 | i 8 12 | - 7 | — | — |
| Tamanrasset | 20·3 | 225 | i 4 41 | + 1 | i 8 25 | + 2 | i 5 1 | PP |
| Upsala | 21·7 | 356 | 14 52 | - 3 | e 8 47 | - 4 | i 9 25 | SS |
| Helsinki | 22·0 | 4 | e 4 45 | - 13 | e 8 45 | - 11 | — | — |
| Averroes | 23·4 | 267 | e 5 10 | - 1 | — | — | — | — |
| Rathfarnham Castle | 23·9 | 319 | i 5 4 | - 12 | i 5 33 | ? | i 6 39 | ? |
| Aberdeen | 24·2 | 330 | e 7 11 | ? | — | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|----|----------|-----|----------------------|------|-------|------|---------|----|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Quetta | z. | 38.7 | 87 | e 7 30 | + 3 | — | — | — | — |
| Resolute Bay | | 59.7 | 345 | e 10 8 | - 1 | — | — | — | — |
| Halifax | | 60.9 | 306 | e 10 17 | 0 | — | — | — | — |
| Seven Falls | E. | 64.2 | 311 | e 10 40 | + 1 | — | — | — | — |
| Harvard | | 66.9 | 306 | e 10 59 | + 3 | — | — | — | — |
| Weston | | 66.9 | 306 | i 10 57k | + 1 | — | — | — | — |
| Ottawa | | 68.0 | 311 | e 11 3 | 0 | — | — | — | — |
| College | | 76.8 | 356 | e 11 54 | - 1 | — | — | — | — |
| Fayetteville | | 84.7 | 313 | i 12 37 | 0 | — | — | — | — |
| Hungry Horse | | 84.8 | 332 | e 12 37 | 0 | — | — | — | — |
| Butte | | 86.2 | 330 | e 12 47 | + 3 | — | — | — | — |
| Mineral | z. | 94.5 | 332 | e 14 23 _a | +60 | — | — | e 14 43 | ? |
| Boulder City | | 95.5 | 325 | e 13 30 | + 2 | — | — | — | — |
| Nelson | | 95.7 | 325 | e 13 30 | + 1 | — | — | — | — |
| Lick | z. | 97.1 | 331 | e 13 35k | 0 | — | — | e 14 7 | ? |

Aug. 12d. 6h. 40m. Epicentre 18°·5S. 177°·75W. Depth of focus 600km.
Recorded erratically in Australia, New Zealand, and California, with some PKP readings in Europe and also at Quetta.
Annales de l'Institut de Physique du Globe de Strasbourg, Nouvelle Série, Tome XVIII, Deuxième Partie, Séismologie, 1953, Strasbourg, 1959, p.71.

Aug. 12d. 9h. 23m. 52s. Epicentre 38°·3N. 20°·8E. (as at 6h.).

* Complete destruction of the towns and villages of Cephalonia; equally destructive in Zante and at Vathy in Ithaca. According to Press reports, 455 people were killed, 912 seriously injured, 27,659 houses were demolished, and 93,000 people rendered homeless.

There was damage also in the Island of Leucas, in 18 localities in Actolia, and 46 in Elis. Felt as far away as Southern Italy (according to Rome).

Epicentre 38°10'27"N. 20°43'13"E. (Filippo and Marcelli). Magnitude 7.7.5.

38°·2N. 20°·8E. (Strasbourg).

38°·7N. 20°·9E. (Rome)

38°·0N. 20°·5E. (U.S.S.R.).

38°·25N. 20°·25E. (Gutenberg).

Macro seismic area at least 220,000sq.km., probably 530,000sq.km. (according to Athens).

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, pp.74-82, and illustrations outside the text (figures 3 to 15).

M. Grandazzi.

Le tremblement de terre des îles Ioniennes, août, 1953, Annales de Géographie, t. LXIII, no. 340, Nov.-Dec., 1954, 6 fig., pp.431-453; macro seismic charts, p.442 et 443.

D. Di Filippo, L. Marcelli.

Uno studio sul terremoto di Cefalonia del Agosto, 1953, con particolare riguardo della natura fisica, della scossa all' ipocentro. Annali di geofisica, vol. VII, No.4, Rome, 1954, pp.547-561, with macro seismic chart on p.548.

Anonymous.

"La tragédie des îles Ioniennes." Press and Information Service, Athens, 1953, with an album of 113 photographs and 1 map.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|----|----------|-----|---------|------|---------|------|---------|----------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Athens | | 2.3 | 98 | e 0 41 | + 1 | 1 9 | 0 | i 1 16 | S _g |
| Taranto | | 3.5 | 309 | 0 56 | - 1 | — | — | — | — |
| Reggio Calabria | z. | 4.1 | 269 | e 1 2k | - 3 | i 1 51 | - 4 | i 1 14 | P* |
| Messina | | 4.1 | 270 | i 1 4k | - 1 | i 1 58 | + 3 | i 2 7 | S* |
| Sofia | | 4.8 | 23 | i 1 16f | + 1 | i 2 11f | - 1 | i 2 23f | S* |
| Belgrade | | 6.5 | 358 | e 1 40 | + 1 | i 2 51 | - 4 | i 3 13 | S _g |
| Istanbul | | 7.0 | 64 | i 1 45 | - 1 | e 3 6 | - 2 | i 2 5 | P* |
| Rocca di Papa | | 7.1 | 302 | e 1 47 | - 1 | i 3 11 | + 1 | i 3 42 | S* |
| Bucharest | | 7.3 | 32 | i 1 56 | + 6 | i 3 25 | +10 | i 3 54 | S _g |
| Rome | | 7.3 | 302 | i 1 50k | 0 | i 3 18 | + 3 | i 2 28 | P _g |

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| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|------------------|----|---------------|----------|-----|-----------------|----------------|--------|-----|------------------|-------|----|----------------|-------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Timisoara | | 7.4 | 2 | e 1 | 54 | + 2 | e 3 | 22 | + 4 | 3 | 44 | S* | — |
| Campulung | | 7.6 | 23 | e 2 | 2 | + 7 | i 3 | 57 | + 7* | e 4 | 3 | S* | — |
| Kalossa | N. | 8.3 | 351 | e 2 | 7 | + 3 | 3 | 45 | + 5 | 4 | 10 | S* | e 4.8 |
| Kecskemet | | 8.7 | 355 | e 2 | 13 | + 3 | 4 | 49 | + 2 _g | 4 | 15 | S* | e 5.2 |
| Focsani | | 8.8 | 31 | e 2 | 20 | + 9 | i 4 | 16 | - 9* | — | — | — | — |
| Siena | | 8.8 | 308 | 2 | 13 | + 2 | i 3 | 58 | + 5 | i 4 | 19 | S* | i 5.4 |
| Florence | Z. | 9.0 | 310 | i 2 | 12 _k | - 1 | i 3 | 54 | - 4 | — | — | — | — |
| Triest | | 9.0 | 327 | i 2 | 12 | - 1 | i 3 | 50 | - 8 | i 4 | 51 | S _g | 5.2 |
| Prato | | 9.2 | 310 | i 2 | 15 | - 1 | i 4 | 8 | + 5 | — | — | — | — |
| Budapest | | 9.3 | 353 | e 2 | 15 | - 2 | e 4 | 11 | + 6 | 4 | 37 | S* | — |
| Bacau | | 9.4 | 27 | e 2 | 26 | + 8 | e 4 | 18 | + 11 | e 4 | 21 | ? | — |
| Bologna | Z. | 9.5 | 314 | i 3 | 6 _a | P _g | e 4 | 48 | + 2* | i 3 | 20 | ? | i 5.9 |
| Ogyalla | | 9.7 | 350 | i 2 | 29 | + 7 | i 4 | 22 | + 7 | e 3 | 44 | ? | — |
| Tolmezzo | E. | 9.9 | 327 | e 2 | 29 | + 4 | i 4 | 19 | - 1 | i 2 | 45 | P* | i 5.8 |
| Iasi | | 10.2 | 27 | e 2 | 30 | - 1 | e 4 | 41 | SS | i 2 | 36 | PP | — |
| Uzhgorod | | 10.4 | 6 | i 2 | 34 | 0 | i 4 | 36 | + 4 | — | — | — | — |
| Vienna | | 10.4 | 343 | e 2 | 34 | 0 | e 4 | 38 | + 6 | i 2 | 42 | PP | — |
| Kishinev | | 10.5 | 32 | i 2 | 39 | + 4 | i 4 | 42 | + 7 | — | — | — | — |
| Cernauti | | 10.7 | 19 | i 2 | 42 | + 4 | — | — | — | — | — | — | — |
| Skalnate Pleso | | 10.9 | 358 | e 2 | 42 | + 2 | e 4 | 11 | - 33 | e 2 | 21 | ? | — |
| Pavia | | 11.1 | 312 | e 2 | 41 _k | - 2 | i 4 | 42 | - 7 | i 2 | 49 | PP | — |
| Lwow | | 11.8 | 11 | i 2 | 53 | 0 | i 5 | 7 | + 1 | — | — | — | — |
| Yalta | | 11.8 | 54 | e 2 | 52 | - 1 | e 5 | 2 | - 4 | — | — | — | — |
| Chur | | 11.9 | 320 | e 2 | 53 | - 1 | e 5 | 5 | - 4 | i 3 | 2 | PP | — |
| Raciborzu | | 11.9 | 352 | e 2 | 52? | - 2 | i 5 | 3 | - 6 | i 3 | 13 | PPP | i 6.1 |
| Oropa | | 12.0 | 312 | i 2 | 54 | - 1 | i 5 | 0 | - 11 | i 3 | 15 | PPP | i 6.8 |
| Helwan | Z. | 12.1 | 131 | i 2 | 47 _k | - 10 | — | — | — | — | — | — | — |
| Ravensburg | | 12.5 | 323 | e 3 | 8 | + 6 | e 5 | 40 | SS | — | — | — | — |
| Prague | | 12.6 | 341 | i 3 | 4 _a | + 1 | e 5 | 28 | + 2 | e 3 | 14 | PP | e 6.2 |
| Zürich | | 12.7 | 319 | e 3 | 4 _a | - 1 | e 5 | 34 | + 6 | — | — | — | — |
| Theodosia | | 12.8 | 54 | 3 | 6 | 0 | — | — | — | — | — | — | — |
| Ksara | | 13.0 | 106 | i 3 | 4 | - 5 | i 5 | 28 | - 7 | — | — | — | — |
| Ebingen | | 13.1 | 323 | e 3 | 11 | + 1 | e 5 | 48 | SS | — | — | — | — |
| Cheb | | 13.2 | 336 | e 3 | 9 | - 2 | i 5 | 36 | - 4 | i 5 | 15 | ? | — |
| Neuchatel | | 13.4 | 315 | e 3 | 13 | - 1 | e 5 | 39 | - 6 | — | — | — | — |
| Stuttgart | | 13.4 | 325 | e 3 | 12 | - 2 | i 5 | 33 | - 12 | i 3 | 20 | PP | e 6.1 |
| Karlsruhe | | 13.9 | 324 | e 3 | 18 _a | - 3 | i 5 | 50 | - 7 | i 3 | 32 | PP | e 7.6 |
| Strasbourg | | 14.0 | 322 | i 3 | 21 | - 1 | i 5 | 55 | - 4 | — | — | — | — |
| Collmberg | | 14.1 | 340 | e 3 | 18 | - 5 | e 5 | 42 | - 20 | e 6 | 31 | SSS | e 7.8 |
| Algiers Univ. | Z. | 14.2 | 269 | i 3 | 22 | - 2 | i 6 | 6 | + 2 | — | — | — | i 7.0 |
| Jena | | 14.2 | 336 | e 3 | 25 | + 1 | i 6 | 8 | + 4 | i 3 | 35 | PP | i 6.6 |
| Barcelona | | 14.7 | 288 | 3 | 27 | - 4 | (6 10) | - 6 | - 6 | 5 | 54 | ? | 6.2 |
| Clermont-Ferrand | | 15.1 | 305 | e 3 | 36 | 0 | i 6 | 41 | SS | i 3 | 42 | PP | — |
| Potsdam | | 15.1 | 342 | i 3 | 39 _a | + 3 | i 6 | 44 | SS | i 3 | 47 | PP | — |
| Sotchi | | 15.2 | 64 | e 3 | 30? | - 8 | e 6 | 26? | - 2 | — | — | — | — |
| Tortosa | | 15.9 | 286 | i 3 | 47 | 0 | i 6 | 40 | - 4 | — | — | — | — |
| Chambon-la-Forêt | | 16.6 | 312 | e 3 | 54 | - 2 | i 3 | 57 | P | i 4 | 0 | ? | — |
| Zugdidi | | 16.6 | 69 | 3 | 58 | + 2 | — | — | — | — | — | — | — |
| Alicante | | 16.7 | 277 | i 3 | 55 | - 2 | i 7 | 1 | - 2 | 4 | 11 | PP | 8.2 |
| Paris | | 16.9 | 314 | e 3 | 55 | - 4 | i 7 | 5 | - 2 | i 4 | 4 | ? | — |
| Hamburg | | 17.0 | 337 | i 4 | 1 _a | 0 | i 7 | 24 | SS | — | — | — | — |
| Uccle | | 17.1 | 322 | e 4 | 3 | + 1 | e 7 | 15 | + 3 | i 4 | 24 | PPP | i 9.1 |
| Abastumanj | | 17.2 | 73 | e 4 | 8 | + 5 | — | — | — | — | — | — | — |
| Witteveen | Z. | 17.5 | 332 | i 4 | 10 | + 3 | — | — | — | — | — | — | — |
| Borzhomi | | 17.6 | 71 | i 4 | 15 | + 7 | i 7 | 35 | + 12 | — | — | — | — |
| De Bilt | | 17.6 | 328 | — | — | — | i 7 | 40 | SS | — | — | — | e 8.6 |
| Akhalkalaki | | 17.7 | 72 | e 4 | 11 | + 1 | 7 | 27 | + 1 | — | — | — | — |
| Piatigorsk | | 17.7 | 62 | 4 | 10 | 0 | — | — | — | — | — | — | — |
| Tsikhlis-Dzhvari | | 17.7 | 71 | 4 | 12 | + 2 | — | — | — | — | — | — | — |
| Leninakan | | 18.0 | 74 | 4 | 18 | + 5 | — | — | — | — | — | — | — |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----------|-----|---------------------|------|----------------------|------|---------|-----|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Copenhagen | 18.3 | 345 | i 4 18 | + 1 | i 7 52 | SS | i 4 21 | — |
| Almeria | 18.5 | 273 | i 4 15 | - 4 | i 7 49 | + 5 | i 4 33 | PP |
| Tiflis | 18.7 | 71 | 4 22 | 0 | — | — | — | — |
| Nakhichevan | 19.2 | 77 | 4 27 | - 1 | — | — | — | — |
| Granada | 19.3 | 274 | i 3 25 _a | -64 | i 8 4 | + 2 | — | — |
| Toledo | 19.3 | 283 | i 4 27 | - 2 | i 8 1 | - 1 | 8 33 | SS |
| Grozny | 19.5 | 67 | i 4 33 | + 2 | — | — | — | — |
| Jersey | 19.7 | 312 | i 4 33 | - 1 | i 8 15 | + 5 | i 6 47 | ? |
| Kew | 19.8 | 318 | i 4 34 _k | - 1 | e 8 7 | - 6 | i 4 47 | PP |
| Goris | 19.9 | 77 | i 4 34 _? | - 2 | i 8 22 _? | + 7 | — | — |
| Kirovobad | 19.9 | 75 | 4 32 | - 4 | — | — | — | — |
| Malaga | 20.1 | 275 | i 4 35 | - 3 | i 13 15 | ? | — | — |
| Tamanrasset | 20.3 | 225 | i 4 37 | - 3 | — | — | — | — |
| Moscow | 20.8 | 27 | i 4 44 | - 1 | i 8 31 | - 2 | — | — |
| Shemakla | 21.6 | 74 | 4 52 | - 2 | — | — | — | — |
| Upsala | 21.7 | 356 | i 4 54 _a | - 1 | i 8 50 | - 1 | i 5 31 | PPP |
| Lenkoran | 21.9 | 79 | 4 57 | 0 | — | — | — | — |
| Helsinki | 22.0 | 4 | e 4 49 | - 9 | e 8 45 | -11 | — | — |
| Pulkovo | 22.3 | 13 | i 5 0 | - 1 | i 9 4 | + 2 | — | — |
| Durham | 22.4 | 325 | e 5 0 | - 2 | i 9 7 | + 3 | i 5 3 | P |
| Baku | 22.6 | 74 | i 5 6 | + 3 | — | — | — | — |
| Coimbra | 22.7 | 285 | 5 2 | - 2 | i 9 7 | - 2 | 5 5 | P |
| Averroes | 23.4 | 267 | i 5 12 | + 1 | i 9 28 | + 7 | e 5 40 | PP |
| Lisbon | 23.4 | 281 | i 5 8 _k | - 3 | 9 18 | - 3 | — | — |
| Edinburgh | 23.8 | 326 | 5 20 | + 5 | 9 39 | +11 | 9 4 | PcP |
| Rathfarnham Castle | 23.9 | 319 | i 5 16 _k | 0 | i 9 44 | +14 | i 12 48 | PcS |
| Aberdeen | 24.2 | 330 | i 5 19 | 0 | i 9 33 | - 2 | i 6 4 | PPP |
| Bergen | 24.2 | 342 | i 5 20 _a | + 1 | i 9 40 | + 5 | i 5 33 | ? |
| Ashkabad | 29.4 | 78 | i 6 5 | - 2 | — | — | — | — |
| Sverdlovsk | 32.0 | 41 | i 6 28 | - 2 | i 11 39 | - 3 | — | — |
| Bairam-Ali | 32.4 | 78 | 6 33 | - 1 | — | — | — | — |
| Samarkand | 35.6 | 73 | i 6 58 | - 3 | 12 38 | 0 | — | — |
| Reykjavik | 36.1 | 331 | i 7 7 _a | + 2 | e 12 50 | + 5 | i 7 11 | ? |
| Tashkent | 37.0 | 69 | 7 11 | - 2 | 12 53 | - 6 | — | — |
| Tchimkent | 37.0 | 67 | i 7 15 | + 2 | — | — | — | — |
| Stalinabad | 37.2 | 73 | i 7 13 | - 2 | — | — | — | — |
| Angra do Heroismo | 37.3 | 286 | i 7 21 | + 5 | i 13 12 | + 8 | i 8 51 | PP |
| Obi-garm | 37.9 | 73 | i 7 19 | - 1 | e 11 57 | ? | — | — |
| Garm | 38.3 | 72 | 7 22 | - 2 | i 13 17 | - 2 | — | — |
| Quetta | 38.7 | 87 | e 7 24 | - 3 | i 13 21 | - 4 | i 9 5 | PP |
| Namangan | 38.8 | 70 | e 7 27 | - 1 | — | — | — | — |
| Dzhergetal | 38.9 | 71 | e 7 28 | - 1 | — | — | — | — |
| Fergana | 39.0 | 70 | i 7 27 | - 3 | — | — | — | — |
| Scoresby Sund | 39.2 | 339 | i 7 34 _k | + 3 | i 13 39 | + 7 | e 9 2 | PP |
| Andijan | 39.4 | 70 | i 7 32 | - 1 | — | — | — | — |
| Khorog | 39.7 | 75 | i 7 35 | - 1 | — | — | — | — |
| Frunse | 40.5 | 66 | i 7 41 | - 1 | i 13 51 | - 1 | — | — |
| Warsak Dam | 40.8 | 79 | i 7 49 | + 4 | i 13 42 | -14 | i 9 27 | PP |
| M'Bour | 41.0 | 247 | i 7 44 | - 2 | i 14 5 | + 6 | i 9 47 | PcP |
| Rybach'e | 41.7 | 66 | 7 51 | - 1 | — | — | — | — |
| Naryn | 41.9 | 68 | e 7 53 | - 1 | i 14 15 | + 2 | — | — |
| Almata | 42.1 | 64 | i 7 58 _? | + 3 | i 14 17 _? | + 1 | — | — |
| Kurmenty | 43.1 | 64 | e 8 6 | + 2 | — | — | — | — |
| Przhevalsk | 43.4 | 65 | 8 5 | - 1 | 14 31 | - 4 | — | — |
| Derha Dun | 47.3 | 81 | e 8 35 | - 2 | i 15 54 | ? | i 17 27 | ? |
| New Delhi | 47.4 | 84 | e 8 34 | - 4 | 15 32 | 0 | 10 24 | PP |
| Bombay | 48.9 | 98 | i 8 52 | + 2 | i 15 52 | - 1 | 18 42 | ScS |
| Poona | 49.9 | 98 | i 8 57 | 0 | i 16 2 | - 5 | 20 44 | SSS |
| Chatra | 56.0 | 80 | i 9 40 | - 3 | i 17 27 | - 3 | 10 43 | PcP |
| Irkutsk | 57.2 | 46 | 9 49 | - 2 | 17 44 | - 2 | — | — |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
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| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Kodaikanal | E. | 57.7 | 103 | i 9 | 52 | - 3 | e 17 | 52 | - 1 | 12 | 0 | PP | 27.1 |
| Madras | E. | 58.1 | 98 | i 9 | 53 | - 5 | i 17 | 51 | - 7 | — | — | — | — |
| Kabansk | | 58.6 | 46 | i 10 | 0 | - 1 | 18 | 4 | 0 | — | — | — | — |
| Calcutta | E. | 59.1 | 84 | i 10 | 9 | + 5 | i 18 | 21 | PS | — | — | — | — |
| Kyakhta | | 59.2 | 48 | 10 | 2 | - 3 | 18 | 11 | - 1 | — | — | — | — |
| Resolute Bay | | 59.7 | 345 | i 10 | 8 _a | - 1 | 20 | 4 | ScS | i 12 | 18 | PP | — |
| Shillong | N. | 60.3 | 79 | i 10 | 12 | - 1 | i 18 | 24 | - 2 | 18 | 46 | PPS | 28.2 |
| Halifax | | 60.9 | 306 | i 10 | 15 | - 2 | 18 | 33 | - 1 | 18 | 45 | PS | — |
| Colombo | E. | 61.6 | 105 | 10 | 21 | - 1 | 18 | 36 | - 7 | — | — | — | 32.5 |
| Tananarive | | 62.2 | 151 | i 10 | 23 | - 3 | e 19 | 4 | PS | e 23 | 24 | SS | 34.3 |
| Pretoria | Z. | 64.1 | 173 | i 10 | 34 | - 4 | — | — | — | — | — | — | — |
| Seven Falls | E. | 64.2 | 311 | i 10 | 38 | - 1 | 19 | 18 | + 2 | 12 | 57 | PP | 28.3 |
| Shawinigan Falls | N. | 65.6 | 311 | e 10 | 47 | - 1 | e 19 | 35 | + 2 | 14 | 37 | PPP | — |
| Kimberley | Z. | 66.8 | 176 | i 10 | 51 | - 5 | — | — | — | — | — | — | — |
| Harvard | | 66.9 | 306 | i 10 | 56 _a | 0 | i 19 | 56 | + 7 | e 39 | 26 | P'P' | i 27.5 |
| Weston | | 66.9 | 306 | i 10 | 56 _a | 0 | i 19 | 54 | + 5 | 27 | 16 | SSS | 35.8 |
| Bermuda | | 67.6 | 295 | i 11 | 1 | 0 | i 20 | 2 | + 5 | e 27 | 18 | SSS | e 31.3 |
| Bermuda (Navy) | | 67.8 | 295 | e 10 | 52 | -10 | — | — | — | — | — | — | — |
| Ottawa | | 68.0 | 311 | e 11 | 2 _k | - 1 | 19 | 57 | - 5 | 20 | 28 | PS | — |
| Pietermaritzburg | Z. | 68.2 | 170 | i 11 | 2 | - 2 | — | — | — | — | — | — | — |
| Kirkland Lake | Z. | 69.0 | 316 | e 11 | 9 _a | 0 | e 20 | 17 | + 3 | — | — | — | — |
| Palisades | | 69.2 | 306 | i 11 | 10 | 0 | e 20 | 15 | - 1 | e 13 | 39 | PP | e 30.2 |
| Fordham | | 69.3 | 306 | i 11 | 12 | + 1 | e 20 | 22 | + 5 | — | — | — | — |
| Grahamstown | Z. | 71.5 | 175 | i 11 | 21 | - 3 | — | — | — | — | — | — | — |
| Washington | | 72.4 | 306 | i 11 | 30 | 0 | i 20 | 59 | + 6 | — | — | — | — |
| Pittsburgh | | 73.3 | 309 | i 11 | 35 | 0 | i 21 | 7 | + 3 | i 25 | 53 | SS | — |
| Cleveland | | 73.7 | 310 | i 11 | 38 | 0 | i 21 | 5 | - 3 | e 21 | 56 | PPS | — |
| Morgantown | | 73.8 | 307 | i 11 | 39 | + 1 | i 21 | 23 | +14 | — | — | — | — |
| Magadan | | 74.1 | 24 | 11 | 40 | 0 | 21 | 15 | + 3 | — | — | — | — |
| Fort de France | | 74.8 | 277 | i 11 | 43 | - 1 | i 21 | 27 | + 7 | — | — | — | — |
| Cherry Point | | 75.2 | 302 | i 11 | 44 | - 2 | e 21 | 26 | + 1 | — | — | — | — |
| Roosevelt Roads | | 76.2 | 283 | i 11 | 52 | 0 | — | — | — | — | — | — | — |
| Nanking | | 76.5 | 60 | i 11 | 53 _a | - 1 | 21 | 34 | - 5 | — | — | — | — |
| San Juan | | 76.5 | 283 | i 11 | 55 | + 1 | i 21 | 40 | + 1 | — | — | — | — |
| College | | 76.8 | 356 | i 11 | 53 | - 2 | i 21 | 43 | + 1 | e 14 | 31 | PP | e 28.3 |
| Cincinnati | | 76.9 | 310 | i 11 | 55 | - 1 | 21 | 54 | +11 | — | — | — | — |
| Vladivostok | | 77.7 | 44 | 11 | 59 | - 1 | 21 | 49 | - 3 | — | — | — | — |
| Columbia | | 77.9 | 304 | i 11 | 43 | -18 | — | — | — | — | — | — | — |
| Terre Haute | | 78.4 | 312 | — | — | — | e 18 | 48 | ? | e 20 | 8 | ? | — |
| Uglegorsk | | 78.7 | 35 | e 12 | 5 | - 1 | i 22 | 4 | + 1 | — | — | — | — |
| Zô-Sè | E. | 78.7 | 59 | e 12 | 6 | 0 | e 22 | 6 | + 3 | — | — | — | — |
| Hong Kong | | 79.0 | 70 | e 12 | 8 | + 1 | 22 | 1 | - 5 | — | — | — | — |
| Saskatoon | | 79.0 | 330 | 12 | 8 | + 1 | 22 | 5 | - 1 | — | — | — | 32.1 |
| Klyuchi | | 79.8 | 22 | 12 | 11 | - 1 | 22 | 12 | - 2 | — | — | — | — |
| Yuzno-Sakhlinsk | | 80.5 | 37 | i 12 | 13 | - 2 | i 22 | 21 | - 1 | — | — | — | — |
| St. Louis | | 80.6 | 312 | e 13 | 33 | ? | e 23 | 27 | PPS | — | — | — | — |
| Petropavlovsk | | 81.9 | 25 | i 12 | 23 | 0 | — | — | — | — | — | — | — |
| Guantanamo Bay | | 82.3 | 289 | i 12 | 30 | + 5 | — | — | — | — | — | — | — |
| Miami | | 82.4 | 298 | i 12 | 28 | + 3 | i 22 | 54 | ScS | — | — | — | — |
| Sapporo | | 82.7 | 39 | e 12 | 28 | + 1 | e 22 | 43 | - 1 | i 22 | 54 | ScS | e 42.1 |
| Sitka | | 82.9 | 347 | e 12 | 30 | + 2 | e 22 | 51 | + 5 | — | — | — | — |
| Mori | | 83.0 | 40 | 12 | 31 | + 3 | e 22 | 51 | + 4 | e 23 | 53 | PPS | 39.3 |
| Hukuoka | | 83.1 | 52 | e 12 | 27 | - 2 | e 22 | 47 | - 1 | e 32 | 17 | Q | e 35.4 |
| Tomakomai | | 83.2 | 40 | e 12 | 26 | - 3 | e 22 | 48 | - 1 | — | — | — | — |
| Hamada | | 83.3 | 51 | 12 | 30 | 0 | e 22 | 48 | - 2 | e 26 | 34 | ? | e 42.4 |
| Saga | | 83.3 | 53 | e 12 | 38 | + 8 | — | — | — | e 15 | 2 | ? | — |
| Obihiro | | 83.7 | 38 | e 14 | 10 | ? | e 24 | 12 | PPS | — | — | — | e 50.0 |
| Kumamoto | | 83.8 | 46 | e 12 | 16 | -16 | — | — | — | — | — | — | e 44.7 |
| Hirosima | | 83.9 | 51 | e 12 | 31 | - 2 | e 22 | 53 | - 3 | e 33 | 6 | Q | e 43.5 |
| Milton | | 84.0 | 304 | e 12 | 38 | + 5 | — | — | — | 16 | 8 | PP | — |
| Aomori | | 84.1 | 42 | 12 | 38 | + 4 | 22 | 39 | -19 | i 24 | 11 | PPS | 37.1 |
| Ooita | | 84.1 | 52 | e 12 | 36 | + 2 | e 22 | 55 | - 3 | — | — | — | e 43.1 |
| Urakawa | | 84.1 | 39 | e 12 | 30 | - 4 | e 22 | 54 | - 4 | e 15 | 58 | PP | e 39.2 |
| Kurilsk | | 84.2 | 35 | i 12 | 34 | 0 | i 22 | 58 | - 1 | — | — | — | — |
| Matuyama | | 84.4 | 51 | e 12 | 38 | + 2 | e 22 | 56 | - 5 | 15 | 38 | PP | e 36.8 |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------|------------|------------|------|-----------------|------|------|----|-------|-------|----|--------|--------|
| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Wazima | 84.4 | 46 | e 12 | 38 | + 2 | e 23 | 3 | + 2 | — | — | e 44.1 | |
| Akita | 84.5 | 43 | e 12 | 40 | + 4 | e 23 | 6 | + 4 | — | — | e 45.6 | |
| Toyooka | 84.5 | 49 | e 12 | 35 | - 1 | e 22 | 56 | - 6 | — | — | — | |
| Kagosima | 84.6 | 54 | e 12 | 32 | - 4 | e 23 | 4 | + 1 | — | — | e 45.0 | |
| Nemuro | 84.6 | 37 | e 12 | 41 | + 5 | e 22 | 58 | - 5 | — | — | i 46.6 | |
| Aikawa | 84.7 | 45 | e 12 | 40 | + 3 | — | — | — | — | — | 45.9 | |
| Fayetteville | 84.7 | 313 | i 12 | 37 _a | 0 | e 23 | 5 | + 1 | i 16 | 1 | PP | e 38.3 |
| Hatinohe | 84.7 | 42 | e 12 | 28 | - 9 | e 22 | 58 | - 6 | — | — | — | 37.7 |
| Hungry Horse | 84.8 | 332 | i 12 | 38 | + 1 | i 30 | 45 | PKKP | i 38 | 38 | P'P' | — |
| Kingston | 84.8 | 289 | e 12 | 39 | + 2 | e 23 | 13 | + 8 | — | — | — | e 36.4 |
| Kanazawa | 84.9 | 47 | e 12 | 37 | - 1 | e 23 | 8 | + 2 | — | — | — | — |
| Takamatu | 84.9 | 51 | e 12 | 36 | - 2 | e 23 | 1 | - 5 | — | — | — | 42.7 |
| Hukui | 85.0 | 47 | e 12 | 42 | + 4 | — | — | — | — | — | — | — |
| Sakata | 85.0 | 44 | e 12 | 54 | +16 | — | — | — | — | — | — | — |
| Koti | 85.1 | 51 | e 12 | 43 | + 4 | e 23 | 3 | - 5 | e 15 | 10 | ? | — |
| Morioka | 85.1 | 42 | e 12 | 34 | - 5 | e 23 | 8 | 0 | — | — | — | — |
| Toyama | 85.1 | 46 | e 12 | 14 | -25 | e 23 | 4 | - 4 | — | — | — | 46.1 |
| Tsuruga | 85.1 | 47 | e 12 | 16 | -23 | — | — | — | — | — | — | — |
| Simidu | 85.3 | 52 | e 12 | 36 | - 4 | e 23 | 10 | 0 | — | — | — | e 43.5 |
| Kyoto | 85.4 | 48 | e 12 | 36 | - 4 | e 23 | 10 | - 1 | — | — | — | e 49.2 |
| Sumoto | 85.4 | 49 | e 12 | 40 | 0 | 23 | 5 | [+ 2] | — | — | — | 46.3 |
| Hikone | 85.5 | 47 | 12 | 44 | + 3 | e 23 | 17 | + 5 | — | — | — | e 47.4 |
| Mizusawa | 85.5 | 43 | e 12 | 40 | - 1 | e 23 | 4 | [0] | 12 | 45 | P | — |
| Osaka | 85.5 | 49 | e 12 | 45 | + 4 | — | — | — | — | — | — | e 53.4 |
| Takayama | E. 85.5 | 46 | e 12 | 33 | - 8 | e 23 | 1 | [- 3] | — | — | — | — |
| Miyako | 85.6 | 42 | e 12 | 40 | - 1 | e 23 | 12 | - 1 | e 22 | 59 | SKS | — |
| Nagano | E. 85.6 | 46 | e 12 | 50 | + 9 | i 23 | 20 | + 7 | — | — | — | 47.4 |
| Gihu | 85.7 | 47 | e 12 | 50 | + 8 | — | — | — | — | — | — | — |
| Matusiro | 85.7 | 45 | 12 | 40 | - 2 | 23 | 11 | {+ 1} | e 13 | 16 | pP | 45.5 |
| Muroto | 85.7 | 51 | e 12 | 42 | 0 | e 23 | 4 | [- 1] | e 13 | 4 | ? | e 44.8 |
| Matumoto | E. 85.8 | 46 | e 12 | 46 | + 4 | — | — | — | — | — | — | — |
| Kameyama | 85.9 | 49 | 12 | 46 | + 3 | 23 | 22 | + 6 | — | — | — | 45.1 |
| Nagoya | 86.0 | 47 | e 12 | 46 | + 3 | 23 | 21 | + 4 | — | — | — | e 47.7 |
| Sendai | 86.0 | 43 | e 12 | 46 | + 3 | e 23 | 10 | {+ 3} | e 25 | 14 | PPS | e 45.1 |
| Hukushima | 86.1 | 43 | e 12 | 47 | + 3 | e 23 | 10 | [+ 2] | 16 | 2 | PP | 46.1 |
| Oiwake | 86.1 | 46 | e 12 | 42 | - 2 | e 24 | 16 | PS | — | — | — | 46.8 |
| Iida | 86.3 | 47 | e 12 | 50 | + 5 | — | — | — | — | — | — | — |
| Maebasi | 86.3 | 46 | e 12 | 44 | - 1 | e 23 | 11 | [+ 2] | e 16 | 35 | PP | e 47.1 |
| Owase | 86.3 | 48 | e 12 | 40 | - 5 | — | — | — | — | — | — | e 47.1 |
| Shirakawa | 86.4 | 44 | e 12 | 39 | - 6 | e 23 | 6 | [- 4] | 17 | 7 | ? | — |
| Kohu | 86.6 | 47 | e 12 | 48 | + 2 | e 23 | 8 | [- 3] | — | — | — | e 46.2 |
| Titibu | 86.6 | 47 | e 12 | 51 | + 5 | — | — | — | — | — | — | — |
| Kumagaya | 86.7 | 46 | e 12 | 50 | + 3 | 23 | 17 | {- 1} | — | — | — | — |
| Utunomiya | 86.7 | 45 | e 12 | 20 | -27 | e 23 | 10 | [- 2] | 13 | 44 | pP | e 47.0 |
| Hamamatu | 86.8 | 47 | e 12 | 31 | -16 | — | — | — | — | — | — | — |
| Onahama | 87.0 | 44 | e 12 | 52 | + 4 | e 23 | 6 | [- 8] | — | — | — | e 45.4 |
| Shizuoka | 87.0 | 47 | e 12 | 48 | 0 | e 23 | 20 | { 0} | e 18 | 18 | PPP | e 44.4 |
| Omaesaki | 87.1 | 47 | e 13 | 13 | +24 | e 23 | 46 | +18 | — | — | — | e 48.4 |
| Misima | E. 87.2 | 47 | e 12 | 53 | + 4 | e 23 | 17 | [+ 2] | — | — | — | — |
| Tokyo | 87.2 | 46 | 12 | 52 | + 3 | 23 | 19 | {- 2} | — | — | — | e 47.2 |
| Ajiro | 87.3 | 46 | e 12 | 24 | -26 | e 23 | 16 | [0] | — | — | — | e 47.4 |
| Yokohama | 87.3 | 47 | e 12 | 54 | + 4 | 23 | 18 | [+ 2] | — | — | — | 46.3 |
| Baguio | 87.4 | 71 | i 12 | 52 | + 2 | — | — | — | — | — | — | 48.1 |
| Mera | 87.8 | 46 | 13 | 30 | +38 | 23 | 33 | - 1 | e 26 | 32 | ? | 45.4 |
| Victoria | 87.9 | 337 | 12 | 53 | 0 | 23 | 16 | [- 4] | — | — | — | 36.1 |
| Seattle | 88.3 | 336 | i 12 | 10 | -45 | e 23 | 43 | + 4 | i 23 | 48 | S | — |
| Swan Island | 90.4 | 291 | i 13 | 50 | +46 | — | — | — | e 17 | 8 | PP | — |
| Djakarta | 90.7 | 97 | e 13 | 8 _a | + 2 | i 24 | 0 | - 1 | i 16 | 50 | PP | e 53.2 |
| Bogota | N. 91.0 | 277 | e 13 | 11 | + 4 | e 23 | 59 | - 4 | i 25 | 27 | PS | e 41.1 |
| Corvallis | 91.4 | 335 | e 13 | 5 | - 4 | e 23 | 45 | [+ 4] | e 16 | 43 | PP | e 41.3 |
| Bandung | 91.8 | 97 | e 13 | 13 | + 2 | i 24 | 13 | + 2 | i 25 | 11 | PS | — |
| Chinchina | 92.0 | 278 | e 13 | 12 | 0 | e 23 | 55 | {- 1} | e 25 | 13 | PS | 44.1 |
| Mineral | Z. 94.5 | 332 | e 13 | 23 _a | 0 | e 24 | 2 | [+ 4] | e 30 | 23 | PKKP | — |
| Reno | Z. 94.5 | 330 | i 13 | 25 | + 2 | — | — | — | — | — | — | — |
| Shasta | 94.5 | 333 | e 13 | 23 _a | 0 | 23 | 55 | [- 3] | e 30 | 21 | PKKP | — |

Continued on next page.

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------|----|----------|-----|------|-----------------|------------------|------|----|--------|-------|--------|--------|-----|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Arcata | N. | 94.9 | 334 | — | | — | e 24 | 45 | + 8 | — | | e 57.5 | |
| Boulder City | | 95.5 | 325 | i 13 | 30 | + 2 | e 26 | 6 | PS | e 30 | 20 | PKKP | |
| Nelson | | 95.7 | 325 | i 13 | 30 | + 1 | e 26 | 6 | PS | e 38 | 40 | P'P' | |
| Tinemaha | | 96.0 | 328 | i 13 | 31 | + 1 | e 24 | 9 | [+ 2] | e 17 | 17 | PP | |
| Tucson | | 96.6 | 321 | e 13 | 36 | + 3 | e 24 | 15 | [+ 5] | e 31 | 43 | PSPS | |
| China Lake | Z. | 96.8 | 327 | e 13 | 35 | + 1 | i 17 | 34 | PP | i 30 | 14 | PKKP | |
| Berkeley | | 96.9 | 331 | e 13 | 36 | + 2 | e 24 | 12 | [+ 1] | e 17 | 32 | PP | |
| Chihuahua | | 96.9 | 315 | e 13 | 29 | - 5 | e 24 | 49 | - 5 | e 17 | 20 | PP | |
| Fresno | | 96.9 | 329 | i 13 | 36 _a | + 2 | e 24 | 10 | [- 1] | — | | — | |
| Lick | Z. | 97.1 | 331 | e 13 | 37 _k | + 2 | e 26 | 23 | PS | e 30 | 14 | PKKP | |
| Santa Clara | | 97.2 | 331 | e 13 | 44 _a | + 8 | e 24 | 14 | [+ 1] | e 38 | 52 | P'P' | |
| Woody | Z. | 97.4 | 328 | e 13 | 38 | + 1 | i 17 | 38 | PP | e 19 | 36 | PPP | |
| Vera Cruz | | 97.8 | 302 | e 13 | 36 | - 2 | e 23 | 57 | [- 19] | e 18 | 50 | ? | |
| Riverside | Z. | 98.3 | 326 | e 13 | 40 | - 1 | i 18 | 44 | ? | i 30 | 12 | PKKP | |
| Pasadena | | 98.5 | 326 | e 13 | 43 | + 1 | i 24 | 19 | [- 1] | i 17 | 43 | PP | |
| Palomar | Z. | 98.6 | 325 | i 13 | 44 _a | + 2 | i 30 | 15 | PKKP | e 38 | 30 | P'P' | |
| Barratt | Z. | 99.0 | 325 | e 13 | 44 | 0 | e 17 | 46 | PP | e 38 | 31 | P'P' | |
| La Paz | | 99.2 | 256 | i 17 | 36 | PP | i 24 | 22 | [- 1] | i 26 | 45 | PS | |
| Puebla | | 99.2 | 304 | e 19 | 18 | ? | — | | — | | — | | |
| Tacubaya | | 99.6 | 304 | e 14 | 39 | + 53 | e 24 | 24 | [- 1] | e 24 | 45 | SKKS | |
| Oaxaca | | 99.7 | 302 | e 16 | 19 | ? | — | | — | | — | | |
| Guadalajara | | 101.4 | 308 | e 17 | 56 | PP | — | | — | | e 60.1 | | |
| Huancayo | | 102.1 | 265 | e 14 | 4 | + 6 | i 25 | 46 | + 8 | i 32 | 39 | SS | |
| La Plata | | 103.0 | 236 | 27 | 20 | PS | 24 | 44 | [+ 3] | 25 | 44 | S | |
| Brisbane | | 138.9 | 89 | e 19 | 32 | [+ 3] | — | | — | | i 25 | 14 | PPP |
| Riverview | | 140.0 | 99 | i 19 | 33 _k | [+ 3] | e 29 | 23 | {+ 2} | i 23 | 9 | PKS | |
| Christchurch | | 158.1 | 113 | e 24 | 13 | PP | e 44 | 8? | SS | e 53 | 8? | ? | |
| Cobb River | E. | 158.3 | 105 | e 21 | 8? | PKP ₂ | — | | — | | — | | |
| Wellington | | 159.8 | 106 | e 20 | 2 | [+ 1] | e 40 | 5 | ? | e 56 | 8 | ? | |
| Tongariro | Z. | 160.3 | 101 | e 18 | 31 | ? | — | | — | | — | | |

Aug. 12d. 10h. 7m. Epicentre 37°·8N. 20°·8E.

Intensity V at Letrinoc.

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, p.83.

Aug. 12d. 11h. 33m. 46s. Epicentre 38°·3N. 20°·8E. (as at 9h.).

Intensity V at Amalias; IV at Patras; and III at Kalavryta.

Epicentre 38°·2N. 20°·8E. (Strasbourg).

38°·0N. 20°·5E. (U.S.S.R.).

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, p.83.

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|-----------------|----|----------|-----|-----|------------------|----------------|-----|----|------------------|-------|----|----------------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Athens | | 2.3 | 98 | i 0 | 41 _a | + 1 | i 1 | 9 | 0 | i 1 | 16 | S _g |
| Taranto | | 3.5 | 309 | — | | — | e 1 | 59 | + 3 _g | — | | — |
| Reggio Calabria | Z. | 4.1 | 269 | e 1 | 1 | - 4 | i 1 | 49 | - 6 | — | | — |
| Messina | Z. | 4.1 | 270 | i 1 | 4 _a | - 1 | i 1 | 54 | - 1 | — | | — |
| Belgrade | | 6.5 | 358 | e 1 | 44 _a | + 5 | i 3 | 22 | + 5* | i 2 | 11 | P _g |
| Istanbul | Z. | 7.0 | 64 | e 1 | 43? | - 3 | e 3 | 4 | - 4 | 3 | 34 | S* |
| Rocca di Papa | N. | 7.1 | 302 | e 1 | 50 | + 2 | e 3 | 10 | 0 | — | | e 4.1 |
| Bucharest | | 7.3 | 32 | e 1 | 56 | + 6 | e 3 | 28 | + 13 | — | | — |
| Rome | | 7.3 | 302 | e 1 | 51 | + 1 | i 3 | 15 | 0 | 3 | 48 | S* |
| Kalossa | | 8.3 | 351 | e 2 | 33 | P* | e 4 | 13 | + 3* | e 4 | 42 | S _g |
| Siena | | 8.8 | 308 | e 2 | 24 | + 13 | e 4 | 54 | + 3 _g | — | | — |
| Florence | Z. | 9.0 | 310 | e 2 | 15 | + 2 | e 3 | 51 | - 7 | — | | — |
| Triest | | 9.0 | 327 | i 2 | 14? _k | + 1 | i 3 | 50 | - 8 | i 4 | 51 | S _g |
| Prato | | 9.2 | 310 | e 2 | 30 | + 14 | e 4 | 20 | + 17 | — | | — |
| Budapest | E. | 9.3 | 353 | e 3 | 4 | P _g | e 4 | 44 | + 4* | — | | e 5.8 |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-------------------|----------|-----|----------------------|----------------|--------|------|---------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Bologna | 9.5 | 314 | e 3 15 | ? | e 4 49 | + 3* | — | e 6.0 |
| Ogyalla | 9.7 | 350 | e 3 7 | P _r | e 4 0 | -15 | e 4 44 | S* |
| Skalnate Pleso | 10.9 | 358 | e 2 28 | -12 | e 4 36 | - 8 | — | — |
| Pavia | 11.1 | 312 | e 3 30 | ? | e 4 44 | - 5 | e 5 24 | SSS |
| Chur | 11.9 | 320 | e 2 56 | + 2 | e 5 3 | - 6 | — | — |
| Raciborzu | 11.9 | 352 | e 2 58 | + 4 | e 5 18 | + 9 | e 4 29 | ? |
| Oropa | 12.0 | 312 | e 2 1 | -54 | — | — | — | — |
| Helwan | 12.1 | 131 | e 2 49 | - 8 | e 4 56 | -18 | — | — |
| Prague | 12.6 | 341 | e 3 5 | + 2 | e 5 26 | 0 | e 3 23 | PPP |
| Zürich | 12.7 | 319 | e 3 4 | - 1 | e 5 22 | - 6 | — | — |
| Ksara | 13.0 | 106 | i 3 19 | PP | — | — | — | — |
| Cheb | 13.2 | 336 | e 3 24 | PP | e 5 43 | + 3 | — | — |
| Neuchatel | 13.4 | 315 | e 3 14 | 0 | — | — | — | — |
| Stuttgart | 13.4 | 325 | e 3 12 | - 2 | e 5 33 | -12 | — | — |
| Karlsruhe | 13.9 | 324 | e 3 22 | + 1 | e 5 44 | -13 | e 3 27 | PP |
| Strasbourg | 14.0 | 322 | e 3 22? | 0 | e 3 35 | PP | e 3 59 | ? |
| Collmberg | 14.1 | 340 | e 3 27 | + 4 | e 6 50 | Q | e 3 35 | PP |
| Algiers Univ. z. | 14.2 | 269 | e 3 22 | - 2 | — | — | e 3 31 | PP |
| Jena z. | 14.2 | 336 | e 3 24 | 0 | — | — | e 3 30 | PP |
| Clermont-Ferrand | 15.1 | 305 | e 3 39 | + 3 | — | — | — | — |
| Potsdam | 15.1 | 342 | e 3 42 | + 6 | e 6 44 | SS | — | — |
| Tortosa | 15.9 | 286 | 3 45 | - 2 | i 6 51 | + 7 | — | — |
| Chambon-la-Forêt | 16.6 | 312 | e 3 58 | + 2 | — | — | — | — |
| Alicante | 16.7 | 277 | i 4 0 | + 3 | i 7 8 | + 5 | — | 8.4 |
| Paris | 16.9 | 314 | i 3 59 | 0 | i 4 2 | P | i 4 13 | PP |
| Uccle | 17.1 | 322 | e 4 0 | - 2 | e 7 18 | + 6 | e 8 49 | PcP |
| Witteveen z. | 17.5 | 332 | e 4 14 | + 7 | — | — | — | — |
| De Bilt | 17.6 | 328 | i 4 12 | + 4 | e 7 47 | SS | — | e 9.2 |
| Copenhagen | 18.3 | 345 | e 4 12 | - 5 | — | — | i 4 20 | P |
| Almeria | 18.5 | 273 | 4 19 | 0 | 7 55 | SS | 4 39 | PP |
| Granada | 19.3 | 274 | i 4 27 _a | - 2 | 8 25 | SS | 9 31 | Q |
| Kew | 19.8 | 318 | e 4 35 | 0 | — | — | — | e 12.0 |
| Tamanrasset z. | 20.3 | 225 | e 4 35 | - 5 | e 8 17 | - 6 | e 4 54 | PP |
| Upsala | 21.7 | 356 | i 4 52 _a | - 3 | i 8 51 | 0 | i 9 3 | PcP |
| Averroes | 23.4 | 267 | e 5 10 | - 1 | — | — | — | — |
| Lisbon | 23.4 | 281 | — | — | 9 20 | - 1 | — | — |
| Rathfarnham C. z. | 23.9 | 319 | 5 14? | - 2 | — | — | i 5 44 | PP |
| Quetta z. | 38.7 | 87 | i 7 24 | - 3 | — | — | — | — |
| Resolute Bay | 59.7 | 345 | e 10 5 | - 4 | — | — | — | — |
| Halifax | 60.9 | 306 | i 10 14 | - 3 | — | — | — | — |
| Pretoria z. | 64.1 | 173 | e 10 35 | - 3 | — | — | — | — |
| Seven Falls E. | 64.2 | 311 | e 10 36 | - 3 | — | — | — | — |
| Kimberley z. | 66.8 | 176 | e 10 51 | - 5 | — | — | — | — |
| Weston | 66.9 | 306 | i 10 54 _a | - 2 | — | — | — | — |
| Ottawa | 68.0 | 311 | e 11 1 | - 2 | — | — | — | — |
| Kirkland Lake z. | 69.0 | 316 | e 11 7 | - 2 | — | — | — | — |
| San Juan | 76.5 | 283 | i 11 53 | - 1 | — | — | — | — |
| College | 76.8 | 356 | e 11 53 | - 2 | — | — | — | — |
| Fayetteville | 84.7 | 313 | i 12 36 | - 1 | — | — | — | — |
| Hungry Horse | 84.8 | 332 | i 12 36 | - 1 | — | — | i 16 24 | PP |
| Butte | 86.2 | 330 | i 12 43 | - 1 | — | — | — | — |
| Mineral z. | 94.5 | 332 | e 13 21 _a | - 2 | — | — | i 13 40 | ? |
| Reno z. | 94.5 | 330 | e 13 23 _k | 0 | — | — | — | — |
| Boulder City | 95.5 | 325 | i 13 28 | 0 | — | — | i 13 31 | ? |
| Nelson | 95.7 | 325 | i 13 29 | 0 | — | — | i 13 33 | ? |
| Tucson | 96.6 | 321 | e 13 33 | 0 | — | — | — | — |
| China Lake z. | 96.8 | 327 | e 13 34 | 0 | — | — | — | — |
| Lick z. | 97.1 | 331 | e 13 35 _k | 0 | — | — | e 13 52 | ? |

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Aug. 12d. 12h. 5m. 21s. Epicentre 38°·0N. 21°·0E. (as on 1952, April 3d.).

Intensity IV at Patras, Kalavryta, Kalamae, Xylokastron, Vytina, Preveza, and Trikkala ;
III in Corfu. Epicentre 37°·9N. 20°·8E. (Strasbourg).

A. Galanopoulos.
Seismological Institute Bulletin, 1953, Athens, 1954, p. 83.

A = +·7375, B = +·2831, C = +·6131 ; δ = -6 ; h = -1 ;
D = +·358, E = -·934 ; G = +·572, H = +·220, K = -·790.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----------|-----|---------------------|----------------|----------|------------------|----------|----------------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Athens | 2·1 | 91 | e 0 42 _a | 0 _g | i 1 13 | + 4 _g | i 0 47 | i 1·3 |
| Taranto | 3·8 | 312 | 0 59 | - 2 | 1 57 | 0* | — | — |
| Reggio Calabria | 4·2 | 273 | e 1 4 | - 3 | i 1 50 | - 7 | i 2 10 | S* i 2·6 |
| Messina | 4·3 | 274 | i 1 5k | - 3 | i 2 0 | 0 | i 1 51 | ? |
| Belgrade | 6·8 | 357 | i 1 44k | 0 | i 3 42 | - 3 _g | i 2 15 | P _g i 4·0 |
| Istanbul | 7·0 | 61 | e 1 47 | + 1 | e 3 6 | - 2 | e 2 1 | P* — |
| Bucharest | 7·4 | 30 | i 1 59 | + 7 | i 3 28 | +10 | — | — |
| Rocca di Papa | 7·4 | 303 | e 1 50 | - 2 | i 3 17 | - 1 | i 3 39 | S* i 4·3 |
| Rome | 7·6 | 304 | i 1 52 _a | - 3 | 3 56 | + 6* | i 4 5 | S _g i 4·3 |
| Campulung | 7·9 | 22 | e 2 2 | + 3 | — | — | — | — |
| Kalossa | 8·7 | 351 | e 2 8 | - 2 | 3 48 | - 2 | i 2 54 | P _g — |
| Focsani | 9·0 | 28 | e 2 21 | + 8 | — | — | — | — |
| Kecskemet | 9·0 | 354 | e 2 18 | + 5 | e 4 19 | -12* | 4 43 | S _g — |
| Siena | 9·1 | 309 | e 2 14 | 0 | e 4 49 | -12 _g | e 4 19 | S* e 5·4 |
| Florence | 9·4 | 311 | i 2 16 _a | - 2 | e 3 55 | -12 | — | — |
| Triest | 9·4 | 327 | i 2 15 _a | - 3 | i 5 9 | - 2 _g | i 3 0 | P _g — |
| Prato | 9·5 | 311 | i 2 21 | + 1 | i 4 14 | + 4 | — | — |
| Bacan | 9·6 | 25 | e 2 47 | P* | — | — | — | — |
| Budapest | E. 9·6 | 352 | e 2 23 | + 2 | e 4 7 | - 5 | e 5 14 | S _g — |
| Bologna | 9·8 | 315 | e 3 11 | P _g | e 4 29 | +12 | (e 5 33) | S _g e 5·6 |
| Ogyalla | 10·1 | 348 | e 2 31 | + 3 | e 4 26 | + 1 | e 3 19 | ? e 5·4 |
| Tolmezzo | 10·3 | 328 | e 2 36 | + 4 | i 4 25 | - 5 | — | — |
| Iasi | 10·4 | 26 | e 2 37 | + 3 | i 5 47 | S _g | — | — |
| Kishinev | 10·7 | 30 | i 2 40 | + 2 | 4 45 | + 6 | — | — |
| Uzhgorod | 10·7 | 5 | i 2 38 | 0 | e 4 44 | + 5 | — | — |
| Cernauti | 10·9 | 18 | e 2 49 | PP | — | — | — | — |
| Skalnate Pleso | 11·2 | 358 | e 2 34 | -10 | e 4 20 | -32 | e 2 21 | ? — |
| Pavia | 11·4 | 313 | e 2 45 _a | - 2 | e 5 2 | + 6 | i 5 15 | SS e 5·9 |
| Helwan | 11·8 | 130 | 2 46 | - 7 | e 4 53 | -13 | — | — |
| Yalta | 11·8 | 53 | e 2 54 | + 1 | e 5 6 | 0 | — | — |
| Lwow | 12·0 | 10 | i 2 59 | + 4 | — | — | — | — |
| Chur | 12·2 | 320 | e 2 58 | 0 | e 5 8 | - 8 | — | — |
| Raciborz | 12·2 | 352 | e 2 59 | + 1 | e 4 54 | -22 | e 3 7 | PP — |
| Oropa | 12·4 | 312 | i 2 49 | -12 | i 5 26 | + 5 | i 3 33 | ? — |
| Ksara | 12·8 | 105 | i 3 6 | 0 | i 5 25 | - 5 | — | — |
| Prague | 13·0 | 341 | e 3 6 _a | - 3 | e 5 25 | -10 | e 3 18 | PP e 7·6 |
| Zürich | 13·1 | 320 | e 3 5 | - 5 | — | — | i 3 20 | PP — |
| Cheb | 13·6 | 336 | e 3 12 | - 5 | e 5 44 | - 6 | e 3 23 | PP — |
| Neuchatel | 13·7 | 316 | e 3 16 | - 2 | e 5 10 | -42 | — | — |
| Stuttgart | 13·7 | 326 | e 3 16 | - 2 | e 5 44 | - 8 | e 5 33 | ? — |
| Algiers Univ. | Z. 14·3 | 271 | i 3 23k | - 3 | i 6 8 | + 2 | i 3 40 | PP i 7·2 |
| Karlsruhe | 14·3 | 324 | i 3 24 _a | - 2 | e 5 55 | -11 | i 3 34 | PP e 7·6 |
| Strasbourg | 14·3 | 322 | i 3 24 | - 2 | e 5 59 | - 7 | e 3 35 | PP e 7·0 |
| Collmburg | 14·4 | 340 | e 3 27 | 0 | e 6 14 | + 5 | i 3 37 | PP e 8·3 |
| Jena | 14·5 | 336 | e 3 27 | - 1 | (e 6 37) | SSS | i 3 37 | PP e 6·6 |
| Barcelona | 14·9 | 289 | e 3 31 | - 3 | 6 30 | +10 | — | — 8·0 |
| Sotchi | 15·2 | 63 | e 3 37 | - 1 | e 6 25 | - 3 | — | — |
| Clermont-Ferrand | 15·4 | 306 | e 3 39 | - 1 | e 6 17 | -15 | — | — |
| Potsdam | 15·4 | 341 | i 3 41k | + 1 | i 6 51 | SS | i 3 59 | PPP 8·6 |
| Tortosa | 16·1 | 287 | i 3 46 | - 3 | i 6 45 | - 4 | — | — |

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. m. |
|--------------------|----|----------|-----|-----|-----------------|------|------|-----|------|-------|----|----------|
| | | | | m. | s. | | m. | s. | | m. | s. | |
| Zugdidi | | 16.6 | 68 | i 4 | 0 | + 4 | i 7 | 8 | + 8 | — | — | — |
| Alicante | | 16.9 | 278 | i 3 | 56 | - 3 | e 7 | 2 | - 5 | — | — | 8.1 |
| Chambon-la-Forêt | | 16.9 | 312 | e 3 | 56 | - 3 | i 3 | 59 | P | i 4 | 3 | ? |
| Paris | | 17.2 | 315 | e 4 | 0 | - 3 | i 4 | 3 | P | i 4 | 6 | ? |
| Hamburg | | 17.3 | 338 | i 4 | 3 _a | - 1 | i 7 | 31 | SS | — | — | e 8.6 |
| Uccle | | 17.4 | 323 | i 4 | 4 | - 2 | e 7 | 43 | SS | e 4 | 17 | PP |
| Akhalkalaki | | 17.6 | 72 | 4 | 12 | + 4 | — | — | — | — | — | — |
| Borzhomi | | 17.6 | 71 | i 4 | 12 | + 4 | 7 | 32 | + 9 | — | — | — |
| Tsikhlis-Dzhvari | | 17.6 | 71 | i 4 | 12 | + 4 | — | — | — | — | — | — |
| De Bilt | | 17.9 | 327 | i 4 | 14 | + 2 | i 6 | 46 | -44 | — | — | e 8.2 |
| Witteveen | z. | 17.9 | 332 | i 4 | 12 _a | 0 | — | — | — | — | — | — |
| Gori | | 18.1 | 72 | i 4 | 19 | + 5 | — | — | — | — | — | — |
| Copenhagen | | 18.6 | 345 | e 4 | 20 | - 1 | i 7 | 54 | + 8 | i 4 | 23 | P |
| Tiflis | | 18.6 | 71 | i 4 | 23 | + 2 | i 7 | 53 | + 7 | — | — | — |
| Almeria | | 18.7 | 275 | i 4 | 17 | - 5 | i 7 | 53 | + 5 | i 4 | 39 | PP |
| Granada | | 19.5 | 277 | i 4 | 26 _k | - 5 | 8 | 11 | + 5 | 9 | 17 | Q |
| Toledo | | 19.6 | 284 | i 4 | 29 | - 3 | i 8 | 1 | - 7 | — | — | — |
| Goris | | 19.8 | 77 | i 4 | 35 | 0 | i 8 | 20 | + 7 | — | — | — |
| Jersey | E. | 20.0 | 313 | i 4 | 35 | - 2 | i 8 | 21 | + 4 | — | — | — |
| Kew | | 20.2 | 320 | i 4 | 36 | - 3 | i 8 | 20 | - 1 | i 5 | 11 | PPP |
| Malaga | | 20.2 | 74 | i 4 | 35 | - 4 | i 8 | 18 | - 3 | — | — | — |
| Tamanrasset | z. | 20.2 | 226 | i 4 | 35 | - 4 | e 8 | 20 | - 1 | e 4 | 55 | PP |
| Moscow | | 21.0 | 27 | i 4 | 47 | 0 | 8 | 39 | + 2 | — | — | — |
| Lenkoran | | 21.8 | 79 | 4 | 59 | + 3 | — | — | — | — | — | — |
| Upsala | | 22.0 | 356 | i 4 | 56 _a | - 2 | 8 | 57 | + 1 | i 5 | 14 | PP |
| Helsinki | | 22.3 | 4 | e 4 | 50 | -11 | e 8 | 50 | -12 | — | — | — |
| Baku | | 22.5 | 75 | i 5 | 6 | + 4 | — | — | — | — | — | — |
| Pulkovo | | 22.6 | 13 | i 5 | 3 | 0 | i 9 | 7 | 0 | — | — | — |
| Durham | | 22.7 | 325 | i 5 | 5 | + 1 | i 9 | 9 | 0 | 9 | 12 | S |
| Averroes | | 23.5 | 267 | i 5 | 13 | + 1 | 9 | 29 | + 6 | — | — | — |
| Lisbon | | 23.6 | 281 | i 6 | 11 | +58 | 9 | 20 | - 5 | 10 | 50 | Q |
| Edinburgh | E. | 24.2 | 327 | e 5 | 20 | + 1 | — | — | — | — | — | — |
| Rathfarnham Castle | | 24.2 | 319 | i 5 | 18 _a | - 1 | i 9 | 40 | + 5 | i 5 | 46 | PP |
| Aberdeen | | 24.5 | 331 | i 5 | 20 | - 2 | i 9 | 40 | 0 | — | — | 14.4 |
| Bergen | | 24.5 | 343 | i 5 | 21 _a | - 1 | i 9 | 48? | + 8 | i 5 | 32 | ? |
| Ashkabad | | 29.3 | 78 | 6 | 6 | 0 | — | — | — | — | — | — |
| Kiruna | | 29.9 | 0 | i 6 | 11 _a | - 1 | i 11 | 7 | - 2 | e 9 | 5 | PcP |
| Sverdlovsk | | 32.2 | 42 | i 6 | 31 | - 1 | i 11 | 42 | - 3 | — | — | — |
| Samarkand | | 35.6 | 73 | i 6 | 59 | - 2 | 12 | 32 | - 6 | — | — | — |
| Reykjavik | | 36.4 | 331 | i 7 | 9 | + 1 | — | — | — | — | — | — |
| Tchimkent | | 37.0 | 67 | i 7 | 13 | 0 | 12 | 58 | - 1 | — | — | — |
| Stalinabad | | 37.2 | 73 | i 7 | 15 | 0 | — | — | — | — | — | — |
| Obi-garm | | 37.8 | 73 | i 7 | 21 | + 1 | — | — | — | — | — | — |
| Kulyab | | 38.1 | 75 | 7 | 22 | 0 | 13 | 16 | 0 | — | — | — |
| Garm | | 38.2 | 72 | i 7 | 23 | 0 | — | — | — | — | — | — |
| Quetta | z. | 38.6 | 87 | i 7 | 25 | - 1 | — | — | — | — | — | — |
| Namangan | | 38.8 | 70 | i 7 | 29 | + 1 | — | — | — | — | — | — |
| Dzhergetal | | 38.9 | 71 | e 7 | 29 | 0 | — | — | — | — | — | — |
| Fergana | | 39.0 | 70 | i 7 | 29 | - 1 | — | — | — | — | — | — |
| Andijan | | 39.3 | 70 | i 7 | 33 | + 1 | i 13 | 32 | - 2 | — | — | — |
| Scoresby Sund | | 39.5 | 340 | e 7 | 36 | + 2 | e 13 | 39 | + 2 | e 9 | 0 | PP |
| Khorog | | 39.6 | 75 | 7 | 37 | + 2 | 13 | 38 | 0 | — | — | 19.6 |
| Frunse | | 40.5 | 66 | i 7 | 42 | 0 | e 13 | 50 | - 2 | — | — | — |
| Warsak Dam | E. | 40.7 | 79 | i 7 | 47 | + 3 | i 13 | 40 | -15 | i 9 | 25 | PP |
| Naryn | | 41.9 | 68 | i 7 | 54 | 0 | i 14 | 15 | + 2 | — | — | — |
| Almata | | 42.1 | 64 | e 7 | 56 | + 1 | — | — | — | — | — | — |
| Kurmenty | | 43.1 | 64 | e 8 | 7 | + 3 | — | — | — | — | — | — |
| Przhevalsk | | 43.3 | 65 | 8 | 6 | + 1 | — | — | — | — | — | — |
| Bombay | E. | 48.7 | 98 | i 8 | 51 | + 3 | i 15 | 53 | + 3 | i 10 | 41 | PP |
| Poona | N. | 49.7 | 98 | i 8 | 58 | + 2 | i 16 | 3 | - 1 | 18 | 45 | ScS |

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| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|------------------|----|---------------|----------|------|-----------------|------------|------|----|------------|-------|----|----------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Chatra | E. | 55.9 | 80 | e 9 | 41 | - 1 | i 17 | 25 | - 4 | 11 | 49 | PP | 26.2 |
| Irkutsk | | 57.3 | 47 | 9 | 50 | - 2 | 17 | 46 | - 1 | | | | |
| Kabansk | | 58.7 | 47 | i 10 | 0 | - 2 | | | | | | | |
| Kyakhta | | 59.3 | 49 | 10 | 4 | - 2 | 18 | 9 | - 5 | | | | |
| Resolute Bay | | 60.0 | 345 | i 10 | 9 _a | - 2 | i 18 | 25 | + 2 | | | | |
| Shillong | N. | 60.2 | 79 | | | | i 18 | 16 | - 9 | | | | |
| Halifax | | 61.2 | 306 | i 10 | 17 | - 2 | | | | 12 | 46 | PP | |
| Tananarive | | 61.9 | 151 | i 10 | 22 | - 2 | | | | | | | |
| Pretoria | Z. | 63.8 | 173 | i 10 | 33 | - 3 | | | | | | | |
| Seven Falls | E. | 64.5 | 311 | e 10 | 36 | - 5 | | | | | | | |
| Shawinigan Falls | N. | 65.9 | 311 | e 10 | 48 | - 2 | | | | | | | |
| Kimberley | Z. | 66.5 | 176 | i 10 | 51 | - 3 | | | | | | | |
| Weston | | 67.2 | 307 | i 10 | 55 _a | - 3 | i 19 | 51 | - 1 | | | | 35.1 |
| Harvard | | 67.3 | 308 | i 10 | 57 _a | - 2 | i 19 | 55 | + 1 | | | | e 35.2 |
| Bermuda | | 67.8 | 295 | i 11 | 1 | - 1 | e 20 | 1 | + 1 | | | | e 32.0 |
| Pietermaritzburg | Z. | 67.8 | 170 | e 11 | 2 | 0 | | | | | | | |
| Ottawa | | 68.3 | 312 | i 11 | 4 | - 1 | 20 | 5 | - 1 | | | | |
| Kirkland Lake | Z. | 69.3 | 316 | e 11 | 2 _a | - 9 | | | | | | | |
| Palisades | | 69.5 | 306 | i 11 | 11 | - 1 | i 20 | 20 | 0 | | | | |
| Fordham | | 69.6 | 307 | i 11 | 12 | - 1 | | | | | | | |
| Grahamstown | Z. | 71.1 | 175 | i 11 | 21 | - 1 | | | | | | | |
| Buffalo (Larkin) | | 71.4 | 310 | e 11 | 23 | - 1 | | | | | | | |
| Pittsburgh | | 73.6 | 309 | i 11 | 36 | - 1 | i 21 | 10 | + 3 | | | | |
| Cleveland | | 74.0 | 310 | i 11 | 37 _a | - 2 | i 21 | 12 | + 1 | e 21 | 8 | S | |
| Morgantown | | 74.1 | 307 | i 11 | 40 | 0 | | | | i 16 | 6 | PPP | |
| Magadan | | 74.3 | 24 | 11 | 41 | 0 | 21 | 17 | + 2 | | | | |
| Nanking | | 76.5 | 60 | 11 | 52 | - 2 | i 21 | 35 | - 4 | | | | |
| San Juan | | 76.7 | 284 | i 11 | 54 | - 1 | | | | | | | |
| College | | 77.1 | 355 | i 11 | 56 | - 1 | | | | | | | |
| Uglegorsk | | 78.8 | 35 | i 12 | 7 | + 1 | | | | | | | |
| Yuzno-Sakhlinsk | | 80.7 | 37 | i 12 | 14 | - 2 | i 22 | 21 | - 3 | | | | |
| Petropavlovsk | | 82.1 | 25 | e 12 | 23 | - 1 | | | | | | | |
| Fayetteville | | 85.0 | 313 | i 12 | 37 _a | - 1 | e 23 | 3 | [+ 2] | | | | |
| Hungry Horse | | 85.2 | 332 | i 12 | 39 | 0 | e 29 | 30 | SS | e 38 | 52 | P'P' | |
| Bozeman | | 86.2 | 329 | e 12 | 45 | + 1 | e 23 | 23 | + 4 | | | | |
| Butte | | 86.5 | 330 | e 12 | 46 | 0 | | | | | | | |
| Victoria | | 88.2 | 337 | 12 | 54 _k | 0 | | | | | | | |
| Seattle | Z. | 88.7 | 336 | i 12 | 10 | - 47 | | | | | | | |
| Djakarta | | 90.5 | 97 | e 13 | 6 _a | + 1 | e 23 | 37 | [+ 1] | e 24 | 0 | S | |
| Bandung | | 91.6 | 97 | e 13 | 18 | + 8 | e 24 | 11 | + 2 | e 23 | 39 | SKS | |
| Mineral | Z. | 94.8 | 332 | e 13 | 25 _a | 0 | i 13 | 41 | ? | e 16 | 37 | ? | |
| Shasta | | 94.8 | 333 | e 13 | 23 _a | - 2 | e 24 | 27 | - 9 | e 14 | 29 | ? | |
| Reno | Z. | 94.9 | 330 | i 13 | 25 _a | 0 | | | | | | | |
| Boulder City | | 95.8 | 325 | i 13 | 30 | + 1 | i 13 | 37 | ? | i 16 | 0 | ? | |
| Nelson | | 96.0 | 325 | i 13 | 31 | + 1 | i 13 | 40 | ? | i 16 | 1 | ? | |
| Tinemaha | Z. | 96.4 | 328 | e 17 | 33 | PP | | | | | | | |
| Tucson | | 96.9 | 322 | e 13 | 35 | + 1 | | | | e 17 | 25 | PP | e 45.8 |
| China Lake | Z. | 97.1 | 327 | e 13 | 36 | + 1 | e 17 | 33 | PP | e 30 | 14 | PKKP | |
| Berkeley | Z. | 97.2 | 331 | e 13 | 37 | + 1 | | | | | | | |
| Fresno | Z. | 97.3 | 329 | i 13 | 36 _a | 0 | | | | | | | |
| Lick | Z. | 97.5 | 331 | i 13 | 38 _a | + 1 | e 26 | 19 | PS | e 30 | 13 | PKKP | |
| Woody | Z. | 97.8 | 328 | e 13 | 39 | + 1 | e 17 | 37 | PP | e 30 | 12 | PKKP | |
| Riverside | Z. | 98.6 | 327 | e 13 | 41 | - 1 | e 17 | 36 | PP | e 30 | 10 | PKKP | |
| Pasadena | Z. | 98.8 | 327 | i 13 | 43 | 0 | e 17 | 13 | ? | i 17 | 46 | PP | |
| Palomar | Z. | 98.9 | 325 | i 13 | 44 | + 1 | e 17 | 46 | PP | e 30 | 9 | PKKP | |
| Barratt | Z. | 99.4 | 325 | e 13 | 45 | - 1 | | | | e 17 | 49 | PP | |
| Tacubaya | | 99.9 | 304 | e 15 | 15 | ? | e 26 | 43 | PS | i 20 | 14 | PPP | |

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Aug. 12d. 13h. 39m. 20s. Epicentre 38°·0N. 21°·0E. (as at 12h.).

Intensity IV at Patras ; III-IV at Preveza.

Epicentre 38°·2N. 20°·8E. (Strasbourg).

38°·5N. 20°·5E. (U.S.S.R.).

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, p.84.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|--------------------|----|----------|-----|---------------------|------------------|---------|------------------|--------|----------------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Athens | | 2·1 | 91 | i 0 44 _a | + 2 _g | i 1 9 | 0 _g | i 1 14 | ? | e 1·3 |
| Reggio Calabria | | 4·2 | 273 | e 1 3 | - 4 | i 1 51 | - 6 | — | — | — |
| Messina | z. | 4·3 | 274 | i 1 6 _k | - 2 | i 1 55 | - 5 | i 1 24 | P _g | — |
| Belgrade | | 6·8 | 357 | e 1 42 _a | - 2 | 3 37 | - 8 _g | i 2 5 | P* | i 3·9 |
| Istanbul | | 7·0 | 61 | e 1 48 | + 2 | e 3 7 | - 1 | e 3 29 | S* | e 4·4 |
| Bucharest | | 7·4 | 30 | e 1 56 | + 4 | e 3 30 | +12 | — | — | — |
| Rocca di Papa | | 7·4 | 303 | e 1 53 | + 1 | e 3 41 | - 3* | — | — | — |
| Rome | | 7·6 | 304 | e 1 51 | - 4 | 3 21 | - 2 | 2 14 | P _g | 4·3 |
| Kalossa | | 8·7 | 351 | 2 26 | P* | 3 45 | - 5 | e 2 54 | P _g | — |
| Kecskemet | | 9·0 | 354 | e 2 51 | P _g | e 4 48 | - 9 _g | — | — | — |
| Siena | | 9·1 | 309 | e 2 14 | 0 | — | — | — | — | — |
| Florence | z. | 9·4 | 311 | e 2 14 | - 4 | i 3 54 | -13 | — | — | — |
| Triest | | 9·4 | 327 | e 2 15 | - 3 | i 4 48 | + 5* | i 3 52 | S | i 5·4 |
| Prato | | 9·5 | 311 | i 2 29 | + 9 | e 4 20 | +10 | — | — | — |
| Budapest | E. | 9·6 | 352 | e 2 31 | +10 | (5 24) | + 7 _g | e 3 9 | P _g | 5·4 |
| Bologna | | 9·8 | 315 | e 3 16 | ? | e 4 56 | + 1* | — | — | e 6·1 |
| Ogyalla | | 10·1 | 348 | e 3 29 | +60 | e 4 24 | - 1 | e 4 9 | ? | e 5·5 |
| Tolmezzo | | 10·3 | 328 | e 3 37 | +65 | e 5 30 | +60 | — | — | — |
| Pavia | | 11·4 | 313 | e 2 48 _k | + 1 | e 4 49 | - 7 | e 5 20 | SS | i 5·5 |
| Helwan | | 11·8 | 130 | 2 51 | - 2 | 5 1 | - 5 | — | — | — |
| Chur | | 12·2 | 320 | e 2 57 | - 1 | e 5 4 | -12 | — | — | — |
| Raciborzu | | 12·2 | 352 | e 3 0 | + 2 | e 5 36 | SS | e 3 13 | PPP | 6·4 |
| Oropa | | 12·4 | 312 | i 3 1 | 0 | i 5 5 | -16 | — | — | — |
| Ksara | | 12·8 | 105 | i 3 12 | + 6 | e 5 30 | 0 | — | — | — |
| Prague | | 13·0 | 341 | e 3 8 | - 1 | e 5 22 | -13 | e 3 56 | ? | e 6·6 |
| Zürich | | 13·1 | 320 | e 3 15 | + 5 | e 5 28 | -10 | — | — | — |
| Cheb | | 13·6 | 336 | e 3 28 | PP | e 5 44 | - 6 | e 4 2 | ? | e 6·6 |
| Neuchatel | | 13·7 | 316 | e 3 18 | 0 | e 5 31 | -21 | — | — | — |
| Stuttgart | | 13·7 | 326 | e 3 15 | - 3 | e 5 48 | - 4 | — | — | — |
| Algiers Univ. | z. | 14·3 | 271 | e 3 25 | - 1 | e 6 9 | + 3 | — | — | — |
| Karlsruhe | | 14·3 | 324 | e 3 24 | - 2 | e 5 55 | -11 | i 3 34 | PP | e 6·9 |
| Strasbourg | | 14·3 | 322 | e 3 25 | - 1 | e 6 0 | - 6 | e 3 38 | PP | e 7·9 |
| Collmberg | | 14·4 | 340 | e 3 27 | 0 | e 6 33 | SS | e 8 48 | PcP | e 9·5 |
| Jena | | 14·5 | 336 | e 3 27 | - 1 | — | — | e 3 43 | PP | — |
| Clermont-Ferrand | | 15·4 | 306 | e 3 36 | - 4 | — | — | — | — | — |
| Potsdam | | 15·4 | 341 | e 3 45 | + 5 | e 6 45 | SS | — | — | e 8·7 |
| Tortosa | | 16·1 | 287 | 3 45 | - 4 | i 6 52 | + 3 | — | — | — |
| Alicante | | 16·9 | 278 | i 4 4 | + 5 | e 7 11 | + 4 | — | — | 8·6 |
| Chambon-la-Forêt | | 16·9 | 312 | e 4 2 | + 3 | — | — | i 4 6 | ? | — |
| Paris | | 17·2 | 315 | e 4 4 | + 1 | i 4 9 | ? | i 4 16 | PP | — |
| Uccle | | 17·4 | 323 | e 4 8 | + 2 | e 7 19 | 0 | e 4 30 | PPP | e 9·7 |
| Witteveen | z. | 17·9 | 332 | e 4 10 | - 2 | — | — | — | — | — |
| Copenhagen | | 18·6 | 345 | e 4 22 | + 1 | — | — | — | — | — |
| Almeria | | 18·7 | 275 | i 4 19 | - 3 | 7 54 | + 6 | — | — | 11·4 |
| Granada | | 19·5 | 277 | i 4 31 _k | 0 | i 8 12 | + 6 | 4 54 | PP | 11·9 |
| Toledo | | 19·6 | 284 | i 4 30 | - 2 | e 8 8 | 0 | — | — | — |
| Jersey | E. | 20·0 | 313 | e 4 38 | + 1 | e 8 40 | SS | — | — | — |
| Kew | | 20·2 | 320 | i 4 52 | PP | i 8 22 | + 1 | e 12 3 | Q | e 13·7 |
| Tamanrasset | z. | 20·2 | 226 | e 4 40 | + 1 | e 8 30 | + 9 | e 5 0 | PP | i 9·9 |
| Upsala | | 22·0 | 356 | i 4 55 _a | - 3 | e 8 56 | 0 | i 5 32 | PPP | e 12·1 |
| Rathfarnham Castle | | 24·2 | 319 | i 5 18 _k | - 1 | i 9 46 | +11 | i 6 3 | PPP | e 13·7 |
| Kiruna | | 29·9 | 0 | i 6 10 | - 2 | e 16 48 | ScS | i 6 48 | ? | e 15·7 |
| Reykjavik | z. | 36·4 | 331 | e 7 8 | 0 | — | — | — | — | — |
| Quetta | z. | 38·6 | 87 | e 7 27 | + 1 | — | — | — | — | — |
| Chatra | z. | 55·9 | 80 | i 9 42 | 0 | — | — | — | — | — |

Continued on next page.

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1953

501

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|--------------|----------|-----|------|-----|------|----|----|------|-------|----|----|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Resolute Bay | 60.0 | 345 | e 10 | 8 | - 3 | — | — | — | — | — | — |
| Halifax | 61.2 | 306 | e 10 | 18 | - 1 | — | — | — | — | — | — |
| Pretoria | z. 63.8 | 173 | e 10 | 37 | + 1 | — | — | — | — | — | — |
| Seven Falls | E. 64.5 | 311 | e 10 | 34 | - 7 | — | — | — | — | — | — |
| Kimberley | z. 66.5 | 176 | e 10 | 54 | 0 | — | — | — | — | — | — |
| Weston | 67.2 | 307 | i 10 | 58k | 0 | — | — | — | — | — | — |
| Harvard | 67.3 | 308 | i 10 | 58k | - 1 | — | — | — | — | — | — |
| Ottawa | 68.3 | 312 | e 11 | 5 | 0 | — | — | — | — | — | — |
| Cleveland | 74.0 | 310 | e 11 | 38k | - 1 | — | — | e 11 | 45 | P | — |
| San Juan | 76.7 | 284 | e 11 | 56 | + 1 | — | — | — | — | — | — |
| College | 77.1 | 355 | i 11 | 56 | - 1 | — | — | — | — | — | — |
| Fayetteville | 85.0 | 313 | i 12 | 40k | + 2 | — | — | — | — | — | — |
| Hungry Horse | 85.2 | 332 | i 12 | 40 | + 1 | — | — | — | — | — | — |
| Butte | 86.5 | 330 | i 12 | 47 | + 1 | — | — | — | — | — | — |
| Mineral | z. 94.8 | 332 | e 13 | 25a | 0 | — | — | e 13 | 35 | ? | — |
| Shasta | z. 94.8 | 333 | e 13 | 24a | - 1 | — | — | — | — | — | — |
| Reno | z. 94.9 | 330 | e 13 | 26k | + 1 | — | — | — | — | — | — |
| Boulder City | 95.8 | 325 | e 13 | 31 | + 2 | — | — | — | — | — | — |
| Nelson | 96.0 | 325 | i 13 | 32 | + 2 | — | — | — | — | — | — |
| Lick | z. 97.5 | 331 | e 13 | 36a | - 1 | — | — | e 13 | 45 | ? | — |

Aug. 12d. 14h. 8m. 39s. Epicentre 38°·3N. 20°·8E. (as at 11h.).

Intensity IV at Patras, Kalavryta, and Preveza.

Epicentre 38°·2N. 20°·8E. (Strasbourg).

38°·0N. 20°·0E. (U.S.S.R.).

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, p.84.

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|-----------------|----------|-----|-----|-----|------|-----|-----|-------|-------|-----|----|-------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Athens | 2.3 | 98 | e 0 | 42 | 0* | i 1 | 9 | 0 | i 1 | 13 | S* | i 1.3 |
| Reggio Calabria | 4.1 | 269 | e 1 | 4 | - 1 | i 2 | 15 | - 1g | i 1 | 27 | Pg | — |
| Messina | 4.1 | 270 | i 1 | 5a | 0 | i 1 | 52 | - 3 | i 1 | 13 | P* | — |
| Belgrade | 6.5 | 358 | i 1 | 41a | + 2 | i 3 | 31 | - 4g | i 2 | 12 | Pg | — |
| Istanbul | 7.0 | 64 | e 1 | 46 | 0 | e 3 | 6 | - 2 | e 1 | 57 | P* | i 4.2 |
| Rocca di Papa | 7.1 | 302 | e 1 | 47 | - 1 | i 3 | 8 | - 2 | i 3 | 39 | S* | — |
| Bucharest | E. 7.3 | 32 | e 1 | 53 | + 3 | e 3 | 30 | - 11* | — | — | — | — |
| Rome | 7.3 | 302 | e 1 | 51 | + 1 | 3 | 20 | + 5 | 3 | 41 | S* | — |
| Kalossa | 8.3 | 351 | e 2 | 10 | + 6 | i 3 | 35 | - 5 | e 2 | 50 | Pg | — |
| Kecskemet | 8.7 | 355 | e 2 | 32 | P* | 3 | 35 | - 15 | 4 | 6 | S* | e 5.0 |
| Siena | 8.8 | 308 | e 2 | 15 | + 4 | 4 | 11 | - 14* | — | — | — | 5.0 |
| Florence | 9.0 | 310 | e 2 | 21? | + 8 | i 3 | 58 | 0 | — | — | — | — |
| Triest | 9.0 | 327 | e 2 | 13 | 0 | i 3 | 49 | - 9 | 14 | 51 | Sg | i 6.1 |
| Prato | 9.2 | 310 | e 2 | 19 | + 3 | e 4 | 9 | + 6 | — | — | — | — |
| Budapest | E. 9.3 | 353 | e 2 | 19 | + 2 | 4 | 0 | - 5 | e 4 | 37 | S* | e 5.3 |
| Bologna | 9.5 | 314 | e 3 | 11 | Pg | e 4 | 55 | + 9* | — | — | — | e 5.8 |
| Ogyalla | 9.7 | 350 | e 2 | 32 | + 10 | e 4 | 16 | + 1 | (e 4 | 57) | S* | e 5.0 |
| Tolmezzo | 9.9 | 327 | e 2 | 33 | + 8 | i 4 | 17 | - 3 | — | — | — | — |
| Skalnate Pleso | 10.9 | 358 | e 2 | 18 | - 22 | e 4 | 43 | - 1 | e 2 | 24 | ? | — |
| Pavia | 11.1 | 312 | e 2 | 47k | + 4 | e 4 | 41 | - 8 | e 5 | 5 | SS | i 5.5 |
| Chur | 11.9 | 320 | e 2 | 55k | + 1 | e 5 | 3 | - 6 | — | — | — | — |
| Raciborzu | 11.9 | 352 | e 2 | 56 | + 2 | e 5 | 20 | SS | e 3 | 1 | PP | e 6.0 |
| Oropa | 12.0 | 312 | i 3 | 8 | PP | i 5 | 0 | - 11 | i 3 | 25 | ? | — |
| Helwan | 12.1 | 131 | 2 | 50 | - 7 | 5 | 0? | - 14 | — | — | — | — |
| Prague | 12.6 | 341 | e 3 | 3a | 0 | e 5 | 28 | + 2 | e 3 | 11 | PP | e 7.5 |
| Zürich | 12.7 | 319 | e 3 | 7 | + 2 | e 5 | 28 | 0 | e 3 | 18 | PP | — |
| Ksara | 13.0 | 106 | 3 | 6? | - 3 | e 5 | 21? | - 14 | — | — | — | — |
| Cheb | 13.2 | 336 | e 3 | 7 | - 4 | e 5 | 37 | - 3 | e 4 | 25 | ? | — |
| Neuchatel | 13.4 | 315 | e 3 | 14 | 0 | e 5 | 29 | - 16 | — | — | — | — |
| Stuttgart | 13.4 | 325 | e 3 | 13 | - 1 | e 5 | 36 | - 9 | e 3 | 21 | PP | — |

Continued on next page.

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1953

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|--------------------|----|--------------|--------------|----------------------|------|---------|------|---------|-----|--------|
| | | ^c | ^c | m. s. | s. | m. s. | s. | m. s. | m. | |
| Karlsruhe | | 13.9 | 324 | e 3 19 | - 2 | e 5 52 | - 5 | i 3 29 | PP | e 7.4 |
| Strasbourg | | 14.0 | 322 | e 3 21 | - 1 | e 6 0? | + 1 | e 3 32 | PP | e 7.2 |
| Collmburg | | 14.1 | 340 | e 3 28 | + 5 | e 6 23 | SS | e 3 33 | PP | e 8.1 |
| Algiers Univ. | z. | 14.2 | 269 | e 3 23 | - 1 | i 6 8 | + 4 | e 3 31 | PP | e 7.0 |
| Jena | | 14.2 | 336 | e 3 25 | + 1 | e 3 29 | ? | e 3 35 | PP | — |
| Barcelona | | 14.7 | 288 | e 3 27 | - 4 | 6 27 | SS | — | — | e 8.0 |
| Clermont-Ferrand | | 15.1 | 305 | e 3 38 | + 2 | — | — | — | — | — |
| Potsdam | | 15.1 | 342 | i 3 42 _a | + 6 | i 6 43 | SS | i 7 25 | Q | 8.4 |
| Tortosa | | 15.9 | 286 | i 3 46 | - 1 | i 6 48 | + 4 | — | — | — |
| Chambon-la-Forêt | | 16.6 | 312 | e 3 59 | + 3 | — | — | — | — | — |
| Alicante | | 16.7 | 277 | i 3 52 | - 5 | e 7 0 | - 3 | — | — | 8.5 |
| Paris | | 16.9 | 314 | e 4 1 | + 2 | i 7 21 | +14 | — | — | e 9.4 |
| Hamburg | | 17.0 | 337 | i 4 1 | 0 | i 7 25 | SS | — | — | — |
| Uccle | | 17.1 | 322 | e 4 3 | + 1 | e 7 14 | + 2 | e 4 21 | PPP | e 9.4 |
| Witteveen | z. | 17.5 | 332 | e 4 11 | + 4 | — | — | — | — | — |
| Copenhagen | | 18.3 | 345 | e 4 19 | + 2 | e 7 46 | + 7 | — | — | — |
| Almeria | | 18.5 | 273 | i 4 18 | - 1 | i 7 54 | +10 | 8 15 | SS | 11.4 |
| Granada | | 19.3 | 274 | i 4 29 _k | 0 | i 8 5 | + 3 | 4 53 | PP | 11.6 |
| Toledo | | 19.3 | 283 | i 4 29 | 0 | i 8 7 | + 5 | — | — | — |
| Jersey | E. | 19.7 | 312 | e 4 33 | - 1 | e 8 21 | +11 | — | — | 10.4 |
| Kew | | 19.8 | 318 | i 4 37 | + 2 | e 8 19 | + 6 | e 5 1 | PPP | e 13.4 |
| Tamanrasset | z. | 20.3 | 225 | i 4 38 | - 2 | e 8 28 | + 5 | e 4 54 | PP | i 10.0 |
| Upsala | | 21.7 | 356 | i 4 53 _a | - 2 | i 8 51 | 0 | i 9 3 | PcP | i 12.0 |
| Helsinki | | 22.0 | 4 | e 4 44 | -14 | e 8 46 | -10 | — | — | — |
| Durham | | 22.4 | 325 | i 5 3 | + 1 | i 10 9 | +65 | — | — | i 10.4 |
| Averroes | | 23.4 | 267 | i 5 17 | + 6 | e 9 25 | + 4 | — | — | — |
| Lisbon | | 23.4 | 281 | i 5 10 _k | - 1 | 9 22 | + 1 | — | — | 14.2 |
| Edinburgh | E. | 23.8 | 326 | — | — | e 9 21 | - 7 | — | — | — |
| Rathfarnham Castle | | 23.9 | 319 | i 5 17 _k | + 1 | i 9 43 | +13 | e 16 40 | ScS | e 14.0 |
| Aberdeen | | 24.2 | 330 | i 5 22 | + 3 | i 9 43 | + 8 | — | — | 14.2 |
| Bergen | N. | 24.2 | 342 | — | — | e 9 46 | +11 | — | — | e 13.4 |
| Kiruna | | 29.6 | 0 | i 6 8 | - 1 | e 11 9 | + 5 | i 7 13 | PPP | — |
| Reykjavik | z. | 36.1 | 331 | e 7 7 | + 2 | — | — | — | — | — |
| Quetta | z. | 38.7 | 87 | i 7 26 | - 1 | — | — | — | — | — |
| Scoresby Sund | | 39.2 | 339 | e 9 2 | PP | e 13 43 | +11 | — | — | 20.4 |
| Warsak Dam | E. | 40.8 | 79 | e 8 20? | +35 | e 14 11 | +15 | e 9 46 | PPP | — |
| Bombay | N. | 48.9 | 98 | i 8 52 | + 2 | e 16 2 | PS | 16 8 | PPS | — |
| Poona | N. | 49.9 | 98 | e 8 54 | - 3 | — | — | — | — | — |
| Chatra | z. | 56.0 | 80 | i 9 41 | - 2 | — | — | — | — | — |
| Resolute Bay | | 59.7 | 345 | i 10 7 _a | - 2 | e 18 20 | + 1 | — | — | — |
| Halifax | | 60.9 | 306 | e 10 15 | - 2 | — | — | — | — | — |
| Pretoria | z. | 64.1 | 173 | e 10 35 | - 3 | — | — | — | — | — |
| Seven Falls | E. | 64.2 | 311 | e 10 36 | - 3 | 19 15 | - 1 | — | — | — |
| Shawinigan Falls | N. | 65.6 | 311 | e 10 49 | + 1 | — | — | — | — | — |
| Kimberley | z. | 66.8 | 176 | i 10 52 | - 4 | — | — | — | — | — |
| Harvard | | 66.9 | 306 | i 10 56 _k | 0 | e 19 59 | PS | — | — | — |
| Weston | | 66.9 | 306 | i 10 57 _a | + 1 | e 19 53 | + 4 | — | — | — |
| Bermuda | | 67.6 | 295 | e 11 4 | + 3 | e 20 4 | + 7 | — | — | e 33.7 |
| Ottawa | | 68.0 | 311 | e 11 2 | - 1 | — | — | — | — | — |
| Kirkland Lake | z. | 69.0 | 316 | 11 9 _a | 0 | — | — | — | — | — |
| Palisades | | 69.2 | 306 | i 11 11 | + 1 | — | — | — | — | — |
| Fordham | | 69.3 | 306 | i 11 12 | + 1 | — | — | — | — | — |
| Buffalo (Larkin) | | 71.1 | 310 | e 11 23 | + 1 | — | — | — | — | — |
| Washington | | 72.4 | 306 | e 11 31 | + 1 | — | — | — | — | — |
| Cleveland | z. | 73.7 | 310 | i 11 37 _a | - 1 | — | — | — | — | — |
| Morgantown | | 73.8 | 307 | i 11 39 | + 1 | — | — | — | — | — |
| San Juan | | 76.5 | 283 | i 11 53 | - 1 | — | — | — | — | — |
| College | | 76.8 | 356 | e 11 55 | 0 | — | — | — | — | — |
| Fayetteville | | 84.7 | 313 | i 12 36 _a | - 1 | e 23 1 | - 3 | — | — | — |
| Butte | | 86.2 | 330 | i 12 45 | + 1 | — | — | — | — | — |

Continued on next page.

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1953

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| | | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|------------|----|---------------|----------|-------------|------------|-------------|------------|----------------|----------|
| Victoria | | 87.9 | 337 | 12 53 | 0 | — | — | — | — |
| Seattle | z. | 88.3 | 336 | i 12 8 | -47 | — | — | — | — |
| Mineral | z. | 94.5 | 332 | e 13 23k | 0 | — | — | e 13 47 | ? |
| Reno | z. | 94.5 | 330 | e 13 25a | + 2 | — | — | — | — |
| Shasta | | 94.5 | 333 | e 13 24k | + 1 | e 13 43 | ? | e 15 1 | ? |
| Nelson | | 95.7 | 325 | i 13 30 | + 1 | — | — | — | — |
| Tucson | | 96.6 | 321 | e 13 35 | + 2 | — | — | — | — |
| China Lake | z. | 96.8 | 327 | e 13 35 | + 1 | — | — | e 17 28 | PP |
| Berkeley | z. | 96.9 | 331 | e 13 36 | + 2 | — | — | — | — |
| Fresno | z. | 96.9 | 329 | e 13 36a | + 2 | — | — | — | — |
| Lick | z. | 97.1 | 331 | e 13 36a | + 1 | e 14 23 | ? | e 17 32 | PP |
| Riverside | z. | 98.3 | 326 | e 13 40 | - 1 | — | — | — | — |
| Pasadena | z. | 98.5 | 326 | e 13 47 | + 5 | — | — | e 17 41 | PP |
| Palomar | z. | 98.6 | 325 | e 13 44 | + 2 | — | — | e 17 44 | PP |

Aug. 12d. 16h. 8m. 30s. Epicentre 38°·0N. 21°·0E. (as at 13h.).

Intensity IV at Kalavryta.

Epicentre : 38°·2N. 20°·8E. (Strasbourg).

37°·5N. 20°·0E. (U.S.S.R.).

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, p. 85.

| | | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|------------------|----|---------------|----------|-------------|------------|-------------|------------|----------------|----------|
| Athens | | 2.1 | 91 | i 0 44a | + 2g | i 1 9 | 0g | i 1 12 | ? |
| Taranto | | 3.8 | 312 | 0 55 | - 6 | — | — | e 1 13 | Pg |
| Reggio Calabria | | 4.2 | 273 | e 1 6 | - 1 | e 1 53 | - 4 | — | — |
| Messina | | 4.3 | 274 | i 1 6k | - 2 | i 1 52 | - 8 | i 1 19 | P* |
| Belgrade | | 6.8 | 357 | e 1 40a | - 4 | e 3 10 | + 7 | e 2 14 | Pg |
| Istanbul | z. | 7.0 | 61 | e 2 46 | +60 | e 4 8 | +60 | e 3 19 | ? |
| Bucharest | | 7.4 | 30 | e 1 58 | + 6 | e 3 29 | +11 | — | — |
| Rome | | 7.6 | 304 | e 1 49 | - 6 | 3 19 | - 4 | 3 55 | S* |
| Kalossa | | 8.7 | 351 | e 2 40 | P* | e 3 45 | - 5 | e 4 9 | S* |
| Florence | | 9.4 | 311 | e 2 17 | - 1 | i 3 55 | -12 | — | — |
| Triest | | 9.4 | 327 | e 2 16 | - 2 | e 3 53 | -14 | e 4 50 | S* |
| Prato | | 9.5 | 311 | e 2 18 | - 2 | e 4 16 | + 6 | — | — |
| Budapest | E. | 9.6 | 352 | e 2 24 | + 3 | e 4 12 | 0 | e 3 0 | Pg |
| Bologna | | 9.8 | 315 | e 3 17 | Pg | e 4 56 | + 1* | — | — |
| Ogyalla | | 10.1 | 348 | e 3 43 | ? | e 4 14 | -11 | e 4 57 | S* |
| Pavia | | 11.4 | 313 | e 2 47 | 0 | e 4 46 | -10 | e 5 6 | SS |
| Helwan | | 11.8 | 130 | 2 50 | - 3 | 5 1 | - 5 | — | — |
| Chur | | 12.2 | 320 | e 3 0 | + 2 | e 5 3 | -13 | — | — |
| Raciborzu | | 12.2 | 352 | e 2 57 | - 1 | e 5 52 | SSS | e 6 32 | Q |
| Oropa | | 12.4 | 312 | e 3 9 | PP | i 5 7 | -14 | — | — |
| Ksara | | 12.8 | 105 | i 3 18 | PP | e 5 42 | SS | — | — |
| Prague | | 13.0 | 341 | e 3 5 | - 4 | e 5 10 | -25 | e 3 53 | ? |
| Zürich | | 13.1 | 320 | e 3 13 | + 3 | e 5 28 | -10 | — | — |
| Cheb | | 13.6 | 336 | e 3 17 | 0 | e 5 38 | -12 | e 3 14 | P |
| Neuchatel | | 13.7 | 316 | e 3 20 | + 2 | e 5 31 | -21 | — | — |
| Stuttgart | | 13.7 | 326 | e 3 15 | - 3 | e 5 35 | -17 | e 3 28 | PP |
| Algiers Univ. | z. | 14.3 | 271 | e 3 22 | - 4 | e 6 9 | + 3 | — | — |
| Karlsruhe | | 14.3 | 324 | e 3 32 | + 6 | e 6 14? | + 8 | e 3 42 | PPP |
| Strasbourg | | 14.3 | 322 | e 3 25 | - 1 | e 6 6? | 0 | e 3 37 | PP |
| Collmberg | | 14.4 | 340 | e 3 31 | + 4 | e 6 32 | SS | e 7 5 | Q |
| Jena | z. | 14.5 | 336 | e 3 28 | 0 | — | — | e 3 36 | PP |
| Clermont-Ferrand | | 15.4 | 306 | e 3 42 | + 2 | — | — | — | — |
| Potsdam | | 15.4 | 341 | e 3 45 | + 5 | 6 46 | SS | e 3 50? | PP |
| Tortosa | | 16.1 | 287 | 3 46 | - 3 | i 6 52 | + 3 | — | — |
| Paris | | 17.2 | 315 | e 4 2 | - 1 | — | — | i 4 15 | PP |
| Uccle | | 17.4 | 323 | e 4 9 | + 3 | e 7 22 | + 3 | — | — |
| De Bilt | | 17.9 | 327 | — | — | e 7 40 | +10 | — | — |
| Witteveen | z. | 17.9 | 332 | e 4 12 | 0 | — | — | — | — |
| Copenhagen | | 18.6 | 345 | e 4 14 | - 7 | e 7 53 | + 7 | — | — |
| Granada | | 19.5 | 277 | i 4 31a | 0 | i 8 32 | SS | 4 56 | PPP |

Continued on next page.

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1953

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| | | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|--------------------|----|---------------|----------|----------------------|------------|-------------|------------|----------------|-----------|
| Toledo | | 19.6 | 284 | i 4 31 | - 1 | — | — | — | — |
| Jersey | E. | 20.0 | 313 | e 4 39 | + 2 | e 8 28 | +11 | — | — |
| Kew | | 20.2 | 320 | e 4 38 | - 1 | e 8 25 | + 4 | — | e 12.5 |
| Tamanrasset | Z. | 20.2 | 226 | e 4 39 | 0 | e 8 27 | + 6 | i 4 56 | PP i 9.9 |
| Upsala | | 22.0 | 356 | i 4 54 _a | - 4 | e 8 52 | - 4 | i 5 13 | PP i 12.0 |
| Rathfarnham Castle | | 24.2 | 319 | i 5 18 _a | - 1 | e 9 44 | + 9 | i 5 53 | PP e 14.5 |
| Aberdeen | | 24.5 | 331 | — | — | e 9 50 | +10 | — | e 14.2 |
| Kiruna | | 29.9 | 0 | i 6 9 | - 3 | e 16 38 | ScS | — | e 15.5 |
| Quetta | Z. | 38.6 | 87 | e 7 26 | 0 | — | — | — | — |
| Chatra | Z. | 55.9 | 80 | i 9 41 | - 1 | — | — | — | — |
| Resolute Bay | | 60.0 | 345 | e 10 6 | - 5 | — | — | — | — |
| Halifax | | 61.2 | 306 | e 10 17 | - 2 | — | — | — | — |
| Pretoria | Z. | 63.8 | 173 | e 10 37 | + 1 | — | — | — | — |
| Kimberley | Z. | 66.5 | 176 | i 10 53 | - 1 | — | — | — | — |
| Weston | | 67.2 | 307 | i 10 57 _k | - 1 | — | — | — | — |
| Harvard | | 67.3 | 308 | i 10 58 _k | - 1 | — | — | — | — |
| Ottawa | | 68.3 | 312 | i 11 4 _k | - 1 | — | — | — | — |
| Kirkland Lake | Z. | 69.3 | 316 | e 11 10 | - 1 | — | — | — | — |
| Cleveland | | 74.0 | 310 | i 11 39 _k | 0 | — | — | i 11 42 | ? |
| San Juan | | 76.7 | 284 | e 11 55 | 0 | — | — | — | — |
| College | | 77.1 | 355 | e 11 55 | - 2 | — | — | — | — |
| Fayetteville | | 85.0 | 313 | i 12 39 _a | + 1 | — | — | — | — |
| Hungry Horse | | 85.2 | 332 | i 12 39 | 0 | — | — | e 15 33 | PP |
| Butte | | 86.5 | 330 | i 12 46 | 0 | — | — | — | — |
| Shasta | Z. | 94.8 | 333 | e 13 22 _a | - 3 | — | — | — | — |
| Reno | Z. | 94.9 | 330 | e 13 26 _k | + 1 | — | — | — | — |
| Boulder City | | 95.8 | 325 | i 13 30 | + 1 | — | — | — | — |
| Nelson | | 96.0 | 325 | i 13 31 | + 1 | — | — | — | — |
| China Lake | Z. | 97.1 | 327 | e 13 36 | + 1 | — | — | — | — |
| Fresno | Z. | 97.3 | 329 | e 13 37 _a | + 1 | — | — | — | — |
| Lick | Z. | 97.5 | 331 | e 13 38 _a | + 1 | — | — | — | — |

Aug. 12d. 16h. 53m. 45s. Epicentre 21°·2S. 174°·8W. (as on 1952, March 3d.).

A = -·9293, B = -·0846, C = -·3595; $\delta=0$; $h=+4$;
D = -·091, E = +·996; G = +·358, H = +·033, K = -·933.

| | | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|-----------------|------|---------------|----------|----------------------|------------|-------------|------------|----------------|-------------|
| Apia | | 7.9 | 22 | i 2 3 | + 4 | i 3 27 | - 3 | — | 3.8 |
| Auckland | N. | 18.0 | 208 | — | — | e 7 12 | -20 | — | e 8.2 |
| Tuai | N. | 18.9 | 200 | e 4 29 | + 5 | — | — | — | — |
| Tongariro | Z. | 19.8 | 203 | e 4 41 | + 6 | — | — | — | e 10.2 |
| Wellington | | 21.9 | 202 | e 4 46 | -11 | e 8 41 | -13 | e 12 12 | ScP e 12.2 |
| Cobb River | E. | 22.5 | 206 | e 5 3 | + 1 | e 8 38 | -27 | — | — |
| Kaimata | N.E. | 24.2 | 206 | e 5 17 | - 2 | — | — | — | e 13.8 |
| Christchurch | | 24.6 | 202 | e 4 52 | -31 | e 9 28 | -14 | e 5 41 | PP e 11.8 |
| Brisbane | | 29.9 | 252 | e 6 4 | - 8 | e 10 38 | -31 | i 7 7 | PP e 13.6 |
| Riverview | | 32.6 | 240 | e 6 24 | -11 | i 11 40 | -11 | i 7 46 | PP e 15.6 |
| Kurilsk | | 74.3 | 334 | i 11 42 | + 1 | i 21 21 | + 6 | — | — |
| Bandung | | 75.9 | 270 | e 11 52 | + 2 | e 22 8 | PS | e 12 37 | ? |
| Santa Clara | | 76.6 | 41 | e 11 54 _a | 0 | e 19 46 | ? | — | e 31.0 |
| Berkeley | | 76.7 | 41 | e 11 54 _a | - 1 | e 21 39 | - 2 | e 31 39 | Q e 36.8 |
| Lick | Z. | 76.8 | 41 | e 11 55 _a | 0 | i 12 7 | PcP | e 39 10 | P'P' e 41.0 |
| Djakarta | | 77.0 | 270 | e 11 55 _a | - 1 | e 22 44 | +59 | e 25 40 | ? |
| Pasadena | | 77.0 | 45 | e 11 55 | - 1 | i 21 50 | + 5 | e 15 6 | PP |
| Palomar | Z. | 77.4 | 47 | e 11 58 | 0 | — | — | — | — |
| Riverside | Z. | 77.4 | 45 | e 11 56 | - 2 | — | — | — | — |
| Fresno | | 77.5 | 42 | e 11 59 _k | 0 | e 21 56 | + 6 | — | — |
| Petropavlovsk | | 77.5 | 344 | i 12 0 | + 1 | i 21 54 | + 4 | — | — |
| Woody | Z. | 77.5 | 44 | e 11 59 | 0 | — | — | — | — |
| Yuzno-Sakhlinsk | | 77.9 | 332 | i 12 1 | 0 | — | — | — | — |
| China Lake | Z. | 78.4 | 44 | e 12 7 | + 3 | — | — | — | — |
| Shasta | | 78.5 | 38 | e 12 3 _a | - 1 | i 12 17 | PcP | e 13 33 | ? |

Continued on next page.

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1953

505

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------|----|------------|------------|------|-----|-------|------|-----|-------|-------|----|------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Mineral | z. | 78.7 | 39 | e 12 | 6k | 0 | — | — | — | i 12 | 19 | PcP | e 46.2 |
| Tinemaha | | 78.7 | 43 | i 12 | 7 | + 1 | i 22 | 9 | + 6 | — | — | — | — |
| Reno | | 79.3 | 40 | e 12 | 9a | 0 | — | — | — | — | — | — | — |
| Uglegorsk | | 79.8 | 335 | i 12 | 11 | - 1 | — | — | — | — | — | — | — |
| Nelson | | 80.1 | 45 | i 12 | 13 | 0 | — | — | — | — | — | — | — |
| Boulder City | | 80.3 | 45 | e 12 | 13 | - 1 | — | — | — | — | — | — | — |
| Zô-Sè | z. | 80.4 | 310 | i 12 | 16a | + 1 | 22 | 26 | + 5 | — | — | — | — |
| Tucson | | 81.0 | 50 | e 12 | 20 | + 2 | e 22 | 35 | + 8 | e 23 | 54 | PPS | e 36.6 |
| Hong Kong | | 81.6 | 298 | e 12 | 24 | + 3 | 22 | 40 | + 7 | — | — | — | — |
| Nanking | | 82.7 | 308 | i 12 | 27a | 0 | 22 | 50 | + 6 | — | — | — | — |
| Seattle | | 83.1 | 33 | e 11 | 44 | -45 | i 22 | 5 | -43 | — | — | — | — |
| Victoria | | 83.2 | 32 | 12 | 30 | + 1 | — | — | — | — | — | — | — |
| Tacubaya | | 84.2 | 67 | i 12 | 24 | -10 | — | — | — | — | — | — | — |
| Magadan | | 85.2 | 343 | i 12 | 39 | 0 | 23 | 8 | - 1 | — | — | — | — |
| Butte | | 87.4 | 38 | e 12 | 51 | + 1 | e 23 | 51 | +21 | — | — | — | — |
| Hungry Horse | | 87.9 | 36 | e 12 | 53 | 0 | e 21 | 23 | ? | e 16 | 31 | PP | i 40.9 |
| College | | 88.3 | 11 | i 12 | 54 | - 1 | i 23 | 33 | - 6 | e 26 | 55 | ? | e 35.4 |
| Huancayo | | 94.3 | 105 | e 13 | 26 | + 3 | e 23 | 57 | [0] | e 31 | 3 | SS | e 44.6 |
| Fayetteville | | 95.0 | 53 | i 13 | 27 | + 1 | e 23 | 59 | [- 2] | e 17 | 18 | PP | e 48.4 |
| La Plata | E. | 98.2 | 132 | 26 | 15 | PS | 24 | 9 | [- 9] | 32 | 3 | SS | 48.2 |
| | N. | 98.2 | 132 | 30 | 9 | PKKP | 24 | 3 | [-15] | — | — | — | 46.8 |
| La Paz | | 98.9 | 111 | e 13 | 35 | - 8 | 24 | 23 | [+ 1] | — | — | — | 48.0 |
| Kyakhta | | 99.2 | 320 | 13 | 44 | - 1 | e 24 | 22 | [- 1] | e 17 | 48 | PP | — |
| Kabansk | | 99.7 | 322 | i 13 | 46 | - 1 | e 26 | 45 | PS | 17 | 53 | PP | — |
| Chinchina | N. | 100.3 | 88 | — | — | — | e 24 | 27 | [- 1] | — | — | — | 48.2 |
| Irkutsk | | 101.1 | 322 | e 13 | 54 | + 1 | e 24 | 33 | [+ 1] | e 27 | 2 | PS | — |
| Bogota | | 101.6 | 89 | — | — | — | e 24 | 34 | [- 1] | e 31 | 27 | ? | 51.2 |
| Shillong | N. | 101.7 | 293 | — | — | — | i 24 | 37 | [+ 2] | — | — | — | — |
| Cleveland | | 106.1 | 51 | e 18 | 35k | PP | e 26 | 18 | + 7 | e 33 | 42 | SS | — |
| Palisades | | 111.6 | 53 | e 18 | 31 | [- 5] | i 25 | 19 | [0] | e 26 | 20 | SKKS | e 54.8 |
| Harvard | | 113.6 | 51 | e 15 | 8 | P | — | — | — | — | — | — | e 57.8 |
| Weston | | 113.7 | 51 | i 19 | 40a | PP | i 27 | 28 | S | e 29 | 4 | PS | e 59.2 |
| Seven Falls | E. | 114.6 | 47 | 29 | 24 | PS | 25 | 29 | [- 1] | 26 | 48 | SKKS | — |
| Poona | N. | 115.8 | 281 | — | — | — | e 27 | 54 | S | — | — | — | — |
| Bombay | | 116.9 | 281 | e 18 | 54 | [+ 7] | e 25 | 42 | [+ 3] | e 26 | 50 | SKKS | — |
| Almata | | 117.3 | 309 | e 19 | 59 | PP | — | — | — | — | — | — | — |
| Bermuda | | 117.6 | 63 | — | — | — | e 25 | 48 | [+ 6] | — | — | — | e 58.6 |
| Frunse | | 119.0 | 308 | e 18 | 50 | [- 1] | i 25 | 50 | [+ 3] | e 27 | 12 | SKKS | — |
| Andijan | | 120.6 | 306 | e 18 | 55 | [+ 1] | e 25 | 56 | [+ 4] | e 20 | 24 | PP | — |
| Warsak Dam | E. | 120.7 | 298 | e 20 | 22 | PP | e 25 | 22 | [-30] | — | — | — | e 68.2 |
| Namangan | | 121.1 | 306 | e 18 | 49 | [- 6] | e 25 | 32 | [-22] | i 20 | 26 | PP | — |
| Dzhergetal | | 121.4 | 304 | e 18 | 56 | [+ 1] | — | — | — | — | — | — | — |
| Kulyab | | 122.5 | 302 | e 19 | 0 | [+ 2] | — | — | — | — | — | — | — |
| Obi-garm | | 122.6 | 303 | e 18 | 57 | [- 1] | — | — | — | — | — | — | — |
| Tchimkent | | 122.7 | 308 | i 18 | 57 | [- 1] | e 26 | 1 | [+ 2] | e 27 | 34 | SKKS | — |
| Tashkent | | 122.9 | 307 | e 18 | 56 | [- 2] | e 26 | 1 | [+ 2] | e 30 | 33 | PS | — |
| Stalinabad | | 123.3 | 303 | e 18 | 59 | [0] | e 22 | 20 | PKS | — | — | — | — |
| Samarkand | | 124.7 | 304 | e 19 | 1 | [- 1] | — | — | — | 20 | 49 | PP | — |
| Sverdlovsk | | 126.3 | 326 | e 19 | 4 | [- 1] | 26 | 11 | [+ 1] | e 31 | 10 | PS | — |
| Kimberley | z. | 126.9 | 202 | i 19 | 4 | [- 2] | — | — | — | — | — | — | — |
| Ashkabad | | 131.5 | 303 | i 19 | 15 | [0] | i 22 | 43 | PKS | — | — | — | — |
| Kiruna | | 132.4 | 353 | i 19 | 17 | [0] | e 31 | 15? | PS | i 22 | 46 | PKS | e 56.2 |
| Pulkovo | | 137.5 | 341 | — | — | — | e 22 | 44 | PKS | — | — | — | — |
| Baku | | 137.6 | 308 | e 22 | 18 | PP | — | — | — | — | — | — | — |
| Moscow | | 137.9 | 333 | e 19 | 27 | [0] | e 23 | 2 | PKS | e 22 | 8 | PP | — |
| Grozny | | 139.8 | 313 | — | — | — | i 23 | 7 | PKS | — | — | — | — |
| Upsala | | 140.4 | 350 | i 19 | 25 | [- 6] | — | — | — | — | — | — | e 72.0 |
| Goris | | 140.5 | 308 | e 19 | 24 | [- 7] | 23 | 2 | PKS | — | — | — | — |
| Tiflis | | 141.0 | 312 | i 19 | 28 | [- 4] | — | — | — | 22 | 35 | PP | — |
| Gori | | 141.3 | 313 | e 19 | 29 | [- 4] | — | — | — | — | — | — | — |
| Erevan | | 141.7 | 309 | e 19 | 28 | [- 5] | — | — | — | e 22 | 41 | PP | — |
| Borzhome | | 141.9 | 311 | i 19 | 30 | [- 4] | — | — | — | i 22 | 40 | PP | — |
| Akhalkalaki | | 142.0 | 311 | e 19 | 32 | [- 2] | — | — | — | — | — | — | — |
| Aberdeen | N. | 143.7 | 7 | — | — | — | e 33 | 57 | PS | e 49 | 37 | ? | 76.8 |
| Sotchi | | 143.7 | 317 | e 19 | 33 | [- 4] | — | — | — | — | — | — | — |
| Copenhagen | | 145.1 | 353 | e 19 | 35 | [- 4] | 42 | 10 | SS | e 22 | 58 | PP | 78.2 |

Continued on next page.

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1953

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|------------------|----|----------|-----|----|--------------------|------------------|---------|------------------|----------------------|------------------|----|--------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Theodosia | | 145.6 | 321 | i | 19 40 | [0] | — | — | — | — | — | — |
| Durham | N. | 146.1 | 7 | i | 19 42 | [+ 1] | — | — | — | — | — | — |
| Yalta | | 146.7 | 321 | i | 19 43 | [+ 1] | — | — | — | — | — | — |
| Rathfarnham C. | Z. | 146.8 | 12 | i | 19 44 ^a | [+ 2] | i 19 55 | ? | e 22 45 | PP | — | — |
| Lwow | | 147.8 | 337 | i | 19 44 | [0] | — | — | — | — | — | — |
| Kishinev | | 147.9 | 330 | | 19 43 | [- 1] | — | — | — | — | — | — |
| Cernauti | | 148.3 | 333 | e | 19 45 | [0] | — | — | — | — | — | — |
| Potsdam | | 148.3 | 352 | i | 19 45 [†] | [0] | — | — | — | — | — | e 77.2 |
| Witteveen | Z. | 148.4 | 358 | e | 19 50 | [+ 5] | — | — | — | — | — | — |
| De Bilt | | 149.1 | 0 | e | 19 48 | [+ 2] | e 42 45 | SS | e 23 27 | PP | — | e 71.2 |
| Collmberg | Z. | 149.3 | 349 | e | 19 34 | [-12] | e 20 0 | PKP ₂ | e 23 38 | PP | — | — |
| Raciborzu | | 149.4 | 344 | e | 19 54 | PKP ₂ | — | — | e 20 50 | ? | — | — |
| Uzhgorod | | 149.4 | 337 | i | 19 47 | [+ 1] | — | — | — | — | — | — |
| Kew | | 149.5 | 6 | e | 20 2 | PKP ₂ | — | — | — | — | — | — |
| Jena | | 149.9 | 352 | e | 19 47 | [0] | e 19 59 | PKP ₂ | e 23 31 [†] | PP | — | — |
| Ksara | | 150.1 | 302 | i | 19 49 | [+ 1] | 36 25 | PPS | 23 31 | PP | — | — |
| Prague | | 150.3 | 348 | e | 19 55 | [+ 7] | e 20 3 | PKP ₂ | e 21 37 | ? | — | — |
| Uccle | | 150.5 | 2 | e | 19 49 | [+ 1] | e 23 7 | PKS | e 32 57 | ? | — | — |
| Cheb | | 150.6 | 352 | e | 20 2 | PKP ₂ | e 26 58 | [+ 3] | e 23 18 | PKS | — | — |
| Ogyalla | | 151.4 | 342 | e | 19 36 | [-13] | e 25 21 | ? | e 20 0 | PKP ₂ | — | — |
| Budapest | E. | 151.5 | 341 | e | 20 7 | PKP ₂ | — | — | e 21 35 | ? | — | — |
| Istanbul | | 151.7 | 321 | e | 19 50 [†] | [0] | e 21 57 | ? | e 23 42 | PP | — | 60.2 |
| Karlsruhe | Z. | 152.1 | 356 | e | 19 51 | [0] | e 19 59 | ? | e 20 5 | PKP ₂ | — | — |
| Kalossa | | 152.3 | 341 | | 20 12 | PKP ₂ | — | — | e 20 24 | ? | — | — |
| Stuttgart | | 152.3 | 354 | e | 19 51 | [0] | e 30 39 | {+ 8} | e 23 35 | PP | — | — |
| Paris | | 152.4 | 4 | e | 19 49 | [- 2] | i 20 12 | PKP ₂ | e 23 47 | PP | — | e 79.2 |
| Strasbourg | | 152.8 | 355 | e | 19 51 | [- 1] | e 43 9 | SS | i 20 11 | PKP ₂ | — | 73.2 |
| Chambon-la-Forêt | | 153.1 | 5 | e | 19 54 | [+ 2] | — | — | i 20 2 | PKP ₂ | — | — |
| Belgrade | | 153.3 | 335 | e | 19 55 | [+ 3] | e 20 23 | PKP ₂ | e 18 17 ^a | ? | — | — |
| Zürich | Z. | 153.7 | 356 | e | 19 17 | [-36] | — | — | — | — | — | — |
| Triest | | 154.6 | 347 | e | 19 51 | [- 3] | e 20 47 | ? | e 22 25 | ? | — | — |
| Helwan | Z. | 154.9 | 296 | | 19 54 | [0] | 20 20 | PKP ₂ | 23 59 | PP | — | — |
| Clermont-Ferrand | | 155.4 | 3 | e | 20 1 | [+ 6] | e 43 56 | SS | — | — | — | — |
| Oropa | | 155.5 | 356 | e | 20 2 | [+ 7] | e 31 2 | {+14} | i 20 32 | PKP ₂ | — | — |
| Pavia | | 155.9 | 353 | e | 20 10 ^a | [+14] | e 26 53 | [- 8] | e 34 29 | PSKS | — | — |
| Florence | | 156.9 | 349 | e | 19 59 | [+ 2] | e 30 51 | {- 5} | i 23 38 | SKP | — | — |
| Rome | | 158.5 | 345 | e | 19 59 | [0] | e 31 13 | {+ 9} | e 20 35 | PKP ₂ | — | — |
| Tortosa | | 160.0 | 9 | e | 20 40 | PKP ₂ | — | — | e 24 17 | PP | — | — |
| Alicante | | 162.2 | 15 | | 20 53 | PKP ₂ | 27 3 | [- 4] | 38 9 | PPS | — | 77.2 |
| Granada | | 162.3 | 23 | | 20 56 ^k | PKP ₂ | e 31 47 | {+23} | i 45 7 | SS | — | 86.0 |
| Almeria | | 163.0 | 21 | e | 20 54 | PKP ₂ | 45 56 | SSP | 25 32 | ? | — | 89.7 |
| Averroes | | 163.6 | 40 | e | 20 3 | [- 1] | — | — | — | — | — | — |
| Algiers Univ. | Z. | 164.6 | 6 | i | 20 3 ^k | [- 2] | e 21 4 | PKP ₂ | e 28 44 | PPP | — | — |
| Tamanrasset | Z. | 178.4 | — | e | 20 11 | [- 1] | e 32 47 | {+ 4} | e 28 59 | PcP,PKP | — | — |

Aug. 12d. 17h. 52m. Epicentre 38°-25N. 20°-75E.

Intensity III at Agrinion.

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, p.86.

Aug. 12d. 19h. 45m. Epicentre 38°-25N. 20°-75E.

Intensity III at Agrinion.

Loc. cit., 17h., p.86.

Aug. 12d. 21h. 39m. Epicentre 47°17'N. 7°10'E. (Zürich).

47°20'N. 7°12.5'E. (Rome).

Intensity V at Bellelay; IV at Delémont, Saignelégier, and Moutier in Switzerland; felt also at Lucelle in Haut-Rhin Department of France.

Dr. E. Wanner.

Jahresbericht des Erdbebendienstes der Schweiz im Jahre, 1953, Zürich, 1954, p.3, with macroseismic chart on p.5.

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Aug. 12d. 22h. 26m. Epicentre 17°·75N. 121°·0E.

Intensity IV at Tuguegararo ; III at Aparri ; I-II at Baguio ; and I at Casiguran.
Monthly Bulletin of Manila Observatory, Mirador, Baguio City, for Aug., 1953, p.3.

Aug. 12d. Many smaller aftershocks of the big earthquake at 9h. were recorded on this day ;
See A. Galanopoulos, Seismological Institute Bulletin, 1953, Athens, 1954, pp.82-87.

Aug. 13d. 3h. 22m. 6s. Epicentre 38°·3N. 20°·8E. (as on 12d.).

Intensity V at Amalias and III in the islands of Corfu.
Strasbourg gives epicentre 38°·25N. 20°·75E.

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, p.88.

| | | Δ | Az. | P. | O - C. | S. | O - C. | Supp. | L. |
|------------------|----|----------|-----|---------------------|------------------|--------|-------------------|--------|----------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Athens | | 2·3 | 98 | e 0 40 | 0 | i 1 12 | 0* | i 0 42 | P* |
| Taranto | | 3·5 | 309 | e 1 6 | + 3* | e 2 8 | + 12 _g | e 1 19 | P _g |
| Reggio Calabria | | 4·1 | 269 | e 1 7 | + 2 | i 1 52 | - 3 | i 1 59 | S |
| Messina | | 4·1 | 270 | i 1 4 _k | - 1 | 1 54 | - 1 | i 1 17 | P* |
| Belgrade | | 6·5 | 358 | e 1 38 | - 1 | i 3 53 | ? | e 2 10 | P _g |
| Istanbul | | 7·0 | 64 | e 1 46 | 0 | e 3 8 | 0 | 2 1 | P* |
| Bucharest | | 7·3 | 32 | e 2 6 | - 2* | e 3 42 | + 1* | e 3 34 | ? |
| Rome | | 7·3 | 302 | e 1 50 | 0 | i 4 4 | + 3 _g | e 3 9 | S |
| Timisoara | | 7·4 | 2 | e 1 42 | - 10 | e 4 15 | + 11 _g | e 2 6 | P* |
| Kalossa | N. | 8·3 | 351 | 2 38 | - 8 _g | 4 13 | + 3* | e 3 32 | S |
| Florence | | 9·0 | 310 | e 2 21 | + 8 | e 3 55 | - 3 | — | — |
| Triest | | 9·0 | 327 | e 2 12 | - 1 | i 3 53 | - 5 | i 4 50 | S _g |
| Prato | | 9·2 | 310 | e 2 18 | + 2 | e 4 29 | - 8* | — | — |
| Budapest | E. | 9·3 | 353 | e 3 4 | - 2 _g | 4 3 | - 2 | 5 1 | S _g |
| Bologna | | 9·5 | 314 | e 3 13 | + 3 _g | e 5 20 | + 6 _g | — | — |
| Ogyalla | | 9·7 | 350 | e 3 21 | + 7 _g | e 5 19 | - 1 _g | e 4 30 | S |
| Pavia | | 11·1 | 312 | e 3 8 | PP | e 4 3 | ? | e 5 25 | ? |
| Chur | | 11·9 | 320 | e 2 54 | 0 | e 5 0 | - 9 | — | — |
| Raciborzu | N. | 11·9 | 352 | e 3 38 _? | ? | — | — | — | — |
| Oropa | | 12·0 | 312 | e 3 32 | ? | i 5 8 | - 3 | — | — |
| Helwan | | 12·1 | 131 | 2 52 | - 5 | 5 2 | - 12 | 3 10 | PP |
| Prague | | 12·6 | 341 | e 3 0 | - 3 | — | — | e 3 19 | PP |
| Zürich | | 12·7 | 319 | e 3 6 | + 1 | e 5 34 | + 6 | e 3 17 | PP |
| Ksara | | 13·0 | 106 | i 2 50 | - 19 | i 6 22 | L | — | (i 6·4) |
| Cheb | | 13·2 | 336 | — | — | e 5 25 | - 15 | e 6 8 | SS |
| Neuchatel | | 13·4 | 315 | e 3 17 | + 3 | e 5 29 | - 16 | — | — |
| Stuttgart | | 13·4 | 325 | e 3 11 | - 3 | e 5 34 | - 11 | e 3 24 | PP |
| Karlsruhe | | 13·9 | 324 | e 3 18 | - 3 | e 6 2 | + 5 | e 3 32 | PP |
| Strasbourg | | 14·0 | 322 | e 3 21 | - 1 | e 6 14 | SS | e 3 33 | PP |
| Collmberg | | 14·1 | 340 | e 3 28 | + 5 | e 5 52 | - 10 | e 3 32 | PP |
| Algiers Univ. | z. | 14·2 | 269 | e 3 26 | + 2 | — | — | — | — |
| Jena | | 14·2 | 336 | e 3 24 | 0 | — | — | e 3 27 | PP |
| Clermont-Ferrand | | 15·1 | 305 | e 3 38 _? | + 2 | — | — | — | — |
| Potsdam | | 15·1 | 342 | e 3 42 | + 6 | e 6 49 | SS | e 3 48 | PP |
| Tortosa | | 15·9 | 286 | 3 47 | 0 | i 6 57 | + 13 | — | — |
| Chambon-la-Forêt | | 16·6 | 312 | e 3 54 | - 2 | — | — | i 4 0 | PP |
| Alicante | | 16·7 | 277 | e 4 3 | + 6 | e 7 11 | + 8 | — | 8·6 |
| Paris | | 16·9 | 314 | e 3 58 | - 1 | e 4 2 | P | i 4 14 | PP |
| Uccle | | 17·1 | 322 | e 4 4 | + 2 | e 7 22 | + 10 | — | e 9·9 |
| Witteveen | z. | 17·5 | 332 | e 4 9 | + 2 | — | — | — | — |
| De Bilt | | 17·6 | 328 | e 4 13 | + 5 | e 7 40 | SS | — | e 10·3 |
| Granada | | 19·3 | 274 | i 4 12 _k | - 17 | 7 22 | - 40 | 5 52 | ? |
| Toledo | | 19·3 | 283 | i 4 32 | + 3 | — | — | — | — |
| Kew | | 19·8 | 318 | i 4 35 | 0 | e 8 16 | + 3 | — | e 15·9 |
| Malaga | | 20·1 | 275 | e 4 38 | 0 | e 7 58 | - 21 | — | — |
| Tamanrasset | z. | 20·3 | 225 | e 4 38 | - 2 | e 8 28 | + 5 | e 4 57 | PP |
| Upsala | | 21·7 | 356 | i 4 53 _a | - 2 | e 9 5 | + 14 | — | e 10·9 |
| Rathfarnham C. | z. | 23·9 | 319 | i 5 16 _a | 0 | i 5 29 | ? | i 5 48 | PP |
| Kiruna | | 29·6 | 0 | i 6 7 | - 2 | — | — | i 6 18 | ? |
| Reykjavik | z. | 36·1 | 331 | e 7 14 | + 9 | — | — | — | — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|----|----------|-----|----------------------|------|---------|------|---------|----|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Bombay | N. | 48.9 | 98 | e 9 8 | +18 | e 16 22 | +29 | — | — |
| Resolute Bay | | 59.7 | 345 | e 10 6 | - 3 | — | — | — | — |
| Halifax | | 60.9 | 306 | i 10 16 | - 1 | — | — | — | — |
| Seven Falls | E. | 64.2 | 311 | e 10 40 | + 1 | — | — | — | — |
| Harvard | | 66.9 | 306 | i 10 56 _a | 0 | — | — | — | — |
| Weston | | 66.9 | 306 | i 10 56 _a | 0 | — | — | — | — |
| Ottawa | | 68.0 | 311 | e 11 3 | 0 | — | — | — | — |
| Kirkland Lake | Z. | 69.0 | 316 | e 11 9 | 0 | — | — | — | — |
| Cleveland | Z. | 73.7 | 310 | i 11 38 _k | 0 | — | — | — | — |
| San Juan | | 76.5 | 283 | e 11 54 | 0 | — | — | — | — |
| College | | 76.8 | 356 | i 11 54 | - 1 | — | — | — | — |
| Fayetteville | | 84.7 | 313 | i 12 37 | 0 | — | — | — | — |
| Hungry Horse | | 84.8 | 332 | i 12 38 | + 1 | — | — | — | — |
| Butte | | 86.2 | 330 | i 12 45 | + 1 | — | — | — | — |
| Mineral | Z. | 94.5 | 332 | e 13 24 _k | + 1 | — | — | — | — |
| Reno | Z. | 94.5 | 330 | e 13 24 _a | + 1 | — | — | — | — |
| Shasta | Z. | 94.5 | 333 | e 13 23 | 0 | — | — | — | — |
| Boulder City | | 95.5 | 325 | e 13 28 | 0 | — | — | — | — |
| Nelson | | 95.7 | 325 | i 13 30 | + 1 | — | — | — | — |
| Tucson | | 96.6 | 321 | e 13 37 | + 4 | — | — | — | — |
| Lick | Z. | 97.1 | 331 | e 13 35 _a | 0 | — | — | e 13 53 | ? |

Aug. 13d. 5h. 45m. 35s. Epicentre 35°·6N. 140°·3E. Depth 70km.
Intensity IV at Kashiwa, Tokyo, Tukubasan, Ajiro, and Hunatu; II-III at Yokohama, Kumagaya, Utumoniya, Osima, Titibu, Misima, Maebasi, and Kofu.
Seismo. Bull. Cent. Met. Obs., Japan, for Aug., 1953, Tokyo, 1953, p.13-14, with macroseismic chart p.13.

Aug. 13d. 9h. 23m. 27s. Epicentre 21°·5S. 170°·2E. Depth of focus 0·015.
(as on 1946, May 3d.).

$$A = -.9177, B = +.1585, C = -.3644; \quad \delta = +8; \quad h = +4;$$

$$D = +.170, E = +.985; \quad G = +.359, H = -.062, K = -.931.$$

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|------|----------|-----|----------------------|------|---------|------|---------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Auckland | N. | 15.8 | 167 | i 3 33 | - 3 | i 6 35 | + 7 | e 7 43 | ? |
| Brisbane | | 16.7 | 246 | i 3 49 _k | + 1 | i 7 0 | +12 | i 4 4 | PP |
| Karapiro | N. | 17.0 | 168 | e 3 48 | - 3 | e 7 7 | +13 | — | — |
| New Plymouth | E. | 17.8 | 171 | e 4 17 | PP | — | — | — | — |
| Tongariro | Z. | 18.2 | 168 | 3 3 | -62 | 7 33 | +12 | — | — |
| Tuai | N. | 18.2 | 165 | e 4 3 | - 2 | 7 32 | +11 | — | — |
| Apia | | 18.8 | 70 | i 4 7 | - 5 | i 7 31 | - 2 | — | — |
| Cobb River | E. | 19.6 | 175 | e 4 22 | + 2 | e 7 53 | + 4 | — | — |
| Wellington | | 20.1 | 172 | e 4 24 | - 2 | e 8 3 | + 4 | e 4 47 | PP |
| Riverview | | 20.8 | 230 | i 4 34 _k | + 1 | i 8 27 | +15 | i 5 7 | pP |
| Kaimata | N.E. | 21.0 | 178 | e 4 34 | - 1 | 8 25 | + 9 | — | — |
| Christchurch | | 22.1 | 177 | e 4 48 | + 3 | e 8 38 | + 2 | e 8 45 | PcP |
| Melbourne | E. | 27.2 | 228 | i 5 35 | + 1 | i 10 6 | + 5 | i 6 4 | pP |
| Perth | | 49.2 | 246 | 18 23 | ScS | i 15 43 | +12 | 19 36 | SS |
| Honolulu | | 52.8 | 38 | e 9 6 | + 2 | e 16 21 | 0 | — | i 22.3 |
| Baguio | | 61.5 | 304 | i 10 5 | 0 | i 18 25 | +10 | — | — |
| Bandung | N. | 62.0 | 274 | e 10 10 | + 1 | e 18 31 | +10 | i 19 9 | PPS |
| Djakarta | | 63.0 | 274 | i 10 17 _k | + 1 | i 18 43 | + 9 | i 11 1 | pP |
| Mera | | 63.1 | 333 | e 10 7 | - 9 | e 18 45 | +10 | — | e 29.0 |
| Osima | | 63.1 | 332 | e 10 17 | + 1 | — | — | — | e 28.2 |
| Omaesaki | | 63.5 | 332 | e 10 22 | + 3 | e 18 51 | +11 | — | — |
| Misima | E. | 63.6 | 332 | e 10 20 | + 1 | e 18 50 | + 9 | — | — |
| Yokohama | | 63.6 | 333 | e 10 16 | - 3 | — | — | — | — |
| Shizuoka | | 63.8 | 332 | e 10 21 | 0 | e 18 55 | +11 | e 20 11 | ScS |
| Siomisaki | | 63.8 | 330 | e 10 22 | + 1 | e 18 13 | -31 | — | — |
| Tokyo | | 63.8 | 330 | 10 25 | + 4 | 18 52 | + 8 | e 20 11 | ScS |
| Hunatu | | 64.0 | 332 | e 9 55 | -27 | e 18 49 | + 3 | — | — |
| Kohu | E. | 64.2 | 332 | e 10 25 | + 2 | e 18 58 | + 9 | e 20 19 | ScS |
| Yakusima | | 64.2 | 332 | e 10 24 | + 1 | — | — | — | — |
| Kumagaya | | 64.3 | 333 | 10 25 | + 1 | 19 0 | +10 | — | — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|----|----------|-----|----------------------|------|---------|-------|---------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Titibu | | 64.3 | 332 | e 10 26 | + 2 | e 19 3 | +13 | — | — |
| Muroto | | 64.4 | 327 | e 10 23 | - 2 | e 20 11 | +20 | — | — |
| Onahama | | 64.4 | 334 | e 10 23 | - 2 | e 18 45 | - 6 | — | — |
| Iida | | 64.5 | 332 | e 10 15 | -10 | e 19 4 | +12 | — | — |
| Utunomiya | | 64.5 | 333 | e 10 23 | - 2 | e 18 54 | + 2 | 11 17 | pP |
| Kameyama | | 64.6 | 329 | 10 25 | - 1 | 19 3 | +10 | e 20 18 | ScS |
| Nagoya | N. | 64.6 | 330 | e 10 27 | + 1 | 19 5 | +12 | — | — |
| Simidu | | 64.6 | 325 | e 9 59 | -27 | e 19 0 | + 7 | — | — |
| Maebasi | | 64.7 | 332 | e 10 25 | - 2 | 19 4 | + 9 | e 12 6 | ? |
| Miyazaki | | 64.8 | 324 | e 9 54 | -33 | e 19 9 | +13 | — | — |
| Oiwake | | 64.8 | 332 | e 10 29 | + 2 | e 19 3 | + 7 | e 10 55 | pP |
| Osaka | | 64.8 | 328 | e 10 31 | + 4 | e 18 53 | - 3 | e 10 55 | pP |
| Shirakawa | | 64.8 | 333 | e 10 26 | - 1 | e 19 3 | + 7 | — | — |
| Sumoto | | 64.9 | 328 | e 10 26 | - 2 | e 19 8 | +11 | — | — |
| Hikone | | 65.0 | 330 | 10 3 | -25 | e 19 10 | +12 | e 23 20 | SS |
| Kagosima | | 65.0 | 323 | 10 29 | + 1 | 19 10 | +12 | — | — |
| Koti | | 65.0 | 326 | e 10 29 | + 1 | e 19 4 | + 6 | e 20 24 | ScS |
| Kyoto | | 65.0 | 329 | e 10 17 | -11 | — | — | e 11 3 | sP |
| Matumoto | | 65.0 | 331 | 10 29 | + 1 | 19 7 | + 9 | — | — |
| Nagano | N. | 65.0 | 332 | e 10 30 | + 2 | e 19 13 | +15 | — | — |
| Hokusima | | 65.2 | 334 | e 10 31 | + 1 | 19 11 | +10 | — | — |
| Inawasiro | | 65.2 | 334 | e 10 32 | + 2 | — | — | — | — |
| Matusiro | | 65.2 | 332 | 10 32 | + 2 | 19 1 | 0 | 20 29 | sS |
| Takamatu | | 65.3 | 328 | e 10 28 | - 2 | e 19 4 | + 2 | — | 31.5 |
| Tsuruga | | 65.4 | 330 | e 10 17 | -14 | — | — | — | — |
| Sendai | | 65.5 | 335 | e 10 31 | - 1 | e 19 7 | + 3 | e 11 6 | pP |
| Hukui | | 65.6 | 331 | e 10 37 | + 5 | — | — | — | — |
| Matuyama | | 65.6 | 326 | e 10 32 | 0 | e 19 17 | +11 | e 20 23 | ScS |
| Ooita | | 65.7 | 324 | e 10 34 | + 1 | e 19 18 | +11 | — | — |
| Toyama | | 65.7 | 332 | e 10 35 | + 2 | e 19 0 | - 7 | e 12 59 | PP |
| Yamagata | | 65.7 | 335 | e 10 34 | + 1 | e 19 19 | +12 | — | — |
| Kanazawa | | 65.8 | 330 | e 10 36 | + 2 | — | — | — | — |
| Kumamoto | | 65.9 | 324 | e 10 11 | -23 | — | — | — | — |
| Niigata | | 66.0 | 333 | e 10 43 | + 8 | e 19 23 | +12 | 11 3 | pP |
| Hirosima | | 66.2 | 326 | 10 35 | - 1 | e 19 17 | + 4 | — | — |
| Mizusawa | E. | 66.2 | 336 | 10 37 | + 1 | 19 23 | +10 | — | — |
| Miyako | | 66.3 | 337 | e 10 35 | - 2 | e 19 16 | + 2 | e 10 39 | P |
| Saga | E. | 66.4 | 324 | i 10 43 | + 6 | i 19 26 | +11 | — | — |
| Wazima | | 66.4 | 332 | e 10 38 | + 1 | e 19 26 | +11 | — | — |
| Sakata | | 66.5 | 335 | e 10 50 | +12 | e 19 41 | +24 | — | — |
| Hukuoka | | 66.6 | 325 | e 10 38 | - 1 | e 19 30 | +12 | — | e 28.6 |
| Morioka | | 66.6 | 336 | e 10 35 | - 4 | — | — | — | — |
| Hamada | E. | 66.8 | 326 | 10 40 | 0 | e 19 26 | + 6 | — | — |
| Akita | | 67.1 | 335 | 10 41 | - 1 | 19 37 | +13 | — | — |
| Aomori | | 67.8 | 336 | e 10 49 | + 3 | 19 49 | +17 | e 10 59 | ? |
| Obihiro | | 68.8 | 339 | e 11 10 | +18 | — | — | — | — |
| Mori | N. | 69.0 | 337 | 10 56 | + 2 | 19 58 | +12 | — | — |
| Tomakomai | | 69.0 | 339 | e 11 3 | + 9 | — | — | — | — |
| Kurilsk | | 69.5 | 343 | i 10 56 | - 1 | i 19 58 | + 6 | — | — |
| Sapporo | | 69.5 | 338 | e 10 58 | + 1 | i 20 53 | +61 | — | — |
| Z6-S6 | Z. | 70.3 | 317 | 11 0 | - 1 | — | — | — | — |
| Nanking | | 72.5 | 315 | i 11 19 _a | + 5 | i 20 37 | +10 | — | — |
| Yuzno-Sakhlinsk | | 72.5 | 340 | e 11 15 | + 1 | — | — | — | — |
| Uglegorsk | | 74.6 | 342 | 11 26 | - 1 | 21 33 | ScS | — | — |
| Petropavlovsk | | 75.0 | 352 | 11 27 | - 2 | 21 2 | + 7 | — | — |
| Klyuchi | | 77.9 | 355 | e 11 44 | - 1 | i 21 34 | + 8 | 12 22 | pP |
| Magadan | | 82.3 | 350 | 12 4 | - 5 | 22 21 | + 9 | 15 21 | PP |
| Berkeley | | 86.6 | 48 | e 12 28 _a | - 2 | e 22 50 | - 4 | e 15 58 | PP |
| Santa Clara | | 86.6 | 48 | e 12 44 _k | +14 | e 22 51 | - 3 | — | e 35.4 |
| Lick | Z. | 86.8 | 48 | e 12 30 _a | - 1 | e 16 24 | pPP | i 13 9 | e 40.4 |
| Pasadena | | 87.7 | 52 | e 12 33 | - 2 | i 23 12 | + 8 | i 16 8 | PP |
| Fresno | Z. | 87.8 | 49 | i 12 34 _a | - 2 | — | — | i 12 41 | P |
| Woody | Z. | 87.9 | 50 | e 12 35 | - 1 | i 12 41 | P | e 16 7 | PP |
| Shasta | Z. | 88.0 | 45 | e 12 35 _a | - 2 | e 22 55 | [+ 4] | i 13 14 | pP |
| Barratt | Z. | 88.2 | 53 | i 12 38 | 0 | i 12 44 | PcP | i 13 12 | pP |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
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| | | ^c | ^c | m. s. | s. | m. s. | s. | m. s. | m. | |
| Riverside | | 88.2 | 52 | e 12 35 | - 3 | e 23 1 | [+ 9] | i 12 59 | pP | — |
| Mineral | z. | 88.3 | 45 | e 12 36 ^a | - 2 | e 16 9 | PP | i 13 12 | pP | — |
| Palomar | z. | 88.3 | 54 | i 12 37 | - 1 | i 12 43 | PcP | i 13 12 | pP | — |
| China Lake | z. | 88.9 | 50 | e 12 39 | - 2 | i 12 45 | PcP | i 13 12 | pP | — |
| Tinemaha | | 89.0 | 50 | e 12 41 | 0 | i 23 30 | +14 | i 24 16 | SP | — |
| Reno | | 89.1 | 47 | e 12 41 | - 1 | e 23 29 | +12 | i 12 47 | PcP | — |
| Shillong | N. | 89.2 | 298 | e 12 50 | + 8 | i 23 6 | [+ 8] | i 23 29 | S | — |
| Kyahkta | | 90.9 | 324 | e 12 48 | - 2 | e 23 7 | [- 1] | e 13 27 | pP | — |
| Nelson | | 90.9 | 51 | i 12 49 | - 1 | i 13 32 | sP | i 13 21 | pP | — |
| Boulder City | | 91.0 | 51 | i 12 49 | - 2 | e 23 20 | [+11] | i 13 22 | pP | — |
| Victoria | | 91.4 | 37 | 12 51 | - 2 | 23 18 | [+ 7] | — | — | — |
| Seattle | | 91.6 | 38 | i 12 56 | + 2 | e 23 21 | [+ 9] | e 13 22 | pP | — |
| Kabansk | | 91.7 | 326 | i 12 52 | - 2 | 23 42 | + 1 | i 16 28 | PP | — |
| College | | 91.9 | 16 | e 12 50 | - 5 | e 23 19 | [+ 5] | i 13 41 | pP | — |
| Tucson | | 92.4 | 56 | e 12 57 | 0 | e 23 49 | + 2 | i 13 29 | pP | e 34.8 |
| Irkutsk | | 93.1 | 326 | e 12 58 | - 2 | e 23 22 | [+ 1] | 30 33 | SS | — |
| Chatra | | 93.6 | 297 | e 13 3 | 0 | i 23 33 | [+ 9] | — | — | — |
| Chihuahua | | 94.8 | 61 | e 25 1 | SP | — | — | e 44 41 | ? | — |
| Butte | | 96.8 | 42 | e 13 24 | + 7 | e 23 49 | [+ 8] | — | — | — |
| Hungry Horse | | 96.8 | 40 | e 13 14 | - 3 | e 23 47 | [+ 6] | e 38 4 | P'P' | — |
| Tacubaya | | 97.4 | 72 | e 18 5 | ? | — | — | — | — | — |
| Hyderabad | N. | 97.8 | 286 | 24 38 | S | i 23 46 | [0] | i 31 30 | SS | — |
| Vera Cruz | | 100.1 | 73 | e 17 53 | PP | — | — | e 18 45 | ? | — |
| Poona | | 102.3 | 285 | — | — | i 24 15 | [+ 7] | i 32 43 | SS | — |
| Bombay | | 103.4 | 285 | e 13 8 | ? | i 25 37 | +17 | i 28 23 | PPS | — |
| Almata | | 106.7 | 311 | i 18 31 | PP | — | — | — | — | — |
| Fayetteville | | 106.7 | 57 | e 14 6 | P | e 24 35 | [+ 7] | e 27 49 | PS | — |
| Naryn | | 106.9 | 308 | — | — | i 24 40 | [+11] | i 25 29 | SKKS | — |
| Huancayo | | 107.6 | 111 | e 28 51 | PPS | e 24 44 | [+12] | e 34 21 | SS | e 45.1 |
| La Plata | | 107.7 | 140 | 27 57 | PS | 24 27 | [- 5] | 25 27 | SKKS | 49.0 |
| Frunse | | 108.3 | 310 | 14 12 | P | i 28 4 | PS | i 18 46 | PP | — |
| Warsak Dam | E. | 108.6 | 300 | e 18 39 | [+26] | e 24 42 | [+ 6] | i 18 44 | PP | — |
| Andijan | | 109.5 | 307 | i 18 47 | PP | i 28 19 | PS | i 21 19 | PPP | — |
| Fergana | | 109.8 | 306 | e 18 56 | PP | e 25 48 | SKKS | e 21 23 | PPP | — |
| Namangan | | 110.0 | 307 | i 21 17 | PPP | i 25 49 | SKKS | — | — | — |
| Kulyab | | 110.9 | 303 | e 18 43 | pP' | — | — | — | — | — |
| Obi-garm | | 111.1 | 304 | — | — | e 24 55 | [+ 9] | — | — | — |
| La Paz | | 111.5 | 119 | e 19 35 | ? | 24 55 | [+ 7] | i 28 49 | PS | 53.8 |
| Quetta | | 111.5 | 295 | i 18 18 | [- 1] | e 24 57 | [+ 9] | e 14 34 | P | — |
| Stalinabad | | 111.8 | 304 | e 18 59 | PP | e 28 30 | PS | e 21 31 | PPP | — |
| Tchimkent | | 111.8 | 308 | — | — | i 26 1 | SKKS | — | — | — |
| Resolute Bay | | 111.9 | 16 | e 18 20 | [0] | e 28 36 | PS | — | — | — |
| Bogota | | 115.6 | 95 | i 28 53 | PS | i 25 22 | [+18] | i 36 17 | SKKS ₂ | 46.6 |
| Galerazamba | | 116.6 | 88 | — | — | e 34 33 | SS | — | — | 46.6 |
| Bairam-Ali | | 116.8 | 302 | 19 36 | PP | 26 13 | SKKS | — | — | — |
| Cleveland | | 117.4 | 53 | e 19 40 | PP | e 25 17 | [+ 6] | e 35 50 | SS | — |
| Sverdlovsk | | 118.4 | 324 | 18 34 | [+ 1] | i 25 22 | [+ 8] | e 14 56? | P | — |
| Kirkland Lake | z. | 118.8 | 46 | e 18 33 | [0] | — | — | — | — | — |
| Buffalo (Larkin) | | 119.6 | 52 | e 18 39 | [+ 5] | — | — | — | — | — |
| Ashkabad | | 119.8 | 302 | e 18 39 | [+ 5] | e 25 34 | [+15] | i 20 5 | PP | — |
| Kimberley | z. | 119.9 | 215 | i 18 36 | [+ 2] | — | — | — | — | — |
| Pretoria | z. | 120.3 | 220 | e 18 39 | [+ 3] | — | — | — | — | — |
| Washington | | 120.6 | 56 | e 18 41 | [+ 4] | e 32 47 | PKKS | — | — | — |
| Ottawa | | 121.8 | 48 | i 18 37 ^k | [- 2] | 36 43 | SS | 20 17 | PP | — |
| Fordham | | 123.1 | 54 | e 18 48 | [+ 7] | — | — | — | — | — |
| Palisades | | 123.1 | 54 | e 18 41 | [0] | i 20 22 | PP | e 15 21 | P | e 57.0 |
| Shawinigan Falls | N. | 123.8 | 47 | e 18 50 | [+ 7] | 25 37 | [+ 5] | — | — | — |
| Harvard | | 124.8 | 52 | i 18 43 ^k | [- 2] | e 32 41 | SKKP | i 20 37 | PP | — |
| Seven Falls | E. | 125.0 | 46 | e 20 35 | PP | 25 36 | [+ 1] | 30 35 | PS | — |
| Weston | | 125.0 | 52 | i 18 43 ^a | [- 2] | — | — | — | — | i 50.8 |
| Baku | | 126.4 | 305 | e 20 52 | PP | — | — | — | — | — |
| San Juan | | 127.2 | 82 | i 18 47 | [- 2] | — | — | — | — | — |
| Kirovobad | | 129.1 | 306 | e 18 53 | [0] | — | — | — | — | — |
| Goris | | 129.2 | 304 | i 18 54 | [+ 1] | i 22 23 | PKS | — | — | — |
| Grozny | | 129.3 | 309 | e 18 53 | [0] | — | — | i 21 11 | PP | — |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
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| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Kiruna | 130.0 | 345 | i 18 | 53 | [- 2] | i 27 | 57 | SKKS | e 21 | 8 | PP | e 54.6 |
| Tiflis | 130.2 | 307 | i 18 | 59 | [+ 4] | — | — | — | — | — | — | — |
| Bermuda | 130.4 | 65 | i 18 | 59 | [+ 4] | i 22 | 14 | PKS | i 21 | 15 | PP | e 61.6 |
| Halifax | 130.4 | 49 | e 18 | 53 | [- 2] | i 22 | 13 | PKS | 19 | 24 | pP' | — |
| Erevan | 130.6 | 305 | i 18 | 56 | [0] | — | — | — | — | — | — | — |
| Gori | 130.7 | 307 | e 19 | 0 | [+ 4] | — | — | — | — | — | — | — |
| Leninakan | 131.0 | 306 | e 22 | 36 | PKS | — | — | — | — | — | — | — |
| Moscow | 131.1 | 327 | e 19 | 1 | [+ 4] | i 28 | 5 | SKKS | — | — | — | — |
| Akhalkalaki | 131.2 | 307 | 19 | 1 | [+ 4] | — | — | — | 19 | 41 | pP' | — |
| Borzhomi | 131.2 | 307 | i 19 | 4 | [+ 7] | e 31 | 23 | SKSP | e 19 | 46 | pP' | — |
| Tsikhli-Dzhvari | 131.2 | 307 | e 19 | 5 | [+ 8] | — | — | — | — | — | — | — |
| Zugdidi | 132.2 | 309 | 19 | 8 | [+ 9] | — | — | — | — | — | — | — |
| Pulkovo | 132.4 | 334 | i 21 | 34 | PP | i 22 | 33 | PKS | i 28 | 12 | SKKS | — |
| Sotchi | 133.6 | 311 | e 19 | 5 | [+ 4] | i 22 | 37 | PKS | e 28 | 23 | SKKS | — |
| Helsinki | 134.3 | 337 | e 22 | 26 | PKS | — | — | — | — | — | — | — |
| Theodosia | 136.4 | 314 | e 19 | 10 | [+ 3] | e 22 | 44 | PKS | e 28 | 39 | SKKS | — |
| Reykjavik | z. 136.6 | 8 | e 18 | 53 | [- 14] | i 22 | 19 | SKP | — | — | — | — |
| Upsala | 137.0 | 340 | i 18 | 58 | [- 10] | e 26 | 10 | [+ 6] | i 22 | 29 | SKP | e 50.6 |
| Yalta | 137.3 | 313 | e 19 | 9 | [+ 1] | e 28 | 45 | SKKS | i 22 | 2 | PP | — |
| Ksara | 138.0 | 296 | e 19 | 15 | [+ 5] | — | — | — | 22 | 1 | PP | — |
| Kishinev | 139.8 | 318 | e 19 | 9 | [- 4] | e 28 | 59 | SKKS | e 22 | 13 | PP | — |
| Lwow | 140.4 | 325 | e 19 | 11 | [- 3] | i 22 | 48 | PKS | i 22 | 20 | PP | — |
| Istanbul | z. 141.9 | 310 | e 19 | 13 | [- 4] | e 22 | 47 | PKS | e 19 | 55? | pP' | — |
| Copenhagen | 142.0 | 340 | e 19 | 12 | [- 5] | e 22 | 49 | PKS | 22 | 27 | PP | 62.6 |
| Helwan | z. 142.2 | 291 | i 19 | 15k | [- 2] | e 23 | 3 | PKS | i 22 | 23 | PP | — |
| Uzhgorod | 142.7 | 325 | i 19 | 17 | [- 11] | i 29 | 19 | SKKS | 22 | 34 | PP | — |
| Aberdeen | 143.9 | 354 | i 19 | 23 | [+ 3] | i 29 | 21 | SKKS | i 22 | 39 | PP | — |
| Raciborzu | 143.9 | 330 | e 19 | 16? | [- 4] | e 24 | 49 | ? | e 19 | 51 | pP' | — |
| Potsdam | 144.5 | 337 | e 19 | 21 | [0] | e 22 | 45 | PP | 19 | 54 | pP' | e 69.5 |
| Timisoara | n. 145.0 | 321 | e 19 | 26 | [+ 4] | e 20 | 54 | ? | e 19 | 42 | pP' | — |
| Budapest | 145.2 | 325 | i 19 | 24 | [+ 2] | 22 | 47 | PP | 19 | 38 | pP' | — |
| Collmberg | 145.3 | 335 | i 19 | 23 | [0] | e 23 | 17 | PKS | e 30 | 5 | SKKKS | — |
| Ogyalla | 145.4 | 326 | i 19 | 27 | [+ 4] | e 26 | 28 | [+ 11] | e 22 | 47 | PP | — |
| Prague | 145.7 | 333 | i 19 | 24 ^a | [+ 1] | e 26 | 24 | [+ 7] | e 19 | 58 | pP' | e 47.1 |
| Kalossa | 145.8 | 325 | 19 | 30 | [+ 7] | i 29 | 35 | SKKS | i 19 | 57 | pP' | — |
| Belgrade | 145.9 | 320 | e 19 | 26 | [+ 2] | e 20 | 9 | sP' | e 20 | 38 | ? | — |
| Durham | 146.2 | 351 | 19 | 28 | [+ 4] | — | — | — | — | — | — | — |
| Jena | 146.2 | 335 | e 19 | 22 | [- 2] | e 22 | 56 | PP | e 19 | 56 | pP' | — |
| Witteveen | z. 146.3 | 343 | i 19 | 28k | [+ 4] | — | — | — | i 20 | 15 | pP' | — |
| Cheb | 146.5 | 335 | e 19 | 28 | [+ 3] | e 29 | 45 | SKKS | e 22 | 48 | PP | — |
| Athens | 146.8 | 307 | e 19 | 27k | [+ 2] | i 20 | 13 | sP' | i 19 | 54 | pP' | — |
| Rathfarnham Castle | 148.1 | 356 | i 19 | 29 ^a | [+ 2] | e 29 | 46 | SKKS | i 20 | 5 | pP' | — |
| Uccle | 148.7 | 344 | e 19 | 31 | [+ 3] | e 22 | 42 | SKP | e 19 | 42 | PKP ₂ | — |
| Stuttgart | 148.9 | 336 | e 19 | 28 | [- 1] | e 29 | 51 | SKKS | e 20 | 5 | pP' | 71.6 |
| Karlsruhe | z. 149.0 | 337 | e 19 | 31 | [+ 2] | i 19 | 47 | PKP ₂ | i 23 | 13 | PP | — |
| Kew | 149.2 | 349 | i 19 | 19 | [- 10] | e 29 | 49 | SKKS | i 23 | 12 | PP | e 46.5 |
| Triest | 149.2 | 327 | i 19 | 30 | [+ 1] | i 29 | 50 | SKKS | i 20 | 53 | ? | — |
| Strasbourg | 149.5 | 337 | i 19 | 35 | [+ 6] | e 29 | 57 | SKKS | i 20 | 10 | pP' | — |
| Chur | 150.2 | 334 | e 19 | 33k | [+ 3] | — | — | — | i 19 | 36 | PKP | — |
| Zürich | 150.2 | 335 | e 19 | 30 | [0] | e 29 | 52 | SKKS | e 21 | 7 | pP' | — |
| Paris | 151.0 | 343 | e 19 | 35 | [+ 3] | i 26 | 43 | [+ 18] | i 20 | 23 | pP' | e 70.6 |
| Bologna | 151.2 | 328 | e 20 | 33 | [+ 61] | — | — | — | e 31 | 17 | ? | — |
| Neuchatel | 151.2 | 336 | e 19 | 39 | [+ 7] | e 30 | 3 | SKKS | — | — | — | — |
| Florence | 151.7 | 326 | i 19 | 33? | [0] | i 30 | 5 | SKKS | i 23 | 24 | PP | — |
| Pavia | 151.7 | 331 | e 19 | 40 | [+ 7] | e 30 | 7 | SKKS | e 20 | 20 | pP' | — |
| Prato | 151.8 | 326 | i 19 | 33 | [0] | i 30 | 3 | SKKS | — | — | — | — |
| Oropa | 151.9 | 334 | i 19 | 39 | [+ 6] | i 30 | 7 | SKKS | i 23 | 34 | PP | 73.6 |
| Siena | 152.0 | 326 | e 19 | 40 | [+ 7] | — | — | — | — | — | — | — |
| Rome | 152.3 | 323 | i 19 | 28 ^a | [- 6] | i 30 | 6 | SKKS | i 23 | 29 | PP | 73.3 |
| Reggio Calabria | 152.5 | 313 | e 19 | 34 | [0] | e 19 | 52 | PKP ₂ | e 22 | 52 | SKP | — |
| Messina | 152.6 | 313 | e 19 | 36 | [+ 2] | e 30 | 11 | SKKS | i 23 | 34 | PP | — |
| Clermont-Ferrand | 153.6 | 340 | e 19 | 38 | [+ 3] | e 30 | 19 | SKKS | e 23 | 40 | PP | 65.6 |
| Tortosa | 158.9 | 337 | i 20 | 20 | PKP ₂ | — | — | — | i 24 | 0 | PP | — |
| Toledo | 161.0 | 347 | e 19 | 50 | [+ 6] | i 20 | 27 | PKP ₂ | e 24 | 17 | PP | — |
| Algiers Univ. | z. 161.1 | 326 | e 19 | 51 | [+ 6] | e 24 | 13 | PP | e 20 | 30 | pP' | — |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|-------------|----------|-----|----------|-------|---------|------------------|---------|-----|------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Alicante | 161.4 | 337 | e 19 34 | [-11] | 26 16 | [-19] | 23 32 | PKS | 76.4 |
| Lisbon | 162.8 | 358 | 19 47k | [+ 1] | 20 34 | PKP ₂ | 24 27 | PP | 68.0 |
| Almeria | 163.4 | 339 | i 19 51 | [+ 4] | 44 43 | SS | i 24 25 | PP | 89.9 |
| Granada | 163.5 | 343 | i 19 50k | [+ 3] | 30 49 | SKKS | i 24 32 | PP | 84.6 |
| Malaga | 164.1 | 344 | i 19 53 | [+ 5] | 30 43 | SKKS | i 24 41 | PP | — |
| Tamanrasset | z. 165.8 | 278 | e 19 53 | [+ 4] | i 24 44 | PP | e 20 36 | pP' | — |
| Averroes | 168.1 | 350 | e 19 57 | [+ 6] | e 21 5 | PKP ₂ | e 24 49 | PP | — |

Aug. 14d. 14h. 49m. Epicentre 42°·5N. 76°·0E.

Bull. of Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 117.

Aug. 14d. 22h. 23m. 59s. Epicentre 0°·5S. 19°·7W.

A = +·9414, B = -·3371, C = -·0087; δ = -5; h = +7;
D = -·337, E = -·941; G = -·008, H = +·002, K = -1·000.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|------------------|----------|-----|---------------------|------|-----------|------|----------|-----|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Tamanrasset | z. 33.7 | 44 | i 6 46 | + 1 | e 12 15 | + 7 | i 8 4 | PP | i 16.5 |
| Malaga | 39.7 | 19 | i 7 37 | + 1 | e 13 47 | + 7 | 9 11 | PP | 20.2 |
| Granada | 40.4 | 20 | i 7 42 _a | + 1 | 14 30 | +40 | 9 12 | PP | 22.2 |
| Almeria | 40.5 | 21 | i 7 38 | - 4 | 14 26 | +34 | 9 34 | PPP | 25.0 |
| Alicante | 42.5 | 22 | 8 4 | + 5 | — | — | 12 28 | ? | 22.3 |
| Algiers Univ. | z. 42.7 | 27 | e 8 0 | 0 | e 8 14 | ? | e 9 37 | PP | — |
| Toledo | 42.7 | 17 | i 8 2 | + 2 | — | — | e 10 3 | PPP | — |
| Tortosa | 45.0 | 21 | e 9 4 | +45 | 18 18 | SS | — | — | — |
| Clermont-Ferrand | 50.3 | 21 | e 9 2 | + 2 | e 16 19 | PS | e 10 59 | PP | 26.0 |
| La Paz | 50.3 | 249 | e 9 8 | + 8 | (20 1?) | SS | — | — | 20.0 |
| Reggio Calabria | n. 50.3 | 35 | e 8 41 | -19 | — | — | e 9 25 | ? | — |
| Messina | 50.4 | 35 | — | — | e 16 19 | + 5 | 19 43 | SS | — |
| Kimberley | z. 50.9 | 127 | i 9 4 | - 1 | — | — | — | — | — |
| Rome | 51.2 | 30 | i 9 7 _a | 0 | i 16 30 | + 5 | 11 3 | PP | e 26.4 |
| Chambon-la-Forêt | 52.0 | 18 | i 9 14 | + 1 | — | — | e 9 7 | ? | — |
| Florence | 52.0 | 28 | e 9 13 | 0 | e 16 38 | + 2 | e 11 4 | PP | — |
| Pretoria | z. 52.5 | 121 | e 9 17 | 0 | — | — | — | — | — |
| Paris | 52.7 | 18 | i 9 19 | + 1 | 19 25 | ? | e 9 57 | ? | e 29.0 |
| Taranto | 52.9 | 34 | e 8 49 | -31 | — | — | — | — | — |
| Grahamstown | z. 54.3 | 131 | i 9 29 | - 1 | — | — | — | — | — |
| Kew | 54.3 | 14 | — | — | e 22 8 | SSS | — | — | e 34.0 |
| Strasbourg | 54.4 | 21 | e 9 30 | - 1 | e 17 7 | - 2 | e 22 25 | SSS | e 26.7 |
| Triest | 54.6 | 27 | e 9 23 | - 9 | e 9 37 | ? | e 12 38 | PPP | — |
| Stuttgart | 55.1 | 23 | e 9 34 | - 2 | — | — | — | — | — |
| Uccle | 55.1 | 17 | e 17 13 | S | (e 17 13) | - 5 | e 17 25? | PS | e 23.0 |
| De Bilt | 56.4 | 18 | — | — | e 17 45 | + 9 | — | — | e 25.0 |
| Helwan | z. 57.2 | 53 | i 9 52 _a | + 1 | — | — | — | — | — |
| Jena | 57.7 | 23 | e 9 32 | -23 | e 10 6 | ? | e 12 0 | PP | — |
| Collmburg | 58.6 | 24 | e 9 59 | - 2 | (e 14 38) | PcS | e 12 52 | ? | e 14.6 |
| Potsdam | 59.4 | 22 | e 10 6 | 0 | e 18 25 | +10 | e 25 55 | Q | e 33.0 |
| Copenhagen | 61.8 | 19 | — | — | e 19 47 | +61 | — | — | 27.0 |
| Ksara | 62.2 | 51 | e 10 27 | + 1 | e 20 17 | ScS | — | — | — |
| Upsala | z. 66.8 | 19 | i 10 53 | - 3 | — | — | — | — | — |
| Ottawa | 67.2 | 321 | e 10 53 | - 5 | — | — | — | — | — |
| Kiruna | 73.6 | 15 | i 11 36 | - 1 | e 21 8 | + 1 | i 11 51 | PcP | e 33.0 |
| Fayetteville | z. 77.8 | 307 | i 11 55 | - 6 | — | — | i 12 18 | ? | — |
| Quetta | 87.4 | 59 | e 12 53 | + 3 | — | — | — | — | — |

Aug. 15d. 15h. 34m. Kermadec Islands region.

Depth 500km. Magnitude 5.

Seismological Observatory Bulletin No. E-133, July-Sept., 1953, Wellington, N.Z., 1956, p.9

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Aug. 16d. 3h. 9m. 55s. Epicentre 7°·1S. 74°·7W. Depth of focus 0·020
(as on 1952, September 24d.).

A = +·2619, B = -·9572, C = -·1228; δ = -10; h = +7;
D = -·965, E = -·264; G = -·032, H = +·118, K = -·992.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|----------|-----|----------|------|---------|-------|---------|-----|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Huancayo | | 5·0 | 188 | i 1 21 | + 7 | i 2 3 | - 9 | — | — |
| La Paz | | 11·3 | 146 | i 2 27 | - 11 | i 4 45 | + 4 | i 2 37 | P |
| Bogota | | 11·7 | 3 | e 2 48 | + 5 | e 5 8 | + 17 | i 3 5 | PPP |
| Chinchina | | 12·0 | 356 | e 2 53 | + 6 | e 5 14 | + 16 | e 5 34 | ? |
| Antofagasta | E. | 17·0 | 166 | — | — | 6 27 | - 25 | e 6 46 | S |
| Galerazamba | | 17·8 | 358 | e 3 59 | 0 | e 7 34 | + 25 | i 4 41 | ? |
| Fort de France | | 25·5 | 32 | e 5 12 | - 3 | e 9 24 | - 4 | — | — |
| San Juan | | 26·7 | 18 | i 5 25 | - 1 | i 9 47 | - 1 | — | — |
| Merida | | 31·5 | 333 | e 6 11 | + 2 | — | — | — | — |
| Tacubaya | | 35·7 | 319 | e 6 41 | - 4 | — | — | e 6 50 | ? |
| Bermuda | | 40·4 | 14 | i 7 24 | 0 | e 13 22 | + 2 | — | — |
| Washington | | 45·8 | 358 | i 8 10 | + 3 | — | — | i 8 46 | pP |
| Fayetteville | | 46·7 | 339 | i 8 15k | + 1 | i 9 45 | PcP | i 8 50 | pP |
| Cincinnati | | 46·9 | 350 | i 8 17 | + 1 | — | — | — | — |
| Palisades | | 47·9 | 2 | i 8 23 | - 1 | e 15 9 | + 1 | i 8 59 | pP |
| Cleveland | | 48·8 | 354 | i 8 33k | + 2 | e 15 32 | + 12 | i 9 9 | pP |
| Weston | | 49·3 | 4 | i 8 35k | + 1 | — | — | — | — |
| Harvard | | 49·5 | 4 | i 8 37k | + 1 | — | — | i 9 15 | pP |
| Buffalo (Larkin) | | 49·9 | 357 | i 8 36 | - 3 | — | — | — | — |
| Tucson | | 52·1 | 321 | i 8 57 | + 1 | — | — | — | — |
| Ottawa | | 52·3 | 0 | i 8 57 | 0 | 16 11 | + 3 | — | — |
| Halifax | | 52·5 | 11 | i 8 59 | 0 | 16 13 | + 2 | i 10 6 | PcP |
| Shawinigan Falls | N. | 53·4 | 3 | e 9 6 | + 1 | — | — | — | — |
| Seven Falls | E. | 54·1 | 4 | e 9 22 | + 12 | — | — | — | — |
| Kirkland Lake | Z. | 55·2 | 356 | e 9 19 | + 1 | — | — | — | — |
| Barratt | Z. | 56·2 | 318 | i 9 27k | + 1 | i 10 21 | sP | — | — |
| Palomar | Z. | 56·7 | 319 | i 9 31k | + 2 | i 10 23 | sP | i 10 10 | pP |
| Boulder City | | 57·1 | 322 | i 9 34 | + 2 | — | — | i 10 12 | pP |
| Riverside | Z. | 57·5 | 319 | i 9 36k | + 1 | i 10 26 | sP | — | — |
| Pasadena | | 58·1 | 319 | i 9 41k | + 2 | e 17 34 | + 9 | i 10 18 | pP |
| China Lake | Z. | 58·7 | 321 | i 9 45k | + 2 | — | — | e 10 22 | pP |
| Tinemaha | | 59·9 | 321 | i 9 53 | + 2 | — | — | — | — |
| Fresno | Z. | 60·7 | 320 | i 9 57k | 0 | — | — | — | — |
| Lick | Z. | 62·2 | 319 | i 10 9k | + 2 | e 12 2 | PP | i 10 43 | pP |
| Reno | | 62·4 | 323 | i 10 39 | pP | — | — | — | — |
| Butte | | 62·8 | 332 | i 10 11 | 0 | — | — | — | — |
| Berkeley | Z. | 62·9 | 319 | i 10 13k | + 2 | — | — | i 10 47 | pP |
| Mineral | Z. | 64·0 | 322 | i 10 19k | 0 | — | — | i 12 43 | PP |
| Shasta | | 64·7 | 322 | i 10 23 | 0 | — | — | i 10 53 | pP |
| Hungry Horse | | 65·1 | 333 | i 10 27 | + 1 | — | — | — | — |
| Victoria | | 69·9 | 328 | 10 57k | + 2 | — | — | — | — |
| Malaga | | 78·7 | 50 | i 11 47 | + 1 | i 21 29 | + 1 | e 15 17 | PP |
| Granada | | 79·5 | 50 | i 11 49k | - 1 | i 21 47 | + 10 | 26 34 | SS |
| Almeria | | 80·2 | 51 | 11 52 | - 2 | 21 48 | + 4 | — | — |
| Alicante | | 82·2 | 50 | e 11 55 | - 9 | e 22 2 | - 2 | 15 5 | PP |
| Resolute Bay | | 82·6 | 355 | i 12 5k | - 1 | — | — | — | — |
| Rathfarnham C. | Z. | 83·1 | 35 | e 13 5? | sP | — | — | — | — |
| Tortosa | | 83·5 | 48 | 11 9 | - 62 | — | — | — | — |
| Tamanrasset | Z. | 83·6 | 66 | e 12 12 | + 1 | e 22 24 | + 6 | e 12 50 | pP |
| Algiers Univ. | Z. | 84·5 | 52 | e 12 14 | - 2 | — | — | e 12 52 | pP |
| Scoresby Sund | | 85·1 | 16 | i 12 19 | 0 | e 22 33 | 0 | i 12 59 | pP |
| Chambon-la-Forêt | | 86·6 | 41 | e 12 25 | - 1 | — | — | — | — |
| Clermont-Ferrand | | 86·6 | 44 | e 12 26 | 0 | e 22 39 | [+ 5] | (30 5) | ? |
| Paris | | 86·9 | 41 | e 12 26 | - 2 | e 19 5 | ? | e 12 30 | P |
| College | | 89·3 | 336 | i 12 40 | + 1 | — | — | i 13 19 | pP |

Continued on next page.

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| | | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|-------------|----|---------------|----------|-------------|------------|-------------|------------|----------------|----------|
| Stuttgart | | 91.3 | 41 | e 12 46 | - 3 | — | — | — | — |
| Jena | z. | 93.1 | 40 | e 12 55 | - 2 | — | — | — | — |
| Collmberg | z. | 94.0 | 40 | e 13 1 | 0 | — | — | — | — |
| Kimberley | z. | 94.1 | 120 | e 13 2 | + 1 | — | — | — | — |
| Grahamstown | z. | 95.5 | 125 | i 13 4 | - 4 | — | — | — | — |
| Upsala | z. | 97.8 | 31 | i 13 14 | - 4 | — | — | — | — |
| Kiruna | | 98.5 | 23 | i 13 20k | - 1 | i 23 42 | [0] | i 14 2 | pP |
| Helwan | z. | 107.4 | 62 | e 24 17 | SKS | e 24 25 | [+ 1] | — | — |
| Quetta | z. | 137.4 | 52 | i 19 6 | [+ 1] | i 22 24 | SKP | — | — |
| Dehra Dun | E. | 145.5 | 44 | e 19 22 | [+ 3] | — | — | — | — |

Aug. 16d. 3h. 43m. Hindu Kush. Epicentre 36°·7N. 70°·8E. Depth 190km.
Seismo. Bull. of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 117.

Aug. 16d. 14h. 34m. Caucasus. Epicentre 40°·3N. 45°·5E.
Loc. cit., above, p. 117.

Aug. 16d. 15h. 8m. Hindu Kush. Epicentre 36°·5N. 71°·1E.
Loc. cit., above, p. 118.

Aug. 17d. 0h. 24m. Epicentre 38°·25N. 20°·75E. (Strasbourg).
Intensity IV at Amalias and Preveza.
A. Galanopoulos.
Seismological Institute Bulletin, 1953, Athens, 1954, pp.97-98.

Aug. 17d. 2h. 12m. 20s. Epicentre 38°·0N. 21°·0E. (as on 12d.).

Intensity IV at Amalias and Preveza.
Epicentre 38°·25N. 20°·75E. (Strasbourg).

A. Galanopoulos.
Seismological Institute Bulletin, 1953, Athens, 1954, p.98.

| | | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|------------------|----|---------------|----------|---------------------|------------------|-------------|------------|----------------|--------------------------|
| Athens | | 2.1 | 91 | e 0 43 _a | + 1 _g | i 1 7 | + 1* | i 1 11 | S _g i 1.3 |
| Messina | | 4.3 | 274 | i 1 6 | - 2 | i 1 53 | - 7 | 1 13 | P* 2.3 |
| Belgrade | | 6.8 | 357 | e 1 42 | - 2 | e 3 15 | -11* | e 3 48 | S _g i 4.0 |
| Istanbul | | 7.0 | 61 | e 1 46 | 0 | e 3 14 | + 6 | e 2 20 | P _g e 4.7 |
| Bucharest | | 7.4 | 30 | e 1 53 | + 1 | e 3 49 | + 5* | e 2 12 | P* — |
| Rome | | 7.6 | 304 | e 1 51 | - 4 | e 3 19 | - 4 | 3 51 | S* e 4.2 |
| Timisoara | | 7.8 | 1 | e 2 25 | + 9* | — | — | e 2 28 | P _g e 4.7 |
| Florence | | 9.4 | 311 | e 2 22 | + 4 | e 4 2 | - 5 | — | — |
| Triest | | 9.4 | 327 | e 2 17 | - 1 | i 3 55 | -12 | e 4 57 | S _g i 5.4 |
| Prato | | 9.5 | 311 | e 2 32 | +12 | e 4 21 | +11 | — | — |
| Ogyalla | | 10.1 | 348 | e 3 29 | +60 | e 4 25 | 0 | e 3 53 | ? — |
| Pavia | | 11.4 | 313 | e 8 52 | P _c P | i 5 21 | SSS | — | e 5.7 |
| Helwan | | 11.8 | 130 | e 2 51 | - 2 | 5 0 | - 6 | 2 59 | PP — |
| Chur | | 12.2 | 320 | e 2 58 | 0 | e 5 5 | -11 | — | — |
| Raciborzu | | 12.2 | 352 | e 3 1 | + 3 | — | — | e 4 10 | † — |
| Ksara | | 12.8 | 105 | 3 40? | ? | — | — | — | — e 6.1 |
| Prague | | 13.0 | 341 | e 3 25 | PPP | e 5 27 | - 8 | e 5 48 | SS e 7.2 |
| Zürich | | 13.1 | 320 | e 3 21 | PP | e 5 31 | - 7 | — | — |
| Cheb | | 13.6 | 336 | e 3 45 | PPP | e 6 16 | SSS | — | — |
| Stuttgart | | 13.7 | 326 | e 3 14 | - 4 | — | — | — | — |
| Karlsruhe | z. | 14.3 | 324 | e 3 33 | PP | — | — | — | — |
| Strasbourg | | 14.3 | 322 | e 3 25 | - 1 | e 3 35 | PP | e 3 51 | PPP — |
| Collmberg | z. | 14.4 | 340 | e 3 31 | + 4 | e 7 16 | L | e 8 49 | P _c P (e 7.3) |
| Jena | z. | 14.5 | 336 | e 3 26 | - 2 | — | — | e 3 34 | PP — |
| Clermont-Ferrand | | 15.4 | 306 | e 3 17† | -23 | — | — | — | — |

Continued on next page.

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1953

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-------------------|----------|-----|----------|------|---------|------|---------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Potsdam | 15.4 | 341 | e 3 45 | + 5 | e 6 46 | SS | — | e 8.7 |
| Alicante | 16.9 | 278 | e 4 1 | + 2 | e 7 18 | +11 | 4 16 | PP |
| Chambon-la-Forêt | 16.9 | 312 | e 4 4 | + 5 | — | — | — | — |
| Paris | 17.2 | 315 | i 4 6 | + 3 | e 7 20 | + 6 | e 7 28 | SS |
| Uccle | 17.4 | 323 | e 4 7 | + 1 | e 7 27 | + 8 | — | e 9.1 |
| De Bilt | 17.9 | 327 | e 4 20 | + 8 | e 7 46 | SS | — | e 9.7 |
| Copenhagen | 18.6 | 345 | — | — | e 7 57 | +11 | — | 10.7 |
| Almeria | 18.7 | 275 | 4 24 | + 2 | 7 56 | + 8 | — | 9.5 |
| Granada | 19.5 | 277 | 4 32k | + 1 | — | — | — | 12.4 |
| Kew | 20.2 | 320 | e 4 47 | + 8 | e 8 24 | + 3 | — | e 11.7 |
| Malaga | 20.2 | 74 | e 4 36 | - 3 | e 9 13 | SSS | — | 13.8 |
| Tamanrasset z. | 20.2 | 226 | e 4 37 | - 2 | e 8 30 | + 9 | e 5 7 | PPP |
| Upsala | 22.0 | 356 | i 4 54 | - 4 | e 12 30 | PcS | — | e 15.8 |
| Rathfarnham C. z. | 24.2 | 319 | i 5 18a | - 1 | — | — | — | — |
| Kiruna | 29.9 | 0 | i 6 9 | - 3 | — | — | — | e 15.7 |
| Quetta z. | 38.6 | 87 | e 7 25 | - 1 | — | — | — | — |
| Halifax | 61.2 | 306 | e 10 18 | - 1 | — | — | — | — |
| Weston | 67.2 | 307 | i 10 59k | + 1 | — | — | — | — |
| Harvard | 67.3 | 308 | e 10 58 | - 1 | — | — | — | — |
| Ottawa | 68.3 | 312 | i 11 5 | 0 | — | — | — | — |
| Fayetteville | 85.0 | 313 | i 12 39 | + 1 | — | — | — | — |
| Hungry Horse | 85.2 | 332 | i 11 39 | -60 | — | — | — | — |
| Butte | 86.5 | 330 | i 12 47 | + 1 | — | — | — | — |
| Shasta z. | 94.8 | 333 | — | — | e 21 6 | ? | e 22 14 | ? |
| Nelson | 96.0 | 325 | i 13 31 | + 1 | — | — | — | — |
| Lick z. | 97.5 | 331 | i 19 50k | PPP | — | — | — | — |

Aug. 17d. 2h. 44m. Epicentre 38°·25N. 20°·75E. (Strasbourg).
Unfelt.

A. Galanopoluos.

Seismological Institute Bulletin, 1953, Athens, 1954, p.98.

Aug. 17d. 3h. 14m. 36s. Epicentre 6°·8S. 115°·1E.

Intensity VI-VII at Malang, Besuki, and Madura (according to Djakarta). Magnitude 6.

Suggested Epicentre 7°·5S. 115°·0E. (U.S.C.G.S.).

7°·5S. 115°·5E. (U.S.S.R.).

A = -·4212, B = +·8993, C = -·1176; δ = -2; h = +6;
D = +·906, E = +·424; G = +·050, H = -·107, K = -·993.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------------|----------|-----|---------|------|---------|------|---------|----------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Bandung | 7.4 | 269 | i 2 1 | - 8* | i 3 52 | + 8* | i 2 31 | P _g |
| Baguio | 23.7 | 12 | e 5 19k | + 5 | e 9 43 | +16 | i 5 33 | pP |
| Perth | 25.0 | 178 | i 5 44 | +17 | 9 54 | + 5 | i 6 9 | PP |
| Calcutta E. | 39.2 | 319 | — | — | i 13 42 | +10 | — | i 13.6 |
| Shillong N. | 39.3 | 327 | 7 9 | -23 | 13 33 | - 1 | 16 13 | SS |
| Brisbane | 41.4 | 124 | i 7 48a | - 2 | i 13 59 | - 6 | i 9 27 | PP |
| Riverview | 42.8 | 134 | i 8 6k | + 5 | i 14 23 | - 3 | i 18 0 | ScS |
| Chatra E. | 43.0 | 323 | e 8 5 | + 2 | i 14 39 | +10 | — | — |
| Poona | 47.8 | 303 | e 8 42 | + 1 | e 15 49 | PS | — | — |
| Bombay | 48.9 | 303 | e 8 45 | - 5 | i 15 56 | + 3 | e 20 3 | ? |
| New Delhi | 50.7 | 316 | 9 3 | 0 | e 16 17 | - 1 | 11 3 | PP |
| Quetta | 59.0 | 311 | i 10 3k | - 1 | e 18 15 | + 5 | e 39 37 | P'P' |
| Cobb River E. | 61.4 | 133 | e 10 31 | +11 | — | — | — | — |
| Wellington | 62.9 | 133 | e 10 26 | - 4 | — | — | e 10 37 | ? |
| Tananarive | 66.6 | 253 | i 10 53 | - 1 | — | — | 11 16 | PcP |
| Pietermaritzburg z. | 82.1 | 241 | e 12 24 | 0 | — | — | — | — |
| Pretoria z. | 84.3 | 245 | i 12 35 | 0 | — | — | — | — |
| Ksara | 84.9 | 304 | i 12 40 | + 2 | 24 20 | PPS | 16 4 | PP |
| Grahamstown z. | 85.1 | 237 | i 12 39 | 0 | — | — | — | — |
| Kimberley z. | 87.0 | 241 | i 12 48 | 0 | — | — | — | — |

Continued on next page.

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1953

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|------------|------------|----------------------|------------------|---------|-------|-----------|-----------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Helwan | z. 88.0 | 300 | i 12 54k | + 1 | i 13 13 | ? | e 14 2 | ? |
| Kiruna | 98.0 | 337 | i 13 38 | - 1 | e 24 25 | [+ 8] | e 31 54 | SS e 49.4 |
| College | 99.1 | 25 | e 13 47 | + 3 | — | — | — | — |
| Raciborzu | E. 99.6 | 320 | e 17 56 | PP | — | — | — | — |
| Upsala | z. 99.6 | 329 | i 13 45 | - 1 | — | — | i 17 53 | PP |
| Messina | 101.7 | 308 | e 18 5 | PP | e 24 31 | [- 4] | e 27 13 | PS |
| Prague | 102.0 | 320 | e 18 6 | PP | e 24 36 | [- 1] | e 27 16 | PS |
| Potsdam | 102.7 | 322 | e 18 6? | ? | e 27 30 | PS | e 18 22 | PP e 54.4 |
| Collmberg | z. 102.8 | 321 | e 18 11 | PP | — | — | e 17 28 | ? |
| Jena | 103.8 | 321 | e 17 41? | ? | e 18 17 | PP | e 20 17 | PPP |
| Rome | 103.9 | 311 | e 18 21 | PP | e 24 41 | [- 5] | — | — e 53.4 |
| Stuttgart | 105.6 | 319 | e 17 34 | ? | e 24 54 | [+ 1] | e 18 36 | PP |
| Pavia | 106.0 | 315 | — | — | e 24 57 | [+ 2] | — | — e 53.4 |
| Strasbourg | 106.5 | 319 | e 18 24? | PKP | — | — | — | — |
| De Bilt | 107.5 | 323 | e 18 42 | PP | — | — | — | — e 54.4 |
| Uccle | 108.3 | 322 | e 21 26 | PPP | e 25 4 | [- 1] | (e 28 24) | PS e 28.4 |
| Tamanrasset | z. 110.6 | 292 | e 18 14 | [- 20] | e 19 10 | PP | e 29 43 | PKKP |
| Malaga | 117.5 | 309 | i 19 53 | PP | — | — | — | 66.8 |
| Mineral | z. 119.5 | 47 | e 19 56 _a | ? | — | — | e 20 13 | PP |
| Lick | z. 120.3 | 50 | e 19 22k | [+ 29] | e 20 5 | ? | e 20 20 | PP |
| Hungry Horse | 121.4 | 36 | i 18 55 | [0] | — | — | e 20 26 | PP |
| Tinemaha | z. 123.0 | 50 | e 18 59 | [0] | — | — | — | — |
| Butte | 123.4 | 37 | i 18 58 | [- 1] | — | — | i 19 50 | ? |
| China Lake | z. 123.9 | 50 | i 19 1 | [+ 1] | — | — | e 20 43 | PP |
| Pasadena | z. 123.9 | 53 | i 19 1 | [+ 1] | — | — | e 20 42 | PP |
| Riverside | z. 124.6 | 53 | e 19 2 | [0] | — | — | — | — |
| Palomar | z. 125.2 | 54 | e 19 3 | [0] | — | — | e 20 52 | PP |
| Barratt | z. 125.6 | 55 | i 19 5 | [+ 1] | — | — | e 20 55 | PP |
| Boulder City | 126.0 | 49 | e 19 5 | [+ 1] | — | — | i 20 58 | PP |
| Nelson | 126.1 | 49 | i 19 6 | [+ 2] | i 19 13 | ? | i 21 58 | ? |
| Tucson | 130.4 | 53 | e 19 12 | [- 1] | e 22 42 | PKS | e 21 25 | PP |
| Fayetteville | 140.4 | 37 | i 19 26 | [- 5] | — | — | e 22 0 | PP |
| Ottawa | 140.4 | 12 | i 19 25 _a | [- 6] | — | — | — | — |
| Cincinnati | 143.3 | 25 | i 19 40 | [+ 4] | — | — | i 19 49 | ? |
| Harvard | 144.0 | 8 | i 19 36 _a | [- 1] | — | — | i 19 45 | ? |
| Weston | 144.1 | 8 | i 19 38 _a | [0] | — | — | — | — |
| Tacubaya | 144.4 | 66 | e 19 42 | [+ 4] | — | — | — | — |
| Morgantown | 144.6 | 20 | i 19 40 | [+ 2] | — | — | — | — |
| Palisades | 145.0 | 11 | e 19 39 | [0] | — | — | e 22 57 | PP |
| Fordham | 145.2 | 11 | e 19 40 | [0] | — | — | i 19 48 | ? |
| Washington | 146.2 | 16 | i 19 45 | [+ 4] | — | — | i 20 27 | ? |
| Bermuda | 154.5 | 0 | i 20 20 | [+ 26] | — | — | — | — |
| La Paz | N. 156.6 | 174 | e 19 52 | [- 5] | e 23 34 | PKS | e 24 38 | PP |
| San Juan | 168.4 | 6 | i 21 20 | PKP ₂ | — | — | — | — |

Aug. 17d. 10h. 19m. Epicentre 38°·25N. 20°·75E. (Strasbourg).
Aftershock of 12d. 'Quake. Unfelt.

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, p.98.

Aug. 17d. 20h. 3m. Epicentre 36°·7N. 70°·4E. Depth of focus 200km.

Seismological Bulletin of the Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p.118.

Aug. 17d. 21h. 47m. Devon Island, N.W. Canada.

Suggested Epicentre 76°·5N. 92°·0W. (U.S.C.G.S.).

77°·0N. 91°·5W. (Strasbourg).

Recorded in North America and a few European Stations.

Annales de l'Institut de Physique du Globe de Strasbourg, Nouvelle série, Tome XVIII, Deuxième partie, Séismologie, 1953, Strasbourg, 1959, p.75, and B.C.I.S. p.86.

Aug. 17d. 21h. 51m. Epicentre 37°·0N. 71°·3E. Depth of focus 140km.

Loc. cit., 20h., p.119.

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Aug. 18d. 22h. 43m. Ionian Islands aftershock. Magnitude 5.25.

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, p.100.

Aug. 19d. 0h. 53m. 54s. Epicentre 38°·25N. 20°·75E.

Intensity IV at Preveza. Probably two shocks.

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, p.100.

Aug. 19d. 19h. 35m. 6s. Epicentre 38°·25N. 20°·75E.

Intensity IV at Preveza. Probably two shocks.

Loc. cit., 0h., p.102.

Aug. 20d. 4h. 55m. Epicentre 38°·25N. 20°·75E. Very weak. Probably two shocks.

Loc. cit., 19d. 19h., p.103.

Aug. 20d. 19h. 27m. 15s. Epicentre 38°·25N. 20°·75E.

Intensity IV at Preveza. Probably two shocks.

Loc. cit., above, p.104.

Aug. 21d. 6h. 46m. Epicentre 47°3'N. 9°7'E. (Zürich).

Intensity V between Glarus and Weesen and at Wägital; IV at March; and III at Wallenstadt.

Dr. E. Wanner.

Jahresbericht des Erdbebendienstes in der Schweiz im Jahre, 1953, Zürich, 1954, p. 3, with macroseismic chart. Figure 3 outside the text.

Aug. 21d. 13h. 31m. 34s. Epicentre 18°·7N. 67°·3W.

$$A = +.3658, B = -.8744, C = +.3187; \quad \delta = -5; \quad h = +4; \\ D = -.923, E = -.386; \quad G = +.123, H = -.294, K = -.948.$$

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|---------------------|----------|-----|-----|-----------------|----------------|------|-----|------|-------|----|------------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| San Juan | 1.2 | 106 | i 0 | 13 | -11 | i 0 | 58 | +17 | — | — | — |
| Fort de France | 7.1 | 123 | i 1 | 47 | -1 | i 3 | 14 | +4 | — | — | — |
| Kingston | 9.0 | 267 | e 2 | 47 | P _g | 4 | 39 | +8* | — | — | — |
| Bermuda | 13.8 | 9 | i 3 | 13 | -6 | (e 5 | 35) | -19 | i 2 | 35 | ? e 5.6 |
| Chinchina | 15.9 | 212 | i 3 | 55 | +8 | — | — | — | — | — | — |
| Columbia | 19.6 | 324 | e 4 | 28 | -4 | — | — | — | — | — | — |
| Merida | 21.1 | 280 | e 4 | 52 | +4 | — | — | — | — | — | — |
| Washington | 21.9 | 341 | i 4 | 58 | +1 | i 8 | 42 | -12 | — | — | — |
| Palisades | 22.9 | 349 | i 5 | 7 | +1 | i 9 | 8 | -5 | e 9 | 0 | PcP |
| Morgantown | 23.6 | 334 | i 5 | 27 | +14 | i 9 | 8 | -17 | — | — | — |
| Weston | 23.9 | 353 | i 5 | 12 _a | -4 | i 9 | 25 | -5 | — | — | — |
| Harvard | 24.0 | 353 | i 5 | 34 _a | +17 | i 9 | 23 | -9 | — | — | — |
| Cincinnati | 25.2 | 328 | e 5 | 30 | +1 | — | — | — | i 5 | 51 | ? e 14.3 |
| Cleveland | 25.8 | 335 | e 5 | 46 | +12 | e 10 | 3 | +1 | e 10 | 12 | ? e 12.9 |
| Buffalo (Larkin) | 25.9 | 341 | e 5 | 35 | 0 | e 10 | 2 | -2 | — | — | — |
| Vera Cruz | 27.3 | 276 | e 6 | 48 | PPP | — | — | — | — | — | — |
| Ottawa | 27.5 | 347 | e 5 | 51 | +1 | 10 | 47 | +17 | 6 | 56 | PPP |
| Shawinigan Falls N. | 28.1 | 353 | e 6 | 0 | +5 | 11 | 24 | +44 | — | — | — |
| Seven Falls E. | 28.5 | 355 | e 6 | 22 | +23 | 11 | 9 | +23 | — | — | — |
| Puebla | 29.2 | 276 | e 7 | 56 | ? | — | — | — | — | — | — |
| Fayetteville | 29.4 | 312 | i 6 | 4 | -3 | — | — | — | — | — | e 14.3 |
| Tacubaya | 30.1 | 276 | i 7 | 4 | PP | — | — | — | — | — | — |
| Kirkland Lake z. | 31.2 | 344 | e 6 | 28 | +5 | — | — | — | — | — | — |
| Huancayo | 31.6 | 194 | i 6 | 34 | +8 | e 11 | 49 | +14 | e 16 | 50 | ScS e 12.9 |
| La Paz | 35.0 | 180 | e 6 | 52 | -4 | 12 | 2 | -26 | 8 | 6 | PP 17.2 |
| Tucson | 41.3 | 298 | e 7 | 49 | 0 | — | — | — | — | — | e 20.6 |
| Boulder City | 45.1 | 303 | i 8 | 20 | 0 | — | — | — | 18 | 40 | ? e 20.6 |
| Nelson | 45.1 | 303 | i 8 | 20 | 0 | — | — | — | — | — | — |
| Butte | 46.1 | 317 | i 8 | 27 | -1 | — | — | — | 19 | 2 | ? e 20.6 |
| Barratt z. | 46.2 | 298 | e 8 | 29 | +1 | — | — | — | — | — | — |

Continued on next page.

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1953

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|------------|------------|---------------------|------|---------|------|-----------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Palomar | z. | 46.5 | 299 | i 8 30 _a | - 1 | i 8 43 | ? | i 9 10 | ? |
| Riverside | z. | 46.9 | 300 | i 8 34 _a | 0 | — | — | — | — |
| China Lake | z. | 47.3 | 302 | i 8 37 | 0 | — | — | — | — |
| Pasadena | | 47.6 | 300 | i 8 39 | 0 | — | — | e 9 27 | ? |
| Hungry Horse | | 47.9 | 319 | i 8 40 | - 2 | — | — | — | e 32.8 |
| Tinemaha | z. | 48.0 | 303 | i 8 43 | 0 | — | — | — | — |
| Woody | z. | 48.3 | 302 | i 8 45 | 0 | — | — | i 8 54 | ? |
| Lick | z. | 50.7 | 304 | e 9 2 _a | - 1 | i 9 13 | ? | i 9 25 | ? |
| Mineral | z. | 51.1 | 307 | e 9 6 _a | 0 | i 9 18 | ? | e 10 44 | PP |
| Shasta | z. | 51.7 | 307 | e 9 8 | - 3 | e 9 18 | ? | e 9 34 | ? |
| Victoria | | 53.9 | 317 | 9 24 _k | - 3 | — | — | — | — |
| Toledo | | 57.9 | 54 | i 10 0 | + 4 | — | — | — | — |
| Granada | | 58.2 | 57 | i 10 9 _a | +11 | 18 12 | +13 | (22 27) | SS |
| Almeria | | 59.1 | 57 | 10 11 | + 7 | 18 9 | - 2 | 12 31 | PP |
| Alicante | | 60.7 | 55 | 10 10 | - 5 | e 18 24 | - 8 | e 10 53 | PcP |
| Kew | | 61.3 | 41 | — | — | e 24 12 | ? | — | — |
| Chambon-la-Forêt | | 62.7 | 45 | i 10 31 | + 2 | — | — | — | e 33.4 |
| Paris | | 62.9 | 44 | e 10 32 | + 2 | — | — | — | e 29.4 |
| Stuttgart | | 67.3 | 44 | e 11 1 | + 2 | — | — | — | e 36.4 |
| Tamanrasset | z. | 67.6 | 72 | i 11 7 | + 6 | i 11 38 | PcP | e 13 37 | PP |
| Jena | z. | 68.8 | 42 | e 11 8 | 0 | — | — | e 11 59 | ? |
| College | | 69.2 | 333 | e 11 6 | - 4 | e 20 8 | - 8 | (e 27 19) | SSS |
| Collenberg | z. | 69.6 | 42 | e 10 34 | -39 | — | — | — | e 27.3 |
| Triest | | 70.7 | 47 | e 11 23 | + 3 | e 12 12 | ? | e 17 11 | ? |
| Kiruna | z. | 72.0 | 24 | i 11 31 | + 3 | — | — | — | — |
| Ksara | | 90.2 | 54 | e 13 37 | +33 | e 23 58 | + 2 | — | — |

Aug. 21d. 14h. 14m. Epicentre 39°·2N. 70°·5E.

Seismo. Bull. of the Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 119.

Aug. 21d. 16h. 45m. 58s. Epicentre 4°·1N. 76°·7W. Depth of focus 0·010.

Felt at Pereira, Chinchina, Buenaventura, and Cali (according to Bogota).

A = +·2295, B = -·9707, C = +·0710; δ = -3; h = +7;
D = -·973, E = -·230; G = +·016, H = -·069, K = -·997.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------------|----|------------|------------|---------------------|------|--------|------|--------|------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Chinchina | | 1.4 | 51 | i 0 26 | + 1 | i 0 46 | + 2 | i 0 34 | PP |
| Bogota | | 2.7 | 79 | i 0 44 | + 1 | i 1 15 | + 1 | — | — |
| Balboa Heights | | 5.6 | 330 | i 1 23 | + 1 | i 2 26 | 0 | — | — |
| Huancayo | | 16.1 | 175 | i 3 41 | - 1 | i 6 44 | + 7 | e 7 14 | SS |
| San Juan | | 17.6 | 34 | i 4 1 | + 1 | — | — | — | — |
| Fort de France | | 18.6 | 55 | i 4 12 | 0 | i 7 40 | + 7 | — | — |
| La Paz | | 22.2 | 157 | 4 49 | 0 | i 8 44 | + 2 | 5 23 | PP |
| Tacubaya | | 26.7 | 307 | e 5 57 | pP | — | — | — | 10.5 |
| Washington | | 34.6 | 0 | e 6 43 | + 1 | — | — | e 7 19 | pP |
| Fayetteville | | 35.7 | 337 | i 6 48 _a | - 3 | i 6 56 | ? | i 7 26 | pP |
| Palisades | | 36.8 | 5 | e 7 0 | 0 | — | — | — | — |
| Cleveland | z. | 37.5 | 354 | i 7 6 | 0 | — | — | — | — |
| Weston | | 38.4 | 7 | i 7 14 _a | + 1 | 9 24 | PP | 7 52 | pP |
| Harvard | | 38.5 | 7 | i 7 15 _a | + 1 | i 9 24 | PP | i 7 54 | pP |
| Buffalo (Larkin) | | 38.6 | 358 | i 7 16 | + 1 | — | — | — | — |
| Ottawa | | 41.1 | 2 | i 7 36 | 0 | 9 32 | PP | 9 39 | PcP |
| Halifax | | 42.0 | 14 | e 7 44 _k | + 1 | — | — | 9 35 | PP |
| Shawinigan Falls N. | | 42.4 | 5 | e 7 47 | + 1 | — | — | — | — |
| Tucson | | 42.5 | 316 | e 7 48 | + 1 | e 9 52 | PcP | i 8 14 | pP |
| Seven Falls | E. | 43.2 | 6 | e 7 52 | - 1 | — | — | — | — |
| Kirkland Lake | z. | 44.0 | 357 | i 7 59 _a | 0 | — | — | 8 24 | pP |
| Barratt | z. | 46.9 | 312 | e 8 49 | pP | — | — | — | — |
| Nelson | | 47.2 | 317 | i 8 24 | - 1 | i 8 31 | ? | i 8 53 | pP |
| Boulder City | | 47.3 | 317 | e 8 26 | 0 | i 9 0 | ? | i 9 18 | pP |
| Palomar | z. | 47.4 | 313 | i 8 26 | 0 | — | — | i 8 53 | pP |

Continued on next page.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

519

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|------------------|----|----------|-----|----------------------|------|---------|-------|---------|----|---|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Riverside | | 48.1 | 313 | e 8 31 | - 1 | — | — | i 8 58 | pP | — |
| Pasadena | | 48.7 | 313 | e 8 36 | 0 | i 9 58 | PcP | i 9 3 | pP | — |
| China Lake | z. | 49.1 | 316 | e 8 39 | 0 | — | — | i 9 6 | pP | — |
| Tinemaha | z. | 50.2 | 316 | i 8 48 | 0 | — | — | i 9 15 | pP | — |
| Fresno | z. | 51.1 | 316 | e 8 53 _a | - 2 | — | — | e 9 20 | pP | — |
| Butte | | 52.1 | 330 | i 9 1 | - 1 | — | — | i 9 27 | pP | — |
| Reno | z. | 52.5 | 319 | i 9 6 _k | + 1 | — | — | i 9 34 | pP | — |
| Lick | z. | 52.7 | 316 | e 9 7 _a | 0 | i 10 11 | PcP | e 9 34 | pP | — |
| Mineral | z. | 54.1 | 318 | e 9 15 _a | - 2 | e 9 55 | sP | e 9 44 | pP | — |
| Hungry Horse | | 54.4 | 331 | i 9 18 | - 1 | — | — | i 9 44 | pP | — |
| Shasta | z. | 54.8 | 318 | i 9 19 _a | - 3 | — | — | e 9 46 | pP | — |
| Victoria | | 59.5 | 326 | 9 54 _a | - 1 | — | — | e 10 21 | pP | — |
| Malaga | | 73.4 | 52 | i 11 26 | + 3 | e 20 56 | +13 | — | — | — |
| Toledo | | 74.1 | 50 | i 11 27 | 0 | — | — | — | — | — |
| College | | 78.3 | 336 | i 11 49 | - 2 | — | — | e 12 18 | pP | — |
| Algiers Univ. | z. | 79.3 | 54 | i 11 25 _k | -31 | — | — | — | — | — |
| Chambon-la-Forêt | | 79.6 | 42 | i 11 56 | - 2 | i 12 36 | sP | i 12 23 | pP | — |
| Paris | | 79.8 | 41 | i 11 58 | - 1 | e 12 35 | sP | i 12 25 | pP | — |
| Tamanrasset | z. | 81.3 | 68 | i 12 7 | 0 | e 12 43 | sP | i 12 34 | pP | — |
| Witteveen | z. | 82.7 | 37 | i 12 14 | 0 | — | — | — | — | — |
| Stuttgart | | 84.2 | 41 | e 12 20 | - 2 | — | — | e 12 47 | pP | — |
| Florence | z. | 85.7 | 46 | e 13 25 | +56 | — | — | — | — | — |
| Jena | z. | 85.8 | 40 | e 12 28 | - 2 | — | — | e 12 55 | pP | — |
| Collmberg | | 86.6 | 39 | e 12 33 | - 1 | — | — | e 13 0 | pP | — |
| Triest | z. | 87.4 | 45 | e 12 38 | + 1 | e 13 17 | sP | e 14 48 | ? | — |
| Upsala | z. | 88.7 | 31 | i 12 42 _a | - 2 | — | — | — | — | — |
| Kiruna | z. | 88.9 | 23 | i 12 43 _a | - 2 | — | — | — | — | — |
| Ksara | | 106.2 | 53 | e 13 13 | ? | e 24 23 | [-10] | — | — | — |
| Quetta | z. | 131.4 | 43 | i 19 2 | [0] | i 22 31 | SKP | i 22 17 | ? | — |

Aug. 22d. 0h. 21m. 15s. Epicentre 6°·2S. 147°·7E. Depth of focus 0·005.
(as on 1946, Jan. 17d.).

A = -·8404, B = +·5313, C = -·1073; $\delta = +7$; $h = +7$;
D = +·534, E = +·845; G = +·091, H = -·057, K = -·994.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|--------------|----|----------|-----|----------------------|------|----------|------|---------|----|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Brisbane | | 21.8 | 165 | i 4 46 | - 2 | i 8 41 | + 1 | i 5 9 | PP | i 9.1 |
| Riverview | | 27.7 | 173 | i 5 45 _k | + 1 | i 10 27 | + 7 | i 6 38 | PP | e 14.2 |
| Melbourne | E. | 31.6 | 183 | — | — | e 11 44 | +22 | — | — | — |
| Bagnio | | 35.0 | 311 | 13 45 | ? | — | — | — | — | — |
| Perth | | 39.2 | 224 | e 7 0 | -23 | 13 12 | - 7 | — | — | i 18.7 |
| Karapiro | N. | 40.4 | 147 | e 7 42 | + 9 | — | — | e 8 5 | pP | — |
| New Plymouth | E. | 40.5 | 147 | e 7 37 | + 3 | — | — | e 8 10 | pP | — |
| Djakarta | | 40.6 | 268 | e 8 28 _k | +53 | e 15 9 | ? | e 9 47 | PP | — |
| Cobb River | E. | 41.3 | 150 | e 7 42 | + 1 | — | — | e 8 20 | sP | — |
| Tongariro | z. | 41.4 | 146 | e 7 43 | + 2 | e 8 50 | PP | e 8 10 | pP | — |
| Tuai | N. | 42.0 | 145 | e 7 45? | - 1 | — | — | — | — | — |
| Wellington | | 42.5 | 149 | i 7 50 | - 1 | e 16 45? | SS | e 8 16 | pP | — |
| Hong Kong | | 43.4 | 312 | e 8 13 | +15 | 14 18 | - 3 | — | — | e 17.6 |
| Mizusawa | E. | 45.5 | 353 | e 8 30 | +15 | 14 52 | + 1 | — | — | — |
| Nanking | | 47.0 | 326 | 8 26 | - 1 | i 15 8 | - 4 | i 8 49 | pP | — |
| Shillong | | 62.7 | 303 | e 10 19 | - 1 | e 18 31 | -11 | i 10 42 | sP | — |
| Chatra | z. | 67.1 | 303 | i 10 45 | - 4 | — | — | — | — | — |
| Poona | z. | 76.8 | 291 | i 11 44 | - 2 | — | — | i 12 8 | pP | — |
| Bombay | N. | 77.8 | 291 | — | — | e 21 13 | -25 | e 22 1 | ? | — |
| College | | 85.1 | 22 | i 12 29 | - 1 | — | — | — | — | — |
| Quetta | z. | 85.1 | 301 | e 12 29 | - 1 | — | — | i 12 49 | pP | — |
| Shasta | | 93.9 | 49 | e 13 15 _k | + 3 | e 14 5 | ? | e 16 57 | PP | — |
| Victoria | | 93.9 | 42 | 13 13 | + 1 | — | — | — | — | — |
| Mineral | z. | 94.5 | 50 | e 13 17 _k | + 3 | e 17 38 | PP | e 13 41 | ? | — |
| Woody | z. | 96.4 | 54 | i 13 26 | + 3 | — | — | i 14 12 | ? | — |

Continued on next page.

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1953

520

| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|------------------|----|------------|------------|------|-----------------|-------|------|----|------|-------|----|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Pasadena | z. | 96.9 | 56 | i 13 | 28 | + 3 | — | — | — | — | — | — |
| Tinemaha | z. | 96.9 | 53 | e 13 | 29 | + 4 | e 14 | 14 | ? | e 14 | 54 | ? |
| China Lake | z. | 97.4 | 54 | e 13 | 32 | + 4 | e 14 | 7 | ? | e 14 | 17 | ? |
| Riverside | z. | 97.5 | 56 | i 13 | 31 | + 3 | — | — | — | — | — | — |
| Palomar | z. | 97.9 | 57 | i 13 | 33 | + 3 | — | — | — | e 14 | 9 | ? |
| Boulder City | | 99.6 | 54 | e 14 | 20 | PP | — | — | — | e 17 | 46 | PP |
| Nelson | | 99.6 | 54 | i 13 | 43 | + 5 | e 14 | 17 | ? | e 17 | 6 | PP |
| Hungry Horse | | 100.1 | 42 | e 13 | 41 | + 1 | e 17 | 5 | PP | e 14 | 7 | pPP |
| Butte | | 101.2 | 43 | e 13 | 20 | -25 | — | — | — | e 17 | 51 | PP |
| Tucson | | 103.0 | 57 | e 18 | 9 | PP | — | — | — | — | — | — |
| Kiruna | | 109.1 | 341 | e 14 | 18 | 0 | i 28 | 38 | PS | i 18 | 22 | PKP |
| Ksara | | 111.5 | 303 | e 19 | 27 | PP | e 29 | 1 | PS | — | — | e 53.8 |
| Istanbul | z. | 115.5 | 313 | e 20 | 1 | PP | — | — | — | — | — | — |
| Fayetteville | | 116.3 | 52 | i 18 | 37 | [+ 1] | e 29 | 7 | PS | e 20 | 12 | PP |
| Jena | z. | 122.4 | 328 | e 18 | 48? | [0] | — | — | — | e 19 | 15 | pPKP |
| Cleveland | z. | 124.0 | 43 | i 18 | 52 _a | [+ 1] | — | — | — | — | — | — |
| Stuttgart | | 125.0 | 327 | e 18 | 53 | [0] | — | — | — | e 19 | 18 | pPKP |
| Ottawa | | 125.8 | 35 | i 18 | 55 _a | [0] | 38 | 5 | SS | 19 | 22 | pPKP |
| Messina | z. | 126.3 | 314 | e 18 | 58 | [+ 3] | — | — | — | e 21 | 17 | PP |
| Paris | | 128.3 | 331 | i 18 | 54 | [- 5] | — | — | — | e 19 | 21 | pPKP |
| Chambon-la-Forêt | | 129.0 | 331 | e 18 | 50 | [-11] | — | — | — | e 19 | 0 | PKP |
| Palisades | | 129.3 | 40 | e 33 | 19 | PS | — | — | — | — | — | e 60.7 |
| Harvard | | 129.9 | 36 | i 19 | 5 _k | [+ 3] | i 22 | 17 | PP | i 19 | 35 | pPKP |
| Weston | | 130.1 | 36 | i 19 | 6 _a | [+ 3] | 22 | 19 | PKS | 19 | 44 | pPKP |
| Halifax | | 133.0 | 29 | e 19 | 10 | [+ 2] | i 22 | 28 | PKS | — | — | — |
| Huancayo | | 133.5 | 113 | e 19 | 14 | [+ 5] | — | — | — | — | — | — |
| Algiers Univ. | z. | 135.6 | 318 | 19 | 40 | ? | — | — | — | e 22 | 6 | PP |
| La Paz | | 138.0 | 123 | e 19 | 57 | ? | i 23 | 7 | PKS | 29 | 11 | SKKS |
| Tamanrasset | z. | 140.0 | 299 | e 19 | 21 | [0] | e 22 | 39 | PKS | e 22 | 17 | PP |
| San Juan | | 144.9 | 66 | i 19 | 25 | [- 5] | — | — | — | i 19 | 59 | pPKP |
| Fort de France | | 150.4 | 71 | e 19 | 41 | [+ 2] | — | — | — | — | — | — |

Aug. 22d. 1h. 8m. Epicentre 36°-0N. 3°-5E.

Intensity VII at Aumale, Oued Faham, Bir-Rabalou; VI at Oued-Djenane; V at Ain-Bessem; IV-V at Camp des Chênes; III at Champlain.

Annales de l'Institut de Physique du Globe de Strasbourg, Nouvelle Série, Tome XVIII, 2e partie, Séismologie, Strasbourg, 1959, p.77.

Aug. 22d. 5h. 35m. 21s. Epicentre 36°-7N. 141°-6E. Depth of focus 55km.

Intensity II-III at Mito.

Seismo. Bull. Cent. Met. Obs., Japan, for Aug., 1953, Tokyo, 1953, pp.14-15, with macroseismic chart.

Aug. 22d. 6h. 20m. Epicentre 39°-2N. 70°-4E.

Bulletin of Seismo. Stations of U.S.S.R., for July-Sept., 1953, Moscow, 1954, pp.119-120.

Aug. 22d. 22h. 33m. Epicentre 39°-0N. 70°-7E.

Loc. cit., 6h., p.120.

Aug. 23d. 0h. 3m. Epicentre 36°-5N. 70°-5E. Depth of focus 120km.

Loc. cit., 22d. 22h.

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1953

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Aug. 23d. 7h. 18m. 6s. Epicentre 1°·8S. 13°·9W.

A = +·9702, B = -·2401, C = -·0312; δ = -9; h = +7;
D = -·240, E = -·971; G = -·030, H = +·007, K = -1·000.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----------|-----|----------------------|------|----------------------|------|-------------------------|------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| M'Bour | 16·3 | 349 | i 4 6 | +14 | i 7 10 | +17 | i 4 17 | 9·4 |
| Tamanrasset | z. 30·9 | 36 | e 6 10 | -10 | — | — | e 8 48 | — |
| Averroes | 35·4 | 8 | e 6 53 | -7 | — | — | — | 15·7 |
| Malaga | 39·3 | 12 | e 8 2 | +30 | i 13 54 | +20 | — | 20·0 |
| Almeria | 39·9 | 14 | i 7 33 | -4 | 13 31 | -12 | 9 3 | PP 20·2 |
| Granada | 40·0 | 12 | i 7 38 _a | 0 | 14 0 | +16 | 8 15 | ? 19·5 |
| Algiers Univ. | z. 41·5 | 21 | — | — | e 14 32 | +25 | — | — |
| Alicante | 41·8 | 15 | e 7 46 | -7 | e 13 58 | -13 | 9 44 | PcP 19·8 |
| Angra do Heroismo | 42·1 | 344 | — | — | e 17 26 | SS | — | 20·1 |
| Toledo | 42·5 | 11 | e 7 57 | -2 | e 14 9 | -13 | 9 48 | PP — |
| Tortosa | 44·4 | 15 | e 8 16 | +2 | — | — | — | e 17·9 |
| Barcelona | 45·4 | 16 | e 12 13 | ? | — | — | — | e 23·6 |
| Kimberley | z. 45·6 | 130 | i 8 24 | 0 | — | — | — | — |
| Pretoria | z. 47·0 | 124 | i 8 34 | -1 | — | — | — | — |
| Messina | 48·2 | 31 | e 8 44 | 0 | e 15 58 | +15 | e 10 38 | PP — |
| Reggio Calabria | 48·2 | 31 | e 8 29 | -15 | — | — | e 8 55 | ? — |
| Grahamstown | 49·2 | 133 | e 8 50 | -2 | — | — | — | — |
| Rome | 49·6 | 25 | e 9 5 | +10 | e 16 16 | +13 | e 10 46 | PP e 23·2 |
| Clermont-Ferrand | 49·7 | 15 | e 9 3 | +7 | e 16 16 | +12 | e 16 23 | PS 21·7 |
| Pietermaritzburg | z. 50·3 | 127 | e 9 0 | 0 | — | — | — | — |
| Florence | 50·7 | 23 | e 9 4 | +1 | e 16 17 | -1 | i 11 51 | PPP e 24·9 |
| Oropa | 51·0 | 19 | e 9 45 | +39 | — | — | — | — |
| Pavia | 51·1 | 20 | e 9 13 | +7 | e 16 36 | +12 | i 13 48 | ? — |
| Chambon-la-Forêt | 51·6 | 13 | e 9 3 | -7 | — | — | e 9 19 | pP — |
| Paris | 52·4 | 13 | e 9 9 | -7 | e 16 40 | -2 | e 12 20 | PPP e 24·9 |
| La Plata | 52·5 | 226 | 11 30 | PP | 16 48 | +5 | — | — 22·4 |
| Chur | 52·6 | 20 | e 9 15 _k | -3 | — | — | — | — |
| Athens | 52·7 | 37 | e 9 15 _k | -3 | e 16 38 | -8 | e 16 53 | PS — |
| Zürich | 52·8 | 18 | e 9 17 | -2 | — | — | e 20 12 | SS — |
| Triest | 53·2 | 23 | e 9 24 | +2 | i 17 2 | +10 | e 12 29 | PPP e 26·2 |
| Helwan | 53·4 | 50 | 9 21 | -3 | e 17 3 | +8 | i 10 27 | PcP — |
| Strasbourg | 53·6 | 17 | e 9 22 | -3 | — | — | e 10 10 | PcP — |
| Karlsruhe | z. 54·2 | 18 | 9 24 | -5 | — | — | — | — |
| Stuttgart | 54·2 | 18 | e 9 21 | -8 | e 17 0 | -6 | e 11 36 | PP — |
| Kew | 54·3 | 10 | e 10 56 | PcP | 17 14 | +7 | — | e 26·7 |
| San Juan | 55·1 | 294 | i 9 36 | 0 | i 17 26 | +8 | — | — |
| La Paz | 55·3 | 251 | 9 40 | +2 | i 17 30 | +9 | i 21 17 | SS 25·4 |
| Rathfarnham Castle | 55·3 | 6 | e 10 30 _? | PcP | e 19 20 | ? | e 25 50 | Q e 40·9 |
| Belgrade | 55·6 | 29 | e 9 46 | +6 | e 17 8 | -17 | e 12 24 | PP — |
| De Bilt | 56·1 | 14 | — | — | e 16 54 _? | -38 | (e 22 54 _?) | SSS e 22·9 |
| Kalossa | 56·2 | 26 | e 10 1 | +17 | — | — | — | — |
| Szeged | E. 56·5 | 28 | 9 25 | ? | — | — | — | — |
| Budapest | 56·9 | 26 | e 10 4 | +15 | e 23 14 | SSS | e 11 44 | PP e 31·9 |
| Jena | 56·9 | 19 | e 9 45 | -4 | — | — | e 10 0 | pP — |
| Collmburg | 57·6 | 20 | e 9 51 | -3 | — | — | e 10 6 | pP — |
| Istanbul | 57·8 | 37 | 9 16 | -39 | — | — | — | — |
| Bucharest | 58·2 | 32 | e 10 4 | +6 | e 10 51 | PcP | i 11 10 | PP — |
| Potsdam | 58·6 | 18 | e 10 2 | +1 | e 18 7 | +3 | e 10 45 | PcP e 28·9 |
| Ksara | 58·7 | 48 | i 10 5 | +3 | e 18 34 | +28 | i 11 6 | PcP — |
| Bermuda | 58·8 | 310 | — | — | e 18 15 | +8 | e 24 24 | SSS e 26·4 |
| Aberdeen | N. 59·5 | 7 | i 11 0 | PcP | i 18 14 | -2 | i 22 8 | SS e 29·0 |
| Bogota | 60·5 | 277 | e 10 12 | -2 | i 18 35 | +6 | — | — e 28·4 |
| Copenhagen | 61·2 | 16 | e 10 18 | -1 | e 18 30 | -8 | — | — 23·9 |
| Huancayo | 61·7 | 257 | e 10 23 | +1 | e 18 59 | +15 | e 11 19 | PcP i 25·9 |
| Chinchina | 62·0 | 278 | e 10 23 | -1 | e 18 35 | -13 | e 25 47 | SSS e 29·9 |
| Galerazamba | 62·3 | 284 | — | — | e 18 35 | -17 | — | — 28·9 |
| Concepción | N. 63·8 | 230 | — | — | e 19 5 | -6 | — | — 30·1 |
| Halifax | 63·9 | 323 | e 10 36 _k | -1 | 19 7 | -5 | i 11 18 | PcP 29·0 |
| Upsala | 66·2 | 16 | i 10 56 | +4 | e 19 39 | -1 | e 20 18 | PPS e 29·9 |
| Weston | 67·8 | 318 | i 11 7 _k | +5 | e 19 57 | -3 | 11 18 | PcP e 31·2 |

Continued on next page.

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1953

522

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|------------------|----------|-----|---------|------|---------|------|---------|-----|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Harvard | 68.0 | 318 | i 11 4k | + 1 | e 20 16 | +14 | 27 34 | Q | 31.2 |
| Palisades | 69.0 | 316 | e 11 9 | 0 | e 20 20 | + 6 | e 28 0 | Q | e 31.1 |
| Seven Falls | E. 69.5 | 323 | e 10 57 | -15 | 20 35 | +15 | — | — | — |
| Ottawa | 71.9 | 320 | i 11 22 | - 5 | 20 48 | 0 | e 12 26 | PcP | 29.0 |
| Buffalo (Larkin) | 73.2 | 316 | e 11 35 | 0 | — | — | — | — | — |
| Kiruna | 73.5 | 13 | i 11 39 | + 3 | e 21 4 | - 2 | e 26 1 | SS | e 32.9 |
| Cleveland | 74.6 | 314 | e 11 40 | - 3 | e 21 24 | + 6 | e 21 43 | PS | e 25.3 |
| Kirkland Lake | z. 75.7 | 321 | e 11 50 | + 1 | — | — | — | — | — |
| Cincinnati | 76.2 | 311 | e 11 53 | + 1 | — | — | — | — | — |
| Quetta | z. 83.1 | 59 | e 12 27 | - 2 | — | — | — | — | — |
| Fayetteville | 83.2 | 307 | i 12 25 | - 4 | e 22 57 | + 8 | e 23 30 | PS | e 38.2 |
| Tacubaya | 86.2 | 289 | e 12 44 | 0 | — | — | e 13 1 | PcP | — |
| Resolute Bay | 89.3 | 345 | e 13 12 | +13 | i 23 56 | + 8 | 27 19 | ? | — |
| Tucson | 96.8 | 302 | e 13 48 | +14 | — | — | — | — | — |
| Hungry Horse | 98.1 | 318 | e 13 35 | - 5 | — | — | — | — | — |
| Nelson | 99.9 | 306 | e 14 0 | +12 | — | — | e 17 35 | PP | — |
| Palomar | z. 101.8 | 303 | e 17 56 | ? | — | — | e 18 10 | PP | — |
| China Lake | z. 102.2 | 306 | e 19 0 | PP | — | — | — | — | — |
| Riverside | z. 102.2 | 304 | e 18 26 | PP | — | — | — | — | — |
| Tinemaha | z. 102.5 | 307 | e 18 16 | PP | — | — | e 18 26 | pPP | — |
| Pasadena | 102.8 | 304 | e 18 21 | PP | e 33 3 | SS | — | — | e 48.2 |
| Woody | z. 103.2 | 306 | e 18 34 | PP | — | — | — | — | — |
| Victoria | 104.2 | 319 | — | — | e 33 22 | SS | — | — | 41.9 |
| Berkeley | 105.6 | 309 | — | — | e 27 58 | PS | 33 30 | SS | e 46.3 |
| Baguio | 132.9 | 69 | e 21 54 | PP | — | — | — | — | — |

Aug. 23d. 12h. 22m. Epicentre 40°29'N. 121°45'W.

Intensity V at Mineral; IV at Manzanita Lake.

L. M. Murphy and W. K. Cloud.

United States Earthquakes, 1953, U.S.C.G.S. Serial No. 785, Washington, 1955, p.18.

Aug. 23d. 21h. 17m. Epicentre 47°17'N. 7°10'E.

Intensity V at Bellelay; III at Lautenburg. Macro seismic radius 30km.

E. Wanner.

Jahresbericht des Erdbebendienstes der Schweiz im Jahre, 1953, Zürich, 1954, p.3, map.

Figure 5 separate from the text.

Aug. 24d. 4h. 37m. Central Colombia.

Epicentre 5°-0N. 72°-0W. (U.S.C.G.S.).

Bulletin mensuel du B.C.I.S., pour août, 1953, Strasbourg, 1953.

Aug. 24d. 13h. 21m. 2s. Epicentre 14°-1N. 91°-4W. Depth of focus 0.010.

Magnitude 6.75 (Berkeley).

$$A = -.0237, B = -.9700, C = +.2421; \quad \delta = +7; \quad h = +6;$$

$$D = -1.000, E = +.024; \quad G = -.006, H = -.242, K = -.970.$$

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|----------|-----|---------|------|---------|------|---------|----|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Merida | 7.0 | 14 | i 1 47k | + 5 | 3 9 | + 9 | — | — |
| Puebla | 8.2 | 308 | e 1 55 | - 3 | 3 22 | - 8 | — | — |
| Tacubaya | 9.1 | 306 | i 2 6k | - 4 | e 3 45 | - 7 | i 4 1 | ? |
| Guadalajara | 13.1 | 301 | — | — | e 5 22 | - 5 | — | — |
| Kingston | 14.5 | 73 | e 3 23 | + 1 | — | — | — | — |
| Chinchina | z. 18.0 | 116 | e 4 7 | + 2 | e 7 56 | ? | e 4 20 | PP |
| Fayetteville | 22.0 | 355 | i 4 45 | - 2 | i 8 47 | + 8 | i 5 7 | pP |
| Tucson | 25.3 | 319 | i 5 19 | 0 | e 9 39 | + 4 | i 5 33 | pP |
| Cleveland | 28.6 | 15 | i 5 49a | 0 | e 10 33 | + 4 | i 11 58 | SS |
| Barratt | z. 29.5 | 313 | e 5 58k | + 1 | i 9 2 | PcP | e 6 13 | pP |

Continued on next page.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|------------------|----|---------------|----------|------|-----|------------|------|----|------------|-------|----|----------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Palomar | z. | 30.0 | 314 | i 6 | 1k | - 1 | i 12 | 43 | PcS | i 6 | 18 | pP | — |
| Nelson | | 30.1 | 320 | i 6 | 3 | + 1 | i 12 | 42 | PcS | i 6 | 18 | pP | e 13.8 |
| Boulder City | | 30.3 | 320 | i 6 | 4 | 0 | i 16 | 41 | ScS | i 6 | 19 | pP | — |
| Bermuda | | 30.4 | 48 | i 6 | 5 | 0 | e 11 | 3 | + 6 | — | — | — | e 13.1 |
| Huancayo | | 30.5 | 147 | e 6 | 3 | - 3 | e 11 | 34 | sS | e 6 | 7 | P | — |
| Riverside | z. | 30.8 | 315 | i 6 | 8 | - 1 | i 12 | 45 | PcS | i 6 | 25 | pP | — |
| Palisades | | 30.9 | 27 | i 6 | 9 | - 1 | i 11 | 10 | + 5 | e 6 | 59 | PP | e 14.9 |
| Pasadena | | 31.4 | 315 | i 6 | 13k | - 1 | e 11 | 22 | + 9 | i 6 | 28 | pP | e 16.3 |
| China Lake | z. | 31.9 | 318 | i 6 | 19k | + 1 | e 16 | 54 | ScS | i 6 | 33 | pP | — |
| Woody | z. | 32.7 | 317 | i 6 | 26k | + 1 | e 12 | 53 | PcS | i 6 | 39 | pP | — |
| Harvard | | 33.1 | 27 | i 6 | 28k | - 1 | i 11 | 43 | + 3 | i 6 | 44 | pP | e 15.1 |
| Tinemaha | | 33.1 | 319 | i 6 | 30k | + 1 | e 16 | 53 | ScS | i 6 | 45 | pP | — |
| Weston | | 33.1 | 27 | i 6 | 30a | + 1 | i 11 | 46 | + 6 | 6 | 44 | pP | 20.0 |
| Fresno | z. | 33.9 | 318 | i 6 | 35k | - 1 | — | — | — | e 9 | 13 | PcP | — |
| Ottawa | | 33.9 | 19 | i 6 | 34k | - 2 | 11 | 54 | + 2 | 7 | 45 | PP | 19.1 |
| Kirkland Lake | z. | 35.2 | 13 | e 6 | 46a | - 1 | — | — | — | e 7 | 2 | pP | — |
| Lick | z. | 35.5 | 317 | i 6 | 49k | 0 | e 9 | 17 | PcP | i 7 | 1 | pP | — |
| Reno | | 35.6 | 321 | i 6 | 51k | + 1 | e 12 | 30 | + 12 | i 7 | 6 | pP | — |
| Santa Clara | E. | 35.8 | 317 | e 6 | 47 | - 5 | e 12 | 30 | + 9 | — | — | — | e 19.6 |
| Shawinigan Falls | N. | 35.9 | 22 | e 6 | 52 | 0 | — | — | — | — | — | — | — |
| Berkeley | | 36.2 | 317 | i 6 | 56k | + 1 | e 12 | 36 | + 9 | e 7 | 8 | pP | — |
| Mineral | z. | 37.1 | 321 | i 7 | 3k | 0 | e 13 | 9 | PcS | i 7 | 18 | pP | — |
| Seven Falls | E. | 37.1 | 23 | e 6 | 56 | - 7 | 12 | 40 | - 1 | 8 | 25 | PP | 18.4 |
| Shasta | | 37.9 | 321 | e 7 | 7k | - 2 | e 13 | 8 | + 15 | e 7 | 20 | pP | — |
| La Paz | | 38.1 | 141 | 7 | 16 | + 5 | i 13 | 27 | sS | — | — | — | 19.7 |
| Halifax | | 38.5 | 32 | i 7 | 14 | 0 | 13 | 6 | + 4 | 15 | 52 | SS | — |
| Hungry Horse | | 38.9 | 337 | i 7 | 18 | 0 | i 13 | 13 | + 5 | i 17 | 22 | ScS | — |
| Arcata | N. | 39.0 | 320 | e 7 | 19 | + 1 | — | — | — | — | — | — | — |
| Corvallis | z. | 40.7 | 324 | e 7 | 34 | + 2 | e 13 | 35 | 0 | — | — | — | — |
| Seattle | z. | 42.2 | 329 | i 7 | 46? | + 1 | — | — | — | — | — | — | — |
| Victoria | | 43.3 | 329 | 7 | 53 | - 1 | e 14 | 21 | + 8 | — | — | — | 21.0 |
| College | | 63.4 | 337 | i 10 | 20 | - 2 | e 20 | 2 | ScS | i 10 | 57 | sP | e 26.2 |
| Granada | | 79.9 | 54 | — | — | — | 22 | 46 | sS | — | — | — | 33.7 |
| Paris | | 82.1 | 42 | e 12 | 10 | - 1 | — | — | — | — | — | — | e 40.0 |
| Kiruna | | 85.0 | 21 | i 12 | 26 | 0 | i 22 | 37 | [- 1] | i 12 | 42 | pP | e 42.0 |
| Strasbourg | | 85.5 | 41 | e 12 | 28 | 0 | 22 | 58 | + 8 | — | — | — | — |
| Copenhagen | | 86.1 | 33 | — | — | — | e 23 | 3 | + 7 | e 23 | 35 | sS | 41.0 |
| Stuttgart | | 86.4 | 41 | e 12 | 32 | - 1 | — | — | — | e 12 | 48 | pP | — |
| Jena | | 87.2 | 38 | e 12 | 29? | - 7 | e 13 | 27 | ? | e 12 | 52 | pP | — |
| Upsala | z. | 87.2 | 29 | i 12 | 38 | + 2 | — | — | — | e 13 | 4 | pP | — |
| Collmberg | z. | 87.9 | 38 | e 12 | 41 | + 1 | — | — | — | e 13 | 4 | pP | — |
| Triest | | 90.3 | 42 | e 12 | 53 | + 2 | e 23 | 58 | pP | e 13 | 16 | pP | — |
| Tamanrasset | z. | 90.8 | 66 | e 12 | 55 | + 1 | e 15 | 25 | ? | e 13 | 24 | pP | — |
| Kimberley | z. | 119.5 | 115 | i 18 | 41 | [+ 3] | — | — | — | — | — | — | — |
| Grahamstown | z. | 120.9 | 120 | e 18 | 44 | [+ 3] | — | — | — | — | — | — | — |
| Pretoria | z. | 122.5 | 111 | i 18 | 48 | [+ 4] | — | — | — | — | — | — | — |
| Quetta | z. | 131.3 | 25 | i 19 | 5 | [+ 4] | i 22 | 24 | SKP | — | — | — | — |

Aug. 24d. 15h. 1m. Epicentre 37°·9N. 141°·9E. Depth 55-60km.

Intensity V at Sendai, Hukusima, and Miyako; IV at Isinomaki, Yamagata, Onahama, Shirakawa, Morioka, and Tukubasan; II-III at Mito, Hatinohe, Kashiwa, and Maebasi. Seismo. Bull. Cent. Met. Obs., Japan, for August, 1953, Tokyo, 1953, pp. 15-16, with macroseismic chart.

Aug. 24d. 16h. 29m. Iran.

Suggested epicentre: 36°N. 54°·5E. (Strasbourg).
35°·4N. 54°·8E. (U.S.S.R.).

Bull. of the Seismo. Stations of U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 40.

Aug. 24d. 19h. 41m. Hindu Kush. Epicentre 36°·7N. 71°·4E. Depth 100km.

Loc. cit., 16h., pp. 120-121.

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Aug. 25d. 2h. 4m. 15s. Epicentre 5°·2S. 152°·4E. (as on 1951, November 22d.).

A = -·8826, B = +·4614, C = -·0901; $\delta = -1$; $h = +7$;
D = +·463, E = +·886; G = +·080, H = -·042, K = -·996.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | I. |
|-----------------|-----------|-----|---------------------|------|----------|------|---------|-----------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Brisbane | 22·2 | 179 | i 4 58 | - 2 | i 9 1 | + 1 | i 5 11 | pP i 9·6 |
| Riverview | 28·5 | 183 | i 5 57 _a | - 2 | i 10 39 | - 7 | i 11 57 | SS e 14·0 |
| Melbourne | E. 33·2 | 190 | — | — | e 11 59 | - 1 | — | 14·8 |
| Baguio | 38·1 | 305 | i 7 23 | + 1 | i 13 13 | - 3 | i 8 55 | PP — |
| Karapiro | N. 38·8 | 152 | e 7 37 | + 9 | — | — | — | — |
| Tongariro | Z. 39·8 | 151 | e 7 38 | + 2 | — | — | — | — |
| Cobb River | E. 40·1 | 156 | e 7 45 | + 6 | — | — | — | — |
| Tuai | N. 40·3 | 149 | e 7 54 | +14 | — | — | — | — |
| Kaimata | N.E. 40·8 | 158 | e 7 55 | +10 | — | — | — | — |
| Wellington | 41·1 | 155 | e 7 47 | 0 | e 13 55 | - 6 | e 8 19 | ? e 20·2 |
| Yakusima | 41·2 | 331 | e 7 57 | + 9 | — | — | — | — |
| Muroto | 42·0 | 337 | e 7 52 | - 2 | e 17 14 | SS | — | e 23·7 |
| Simidu | E. 42·0 | 335 | e 7 45 | - 9 | e 17 45? | SS | — | — |
| Christchurch | 42·1 | 158 | e 8 3 | + 8 | e 14 19 | + 3 | e 18 9 | SSS — |
| Kagosima | 42·1 | 332 | e 8 11 | +16 | 14 13 | - 3 | — | — |
| Misima | E. 42·1 | 344 | e 8 20 | +25 | — | — | — | — |
| Shizuoka | 42·1 | 343 | — | — | e 17 10 | SS | — | — |
| Tokyo | N. 42·4 | 345 | e 7 30 | -28 | e 14 4 | -16 | e 9 35 | PP 29·7 |
| Koti | 42·5 | 337 | e 8 3 | + 4 | e 14 14 | - 8 | — | — |
| Kameyama | 42·6 | 342 | e 8 14 | +15 | e 14 37 | +14 | — | e 18·2 |
| Osaka | 42·7 | 340 | e 9 18 | PP | — | — | e 10 35 | SS — |
| Sumoto | 42·7 | 339 | e 7 25 | ? | e 18 25 | SSS | — | e 22·3 |
| Kobe | 42·9 | 340 | e 9 32 | PP | e 14 38 | +11 | e 13 43 | ? e 20·8 |
| Kumagaya | 42·9 | 345 | e 8 15 | +13 | — | — | — | — |
| Ooita | 43·0 | 334 | e 8 11 | + 8 | e 14 48 | +19 | — | — |
| Takamatu | E. 43·0 | 337 | e 8 11 | + 8 | e 14 50 | +21 | (17 45) | SS 17·8 |
| Matuyama | 43·1 | 336 | e 8 3 | - 1 | e 14 26 | - 4 | e 9 39 | PP e 19·4 |
| Perth | 43·3 | 228 | — | — | i 14 35 | + 2 | i 17 50 | SS — |
| Hirosima | 43·6 | 336 | e 8 8 | 0 | e 14 46 | + 8 | — | e 23·7 |
| Matusiro | 43·6 | 344 | e 8 3 | - 5 | 14 41 | + 3 | e 9 41 | PP 19·8 |
| Shirakawa | 43·6 | 346 | e 8 7 | - 1 | — | — | — | — |
| Nagano | N. 43·7 | 344 | e 8 21 | +13 | — | — | — | — |
| Hukuoka | 43·8 | 333 | e 8 6 | - 3 | e 14 32 | - 8 | e 17 56 | SS 21·0 |
| Toyama | 44·0 | 343 | e 7 32 | ? | — | — | — | — |
| Hamada | 44·3 | 336 | e 8 13 | 0 | e 14 35 | -13 | e 17 38 | SS — |
| Bandung | 44·5 | 266 | e 9 4 | +49 | i 18 10 | ? | i 10 52 | PPP — |
| Sendai | 44·5 | 348 | e 8 34 | +19 | — | — | e 10 17 | PP — |
| Niigata | 44·7 | 345 | e 8 37 | +21 | — | — | — | — |
| Sakata | 45·4 | 347 | e 8 27 | + 5 | — | — | — | — |
| Akita | E. 46·1 | 347 | e 9 6 | +38 | — | — | — | — |
| Hong Kong | 46·3 | 308 | e 8 31 | + 2 | e 15 16 | 0 | — | — |
| Zò-Sò | 46·8 | 323 | i 8 34 _a | + 1 | 15 25 | + 1 | — | — |
| Urakawa | 47·9 | 351 | e 9 10 | +28 | e 15 13 | -26 | — | e 19·4 |
| Mori | N. 48·3 | 348 | e 8 48 | + 3 | — | — | — | — |
| Nemuro | 48·7 | 353 | e 9 59 | ? | e 15 49 | - 1 | — | — |
| Sapporo | 49·1 | 350 | e 8 49 | - 2 | e 15 53 | - 3 | e 11 6 | PP e 23·8 |
| Wakkanai | E. 51·3 | 351 | — | — | e 21 56 | SSS | — | — |
| Vladivostok | 51·6 | 314 | i 9 9 | - 1 | 16 32 | + 1 | — | — |
| Yuzno-Sakhlinsk | 52·6 | 352 | i 9 16 | - 2 | — | — | — | — |
| Ulegorsk | 54·8 | 353 | e 9 30 | - 4 | 17 11 | - 3 | — | — |
| Petropavlovsk | 58·4 | 4 | i 9 56 | - 4 | i 17 59 | - 3 | — | — |
| Klyuchi | 61·7 | 6 | 10 20 | - 2 | 18 41 | - 3 | — | — |
| Magadan | 64·6 | 359 | i 10 37 | - 4 | — | — | — | — |
| Shillong | N. 66·2 | 301 | e 10 57 | + 5 | i 19 37 | - 3 | — | — |
| Kyakhta | 68·0 | 330 | 11 1 | - 2 | — | — | — | — |
| Calcutta | E. 68·4 | 297 | e 10 12 | -54 | i 21 6 | +59 | — | — |
| Kabansk | 69·0 | 332 | i 10 58? | -11 | — | — | — | — |
| Irkutsk | 70·3 | 331 | 11 15 | - 2 | — | — | — | — |
| Chatra | 70·6 | 301 | e 11 17 | - 2 | — | — | — | e 36·0 |
| Kodaikanal | 76·2 | 282 | — | — | e 21 42 | + 6 | — | — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|----|----------|-----|----------------------|-------|----------------------|--------|-----------|-----|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Hyderabad | N. | 76.3 | 289 | — | — | e 21 33 | - 4 | — | — |
| Dchra Dun | N. | 79.2 | 302 | e 12 18 | +10 | — | — | — | — |
| Poona | Z. | 80.8 | 289 | i 12 10 | - 7 | — | — | — | — |
| Przhevsk | | 81.8 | 315 | 12 24 | + 2 | 22 40 | + 5 | — | — |
| Bombay | | 81.9 | 290 | i 12 23 | 0 | i 22 38 | + 2 | 15 20 | PP |
| College | | 82.4 | 22 | e 12 21 | - 4 | e 22 33 | - 8 | (e 27 55) | SS |
| Almata | | 83.0 | 315 | i 12 30 | + 2 | i 22 43 | - 4 | — | — |
| Naryn | | 83.3 | 312 | i 12 31 | + 1 | i 22 53 | + 3 | — | — |
| Rybach'e | | 83.5 | 314 | i 12 30 | - 1 | — | — | — | — |
| Frunse | | 84.6 | 313 | i 12 37 | + 1 | i 22 59 | - 4 | i 15 53 | PP |
| Warsak Dam | E. | 85.3 | 305 | e 12 40 | 0 | i 23 2 | [- 1] | e 23 34 | S |
| Andijan | | 85.9 | 311 | i 12 42 | - 1 | i 23 6 | [- 1] | e 17 50 | PPP |
| Khorog | | 85.9 | 308 | — | — | e 23 20 | + 4 | — | — |
| Fergana | | 86.2 | 311 | e 12 43 | - 1 | — | — | — | — |
| Namangan | | 86.4 | 311 | i 12 46 | + 1 | e 23 11 | [+ 1] | e 18 6 | PPP |
| Dzhergetal | | 86.5 | 310 | e 12 48 | + 2 | — | — | — | — |
| Garm | | 87.1 | 309 | i 12 49 | 0 | i 23 39 | +11 | — | — |
| Kulyab | | 87.4 | 308 | 12 49 | - 1 | 23 19 | [+ 2] | — | — |
| Stalinabad | | 88.2 | 309 | i 12 54 | 0 | i 23 39 | + 1 | — | — |
| Lunacharskoe | | 88.2 | 311 | e 12 55 | + 1 | i 23 36 | - 2 | e 16 27 | PP |
| Tashkent | | 88.2 | 311 | i 12 56 | + 2 | e 23 18 | [- 4] | e 16 24 | PP |
| Tchimkent | | 88.2 | 313 | i 12 53 | - 1 | i 23 37 | - 1 | — | — |
| Quetta | | 88.6 | 300 | i 12 54 ^k | - 2 | e 23 24 | [0] | e 23 37 | S |
| Berkeley | | 89.5 | 53 | e 12 41 ^a | -19 | e 23 46 | - 4 | e 23 25 | SKS |
| Santa Clara | | 89.7 | 53 | e 14 0 | +59 | e 24 0 | + 8 | — | — |
| Shasta | | 89.7 | 49 | e 13 0 | - 1 | — | — | — | — |
| Victoria | | 90.0 | 41 | — | — | e 23 33 | [0] | (30 15) | SS |
| Lick | Z. | 90.1 | 53 | e 13 9 ^a | + 6 | — | — | e 13 45 | ? |
| Mineral | Z. | 90.3 | 50 | e 12 58 ^a | - 6 | — | — | — | — |
| Reno | Z. | 91.6 | 51 | e 13 11 | + 1 | — | — | — | — |
| Woody | Z. | 92.0 | 55 | i 13 11 | - 1 | — | — | — | — |
| Pasadena | | 92.4 | 56 | e 13 13 | - 1 | e 24 3 | {+ 4} | e 25 36 | PS |
| Tinemaha | Z. | 92.6 | 53 | e 13 15 | 0 | — | — | i 13 36 | ? |
| China Lake | Z. | 93.0 | 54 | e 13 16 | - 1 | — | — | i 13 30 | ? |
| Riverside | Z. | 93.1 | 56 | e 13 17 | 0 | — | — | i 13 21 | ? |
| Bairam-Ali | | 93.4 | 307 | i 13 21 | + 3 | i 23 56 | [+ 4] | 17 6 | PP |
| Nelson | | 95.2 | 54 | e 13 26 | - 1 | — | — | i 17 14 | PP |
| Boulder City | | 95.3 | 54 | i 13 27 | 0 | i 14 31 | ? | i 17 15 | PP |
| Sverdlovsk | | 95.3 | 326 | i 13 26 | - 1 | 24 6 | [+ 3] | 17 18 | PP |
| Hungry Horse | | 96.2 | 42 | e 13 29 | - 2 | i 14 20 | ? | e 17 22 | PP |
| Ashkabad | | 96.4 | 307 | e 13 32 | 0 | e 24 19 | [+10] | 17 21 | PP |
| Butte | | 97.2 | 43 | e 13 35 | - 1 | e 24 16 | [+ 31] | — | — |
| Kizyl-Arvat | | 98.0 | 309 | e 13 39 | 0 | e 24 23 | [+ 6] | — | — |
| Tucson | | 98.5 | 58 | e 13 43 | + 1 | e 26 30 | PS | e 17 37 | PP |
| Resolute Bay | | 100.9 | 15 | e 13 51 ^a | - 1 | 25 33 | + 5 | 24 41 | SKS |
| Baku | | 102.9 | 310 | e 18 9 | PP | — | — | — | — |
| Kirovobad | | 105.5 | 311 | e 18 21 | [- 3] | e 24 59 | [+ 6] | e 27 59 | PS |
| Goris | | 105.7 | 310 | e 14 38 [?] | ? | e 25 3 | [+ 9] | e 18 33 | PKP |
| Tiflis | | 106.6 | 312 | e 14 16 | + 4 | e 28 18 | PS | e 18 44 | PP |
| Erevan | | 107.0 | 311 | e 14 13 | - 6 | — | — | — | — |
| Gori | | 107.0 | 312 | e 18 58 | PP | — | — | — | — |
| Borzhomi | | 107.6 | 312 | e 18 53 | PP | — | — | — | — |
| Moscow | | 108.1 | 327 | e 18 52 | PP | e 28 11 | PS | — | — |
| Kiruna | | 109.6 | 343 | i 14 30 | P | i 25 7 | [- 4] | e 19 5 | PP |
| Pulkovo | | 110.2 | 333 | e 19 7 | PP | e 28 33 | PS | e 21 51 | PKS |
| Fayetteville | | 111.9 | 53 | e 15 14 | P | e 26 31 | {+13} | e 28 55 | PS |
| Ksara | | 114.8 | 304 | e 19 45 | PP | e 29 25 | PS | — | — |
| Upsala | | 115.6 | 336 | e 15 7 | P | e 26 46 [?] | {+ 2} | i 18 44 | PKP |
| Kishinev | | 116.3 | 321 | e 19 52 | PP | — | — | — | — |
| Istanbul | Z. | 118.2 | 314 | e 19 48 | PP | e 26 27 | {-34} | e 21 3 | ? |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------------|------------|------------|------|-----------------|-------|------|-----|-------|-------|-----|------|--------|
| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Bucharest | 119.0 | 319 | e 20 | 9 | PP | e 29 | 51 | PS | — | — | 41.8 | |
| Helwan | z. 119.4 | 301 | 18 | 55 | [+ 3] | e 32 | 47 | ? | e 20 | 16 | PP | — |
| Kimberley | z. 119.4 | 233 | e 19 | 3 | [+11] | — | — | — | — | — | — | — |
| Uzhgorod | 119.5 | 325 | e 19 | 5? | [+13] | e 27 | 35? | {+24} | e 30 | 15? | PSKS | — |
| Cleveland | 120.0 | 44 | e 20 | 18 | PP | e 25 | 55 | [+ 5] | e 30 | 4 | PS | — |
| Copenhagen | 120.4 | 335 | e 20 | 15 | PP | e 26 | 13 | [+22] | e 30 | 9 | PS | — |
| Ottawa | 122.2 | 38 | i 18 | 57 _a | [0] | 25 | 55 | [- 2] | 30 | 11 | PS | — |
| Collnberg | z. 123.0 | 331 | e 19 | 0 | [+ 1] | e 21 | 13 | PP | e 23 | 40 | PPP | — |
| Prague | 123.1 | 329 | e 20 | 34 | PP | e 31 | 51 | PPS | e 23 | 16 | PPP | — |
| Jena | z. 123.9 | 331 | e 19 | 1 | [+ 1] | — | — | — | e 21 | 1 | PP | — |
| Washington | 124.1 | 45 | e 19 | 13 | [+12] | — | — | — | — | — | — | — |
| Seven Falls | z. 124.2 | 34 | e 20 | 46 | PP | 26 | 14 | [+10] | 30 | 38 | PS | — |
| Aberdeen | 124.4 | 343 | i 30 | 19 | PS | e 38 | 35 | SS | e 31 | 0 | PS | e 62.2 |
| Witteveen | z. 124.8 | 336 | i 19 | 3 | [+ 1] | — | — | — | — | — | — | — |
| Palisades | 125.4 | 42 | e 19 | 5 | [+ 2] | e 26 | 12 | [+ 5] | e 20 | 50 | PP | e 58.6 |
| Fordham | 125.5 | 42 | e 19 | 10 | [+ 7] | — | — | — | — | — | — | — |
| De Bilt | 126.0 | 336 | — | — | — | e 30 | 45? | PS | — | — | — | e 57.8 |
| Triest | 126.1 | 325 | e 19 | 6 | [+ 2] | 30 | 55 | PS | e 31 | 59 | PS | 62.8 |
| Harvard | 126.2 | 39 | i 19 | 5 _k | [0] | e 38 | 13 | SS | i 20 | 58 | PP | — |
| Weston | 126.4 | 39 | i 19 | 7 _a | [+ 2] | — | — | — | — | — | — | e 61.2 |
| Stuttgart | 126.5 | 330 | e 19 | 7 | [+ 2] | e 31 | 9 | PS | e 21 | 3 | PP | e 62.8 |
| Taranto | 126.6 | 318 | e 20 | 31 | ? | e 38 | 31 | SS | — | — | — | e 64.8 |
| Karlsruhe | z. 126.8 | 332 | e 19 | 17 _a | [+11] | — | — | — | e 19 | 29 | ? | — |
| Strasbourg | 127.3 | 331 | e 19 | 7 | [0] | e 22 | 39 | PKS | e 21 | 7 | PP | e 59.8 |
| Uccle | 127.3 | 335 | e 19 | 11 | [+ 4] | — | — | — | — | — | — | e 60.8 |
| Chur | 127.6 | 329 | e 19 | 9 _k | [+ 2] | — | — | — | — | — | — | — |
| Zürich | z. 127.8 | 330 | e 19 | 7 | [- 1] | — | — | — | — | — | — | — |
| Basle | 128.2 | 330 | e 19 | 11 | [+ 2] | — | — | — | — | — | — | — |
| Florence | 128.6 | 325 | i 19 | 7 _k | [- 2] | i 22 | 25 | PKS | i 21 | 19 | PP | — |
| Kew | 128.6 | 339 | e 22 | 30 | PKS | e 39 | 15 | PSS | e 24 | 1 | PPP | e 50.8 |
| Messina | 128.9 | 317 | e 19 | 10 | [0] | 22 | 29 | PKS | e 21 | 21 | PP | — |
| Pavia | 128.9 | 328 | e 20 | 18 | ? | e 22 | 34 | PKS | e 33 | 2 | PPS | e 61.8 |
| Rathfarnham Castle | 129.0 | 344 | e 18 | 50 | [-20] | i 24 | 31 | PPP | e 47 | 15 | ? | e 53.8 |
| Rome | 129.0 | 322 | e 19 | 11 | [+ 1] | e 22 | 29 | PKS | e 21 | 13 | PP | — |
| Huancayo | 129.5 | 110 | i 19 | 15 | [+ 4] | e 39 | 15 | SSS | e 41 | 33 | ? | e 64.0 |
| Paris | 129.6 | 334 | i 19 | 10 | [- 1] | i 22 | 36 | PKS | e 21 | 19 | PP | e 68.8 |
| Halifax | 129.7 | 33 | e 19 | 18 | [+ 7] | 26 | 7 | [-12] | 22 | 33 | PP | — |
| La Plata | 130.9 | 147 | — | — | — | 39 | 3 | SS | — | — | — | 65.8 |
| Clermont-Ferrand | 131.6 | 331 | e 19 | 23 | [+ 8] | e 22 | 42 | PKS | e 21 | 37 | PP | 67.8 |
| Chinchina | 132.2 | 87 | e 19 | 18 | [+ 2] | e 26 | 29 | [+ 4] | e 22 | 41 | PKS | 61.8 |
| Bogota | 133.7 | 88 | e 22 | 50 | PKS | — | — | — | — | — | — | 56.8 |
| La Paz | 134.5 | 119 | i 22 | 57 | PKS | 40 | 13 | SSP | — | — | — | 65.0 |
| Bermuda | 136.1 | 47 | e 21 | 57 | PP | — | — | — | — | — | — | e 64.6 |
| Tortosa | 136.5 | 328 | e 22 | 33 | PP | i 28 | 49 | [-11] | — | — | — | — |
| Algiers Univ. | z. 137.9 | 322 | e 19 | 11 | [-16] | — | — | — | e 22 | 15 | PP | — |
| Alicante | 138.8 | 327 | 19 | 34 | [+ 6] | 26 | 46 | [+ 9] | 22 | 28 | PP | 65.8 |
| Toledo | 139.5 | 331 | e 19 | 26 | [- 4] | e 23 | 13 | PKS | 22 | 26 | PP | 70.1 |
| San Juan | 140.2 | 67 | i 19 | 29 | [- 2] | e 23 | 12 | PKS | — | — | — | — |
| Almeria | 141.0 | 328 | 19 | 30 | [- 2] | 26 | 36 | [- 5] | 22 | 30 | PP | 79.7 |
| Granada | 141.3 | 328 | e 21 | 26 _a | ? | 26 | 27 | [-14] | 23 | 14 | PKS | i 79.6 |
| Malaga | 142.1 | 329 | i 19 | 33 | [- 1] | 29 | 33 | [- 1] | i 22 | 45 | PP | 79.8 |
| Tamanrasset | z. 143.6 | 303 | i 19 | 35 | [- 2] | e 26 | 48 | [+ 3] | e 22 | 47 | PP | e 74.8 |
| Fort de France | 145.7 | 72 | e 19 | 42 | [+ 2] | — | — | — | — | — | — | — |
| Averroes | 146.3 | 329 | i 19 | 45 | [+ 4] | — | — | — | — | — | — | — |

Aug. 25d. 2h. 34m. Epicentre 39°·2N. 70°·7E.
Bull. of the Seismo. Stations of U.S.S.R. for July-Sept., 1953, Moscow, 1954, pp. 122, 123.

Aug. 26d. 20h. 24m. Epicentre 37°·4N. 71°·6E. Depth of focus 140km.
Bulletin of Seismo. Stations of U.S.S.R. for July-Sept., 1953, Moscow, 1954, p.123.

Aug. 26d. 21h. 43m. Provisional epicentre 39°·4S. 174°·5E. Depth of focus 250km.
Magnitude 5.
Seismo. Observatory Bulletin No. E-133, July-Aug.-Sept., 1953. New Zealand Department of Scientific and Industrial Research, Wellington, 1956, p.10.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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Aug. 27d. 20h. 46m. 2s. Epicentre 1°·3N. 97°·3E.

A = -·1270, B = +·9916, C = +·0225; $\delta = -9$; $h = +7$;
D = +·992, E = +·127; G = -·003, H = +·022, K = -1·000;

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|------------------|----|----------|-----|----------------------|------|---------|------|---------|-------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Djakarta | Z. | 12·1 | 128 | e 3 57 | +60 | — | — | — | e 6·8 | |
| Bandung | | 13·2 | 128 | e 4 1 | +50 | — | — | e 6 13 | e 7·2 | |
| Colombo | E. | 18·3 | 288 | e 4 17 | 0 | 7 39 | 0 | — | 9·6 | |
| Kodaikanal | E. | 21·6 | 296 | e 4 56 | + 2 | i 8 56 | + 7 | — | — | |
| Hyderabad | N. | 24·5 | 312 | i 5 25 | + 3 | i 9 41 | + 1 | 10 32 | SS | 12·2 |
| Shillong | N. | 24·7 | 351 | i 5 23 | - 1 | e 8 42 | -62 | 5 48 | PP | 10·6 |
| Hong Kong | | 26·6 | 37 | e 5 41 | - 1 | e 10 32 | +16 | — | — | — |
| Chatra | | 27·2 | 341 | i 5 48 | + 1 | i 10 26 | + 1 | 6 36 | PP | 12·6 |
| Baguio | | 27·4 | 54 | i 5 50 ^a | + 1 | i 10 37 | + 9 | i 6 39 | PP | — |
| Poona | | 28·7 | 309 | i 6 2 | + 1 | e 10 47 | - 3 | — | — | — |
| Bombay | E. | 29·7 | 309 | e 9 7 | PcP | i 11 7 | + 1 | e 10 13 | ? | — |
| New Delhi | | 33·2 | 327 | i 6 39 | - 1 | e 11 53 | - 7 | 7 44 | PP | 15·1 |
| Dehra Dun | E. | 34·2 | 330 | e 6 53 | + 4 | e 12 11 | - 5 | — | — | — |
| Nanking | | 36·7 | 31 | i 7 10 ^a | 0 | i 13 10 | +16 | — | — | — |
| Zō-Sō | | 37·3 | 35 | i 7 16 ^a | 0 | — | — | — | — | — |
| Warsak Dam | E. | 40·5 | 327 | e 7 50 | + 8 | i 13 47 | - 5 | — | — | e 25·0 |
| Quetta | | 40·6 | 318 | i 7 43 ^k | + 0 | e 13 51 | - 3 | i 9 13 | PP | — |
| Khorog | | 43·1 | 331 | e 8 5 | + 1 | — | — | — | — | — |
| Naryn | | 44·3 | 338 | i 8 13 | 0 | i 14 45 | - 3 | — | — | — |
| Kulyab | | 44·4 | 329 | — | — | 14 41 | - 8 | — | — | — |
| Przhevsk | | 44·4 | 342 | 8 14 [?] | 0 | — | — | — | — | — |
| Dzhergetal | | 44·6 | 332 | i 8 17 | + 1 | — | — | — | — | — |
| Garm | | 44·9 | 331 | i 8 17 | - 1 | i 14 48 | - 8 | — | — | — |
| Kurmenty | | 44·9 | 342 | e 8 19 | + 1 | — | — | — | — | — |
| Obi-garm | | 45·0 | 331 | i 8 18 | - 1 | i 14 50 | - 8 | — | — | — |
| Rybach'e | | 45·2 | 338 | i 8 20 | 0 | i 14 58 | - 3 | — | — | — |
| Andijan | | 45·3 | 333 | i 8 22 | + 1 | i 15 9 | + 7 | — | — | — |
| Fergana | | 45·3 | 333 | i 8 20 | - 1 | e 14 56 | - 6 | — | — | — |
| Stalinabad | | 45·4 | 329 | i 8 20 | - 2 | i 14 57 | - 7 | — | — | — |
| Almata | | 45·6 | 340 | i 8 23 | - 1 | i 15 6 | 0 | — | — | — |
| Namangan | | 45·8 | 333 | i 8 25 | 0 | e 15 4 | - 5 | — | — | — |
| Frunse | | 46·1 | 337 | i 8 28 | 0 | i 15 12 | - 2 | — | — | — |
| Samarkand | | 47·1 | 328 | i 8 34 | - 1 | 15 19 | - 9 | — | — | — |
| Lunacharskoe | | 47·2 | 332 | i 8 36 | 0 | i 15 26 | - 3 | — | — | — |
| Tashkent | | 47·2 | 332 | i 8 37 | + 1 | i 15 26 | - 3 | — | — | — |
| Tchimkent | | 47·8 | 333 | i 8 42 | + 1 | i 15 36 | - 2 | — | — | — |
| Bairam-Ali | | 48·5 | 322 | i 8 45 | - 1 | 15 43 | - 5 | — | — | — |
| Kyakhta | | 49·5 | 8 | i 8 52 | - 2 | 15 58 | - 4 | — | — | — |
| Ashkabad | | 51·1 | 321 | i 9 6 | 0 | e 16 21 | - 3 | — | — | — |
| Irkutsk | | 51·1 | 6 | i 9 6 | 0 | 16 23 | - 1 | — | — | — |
| Vladivostok | | 51·8 | 32 | i 9 13 | + 1 | i 16 37 | + 4 | — | — | — |
| Tananarive | | 52·8 | 246 | i 9 20 | + 1 | 16 6 | -41 | 10 21 | PcP | — |
| Kizyl-Arvat | | 53·0 | 322 | i 9 21 | 0 | e 16 46 | - 4 | — | — | — |
| Baku | | 57·9 | 319 | — | — | e 17 36 | -19 | — | — | — |
| Shemakla | | 58·9 | 318 | e 10 2 | - 1 | — | — | — | — | — |
| Goris | | 59·9 | 317 | e 10 8 | - 2 | — | — | — | — | — |
| Yuzno-Sakhlinsk | | 60·2 | 34 | i 10 12 | 0 | — | — | — | — | — |
| Kirovobad | | 60·4 | 318 | 10 12 | - 1 | 18 20 | - 8 | — | — | — |
| Brisbane | | 60·7 | 122 | e 10 16 | + 1 | i 18 34 | + 2 | — | — | — |
| Riverview | | 61·4 | 130 | i 10 23 ^a | + 3 | e 18 44 | + 4 | i 18 59 | PPS | — |
| Erevan | | 61·5 | 316 | e 10 27 [?] | + 6 | — | — | — | — | — |
| Tiflis | | 61·9 | 318 | i 10 23 | - 1 | e 18 43 | - 4 | — | — | — |
| Duzheti | | 62·2 | 318 | e 10 26 | 0 | — | — | — | — | — |
| Kurilsk | | 62·3 | 39 | e 10 28 | + 2 | — | — | — | — | — |
| Gori | | 62·5 | 317 | e 10 27 | - 1 | — | — | — | — | — |
| Sverdlovsk | | 62·6 | 339 | e 10 18 [?] | -10 | — | — | — | — | — |
| Akhalkalaki | | 62·7 | 317 | e 10 28 | - 1 | — | — | — | — | — |
| Borzhomi | | 62·9 | 317 | i 10 29 | - 1 | i 18 58 | - 2 | — | — | — |
| Tsikhlis-Dzhvari | | 62·9 | 317 | e 10 29 | - 1 | — | — | — | — | — |
| Abastumanj | | 63·3 | 317 | e 10 33 | 0 | — | — | — | — | — |

Continued on next page.

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| | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | I. m. |
|------------------|---------------|----------|----------------------|------------|---------------|------------|----------------|------------|
| Zugdidi | 64.2 | 318 | e 10 37 | - 2 | 19 13 | - 3 | — | — |
| Magadan | 71.2 | 26 | 11 21? | - 2 | e 20 43? | + 3 | — | — |
| Pretoria | 71.8 | 243 | e 11 27 | + 1 | — | — | — | — |
| Petropavlovsk | 72.1 | 34 | i 11 28 | 0 | i 20 54 | + 4 | — | — |
| Moscow | 72.3 | 330 | 11 27 | - 2 | i 20 44 | - 8 | — | — |
| Istanbul | 72.8 | 313 | e 11 28 | - 4 | e 20 47 | - 11 | e 21 12 | PS |
| Kishinev | 74.5 | 319 | i 11 40 | - 2 | — | — | — | — |
| Kimberley | 75.3 | 240 | e 11 47 | 0 | — | — | — | — |
| Cernauti | 76.7 | 320 | e 11 56 | + 1 | — | — | — | — |
| Pulkovo | 77.5 | 332 | i 11 57 | - 2 | i 21 42 | - 8 | — | — |
| Lwow | 78.3 | 321 | i 12 3 | 0 | i 21 51 | - 8 | — | — |
| Uzhgorod | 79.1 | 320 | e 12 9 | + 1 | e 22 6 | - 1 | — | — |
| Raciborzu | 82.0 | 321 | e 12 22 | - 1 | e 22 34 | - 3 | e 12 26 | PcP |
| Messina | 82.7 | 308 | e 12 26 | - 1 | e 22 38 | - 6 | — | — |
| Upsala | 83.7 | 330 | i 12 31 | - 1 | e 22 49 | - 5 | i 15 48 | PP e 35.0 |
| Kiruna | 83.9 | 338 | i 12 32 ^a | - 1 | i 22 52 | - 4 | i 15 49 | PP e 41.0 |
| Rome | 85.3 | 312 | e 12 39 | - 1 | e 23 3 [0] | — | — | — |
| Collnberg | 85.4 | 321 | e 12 40 | 0 | — | — | — | — |
| Potsdam | 85.4 | 323 | e 12 41 | + 1 | e 23 6 [+ 3] | — | — | e 49.0 |
| Copenhagen | 86.0 | 326 | e 12 43 | 0 | e 23 13 - 4 | — | — | 44.0 |
| Florence | 86.2 | 314 | e 12 34 | - 10 | e 23 16 - 3 | — | e 13 28 | ? |
| Jena | 86.3 | 321 | e 12 43 | - 2 | e 12 52 ? | — | e 13 10 | ? |
| Pavia | 87.8 | 315 | — | — | e 23 21 [+ 2] | — | e 24 30 | PS |
| Stuttgart | 87.8 | 319 | e 12 51 | - 1 | — | — | — | — |
| Strasbourg | 88.7 | 319 | e 12 58 | + 1 | — | — | — | — |
| De Bilt | 90.3 | 322 | — | — | e 23 58 + 1 | — | — | e 49.0 |
| Uccle | 90.9 | 321 | — | — | e 24 0 - 3 | — | e 24 15 | ScS e 44.0 |
| Tamanrasset | 91.1 | 293 | i 13 9 | + 1 | — | — | e 16 27 | PP |
| Clermont-Ferrand | 92.0 | 315 | e 13 14 | + 2 | — | — | — | — |
| Paris | 92.2 | 318 | e 13 13 | 0 | — | — | — | e 52.0 |
| Chambon-la-Forêt | 92.4 | 318 | e 13 12 | - 2 | — | — | — | — |
| Kew | 93.7 | 322 | — | — | e 23 54 [0] | — | — | e 56.0 |
| Shasta | z. 124.8 | 36 | e 19 3 | [+ 1] | — | — | — | — |
| Mineral | z. 125.5 | 36 | e 19 5k | [+ 2] | — | — | e 19 53 | ? |
| Reno | z. 127.0 | 35 | e 19 29 | [+ 23] | — | — | — | — |
| Lick | z. 127.3 | 38 | i 19 11 ^a | [+ 4] | — | — | e 19 46 | ? |
| Tinemaha | z. 129.6 | 37 | e 19 13 | [+ 2] | — | — | — | — |
| China Lake | z. 130.8 | 37 | i 19 16 | [+ 2] | — | — | e 22 36 | PKS |
| Pasadena | z. 131.5 | 39 | e 19 27 | [+ 12] | — | — | i 19 34 | ? |
| Barratt | z. 133.4 | 40 | i 19 46 | [+ 28] | — | — | — | — |
| Fayetteville | 141.3 | 14 | i 19 28 | [- 5] | i 22 30 | PP | e 23 10 | PKS |

Aug. 27d. 21h. 46m. Epicentre 46°·3N. 7°·4E.

Intensity IV at Montana, Sierre, Chippis, Adelboden, and Lenk.

E. Wanner.

Jahresbericht des Erdbebendienstes der Schweiz im Jahre 1953, Zürich, 1954, p.4, with macroseismic chart; fig.3 distinct from text.

Aug. 27d. 22h. 16m. 40s. Epicentre 43°·2N. 142°·5E. Depth of focus 0.025.

Intensity V at Obihiro and Kusiro; IV at Sapporo, Urakawa, Muroran, Tomakomai, Hatinohe; II-III at Hakodate, Nemuro, Aomori, Miyako, Morioka, Sendai, Hokusima, and Iwamizawa. Epicentre as adopted, depth of focus 150-160km.

Seismo. Bull. Cent. Met., Obs., Japan, for 1953, Aug., Tokyo, 1953, pp.17-18, with macroseismic chart.

$$A = -0.5802, B = +0.4452, C = +0.6821; \quad \delta = +10; \quad h = -3;$$

$$D = +0.609, E = +0.793; \quad G = -0.541, H = +0.415, K = -0.731.$$

| | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | I. m. |
|-----------|---------------|----------|-------------|------------|-------------|------------|----------------|----------|
| Obihiro | 0.5 | 119 | i 0 23 | - 3 | 0 41 | - 6 | — | — |
| Asahigawa | 0.6 | 351 | i 0 26 | - 1 | — | — | — | — |
| Sapporo | 0.9 | 261 | i 0 25 | - 3 | 0 45 | - 6 | — | — |
| Tomakomai | 1.0 | 225 | i 0 32 | + 3 | 0 50 | - 2 | — | — |
| Urakawa | 1.1 | 169 | i 0 28 | - 2 | — | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|-----------------|----|----------|-----|-----|-----|------|-----|----|------|-------|----|----|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Muroran | | 1.4 | 232 | i 0 | 30 | - 2 | 0 | 53 | - 5 | — | — | — |
| Suttsu | | 1.7 | 257 | i 0 | 28k | - 7 | 0 | 54 | - 9 | — | — | — |
| Mori | N. | 1.8 | 232 | i 0 | 37 | + 1 | — | — | — | — | — | — |
| Hakodate | | 1.9 | 223 | i 0 | 37 | 0 | 1 | 2 | - 4 | — | — | — |
| Nemuro | | 2.3 | 87 | i 0 | 38k | - 4 | 1 | 5 | - 9 | — | — | — |
| Wakkanai | E. | 2.3 | 345 | e 0 | 42 | 0 | 1 | 11 | - 3 | — | — | — |
| Aomori | | 2.7 | 208 | i 0 | 46k | 0 | 1 | 19 | - 3 | — | — | — |
| Hatinohe | Z. | 2.8 | 194 | i 0 | 45 | - 2 | 1 | 20 | - 4 | — | — | — |
| Morioka | | 3.6 | 186 | i 0 | 56a | - 1 | 1 | 37 | - 4 | — | — | — |
| Miyako | | 3.6 | 196 | i 0 | 54a | - 3 | 1 | 35 | - 6 | — | — | — |
| Yuzno-Sakhlinsk | | 3.8 | 3 | i 0 | 56 | - 4 | i 1 | 39 | - 7 | — | — | — |
| Akita | Z. | 3.9 | 208 | i 1 | 2a | + 1 | 1 | 48 | 0 | — | — | — |
| Mizusawa | E. | 4.2 | 195 | i 1 | 4 | - 1 | i 1 | 51 | - 4 | — | — | — |
| Kurilsk | | 4.4 | 60 | i 1 | 5 | - 2 | — | — | — | — | — | — |
| Sakata | | 4.7 | 206 | 1 | 15 | + 4 | 2 | 10 | + 4 | — | — | — |
| Isinomaki | | 4.8 | 191 | e 1 | 9 | - 3 | 2 | 6 | - 3 | — | — | — |
| Sendai | | 5.1 | 194 | i 1 | 15a | - 1 | 2 | 12 | - 3 | — | — | — |
| Yamagata | | 5.2 | 199 | i 1 | 17 | - 1 | 2 | 16 | - 2 | — | — | — |
| Hukusima | | 5.7 | 196 | i 1 | 22a | - 2 | 2 | 22 | - 7 | — | — | — |
| Inawasiro | E. | 5.9 | 198 | e 1 | 27 | 0 | 2 | 37 | + 3 | — | — | — |
| Niigata | Z. | 5.9 | 208 | 1 | 28a | + 1 | 2 | 36 | + 2 | — | — | — |
| Aikawa | | 6.1 | 213 | i 1 | 30 | + 1 | 2 | 36 | - 3 | — | — | — |
| Shirakawa | | 6.3 | 197 | i 1 | 31 | - 1 | 2 | 41 | - 2 | — | — | — |
| Onahama | | 6.4 | 192 | e 1 | 31 | - 2 | 2 | 41 | - 5 | — | — | — |
| Takada | | 6.9 | 209 | i 1 | 53 | +13 | 3 | 12 | +15 | — | — | — |
| Utunomiya | | 6.9 | 198 | i 1 | 39a | - 1 | 2 | 55 | - 2 | — | — | — |
| Mito | Z. | 7.0 | 193 | i 1 | 40 | - 1 | 2 | 55 | - 5 | — | — | — |
| Tukubasan | | 7.2 | 195 | e 1 | 42 | - 2 | 2 | 58 | - 7 | — | — | — |
| Wazima | Z. | 7.2 | 218 | e 1 | 44 | 0 | 3 | 5 | 0 | — | — | — |
| Maebasi | | 7.3 | 202 | e 1 | 45 | 0 | 3 | 4 | - 3 | — | — | — |
| Nagano | N. | 7.3 | 208 | 1 | 44 | - 1 | 3 | 18 | +11 | — | — | — |
| Kumagaya | | 7.4 | 200 | e 1 | 49 | + 3 | 3 | 7 | - 2 | — | — | — |
| Matusiro | | 7.4 | 208 | i 1 | 46 | 0 | 3 | 7 | - 2 | — | — | — |
| Oiwake | | 7.5 | 205 | 1 | 49 | + 1 | 3 | 18 | + 6 | — | — | — |
| Kashiwa | N. | 7.6 | 196 | e 1 | 47 | - 2 | 3 | 8 | - 6 | — | — | — |
| Titibu | | 7.7 | 201 | i 1 | 48 | - 2 | 3 | 13 | - 3 | — | — | — |
| Toyama | | 7.7 | 214 | e 1 | 51 | + 1 | — | — | — | — | — | — |
| Matumoto | E. | 7.8 | 208 | i 1 | 53k | + 2 | 3 | 19 | 0 | — | — | — |
| Tokyo | Z. | 7.8 | 197 | e 1 | 50 | - 1 | 3 | 10 | - 9 | — | — | — |
| Vladivostok | | 7.8 | 273 | i 1 | 51 | 0 | i 3 | 18 | - 1 | — | — | — |
| Kanazawa | | 8.0 | 216 | e 1 | 56 | + 2 | — | — | — | — | — | — |
| Kohu | N. | 8.1 | 203 | e 1 | 55 | 0 | 3 | 24 | - 2 | — | — | — |
| Takayama | N. | 8.1 | 211 | e 1 | 53 | - 2 | 3 | 27 | + 1 | — | — | — |
| Yokohama | Z. | 8.1 | 197 | e 1 | 54 | - 1 | 3 | 25 | - 1 | — | — | — |
| Hunatu | E. | 8.2 | 202 | 1 | 56 | - 1 | 3 | 29 | + 1 | — | — | — |
| Ajiro | | 8.5 | 199 | e 2 | 3 | + 2 | 3 | 32 | - 3 | — | — | — |
| Iida | | 8.5 | 207 | e 2 | 0 | - 1 | — | — | — | — | — | — |
| Mera | | 8.5 | 195 | e 2 | 0 | - 1 | 3 | 29 | - 6 | — | — | — |
| Misima | | 8.5 | 200 | e 2 | 0 | - 1 | 3 | 36 | + 1 | — | — | — |
| Hukui | | 8.6 | 216 | e 2 | 4 | + 2 | — | — | — | — | — | — |
| Osuma | | 8.8 | 197 | e 2 | 1 | - 4 | 3 | 34 | - 8 | — | — | — |
| Shizuoka | | 8.8 | 202 | e 2 | 5 | 0 | 3 | 39 | - 3 | — | — | — |
| Gihu | | 9.0 | 211 | e 2 | 12 | + 5 | — | — | — | — | — | — |
| Tsuruga | N. | 9.0 | 215 | 1 | 53 | -14 | 3 | 33 | -14 | — | — | — |
| Nagoya | N. | 9.1 | 210 | 2 | 10 | + 2 | 3 | 48 | - 1 | — | — | — |
| Omaesaki | | 9.2 | 202 | e 2 | 12 | + 2 | — | — | — | — | — | — |
| Hikone | | 9.3 | 213 | e 2 | 13 | + 2 | 3 | 57 | + 3 | — | — | — |
| Kameyama | | 9.6 | 211 | 2 | 14 | - 1 | 4 | 1 | 0 | — | — | — |
| Tu | | 9.6 | 211 | 2 | 14 | - 1 | — | — | — | — | — | — |
| Kyoto | | 9.7 | 215 | e 2 | 17 | + 1 | 4 | 7 | + 4 | — | — | — |

Continued on next page.

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1953

530

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----------|-----|----------------------|------|---------|------|---------|------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Toyooka | 9.7 | 220 | — | — | e 4 4 | + 1 | — | — |
| Osaka | 10.1 | 215 | e 2 0 | -21 | — | — | — | — |
| Kobe | 10.2 | 216 | e 2 24 | + 1 | — | — | — | — |
| Owase | 10.4 | 210 | e 2 28 | + 3 | — | — | — | — |
| Sumoto | N. 10.6 | 216 | e 2 49 | +21 | — | — | — | — |
| Takamatu | 11.0 | 219 | e 2 40 | + 7 | 4 25 | - 8 | — | — |
| Hamada | 11.6 | 228 | e 2 36 | - 5 | — | — | — | — |
| Hirosima | N. 11.8 | 225 | e 2 45 | + 2 | 5 1 | + 9 | — | — |
| Koti | 11.9 | 219 | e 3 4 | +19 | — | — | — | — |
| Matuyama | 12.1 | 222 | e 2 56 | + 9 | 4 58 | - 1 | — | — |
| Ooita | 13.1 | 224 | — | — | e 4 30 | ? | — | — |
| Petropavlovsk | 14.6 | 42 | e 3 13 | - 6 | — | — | — | — |
| Magadan | 17.1 | 14 | i 3 46 | - 3 | 6 55 | + 4 | — | — |
| Nanking | 21.7 | 248 | e 4 42 | + 6 | 8 24 | + 5 | — | — |
| Kyakhta | 25.5 | 300 | i 5 12 | 0 | i 9 28 | + 5 | — | — |
| Irkutsk | 27.0 | 304 | i 5 25 | - 1 | 9 50 | + 2 | — | — |
| College | 43.5 | 36 | i 7 46 | 0 | — | — | — | — |
| Shillong | N. 44.6 | 265 | — | — | e 14 22 | + 7 | — | — |
| Kurmenty | 45.8 | 293 | i 8 6 | + 2 | — | — | — | — |
| Przhevalsk | 46.0 | 293 | 8 7 | + 1 | — | — | — | — |
| Almata | 46.6 | 294 | i 8 13 | + 3 | e 14 47 | + 3 | — | — |
| Chatra | Z. 47.3 | 270 | i 8 18 | + 2 | — | — | — | — |
| Rybach'e | 47.5 | 293 | i 8 18 | 0 | — | — | — | — |
| Naryn | 48.0 | 292 | i 8 23 | + 2 | e 15 7 | + 4 | — | — |
| Frunse | 48.3 | 295 | i 8 26 | + 2 | e 15 10 | + 2 | i 9 4 | pP |
| Andijan | 50.8 | 293 | i 8 44 | + 1 | i 15 47 | + 5 | — | — |
| Murgab | 50.8 | 289 | 8 50? | + 7 | 15 51? | + 9 | — | — |
| Namangan | 51.1 | 293 | i 8 46 | + 1 | e 15 50 | + 4 | 9 26 | pP |
| Sverdlovsk | 51.2 | 316 | i 8 45 | - 1 | i 15 50 | + 2 | — | — |
| Fergana | 51.3 | 292 | i 8 47 | + 1 | e 15 53 | + 4 | i 9 27 | pP |
| Tchimkent | 51.9 | 296 | i 8 53 | + 2 | i 16 1 | + 4 | — | — |
| Dehra Dun | E. 52.0 | 279 | e 8 53 | + 1 | e 16 2 | + 3 | — | — |
| Dzhergetal | 52.3 | 292 | 8 55 | + 1 | 16 3 | 0 | — | — |
| Lunacharskoc | 52.6 | 295 | e 8 57 | + 1 | — | — | — | — |
| Tashkent | 52.6 | 295 | i 8 54 | - 2 | e 16 8 | + 1 | — | — |
| Khorog | 52.9 | 290 | e 8 59 | + 1 | i 16 15 | + 4 | — | — |
| New Delhi | 53.6 | 278 | i 9 3 | 0 | i 16 22 | + 2 | 16 33 | PS |
| Obi-garm | 53.6 | 293 | i 9 2 | - 1 | e 16 24 | + 4 | — | — |
| Kulyab | 53.9 | 291 | i 9 5 | - 1 | — | — | — | — |
| Warsak Dam | E. 54.7 | 287 | — | — | i 16 39 | + 4 | — | — |
| Samarkand | 54.9 | 295 | i 9 13 | 0 | 16 40 | + 3 | — | — |
| Resolute Bay | 56.4 | 16 | i 9 25 _a | + 1 | — | — | — | — |
| Bairam-Ali | 59.2 | 295 | i 9 43 | 0 | — | — | — | — |
| Quetta | Z. 60.0 | 285 | i 9 49 | + 1 | — | — | i 10 29 | pP |
| Kiruna | 61.1 | 338 | i 9 54 _a | - 2 | e 17 57 | - 1 | e 19 53 | ScS e 24.9 |
| Ashkabad | 61.5 | 297 | i 10 0 | + 1 | e 18 9 | + 6 | — | — |
| Victoria | 61.7 | 49 | 10 0 | 0 | — | — | — | — |
| Poona | Z. 62.1 | 270 | i 10 6 | + 3 | — | — | — | — |
| Kizyl-Arvat | 62.3 | 299 | i 10 5 | + 1 | i 18 20 | + 7 | — | — |
| Moscow | 62.8 | 323 | 10 6 | - 1 | e 18 20 | + 1 | e 10 46 | pP |
| Pulkovo | 63.3 | 329 | i 10 8 | - 3 | — | — | — | — |
| Shemakla | 66.1 | 305 | e 10 29 | 0 | — | — | — | — |
| Hungry Horse | 66.8 | 45 | i 10 34 | + 1 | — | — | — | — |
| Shasta | Z. 66.8 | 56 | e 10 34 _k | + 1 | — | — | — | — |
| Kirovobad | 67.4 | 306 | i 10 38 | + 1 | 19 20 | + 5 | 11 18 | pP |
| Mineral | Z. 67.5 | 56 | i 10 37 _a | 0 | — | — | i 11 44 | sP |
| Duzheti | 67.6 | 307 | i 10 40 | + 2 | 19 25 | + 7 | — | — |
| Tiflis | 67.7 | 307 | i 10 41 | + 2 | e 19 25 | + 6 | i 11 21 | pP |
| Upsala | 67.8 | 334 | i 10 39 _a | 0 | — | — | i 11 3 | ? |
| Gori | 68.0 | 307 | e 10 40 | 0 | e 19 25 | + 2 | — | — |
| Goris | 68.2 | 304 | e 10 43 | + 1 | e 19 29 | + 4 | — | — |
| Borzhomi | 68.5 | 307 | i 10 45 | + 2 | i 19 36 | + 8 | i 11 25 | pP |
| Tsikhlis-Dzhvari | 68.5 | 307 | i 10 45 | + 2 | — | — | — | — |
| Akhalkalaki | 68.7 | 307 | 10 48 | + 3 | — | — | — | — |
| Abastumanj | 68.9 | 307 | i 10 48 | + 2 | — | — | e 11 26 | pP |

Continued on next page.

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1953

531

| | Δ ° | Az. ° | P. m. s. | | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | | L. m. |
|---------------------|---------------|----------|-------------|-----|------------|-------------|------------|----------------|-----|----------|
| Erevan | 68.9 | 306 | e 10 | 45 | - 1 | — | — | — | — | — |
| Zugdidi | 68.9 | 310 | e 10 | 49 | + 3 | — | — | e 11 29 | pP | — |
| Butte | 69.0 | 46 | i 10 | 48 | + 2 | — | — | i 10 59 | ? | — |
| Reno | z. 69.1 | 55 | e 10 | 49 | + 2 | e 18 40 | -55 | — | — | — |
| Lick | z. 69.4 | 58 | e 10 | 49k | 0 | — | — | e 11 29 | pP | — |
| Sotchi | 69.5 | 311 | e 10 | 50 | 0 | e 19 44 | + 4 | e 11 29 | pP | — |
| Theodosia | 70.8 | 315 | i 10 | 58 | + 1 | e 19 59 | + 4 | i 11 38 | pP | — |
| Fresno | z. 70.9 | 57 | e 10 | 58 | 0 | — | — | — | — | — |
| Tinemaha | 71.6 | 56 | e 11 | 4 | + 2 | — | — | — | — | — |
| Yalta | 71.8 | 315 | i 11 | 4 | + 1 | e 20 11 | + 4 | e 11 44 | pP | — |
| Reykjavik | 72.3 | 353 | i 11 | 8 | + 2 | — | — | — | — | — |
| Kishinev | 72.7 | 320 | i 11 | 9 | 0 | e 20 18 | + 1 | i 11 49 | pP | — |
| China Lake | z. 72.8 | 56 | e 11 | 10 | + 1 | — | — | — | — | — |
| Copenhagen | 72.8 | 334 | i 11 | 9a | 0 | e 20 25 | + 7 | — | — | 35.3 |
| Lwow | 72.9 | 324 | i 11 | 10 | 0 | — | — | i 11 50 | pP | — |
| Cernauti | 73.2 | 321 | i 11 | 12 | 0 | — | — | — | — | — |
| Pasadena | z. 73.6 | 58 | e 11 | 17 | + 3 | i 20 29 | + 2 | — | — | — |
| Riverside | 74.2 | 58 | e 11 | 18 | + 1 | — | — | — | — | — |
| Boulder City | 74.4 | 55 | i 11 | 20 | + 1 | — | — | — | — | — |
| Uzhgorod | 74.6 | 324 | e 11 | 20 | 0 | e 20 42 | + 4 | — | — | — |
| Palomar | z. 74.9 | 58 | e 11 | 22 | + 1 | — | — | — | — | — |
| Raciborzu | 75.2 | 327 | e 11 | 25 | + 2 | e 12 22 | sP | e 14 24 | PP | — |
| Potsdam | 75.3 | 331 | e 11 | 24 | 0 | i 20 48 | + 2 | — | — | — |
| Collmberg | 76.2 | 330 | i 11 | 29 | 0 | e 14 4 | PP | e 16 2 | PPP | — |
| Istanbul | z. 76.9 | 315 | e 11 | 32 | - 1 | e 14 22 | PP | e 12 12 | pP | — |
| Jena | 77.0 | 331 | i 11 | 34 | + 1 | e 21 7? | + 3 | e 14 30 | PP | — |
| Witteveen | z. 77.1 | 335 | i 11 | 32a | - 2 | — | — | — | — | — |
| Ksara | 78.2 | 306 | e 11 | 20? | -20 | e 21 20? | + 3 | — | — | — |
| Tucson | 79.4 | 56 | i 11 | 49 | + 3 | — | — | — | — | — |
| Uccle | 79.5 | 335 | e 11 | 47 | 0 | — | — | — | — | e 36.3 |
| Karlsruhe | 79.7 | 332 | i 11 | 48a | 0 | — | — | — | — | e 42.3 |
| Stuttgart | 79.7 | 331 | i 11 | 48a | 0 | — | — | — | — | e 42.3 |
| Rathfarnham C. | z. 80.2 | 342 | i 12 | 36 | pP | — | — | — | — | — |
| Strasbourg | 80.3 | 332 | i 11 | 52 | + 1 | — | — | e 12 34 | pP | — |
| Chur | 81.1 | 330 | e 11 | 56a | + 1 | — | — | — | — | — |
| Zürich | 81.1 | 331 | e 11 | 56a | + 1 | — | — | — | — | — |
| Kirkland Lake | z. 81.6 | 28 | e 11 | 58a | 0 | — | — | — | — | — |
| Paris | 81.9 | 335 | i 12 | 1 | + 2 | e 21 58 | + 3 | e 12 40 | pP | e 48.3 |
| Chambon-la-Forêt | 82.6 | 335 | i 12 | 2 | - 1 | — | — | — | — | — |
| Pavia | 82.7 | 329 | — | — | — | e 21 51 | -12 | — | — | e 44.2 |
| Florence | 83.1 | 327 | i 12 | 7a | + 1 | e 22 16 | + 9 | i 12 50 | pP | — |
| Helwan | z. 83.8 | 305 | i 12 | 10k | + 1 | — | — | i 12 52 | pP | — |
| Rome | 84.1 | 325 | e 12 | 9 | - 2 | e 22 21 | + 4 | — | — | e 39.3 |
| Clermont-Ferrand | 84.4 | 333 | e 12 | 13 | + 1 | — | — | — | — | 58.3 |
| Shawinigan Falls N. | 85.3 | 23 | e 12 | 17 | + 1 | — | — | — | — | — |
| Ottawa | 85.5 | 26 | i 12 | 18a | + 1 | 22 27 | - 4 | 12 58 | pP | — |
| Fayetteville | 85.7 | 42 | i 12 | 19a | + 1 | e 22 36 | + 3 | i 13 1 | pP | — |
| Cleveland | 86.8 | 32 | i 12 | 25a | + 1 | e 22 33 | [+ 3] | e 13 6 | pP | — |
| Cincinnati | 87.7 | 35 | i 12 | 29 | + 1 | — | — | i 13 12 | pP | — |
| Harvard | 89.4 | 24 | i 12 | 37 | + 1 | i 23 11 | + 4 | i 13 12 | pP | — |
| Halifax | 89.5 | 18 | i 12 | 38a | + 2 | — | — | — | — | — |
| Weston | 89.5 | 24 | i 12 | 38a | + 2 | e 23 13 | + 5 | 13 19 | pP | e 33.3 |
| Palisades | 90.0 | 27 | i 12 | 39 | 0 | — | — | — | — | — |
| Toledo | 91.9 | 335 | i 12 | 50a | + 2 | — | — | e 16 28 | PP | — |
| Granada | 94.3 | 334 | i 17 | 0a | PP | — | — | — | — | — |
| Tamanrasset | z. 103.3 | 319 | e 13 | 40 | + 1 | e 20 4 | PPP | e 17 54 | PP | — |

Aug. 27d. 23h. 32m. Epicentre 58°S, 28°W.

Doubtful position, inadequately recorded.

Many of the readings for this earthquake are from stations in U.S.S.R. at great distances.

P observations from stations within 90° of the epicentre are few and discordant. The epicentre suggested is given in Annales-Strasbourg, but it is not obvious how this position was determined.

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1953

532

Aug. 28d. 20h. 38m.

Repetition of the Ionian islands' 'quake of August 12d.
Seismological Institute Bulletin, 1953, Athens, 1954, p. 110.
B.C.I.S. Monthly Bulletin for August, 1953, p. 99-100.

Aug. 29d. 1h. 58m. 25s. Epicentre 27°·9N. 82°·2E. (as on 1952, November 8d.).

A = +·1202, B = +·8771, C = +·4649 ; $\delta = -12$; $h = +3$;
D = +·991, E = -·136 ; G = +·063, H = +·461, K = -·885.

| | | Δ | Az. | P. | O - C. | S. | O - C. | Supp. | L. | |
|------------------|----|----------|-----|---------|------------------|----------|--------|--------|----------------|-----|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Dehra Dun | E. | 4·4 | 305 | 1 27 | - 1 _e | 2 3 | + 1 | 2 49 | ? | — |
| Chatra | | 4·5 | 102 | i 1 13 | + 2 | 2 3 | - 2 | — | — | — |
| New Delhi | | 4·5 | 280 | i 1 16 | + 5 | i 2 2 | - 3 | 1 31 | P _g | — |
| Calcutta | E. | 7·7 | 132 | i 1 58 | + 2 | i 3 20 | - 5 | 2 35 | P _g | — |
| Shillong | N. | 9·0 | 103 | i 2 11 | - 2 | 3 54 | - 4 | 2 52 | P _g | — |
| Hyderabad | N. | 11·0 | 199 | i 2 44 | + 2 | i 4 54 | + 7 | — | — | — |
| Warsak Dam | E. | 11·0 | 306 | i 2 39 | - 3 | i 5 25 | S* | — | — | — |
| Poona | E. | 12·0 | 221 | i 2 57 | + 2 | i 5 2 | - 9 | i 3 11 | PP | — |
| Khorog | | 13·1 | 320 | e 3 9 | - 1 | i 5 28 | -10 | — | — | — |
| Quetta | | 13·5 | 284 | i 3 15 | 0 | i 5 38 | - 9 | i 5 57 | SS | — |
| Dzhergetal | | 14·5 | 324 | 3 26 | - 2 | 6 0 | -11 | — | — | — |
| Kulyab | | 14·5 | 317 | i 3 26 | - 2 | — | — | — | — | — |
| Naryn | | 14·5 | 341 | i 3 28 | 0 | i 6 2 | - 9 | — | — | — |
| Garm | | 14·9 | 322 | i 3 31 | - 3 | i 6 9 | -11 | — | — | — |
| Madras | E. | 14·9 | 188 | i 3 33 | - 1 | 6 26 | + 6 | 12 19 | PcS | 6·8 |
| Przhevalsk | | 14·9 | 349 | 3 32 | - 2 | 6 10 | -10 | — | — | — |
| Obi-garm | | 15·0 | 319 | i 3 34 | - 1 | — | — | — | — | — |
| Andijan | | 15·2 | 330 | i 3 35 | - 3 | i 6 16 | -12 | — | — | — |
| Fergana | | 15·2 | 328 | e 3 34 | - 4 | e 6 13 | -15 | — | — | — |
| Rybach'e | | 15·4 | 343 | i 3 38 | - 2 | i 6 24 | - 8 | — | — | — |
| Kurmenty | | 15·5 | 349 | e 3 40 | - 2 | — | — | — | — | — |
| Stalinabad | | 15·5 | 317 | i 3 39 | - 3 | — | — | — | — | — |
| Namangan | | 15·7 | 330 | i 3 42 | - 2 | i 6 26 | -13 | — | — | — |
| Almata | | 16·0 | 346 | i 3 46 | - 2 | — | — | — | — | — |
| Frunse | | 16·2 | 340 | i 3 49 | - 1 | i 6 44 | - 7 | — | — | — |
| Tashkent | | 17·1 | 325 | e 3 59 | - 3 | e 6 55 | -17 | — | — | — |
| Samarkand | | 17·3 | 315 | e 4 2 | - 2 | — | — | — | — | — |
| Tchimkent | | 17·7 | 327 | 4 7 | - 3 | — | — | — | — | — |
| Kodaikanal | E. | 18·1 | 195 | i 4 17 | + 3 | 7 49 | +14 | — | — | — |
| Bairam-Ali | | 19·4 | 304 | i 4 31 | + 1 | 8 9 | + 5 | — | — | — |
| Colombo | E. | 21·0 | 187 | e 3 53 | -54 | — | — | e 5 54 | ? | — |
| Ashkabad | | 22·3 | 303 | i 5 4 | + 3 | 9 5 | + 3 | — | — | — |
| Kizyl-Arvat | | 24·3 | 306 | i 5 24 | + 4 | — | — | — | — | — |
| Kyakhta | | 29·1 | 32 | 6 15 | +11 | 10 52 | - 4 | — | — | — |
| Baku | | 29·3 | 304 | e 6 12 | + 6 | — | — | — | — | — |
| Hong Kong | | 29·4 | 93 | e 6 19 | +12 | 10 58 | - 3 | — | — | — |
| Irkutsk | | 29·5 | 27 | 6 19 | +11 | 11 9 | + 7 | — | — | — |
| Kabansk | | 30·3 | 29 | i 6 27? | +12 | i 11 20? | + 5 | — | — | — |
| Shemakla | | 30·3 | 304 | e 6 18 | + 3 | — | — | — | — | — |
| Goris | | 31·8 | 302 | e 6 30 | + 2 | e 11 38 | 0 | — | — | — |
| Makhach-Kala | | 31·8 | 308 | e 6 30 | + 2 | i 11 40 | + 2 | — | — | — |
| Kirovobad | | 32·0 | 303 | 6 33 | + 3 | 11 42 | 0 | — | — | — |
| Sverdlovsk | | 32·8 | 338 | i 6 36 | - 1 | i 11 48 | - 6 | — | — | — |
| Erevan | | 33·3 | 302 | e 6 43 | + 2 | i 12 1 | - 1 | — | — | — |
| Tiflis | | 33·4 | 304 | e 6 45 | + 3 | e 12 3 | 0 | — | — | — |
| Duzheti | | 33·6 | 305 | e 6 48 | + 4 | — | — | — | — | — |
| Gori | | 34·0 | 304 | e 6 49 | + 1 | — | — | — | — | — |
| Akhalkalaki | | 34·3 | 303 | i 6 54 | + 4 | e 12 21 | + 4 | — | — | — |
| Tsikhlis-Dzhvari | | 34·4 | 303 | i 6 55 | + 4 | 12 22 | + 3 | — | — | — |
| Borzhomi | | 34·5 | 303 | i 6 51 | - 1 | — | — | — | — | — |
| Zugdidi | | 35·7 | 306 | e 7 6 | + 4 | e 12 42 | + 3 | — | — | — |
| Sotchi | | 37·5 | 307 | e 7 19 | + 2 | — | — | — | — | — |
| Ksara | | 39·9 | 290 | i 7 55 | +18 | e 13 17 | -26 | — | — | — |
| Theodosia | | 40·8 | 308 | e 7 44 | - 1 | e 13 50 | - 6 | — | — | — |
| Yalta | | 41·6 | 307 | i 7 53 | + 2 | i 14 4 | - 4 | — | — | — |

Continued on next page.

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1953

533

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|------------------|----------|-----|------|-----|------|------|----|------|-------|----|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Moscow | 42.3 | 324 | 7 | 57 | 0 | 14 | 12 | -7 | — | — | — |
| Vladivostok | 42.6 | 56 | e 8 | 14 | +15 | 14 | 35 | +12 | — | — | — |
| Helwan | 44.3 | 286 | 8 | 16 | +3 | e 14 | 50 | +2 | 10 | 5 | PP |
| Istanbul | 45.1 | 302 | e 8 | 19 | -1 | e 14 | 55 | -4 | e 10 | 8 | PP |
| Kishinev | 45.5 | 310 | i 8 | 24 | +1 | i 15 | 2 | -3 | — | — | — |
| Bucharest | 47.3 | 306 | e 8 | 41 | +4 | e 15 | 24 | -7 | — | — | — |
| Pulkovo | 47.4 | 327 | e 8 | 36 | -2 | i 15 | 26 | -6 | — | — | — |
| Cernauti | 47.6 | 311 | e 8 | 41 | +2 | — | — | — | — | — | — |
| Lwow | 49.0 | 313 | i 8 | 50 | 0 | — | — | — | — | — | — |
| Athens | 49.4 | 297 | e 8 | 54k | +1 | i 15 | 56 | -4 | i 16 | 14 | PS |
| Ulegorsk | 50.0 | 47 | e 9 | 8? | +10 | — | — | — | — | — | — |
| Uzhgorod | 50.0 | 312 | i 9 | 0 | +2 | e 16 | 9 | 0 | — | — | — |
| Yuzno-Sakhlinsk | 50.4 | 50 | e 9 | 10? | +9 | — | — | — | — | — | — |
| Timisoara | 50.7 | 308 | e 9 | 25 | +22 | e 17 | 53 | ? | — | — | — |
| Belgrade | 51.3 | 306 | e 9 | 9a | +1 | e 16 | 25 | -1 | e 9 | 27 | ? |
| Skalnate Pleso | 51.4 | 312 | e 9 | 19 | +10 | e 16 | 40 | +12 | e 16 | 55 | PS |
| Szeged | 51.5 | 309 | — | — | — | e 16 | 30 | +1 | — | — | — |
| Raciborz | 52.7 | 314 | e 9 | 14? | -4 | e 15 | 4 | ? | e 9 | 31 | ? |
| Upsala | 53.6 | 326 | i 9 | 25a | 0 | i 16 | 52 | -6 | i 17 | 12 | PPS |
| Kiruna | 53.9 | 336 | i 9 | 26a | -1 | e 16 | 56 | -6 | e 19 | 10 | ScS |
| Kurilsk | 54.1 | 52 | e 9 | 39 | +10 | — | — | — | — | — | — |
| Prague | 55.2 | 314 | e 9 | 37 | 0 | e 17 | 17 | -3 | e 11 | 45 | PP |
| Magadan | 55.6 | 35 | 9 | 50 | +10 | e 17 | 32 | +7 | — | — | — |
| Messina | 55.8 | 300 | i 9 | 43 | +2 | i 17 | 23 | -5 | i 10 | 0 | ? |
| Potsdam | 55.9 | 316 | e 9 | 42 | 0 | e 17 | 23 | -6 | i 17 | 47 | PPS |
| Triest | 56.0 | 309 | e 9 | 45 | +2 | i 17 | 24 | -6 | e 21 | 46 | SS |
| Copenhagen | 56.2 | 321 | i 17 | 51 | PPS | e 17 | 29 | -4 | 20 | 53 | SS |
| Cheb | 56.5 | 314 | e 12 | 6 | PP | e 17 | 34 | -3 | e 21 | 9 | SS |
| Jena | 56.9 | 315 | i 9 | 48 | -1 | e 17 | 59 | PPS | e 10 | 42 | PcP |
| Tananarive | 57.3 | 220 | i 9 | 54 | +2 | — | — | — | e 10 | 46 | PcP |
| Rome | 57.4 | 304 | e 13 | 23 | PPP | e 17 | 38 | -11 | — | — | e 28.6 |
| Florence | 58.0 | 306 | i 9 | 54a | -3 | i 17 | 53 | -4 | i 10 | 56 | pP |
| Chur | 58.7 | 310 | e 10 | 0a | -2 | — | — | — | — | — | — |
| Stuttgart | 58.7 | 312 | i 10 | 1a | -1 | e 18 | 2 | -4 | e 19 | 47 | ScS |
| Karlsruhe | 59.2 | 313 | i 10 | 6a | +1 | e 18 | 8 | -4 | e 18 | 30 | PS |
| Pavia | 59.2 | 308 | e 10 | 40 | PcP | i 18 | 11 | -1 | e 20 | 11 | ? |
| Zürich | 59.3 | 311 | e 10 | 6a | 0 | e 18 | 6 | -8 | — | — | — |
| Strasbourg | 59.6 | 312 | i 10 | 9 | +1 | e 18 | 5 | -12 | e 18 | 27 | PS |
| Witteveen | 59.8 | 318 | i 10 | 26a | +17 | e 10 | 34 | ? | e 11 | 2 | ? |
| Basle | 59.9 | 311 | e 10 | 11 | +1 | — | — | — | — | — | — |
| Petropavlovsk | 60.3 | 42 | e 10 | 22 | +9 | e 18 | 33 | +7 | — | — | — |
| Neuchatel | 60.4 | 311 | e 10 | 13 | 0 | — | — | — | — | — | — |
| De Bilt | 60.8 | 317 | e 13 | 52 | PPP | e 18 | 31 | -2 | e 22 | 35 | SS |
| Uccle | 61.5 | 315 | e 14 | 5 | PPP | e 18 | 36 | -6 | e 25 | 39 | SSS |
| Paris | 63.0 | 313 | i 10 | 31 | 0 | e 19 | 0 | -1 | i 10 | 59 | pP |
| Clermont-Ferrand | 63.3 | 310 | e 10 | 51 | +18 | e 19 | 1 | -3 | e 23 | 10 | SS |
| Chambon-la-Forêt | 63.4 | 312 | i 10 | 30 | -4 | — | — | — | i 10 | 59 | PcP |
| Aberdeen | 64.0 | 323 | — | — | — | i 19 | 5 | -8 | i 25 | 53 | SSS |
| Kew | 64.2 | 317 | — | — | — | e 19 | 30 | PS | — | — | e 26.6 |
| Tortosa | 66.4 | 305 | 10 | 55 | +2 | 19 | 39 | -4 | — | — | — |
| Alicante | 67.9 | 303 | 11 | 1 | -1 | i 19 | 56 | -5 | 13 | 33 | PP |
| Tamanrasset | 68.5 | 285 | i 11 | 7 | +1 | i 20 | 28 | PS | i 13 | 42 | PP |
| Scoresby Sund | 68.6 | 340 | — | — | — | e 20 | 28 | PS | e 21 | 29 | ? |
| Almeria | 69.9 | 302 | i 11 | 33 | PcP | 20 | 43 | PS | 25 | 23 | SS |
| Toledo | 70.0 | 305 | i 11 | 16 | +1 | e 20 | 22 | -4 | e 20 | 47 | PS |
| Granada | 70.6 | 303 | i 11 | 38k | PcP | 20 | 26 | -7 | 20 | 53 | PS |
| Malaga | 71.4 | 303 | i 11 | 23 | -1 | i 20 | 34 | -8 | 14 | 28 | PP |
| Pretoria | 74.4 | 229 | i 11 | 42 | 0 | — | — | — | — | — | — |
| Pietermaritzburg | 75.6 | 225 | i 11 | 50 | +2 | — | — | — | — | — | — |
| Resolute Bay | 77.7 | 359 | e 12 | 11a | PcP | — | — | — | — | — | — |
| Kimberley | 78.7 | 228 | i 12 | 5 | -1 | — | — | — | — | — | — |
| College | 79.8 | 19 | i 12 | 11 | -1 | e 22 | 6 | -8 | e 22 | 21 | S |
| Grahamstown | 80.5 | 224 | e 12 | 18 | +3 | — | — | — | — | — | e 39.6 |
| Hungry Horse | 102.8 | 11 | e 14 | 12 | +11 | — | — | — | e 17 | 35 | ? |
| Palisades | 108.0 | 341 | e 14 | 59 | ? | e 24 | 1 | ? | e 44 | 37 | ? |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|--------------|----|------------|------------|----------|-------|---------|------|---------|------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Mineral | z. | 108.6 | 19 | e 18 43k | [+13] | e 19 10 | PP | i 19 26 | ? | — |
| Lick | z. | 111.4 | 20 | e 18 37a | [+ 1] | — | — | e 19 27 | PP | — |
| Bermuda | | 112.3 | 330 | — | — | e 28 48 | PS | — | — | e 57.0 |
| Fresno | z. | 112.5 | 19 | e 19 19 | PP | — | — | — | — | — |
| Tinemaha | z. | 112.6 | 18 | e 18 56 | [+18] | — | — | — | — | — |
| China Lake | z. | 114.0 | 17 | e 18 29 | [-12] | — | — | — | — | — |
| Boulder City | | 114.5 | 15 | e 18 58 | [+16] | — | — | — | — | — |
| Nelson | | 114.8 | 15 | i 18 58 | [+15] | — | — | i 19 15 | ? | — |
| Fayetteville | | 116.3 | 357 | i 18 46 | [0] | i 19 59 | PP | i 29 13 | PKKP | — |
| Barratt | z. | 117.2 | 18 | e 18 22 | [-25] | e 19 2 | ? | — | — | — |
| Tucson | | 118.9 | 13 | e 18 52 | [+ 1] | — | — | e 19 7 | ? | — |
| La Paz | | 150.4 | 287 | 19 57 | [+ 9] | i 20 57 | ? | i 23 50 | PP | 33.3 |
| Huancayo | | 153.7 | 303 | e 20 5 | [+12] | — | — | — | — | — |

Aug. 29d. 14h. 8m. Epicentre 35°·8N. 5°·0E. In the region of Hodna, Algeria.
Intensity VI-VII at Ampère ; V at Cerez, Kerrata, and Perigotville ; IV-V at Bordj-Redir, Chevreul, Tocqueville, etc.
Annales de l'Institut de Physique du Globe de Strasbourg, 2nd Part, Séismologie, 1953, Strasbourg, 1959, 0. 79.

Aug. 29d. 16h. 8m. Epicentre 58°S. 159°E. Magnitude 6.6.25.
New Zealand Department of Scientific and Industrial Research (Geophysics Division)
Bulletin No. E-133 for July-September, 1953, Wellington, 1956, p. 10.

Aug. 29d. 23h. 42m. Epicentre 36°·8N. 70°·8E. Depth 200km.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 128.

Aug. 30d. 13h. 54m. Pamir region. Epicentre 37°·0N. 71°·2E. Depth 180km.
Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 128.

Aug. 31d. 4h. 15m. Epicentre 37°·1N. 141°·7E. Depth 40km.
Intensity IV at Onahama ; II-III at Shirakawa, Hukusima, Tukubasan, and Utunomiya.
Seismo. Bull. Cent. Met. Obs., Japan, for August, 1953, Tokyo, 1953, p. 19, with macro-seismic chart.

Aug. 31d. 7h. 52m. 50s. Epicentre 53°·5N. 160°·5E. Depth of focus 0.005.
(as on 1952, October 6d.).

$$A = -0.5631, B = +0.1994, C = +0.8019; \quad \delta = -11; \quad h = -7;$$

$$D = +0.334, E = +0.943; \quad G = -0.756, H = +0.268, K = -0.597.$$

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|-----------------|----|------------|------------|---------|------|---------|------|---------|-----|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Petropavlovsk | | 1.2 | 252 | i 0 22 | 0 | i 0 39 | + 1 | — | — | — |
| Magadan | | 8.1 | 323 | i 1 57 | 0 | — | — | — | — | — |
| Kurilsk | | 11.7 | 230 | e 2 45 | - 1 | — | — | — | — | — |
| Ulegorsk | | 12.4 | 256 | i 3 0 | + 4 | e 5 22 | + 9 | — | — | — |
| Yuzno-Sakhlinsk | | 13.1 | 247 | i 3 8 | + 3 | e 5 36 | + 7 | — | — | — |
| Mizusawa | E. | 19.5 | 231 | 4 30 | + 6 | 8 1 | + 5 | 4 53 | PPP | — |
| Vladivostok | | 21.5 | 253 | 4 48 | + 3 | — | — | — | — | — |
| College | | 28.0 | 45 | i 5 45 | - 2 | i 10 24 | - 1 | — | — | e 12.0 |
| Kabansk | | 32.0 | 290 | i 6 21 | - 1 | — | — | i 6 40 | pP | — |
| Irkutsk | | 33.2 | 292 | 6 32 | - 1 | — | — | — | — | — |
| Resolute Bay | | 42.9 | 23 | i 7 53a | - 1 | — | — | — | — | — |
| Victoria | | 46.0 | 64 | 8 18 | - 1 | — | — | — | — | — |
| Seattle | z. | 47.1 | 65 | 8 10 | -17 | — | — | — | — | — |
| Hungry Horse | | 51.0 | 59 | i 8 57 | 0 | i 14 6 | PcS | i 10 14 | PcP | — |
| Shasta | | 51.5 | 72 | i 9 2a | + 1 | — | — | e 9 17 | pP | — |
| Mineral | z. | 52.2 | 72 | e 9 7a | + 1 | e 14 9 | PcS | i 9 23 | pP | — |
| Kurmenty | | 52.8 | 294 | i 9 11 | 0 | — | — | — | — | — |
| Butte | | 53.3 | 59 | i 9 14 | - 1 | — | — | i 10 22 | PcP | — |
| Berkeley | | 53.5 | 74 | e 9 18 | + 2 | e 16 48 | + 6 | e 25 26 | Q | e 27.7 |
| Reno | z. | 53.8 | 70 | e 9 19 | + 1 | — | — | i 9 35 | pP | — |

Continued on next page.

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| 1953 | | 535 | | | | | | | | |
|---------------------|----|----------|-----|----------------------|------|---------|------|----------|--------|--|
| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Santa Clara | E. | 54.1 | 74 | — | — | e 16 57 | + 7 | — | — | |
| Lick | Z. | 54.2 | 74 | e 9 22 _a | + 1 | e 10 23 | PcP | i 9 38 | pP | |
| Przhevalsk | | 54.3 | 294 | i 9 13 | - 9 | — | — | — | — | |
| Rybach'e | | 54.4 | 296 | i 9 21 | - 2 | — | — | — | — | |
| Frunse | | 54.9 | 297 | i 9 25 | - 1 | — | — | — | — | |
| Naryn | | 55.1 | 295 | e 9 27 | - 1 | — | — | — | — | |
| Kiruna | | 55.4 | 343 | i 9 28 _a | - 2 | e 17 2 | - 6 | e 12 52 | PPP | |
| Fresno | Z. | 55.7 | 73 | i 9 28 _k | - 4 | — | — | e 9 46 | pP | |
| Scoresby Sund | | 56.3 | 2 | i 9 33 | - 3 | i 17 18 | - 2 | — | — | |
| Tinemaha | | 56.3 | 72 | i 9 28 | - 8 | i 9 54 | sP | i 10 24 | PcP | |
| Andijan | | 57.6 | 296 | i 9 44 | - 2 | — | — | — | — | |
| China Lake | Z. | 57.6 | 72 | e 9 45 | - 1 | — | — | e 39 35 | P'P' | |
| Namangan | | 57.8 | 297 | e 9 45 | - 2 | — | — | — | — | |
| Fergana | | 58.1 | 296 | e 9 47 | - 2 | — | — | — | — | |
| Tchimkent | | 58.1 | 300 | i 9 46 | - 3 | — | — | — | — | |
| Murgab | | 58.4 | 293 | i 9 57 | + 6 | — | — | 10 17 | pP | |
| Pasadena | | 58.5 | 74 | i 9 52 | 0 | i 17 52 | + 3 | i 10 7 | pP | |
| Tashkent | | 58.8 | 299 | e 9 52 | - 2 | — | — | — | e 27.7 | |
| Boulder City | | 59.1 | 70 | i 9 56 | 0 | i 10 45 | PcP | i 10 12 | pP | |
| Chatra | | 59.1 | 275 | i 9 56 | 0 | e 17 51 | - 5 | — | — | |
| Dzhergetal | | 59.3 | 296 | e 9 55 | - 2 | e 17 56 | - 3 | — | — | |
| Nelson | | 59.3 | 70 | i 9 57 | 0 | i 10 18 | sP | i 10 9 | pP | |
| Palomar | Z. | 59.8 | 74 | i 10 1 | 0 | — | — | — | — | |
| Pulkovo | | 60.2 | 335 | i 10 3 | - 1 | — | — | — | — | |
| Khorog | | 60.3 | 294 | e 10 5 | + 1 | — | — | — | — | |
| Barratt | Z. | 60.4 | 74 | e 10 7 | + 2 | — | — | e 10 23 | pP | |
| Kulyab | | 61.0 | 296 | 10 8 | - 1 | 18 22 | + 1 | — | — | |
| Stalinabad | | 61.1 | 297 | i 10 8 | - 2 | e 18 18 | - 4 | — | — | |
| Samarkand | | 61.2 | 299 | e 10 4 | - 6 | — | — | — | — | |
| Moscow | | 61.4 | 328 | i 10 10 | - 2 | — | — | — | — | |
| Reykjavik | | 62.7 | 2 | i 10 22 | + 2 | — | — | i 11 0 | PcP | |
| Warsak Dam | E. | 62.9 | 291 | e 10 24 | + 2 | e 19 34 | PPS | — | — | |
| Upsala | | 63.1 | 341 | i 10 22 _a | - 1 | e 18 47 | 0 | e 26 10? | Q | |
| Tucson | | 64.0 | 70 | i 10 30 | + 1 | e 19 10 | + 11 | — | — | |
| Kirkland Lake | Z. | 66.5 | 40 | e 10 43 _a | - 2 | — | — | — | — | |
| Copenhagen | | 68.0 | 342 | i 10 54 _a | 0 | — | — | — | — | |
| Makhach-Kala | | 68.1 | 314 | i 10 57 | + 2 | — | — | — | — | |
| Quetta | Z. | 68.3 | 292 | i 10 54 | - 2 | i 11 22 | PcP | i 11 14 | pP | |
| Duzhoti | | 70.0 | 315 | 11 8 | + 1 | e 20 16 | + 5 | — | — | |
| Fayetteville | | 70.0 | 57 | i 11 5 | - 2 | i 20 12 | + 1 | i 11 21 | pP | |
| Gori | | 70.3 | 316 | 11 9 | 0 | e 20 18 | + 4 | — | — | |
| Tiflis | | 70.3 | 315 | i 11 9 | 0 | e 20 17 | + 3 | e 11 27 | pP | |
| Kirovobad | | 70.4 | 313 | 11 9 | 0 | 20 16 | + 1 | — | — | |
| Ottawa | | 70.4 | 39 | i 11 7 _a | - 2 | 20 14 | - 1 | 13 45 | PP | |
| Shawinigan Falls N. | | 70.5 | 35 | e 11 9 | - 1 | — | — | — | — | |
| Seven Falls | E. | 70.7 | 34 | e 11 16? | + 5 | 20 20? | + 1 | — | — | |
| Borzhomi | | 70.8 | 316 | i 11 10 | - 2 | e 20 22 | + 2 | 11 28 | pP | |
| Sotchi | | 70.8 | 319 | e 11 10 | - 2 | e 20 21 | + 1 | — | — | |
| Zugdidi | | 70.8 | 317 | e 11 11 | - 1 | e 20 25 | + 5 | — | — | |
| Potsdam | | 71.0 | 341 | i 11 13 _a | 0 | i 20 27 | + 5 | i 20 36 | pS | |
| Theodosia | | 71.2 | 323 | e 11 13 | - 1 | e 20 27 | + 2 | — | — | |
| Cleveland | | 71.4 | 45 | i 11 14 _a | - 1 | e 20 27 | 0 | — | — | |
| Goris | | 71.4 | 312 | 11 15 | 0 | e 20 31 | + 4 | — | — | |
| Erevan | | 71.7 | 314 | 11 13 | - 4 | — | — | — | — | |
| Kishinev | | 71.8 | 328 | i 11 16 | - 2 | e 20 28 | - 4 | — | — | |
| Witteveen | Z. | 71.8 | 344 | i 11 19 _a | + 1 | — | — | — | — | |
| Iasi | N. | 72.0 | 329 | i 11 18 | - 1 | — | — | — | — | |
| Raciborzu | N. | 72.0 | 336 | e 11 21 | + 2 | e 12 12 | ? | e 11 4 | ? | |
| Cincinnati | | 72.1 | 48 | i 11 18 | - 1 | i 20 36 | + 1 | — | — | |
| Collmberg | | 72.1 | 340 | e 11 19 | 0 | e 20 37 | + 2 | e 14 37 | ? | |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----|----------|-----|----------------------|-------|---------|-------|---------|-----------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Yalta | | 72.2 | 323 | e 11 18 | - 2 | e 20 36 | 0 | — | — |
| Uzhgorod | | 72.3 | 333 | i 11 19 | - 1 | — | — | — | — |
| Jena | | 72.7 | 340 | i 11 23 | 0 | e 20 41 | - 1 | e 11 41 | pP |
| Prague | | 72.9 | 338 | e 11 25 _a | + 1 | e 20 45 | + 1 | e 21 34 | PPS |
| Rathfarnham Castle | | 73.0 | 352 | i 11 25 _k | 0 | e 21 10 | sS | e 12 6 | ? e 32.2 |
| Cheb | | 73.4 | 340 | e 11 28 | + 1 | e 20 51 | + 1 | e 26 40 | ? — |
| Poona | | 73.4 | 279 | i 11 27 | 0 | e 21 33 | PS | — | — |
| Bombay | | 73.7 | 280 | e 11 28 | - 1 | e 20 53 | 0 | 25 42 | SS — |
| Ogyalla | | 74.1 | 335 | e 11 35 | + 4 | e 24 32 | ? | e 27 34 | ? — |
| Budapest | | 74.2 | 334 | 11 33 | + 1 | 21 55 | PPS | e 16 4 | PPP — |
| Kew | z. | 74.2 | 348 | i 11 32 | 0 | — | — | — | — |
| Uccle | | 74.2 | 345 | e 11 31 | - 1 | e 21 16 | pS | e 11 50 | pP e 34.2 |
| Harvard | | 74.4 | 37 | i 11 33 _a | 0 | — | — | — | — |
| Weston | | 74.6 | 37 | i 11 34 _a | 0 | — | — | — | e 38.1 |
| Bucharest | | 74.9 | 328 | e 11 39 | + 3 | — | — | — | — |
| Palisades | | 74.9 | 40 | e 11 34 | - 2 | e 21 2 | - 4 | — | — e 34.6 |
| Fordham | | 75.0 | 40 | e 11 35 | - 1 | — | — | e 20 6 | ? — |
| Kalossa | | 75.1 | 334 | e 11 40 | + 3 | e 12 6 | sP | — | — |
| Karlsruhe | z. | 75.2 | 342 | i 11 38 _a | + 1 | — | — | i 11 45 | ? — |
| Stuttgart | | 75.2 | 342 | i 11 38 _a | + 1 | e 21 14 | + 4 | e 11 55 | pP e 39.2 |
| Washington | | 75.4 | 43 | i 11 37 | - 1 | — | — | — | — |
| Strasbourg | | 75.7 | 343 | i 11 41 | + 1 | i 11 51 | PcP | i 11 59 | pP 37.2 |
| Belgrade | | 76.3 | 332 | i 11 44 _a | 0 | e 21 26 | + 4 | — | — 50.0 |
| Basle | | 76.7 | 342 | e 11 46 | 0 | — | — | — | — |
| Zürich | | 76.7 | 342 | i 11 46 _a | 0 | e 21 25 | - 1 | — | — |
| Chur | | 77.0 | 341 | e 11 48 _k | 0 | — | — | — | — |
| Istanbul | | 77.0 | 325 | i 11 46 | - 2 | e 21 25 | - 4 | e 22 11 | PS — |
| Chambon-la-Forêt | | 77.2 | 346 | i 11 50 | + 1 | — | — | — | — |
| Triest | | 77.2 | 337 | i 11 50 | + 1 | e 21 53 | sS | e 22 23 | PS 40.2 |
| Neuchatel | | 77.4 | 342 | i 11 51 | + 1 | — | — | — | — |
| Oropa | | 78.5 | 341 | i 11 58 | + 2 | e 22 2 | pS | e 15 7 | PP — |
| Clermont-Ferrand | | 79.3 | 345 | e 12 2 | + 2 | — | — | — | — 43.7 |
| Prato | | 79.5 | 338 | e 12 3 | + 2 | e 21 58 | + 2 | — | — |
| Florence | | 79.6 | 338 | i 11 59 _a | - 3 | e 21 59 | + 2 | i 12 39 | ? — |
| Tacubaya | | 80.6 | 70 | e 12 2 | - 5 | — | — | — | — |
| Ksara | | 80.7 | 316 | e 12 10 | + 2 | 22 58 | PS | — | — |
| Rome | | 81.1 | 337 | e 12 10 | 0 | e 22 11 | - 2 | e 15 30 | PP — |
| Taranto | | 81.2 | 333 | — | — | e 22 40 | sS | — | — |
| Athens | | 81.5 | 327 | i 12 12 _a | 0 | — | — | i 12 29 | pP — |
| Messina | | 83.8 | 334 | i 12 23 _a | - 1 | e 22 38 | - 2 | — | — |
| Reggio Calabria | | 83.8 | 334 | e 12 28 | + 4 | — | — | — | — |
| Tortosa | | 84.5 | 345 | i 12 24 | - 3 | 22 44 | - 3 | — | — |
| Bermuda | | 85.9 | 37 | i 12 35 | + 1 | e 23 8 | + 7 | — | e 45.7 |
| Helwan | z. | 86.0 | 318 | i 12 35 _k | 0 | — | — | i 12 54 | pP — |
| Toledo | | 86.0 | 349 | i 12 35 _a | 0 | e 23 33 | sS | i 12 54 | pP — |
| Alicante | | 87.0 | 346 | e 12 36 | - 3 | e 23 13 | + 2 | 18 4 | PPP 41.7 |
| Riverview | | 87.3 | 187 | 12 43 | + 2 | e 23 24 | +10 | — | — e 43.6 |
| Granada | | 88.6 | 348 | i 12 49 _a | + 2 | 23 35 | + 9 | 23 53 | pS 50.4 |
| Almeria | | 88.8 | 347 | 12 43 | - 5 | 23 32 | + 4 | 16 9 | PP 51.8 |
| San Juan | | 97.9 | 44 | e 13 31 | + 1 | — | — | — | — |
| Tamanrasset | z. | 101.0 | 337 | e 13 44 | 0 | e 24 19 | [+ 3] | e 17 48 | PP — |
| La Paz | | 127.2 | 64 | 19 3 | [+ 6] | — | — | — | — |
| Pretoria | z. | 135.2 | 290 | i 19 15 | [+ 3] | — | — | e 18 54 | ? — |
| Grahamstown | z. | 141.7 | 283 | e 19 22 | [- 2] | — | — | — | — |

Aug. 31d. 11h. 18m. Epicentre 36°·5N. 140°·7E. Depth 60km.
Intensity IV at Mito and Tsubasan; II-III at Utunomiya, Onahama, Kashiwa, and Kumagaya.
Loc. cit., 4h., p. 20.

Aug. 31d. 12h. 58m. Provisional epicentre 38°·3S. 179°·7E. Magnitude 5.
Seismological Observatory Bulletin No. E-133 for July-Sept., 1953, Wellington, N.Z., 1956, p. 11.

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Sept. 1d. 10h. 37m. Epicentre $41^{\circ}0'N$, $47^{\circ}3'E$.

Bulletin of the Seismo. Stations of U.S.S.R. July-Sept., 1953, Moscow, 1954, p. 130.

Sept. 1d. 11h. 54m. 51s. Epicentre $41^{\circ}6'N$, $139^{\circ}9'E$.

Intensity II-III at Hakodate, Aomori, and Hatinohc.

Seismo. Bull. Cent. Met. Obs., Japan, for 1953, Sept., Tokyo, 1954, p. 9, with macroseismic chart.

Sept. 1d. 13h. 8m. Epicentre $37^{\circ}4'N$, $70^{\circ}8'E$.

Loc. cit., 10h., pp. 130, 131.

Sept. 1d. 14h. 14m. 53s. Epicentre $34^{\circ}0'$, $135^{\circ}7'E$. Depth of focus 70km.

Intensity IV at Siomisaki, Owasi, and Sumoto; II-III at Wakayama, Himeji, Tu, Takamatu, Kobe, Osaka, Tokushima, Kyoto, Kameyama, Maizuru, Okayama, Gihu, Hikone, Ajiro, and Tsuruga.

Loc. cit., 11h., p. 10.

Sept. 1d. 17h. 37m. Provisional epicentre $20^{\circ}5'S$, $170^{\circ}0'E$. Magnitude 6.

Seismo. Observatory Bulletin No. E-133, July, Aug., Sept., 1953, New Zealand Department of Scientific and Industrial Research, Wellington, 1956, p. 11.

Sept. 1d. 19h. 37m. 28s. Epicentre $35^{\circ}9'N$, $139^{\circ}6'E$. Depth of focus 45km.

Intensity IV at Tokyo; II-III at Kumagaya and Kashiwa.

Loc. cit., 14h., p. 11.

Sept. 1d. 20h. 10m. Epicentre $38^{\circ}5'N$, $20^{\circ}5'E$.

Intensity 5.5-25. Probably two shocks, recorded up to 22° from the origin.

Seismo. Institute Bulletin, 1953. Athens, 1954, p. 111.

Sept. 1d. 21h. 31m. 5s. Epicentre $43^{\circ}9'N$, $140^{\circ}0'E$.

Intensity II-III at Nemuro.

Loc. cit., 19h., p. 12.

Sept. 2d. 0h. 22m. 43s. Epicentre $36^{\circ}1'N$, $141^{\circ}0'E$. Depth of focus 40km.

Intensity II-III at Mito and Kakioka.

Seismo. Bull. Cent. Met. Obs., for Sept., 1953, Tokyo, 1954, p. 13, with macroseismic chart.

Sept. 2d. 0h. 36m. Epicentre $41^{\circ}0'N$, $47^{\circ}4'E$. Suggested magnitude 5.25.

Bulletin of Seismo. Stations of the U.S.S.R. for 1953, Sept., Moscow, 1954, pp. 131, 132.

Sept. 2d. 1h. 31m. Epicentre $36^{\circ}5'N$, $70^{\circ}8'E$. Depth of focus 200km.

Loc. cit., 0h. 36m.

Sept. 2d. 15h. 59m. Provisional epicentre $35^{\circ}9'S$, $177^{\circ}8'W$. Magnitude 5.2.

Seismo. Observatory Bulletin No. E-133, July, August, September, 1953, New Zealand Department of Scientific and Industrial Research, Wellington, 1956, p. 11.

Sept. 2d. 18h. 25m. Provisional epicentre near $16^{\circ}S$, $172^{\circ}W$. Magnitude 6. Felt at Apia.

Loc. cit., 15h.

Sept. 2d. 21h. 51m. Provisional epicentre $35^{\circ}4'S$, $179^{\circ}9'W$. Magnitude 5.2.

Loc. cit., 18h.

Sept. 3d. 1h. 1m. 54s. Epicentre $36^{\circ}1'N$, $139^{\circ}9'E$. Depth of focus 40km.

Intensity V at Kashiwa, Utunomiya, Kumagaya, Tokyo, Mito, Titibu, and Kakioka; IV at Maebasi, Yokohama, Kohu, Shirawaka, Onahama, Hunatu, and Ajiro; II-III at Tyosi, Osima, Shizuoka, and Hukusima.

Seismo. Bull. Cent. Met. Obs., Japan, for September, 1953, Tokyo, 1954, pp. 14, 15, with macroseismic chart.

Sept. 3d. 20h. 14m. 3s. Epicentre $36^{\circ}7'N$, $140^{\circ}4'E$. Depth of focus 20km.

Intensity IV at Mito and Kakioka; II-III at Utunomiya and Kumagaya.

Loc. cit., pp. 15, 16, with macroseismic chart.

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Sept. 4d. 2h. 29m. Epicentre 41°50'N. 23°0'E. On the Bulgaria-Yugoslavia frontier. Felt widely in Bulgaria. Intensity V at Barlsko, Krypnik, Melnik, Simitli, etc.; IV at Dimitrovo.

K. T. Kirov and E. K. Grigorova.

Tremblements de terre en Bulgarie, pendant les années 1951-1954, Sofia 1957, p. 72-77, 107-108, with macroseismic chart p. 106.

Sept. 4d. 7h. 23m. 9s. Epicentre 50°·6N. 156°·7E. Depth of focus 0·005. (as on 1952, November 16d.).

$A = -0.5853$, $B = +0.2521$, $C = +0.7706$; $\delta = -5$; $h = -6$;
 $D = +0.396$, $E = +0.918$; $G = -0.708$, $H = +0.305$, $K = -0.637$.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|----|----------|-----|---------------------|------|--------|------|---------|------------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Petropavlovsk | | 2.8 | 25 | i 0 45 | + 1 | i 1 16 | - 1 | — | — |
| Kurilsk | | 8.0 | 231 | i 1 58 | + 2 | 3 32 | + 6 | — | — |
| Magadan | | 9.6 | 342 | i 2 18 | 0 | — | — | — | — |
| Yuzno-Sakhlinsk | | 9.9 | 254 | 2 25 | + 3 | 4 21 | + 9 | — | — |
| Nemuro | | 10.5 | 230 | e 2 31 _a | + 1 | e 4 15 | -12 | e 2 38 | PP |
| Wakkanai | E. | 11.3 | 248 | e 2 21 | -20 | 5 1 | SS | e 3 33 | ? |
| Asahigawa | | 11.9 | 240 | e 2 48 | - 1 | — | — | — | — |
| Obihiro | | 12.0 | 235 | i 3 1 | PP | — | — | — | — |
| Urakawa | | 12.8 | 234 | e 3 0 | - 1 | e 5 23 | + 1 | e 3 10 | PP |
| Sapporo | | 12.9 | 240 | e 3 0 _a | - 2 | i 5 41 | SS | e 3 19 | PP |
| Tomakomai | | 13.2 | 238 | e 3 7 | + 1 | 5 34 | + 2 | — | — |
| Suttsu | | 13.7 | 242 | e 3 5 | - 8 | — | — | — | — |
| Mori | N. | 14.0 | 239 | 3 21 | + 4 | 5 58 | + 7 | i 3 29 | PP |
| Hakodate | | 14.1 | 237 | e 3 21 | + 3 | — | — | — | — |
| Hatinohe | | 14.6 | 232 | e 3 27 | + 3 | e 5 45 | -20 | — | e 6.1 |
| Aomori | | 14.8 | 235 | e 3 26 | - 1 | 6 6 | - 4 | 12 13 | P _c S |
| Miyako | | 15.1 | 229 | 3 31 | 0 | e 6 13 | - 4 | e 6 24 | S |
| Morioka | | 15.4 | 231 | e 3 31 | - 4 | e 6 22 | - 2 | — | — |
| Mizusawa | E. | 15.9 | 230 | 3 44 | + 3 | 6 41 | + 6 | — | — |
| Akita | | 16.0 | 233 | e 3 43 | + 1 | e 6 43 | + 6 | e 7 54 | ? |
| Isinomaki | | 16.3 | 228 | e 3 38 | - 8 | — | — | — | — |
| Sendai | | 16.7 | 228 | 3 52 | + 1 | e 6 53 | 0 | e 7 4 | SS |
| Sakata | | 16.7 | 232 | e 3 56 | + 5 | e 7 11 | SS | — | e 8.6 |
| Hukusima | | 17.3 | 228 | e 3 56 | - 3 | 7 11 | + 4 | — | 10.3 |
| Inawasio | E. | 17.6 | 228 | e 3 41 | -21 | — | — | e 4 27 | PP |
| Onahama | | 17.7 | 226 | e 4 3 _a | 0 | e 7 21 | + 5 | — | e 9.4 |
| Niigata | | 17.8 | 230 | e 4 11 | + 6 | e 7 9 | - 9 | e 4 48 | ? |
| Shirakawa | | 17.9 | 228 | 4 7 | + 1 | 7 25 | + 5 | e 12 39 | ? |
| Aikawa | | 18.2 | 232 | 4 9 | - 1 | 7 29 | + 2 | — | 10.0 |
| Mito | | 18.4 | 226 | 4 13 | + 1 | 7 36 | + 4 | — | — |
| Utunomiya | | 18.5 | 228 | i 4 13 | 0 | e 7 35 | + 1 | e 4 33 | PP |
| Takada | | 18.9 | 231 | e 4 13 | - 5 | e 7 34 | - 9 | — | — |
| Maebasi | | 19.0 | 229 | 4 19 _a | 0 | e 7 43 | - 2 | e 4 38 | PP |
| Kashiwa | N. | 19.1 | 226 | e 4 21 _k | + 1 | — | — | e 5 59 | ? |
| Kumagaya | | 19.1 | 227 | 4 19 | - 1 | 7 45 | - 2 | — | — |
| Nagano | | 19.2 | 229 | e 4 21 | 0 | e 7 52 | + 3 | — | e 9.9 |
| Matusiro | | 19.3 | 234 | i 4 20 | - 2 | i 7 50 | - 1 | 5 4 | PPP |
| Oiwake | | 19.3 | 228 | e 4 22 | 0 | e 7 54 | + 3 | — | e 9.1 |
| Tokyo | | 19.3 | 227 | i 4 21 _a | - 1 | 7 56 | + 5 | e 5 36 | ? |
| Wazima | | 19.3 | 234 | e 4 21 | - 1 | 7 55 | + 4 | e 4 30 | ? |
| Titibu | | 19.4 | 227 | i 4 22 | - 1 | e 8 7 | +14 | — | — |
| Yokohama | | 19.6 | 226 | e 4 24 | - 1 | e 7 9 | -49 | e 5 18 | ? |
| Matumoto | N. | 19.7 | 231 | i 4 13 | -14 | 8 11 | +11 | — | — |
| Toyama | | 19.8 | 232 | e 4 28 | 0 | e 8 6 | + 4 | e 8 35 | SS |
| Hunatu | | 19.9 | 227 | 4 28 _a | - 1 | 8 3 | - 1 | — | e 9.2 |
| Mera | | 19.9 | 223 | e 4 17 | -12 | e 8 11 | + 7 | e 4 53 | PP |
| Kanazawa | | 20.1 | 234 | e 4 51 _? | PP | e 8 31 | SS | — | e 9.7 |
| Misima | | 20.1 | 226 | i 4 30 _a | - 1 | i 8 18 | +10 | — | — |
| Osima | | 20.2 | 223 | e 4 30 | - 2 | e 8 14 | + 4 | e 5 33 | ? |
| Iida | | 20.3 | 229 | e 4 31 | - 2 | e 8 21 | + 9 | — | — |

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| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Shizuoka | 20.5 | 230 | i 4 35 _a | 0 | i 8 25 | + 9 | e 4 52 | PP e 11.7 |
| Hukui | 20.7 | 232 | e 4 36 | - 1 | e 8 33 | +13 | — | — |
| Omaesaki | 20.9 | 226 | e 4 40 | + 1 | 8 31 | + 8 | e 4 47 | PP — |
| Gihu | 21.0 | 231 | e 4 38 | - 2 | — | — | — | — |
| Nagoya | 21.0 | 231 | 4 41 | + 1 | 8 26 | + 1 | 8 37 | S e 12.2 |
| Tsuruga | 21.1 | 232 | e 5 1? | PP | 8 48? | +21 | 5 11? | PPP — |
| Hatidyozima | 21.5 | 222 | e 5 36 | ? | — | — | — | — |
| Kameyama | 21.5 | 233 | 4 45 | 0 | 8 43 | + 8 | 5 23 | PPP 11.4 |
| Maizuru | 21.6 | 235 | e 4 20 | -26 | e 8 35 | - 1 | — | — |
| Tu | 21.6 | 231 | e 4 46 | 0 | e 8 47 | +11 | — | — |
| Kyoto | 21.8 | 233 | e 4 48 | 0 | e 8 47 | + 7 | — | — e 11.8 |
| Toyooka | 21.8 | 234 | e 4 47 | - 1 | e 8 41 | + 1 | — | — e 11.3 |
| Osaka | 22.2 | 233 | i 5 47 _a ? | +55 | e 9 45? | +58 | — | — i 12.6 |
| Kobe | 22.3 | 232 | i 4 55 | + 2 | i 8 55 | + 6 | e 5 24 | PP e 10.2 |
| Owase | 22.3 | 231 | e 4 53 | 0 | e 8 55 | + 6 | — | — |
| Sumoto | 22.7 | 233 | i 4 57 _a | 0 | 9 2 | + 6 | — | — 17.2 |
| Yonago | 22.7 | 236 | i 4 58 _a | + 1 | e 8 51 | - 5 | — | — i 11.4 |
| Matsue | 22.8 | 236 | 4 52 | - 6 | — | — | — | — |
| Siomisaki | 23.0 | 231 | e 5 3 | + 3 | e 9 9 | + 7 | e 5 17 | pP e 10.9 |
| Takamatu | 23.2 | 233 | e 5 1 | - 1 | e 9 10 | + 5 | i 5 7 | P 10.8 |
| Hamada | 23.8 | 237 | 5 8 _a | 0 | 9 18 | + 3 | i 5 45 | PP e 11.8 |
| Hirosima | 24.0 | 237 | 5 11 _a | + 1 | 9 23 | + 4 | — | — e 12.0 |
| Koti | 24.0 | 235 | i 5 11 | + 1 | i 9 23 | + 4 | i 6 0 | PPP e 12.9 |
| Muroto | 24.0 | 231 | i 4 50 _a | -20 | i 9 23 | + 4 | — | — e 13.1 |
| Matuyama | 24.2 | 236 | i 5 13 | + 2 | i 9 29 | + 7 | 6 17 | PPP 12.9 |
| Simidu | 24.9 | 232 | i 5 20 | + 2 | i 9 41 | + 7 | i 9 46 | S 13.4 |
| Simonoski | 25.1 | 237 | 5 23 | + 3 | i 9 52 | +15 | — | — |
| Ooita | 25.3 | 235 | e 5 33 | +11 | e 9 36 | - 5 | — | — |
| Hukuoka | 25.7 | 239 | 5 27 _a | + 1 | 9 51 | + 4 | e 6 18 | PP e 12.0 |
| Kumamoto | 26.1 | 235 | e 6 27 | +57 | — | — | — | — |
| Miyazaki | 26.4 | 234 | 5 35 _a | + 3 | 10 6 | + 7 | — | — 12.2 |
| Kagosima | z. 27.2 | 234 | e 5 39 _a | - 1 | (e 10 28) | +16 | e 7 11 | ? e 10.5 |
| Tomie | 27.3 | 239 | e 5 41 | 0 | 10 19 | + 5 | — | — 13.6 |
| Yakusima | 28.1 | 233 | e 5 49 | + 1 | e 10 28 | + 2 | — | — 12.4 |
| Kabansk | 30.8 | 294 | i 6 11 | - 1 | i 11 11 | + 2 | — | — |
| Kyakhta | 31.5 | 291 | i 6 17 | - 1 | — | — | — | — |
| College | 31.7 | 42 | i 6 19 | - 1 | 11 19 | - 4 | — | — |
| Irkutsk | 32.1 | 295 | i 6 24 | + 1 | e 11 31 | + 1 | — | — |
| Zô-Sè | 32.7 | 247 | i 6 29 _a | + 1 | 11 44 | + 5 | — | — |
| Nanking | 33.5 | 252 | i 6 35 _a | 0 | 11 52 | + 1 | 7 45 | PP — |
| Sitka | 38.9 | 53 | i 7 25 | + 4 | i 13 25 | +11 | — | — |
| Hong Kong | 43.5 | 246 | 7 59 | 0 | e 14 24 | + 2 | 10 11 | PPP — |
| Baguio | 44.7 | 234 | i 8 9 _a | + 1 | i 14 41 | + 2 | 10 21 | PP 21.8 |
| Honolulu | 46.0 | 111 | e 8 19 | 0 | e 14 58 | 0 | — | — |
| Victoria | 49.5 | 60 | 8 44 _a | - 2 | i 15 49 | + 2 | 10 35 | PP 23.4 |
| Seattle | 50.6 | 61 | i 8 54 | 0 | e 25 9 | L | — | — (25.2) |
| Chilisk | 51.4 | 295 | i 9 2 | + 2 | — | — | — | — |
| Corvallis | 51.8 | 65 | e 9 6 | + 3 | i 16 24 | + 5 | — | — e 24.8 |
| Kurmenty | 51.8 | 294 | e 9 5 | + 2 | — | — | — | — |
| Ili | 52.0 | 297 | i 9 4 | - 1 | — | — | — | — |
| Przhevsk | 52.1 | 294 | 9 7 | + 1 | — | — | — | — |
| Almata II | 52.2 | 296 | e 9 8 | + 2 | — | — | — | — |
| Almata | 52.5 | 296 | i 9 9 | 0 | e 16 29 | 0 | — | — |
| Sverdlovsk | 52.7 | 317 | i 9 9 | - 1 | i 16 31 | 0 | — | — |
| Rybach'e | 53.5 | 296 | i 9 16 | 0 | — | — | — | — |
| Ferndale | 53.7 | 68 | e 9 21 | + 3 | e 16 54 | + 9 | — | — |
| Frunse | 54.1 | 297 | i 9 20 | 0 | i 16 51 | + 1 | — | — |
| Naryn | 54.2 | 293 | i 9 21 | 0 | i 16 53 | + 1 | — | — |
| Hungry Horse | 54.6 | 55 | i 9 24 | 0 | — | — | — | — |
| Shasta | 54.8 | 66 | i 9 26 _a | 0 | e 16 34 | -26 | i 9 40 | pP e 26.4 |
| Shillong | N. 54.9 | 268 | i 9 27 | + 1 | i 16 56 | - 5 | 11 39 | PP 24.9 |
| Mineral | z. 55.4 | 66 | i 9 31 _a | + 1 | e 17 17 | + 9 | i 9 44 | pP — |
| Saskatoon | 55.9 | 48 | i 9 33 | - 1 | i 17 18 | + 4 | e 20 51 | SS 26.8 |
| Andijan | 56.7 | 296 | i 9 39 | 0 | — | — | — | — |
| Berkeley | 56.7 | 70 | e 9 39 _a | 0 | e 17 26 | + 1 | e 9 54 | pP e 26.2 |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
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| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Butte | 56.8 | 56 | i 9 40 | 0 | — | — | i 9 56 | — |
| Chatra | 57.0 | 273 | i 9 42 | + 1 | e 17 26 | - 3 | 11 50 | 26.1 |
| Namangan | 57.0 | 296 | i 9 41 | 0 | i 17 31 | + 2 | — | — |
| Reno | 57.0 | 65 | i 9 42 _a | + 1 | e 17 37 | + 8 | i 9 58 | — |
| Santa Clara | 57.2 | 70 | i 9 45 _k | + 2 | i 17 40 | + 8 | — | e 26.1 |
| Fergana | 57.3 | 296 | i 9 41 | - 3 | — | — | — | — |
| Tchimkent | 57.3 | 299 | i 9 43 | - 1 | i 17 33 | 0 | — | — |
| Kiruna | 57.4 | 342 | i 9 42 _a | - 2 | e 17 36 | + 2 | i 10 35 | e 26.4 |
| Lick | 57.4 | 70 | e 9 44 _a | 0 | e 17 40 | + 6 | i 10 0 | — |
| Murgab | 57.4 | 292 | — | — | 17 32 | - 2 | — | — |
| Bozeman | 57.9 | 56 | e 9 47 | - 1 | i 17 43 | + 2 | — | — |
| Tashkent | 58.1 | 298 | e 9 50? | + 1 | e 17 39? | - 4 | — | — |
| Dzhergetal | 58.4 | 296 | i 9 45 | - 6 | — | — | — | — |
| Fresno | 58.9 | 68 | i 9 55 _a | 0 | e 18 0 | + 6 | e 10 10 | — |
| Garm | 59.1 | 296 | i 9 55 | - 1 | i 17 56 | 0 | — | — |
| Scoresby Sund | 59.2 | 0 | i 9 57 | 0 | i 18 2 | + 4 | e 12 6 | 29.4 |
| Calcutta | 59.3 | 269 | i 9 53 | - 4 | i 17 44 | - 15 | 14 45 | 23.7 |
| Obi-garm | 59.6 | 296 | i 9 58 | - 1 | — | — | — | — |
| Tinemaha | 59.6 | 68 | i 10 0 _a | + 1 | e 18 7 | + 4 | i 10 16 | — |
| Kulyab | 60.1 | 293 | 10 2 | - 1 | 18 10 | + 1 | — | — |
| Woody | 60.1 | 68 | i 10 3 _a | 0 | i 10 48 | PcP | i 10 19 | — |
| Stalinabad | 60.2 | 296 | i 10 4 | 0 | i 18 9 | - 2 | — | — |
| Dehra Dun | 60.3 | 283 | i 10 3 | - 1 | i 18 13 | + 1 | 19 47 | — |
| Samarkand | 60.5 | 298 | i 10 4 | - 2 | — | — | — | — |
| Pasadena | 61.6 | 70 | i 10 13 _a | 0 | i 18 33 | + 5 | i 10 29 | e 28.0 |
| Pulkovo | 61.7 | 333 | e 10 12 | - 2 | i 18 28 | - 2 | — | — |
| New Delhi | 62.0 | 282 | i 10 15 | - 1 | i 18 32 | - 2 | 19 6 | 25.7 |
| Riverside | 62.2 | 70 | i 10 16 | - 1 | — | — | i 10 31 | — |
| Nelson | 62.5 | 66 | i 10 20 | + 1 | — | — | i 10 36 | — |
| Moscow | 62.6 | 326 | i 10 18 | - 2 | 18 37 | - 4 | — | — |
| Barratt | 63.5 | 70 | i 10 26 _a | 0 | e 39 18 | P'P' | i 10 42 | — |
| Bairam-Ali | 64.7 | 300 | i 10 33 | 0 | — | — | — | — |
| Upsala | 65.0 | 339 | i 10 35 | 0 | e 19 10 | - 1 | e 12 56 | e 30.8 |
| Reykjavik | 65.6 | 359 | i 10 43 _a | + 4 | — | — | — | — |
| Ashkabad | 66.5 | 302 | 10 45 | 0 | — | — | — | — |
| Kizyl-Arvat | 66.8 | 304 | e 10 49 | + 2 | — | — | — | — |
| Bergen | 67.0 | 345 | e 16 10 | ? | 19 33 | - 2 | e 23 59 | e 30.0 |
| Quetta | 67.1 | 291 | i 10 49 _k | 0 | i 19 38 | + 2 | i 39 17 | — |
| Tucson | 67.3 | 67 | i 10 51 | + 1 | e 19 47 | + 8 | — | — |
| Makhach-Klala | 68.3 | 313 | i 10 56 | 0 | — | — | — | — |
| Grozny | 68.9 | 313 | i 10 59 | - 1 | — | — | — | — |
| Baku | 69.1 | 309 | i 11 3 | + 2 | — | — | — | — |
| Hyderabad | 69.3 | 273 | i 10 59 | - 3 | i 20 2 | - 1 | 13 34 | 31.8 |
| Piatigorsk | 69.5 | 316 | 11 3 | - 1 | i 20 4 | - 1 | — | — |
| Shemakla | 69.5 | 310 | i 11 3 | - 1 | — | — | — | — |
| Copenhagen | 70.0 | 340 | i 11 6 _a | - 1 | i 20 13 | + 2 | 21 2 | 34.8 |
| Kirkland Lake | 70.2 | 37 | i 11 7 _a | - 1 | — | — | i 11 24 | — |
| Kirovobad | 70.6 | 311 | i 11 10 | 0 | 20 18 | 0 | — | — |
| Tiflis | 70.6 | 313 | i 11 10 | 0 | i 20 17 | - 1 | — | — |
| Djakarta | 71.0 | 234 | i 11 14 _a | + 1 | i 20 28 | + 6 | i 13 15 | e 36.1 |
| Aberdeen | 71.2 | 349 | i 11 13 | - 1 | i 20 26 | + 1 | i 13 53 | 34.8 |
| Bandung | 71.2 | 233 | i 11 15 | + 1 | e 20 28 | + 3 | i 11 23 | — |
| Poona | 71.4 | 277 | i 11 15 | 0 | i 20 18 | - 9 | 21 10 | 32.8 |
| Sotchi | 71.4 | 317 | i 11 15 | 0 | — | — | — | — |
| Goris | 71.5 | 313 | i 11 17 | + 1 | i 20 17 | - 11 | — | — |
| Madras | 71.5 | 269 | i 11 17 | + 1 | i 20 30 | + 2 | 14 3 | 33.2 |
| Leninakan | 71.7 | 313 | e 11 17 | 0 | — | — | — | — |
| Bombay | 71.8 | 278 | i 11 18 | 0 | i 20 32 | 0 | 13 54 | — |
| Theodosia | 72.0 | 312 | e 11 18 | - 1 | — | — | — | — |
| Lwow | 72.1 | 330 | i 11 19 | 0 | — | — | — | — |
| Chicago | 72.2 | 45 | e 11 20 | 0 | i 20 31 | - 5 | — | — |
| Chihuahua | 72.7 | 66 | e 11 26 | + 3 | e 20 53 | + 11 | e 12 19 | — |
| Cernauti | 72.8 | 328 | e 11 24 | + 1 | — | — | — | — |
| Kishinev | 72.9 | 326 | i 11 23 | - 1 | — | — | — | — |
| Potsdam | 72.9 | 339 | i 11 23 _a | - 1 | i 20 48 | + 4 | 11 41 | e 35.8 |

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| | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Yalta | 73.0 | 321 | i 11 | 24 | - 1 | — | — | — | — | — | — |
| Iasi | 73.2 | 328 | e 11 | 24 | - 2 | e 20 | 43 | - 4 | — | — | — |
| Durham | 73.4 | 347 | i 11 | 20 | - 7 | i 21 | 14 | sS | i 21 | 48 | PPS |
| St. Louis | 73.5 | 49 | i 11 | 32 | + 4 | — | — | — | — | — | — |
| Fayetteville | 73.6 | 53 | i 11 | 28 | 0 | i 20 | 55 | + 3 | e 21 | 18 | SKS e 33.7 |
| Raciborzu | 73.6 | 334 | e 11 | 29 | + 1 | e 21 | 52 | PPS | e 12 | 4 | sP 29.6 |
| Uzhgorod | 73.7 | 330 | i 11 | 29 | 0 | e 20 | 55 | + 2 | — | — | — |
| Skalnate Pleso | 73.8 | 332 | i 11 | 30 | + 1 | e 20 | 47 | - 7 | 14 | 19 | PP |
| Collnberg | 73.9 | 337 | e 11 | 29 | - 1 | e 14 | 26 | PP | e 11 | 43 | pP e 41.0 |
| Witteveen | z. 73.9 | 342 | e 11 | 31 | + 1 | — | — | — | — | — | — |
| Bacau | 74.0 | 326 | 11 | 33 | + 3 | — | — | — | — | — | — |
| Ottawa | 74.2 | 36 | i 11 | 30 ^a | - 2 | 20 | 55 | - 4 | 14 | 19 | PP |
| Shawinigan Falls | N. 74.2 | 33 | e 11 | 31 | - 1 | 20 | 56 | - 3 | e 21 | 24 | sS |
| Seven Falls | E. 74.4 | 31 | e 11 | 34 | + 1 | i 21 | 2 | + 1 | 14 | 26 | PP |
| Focsani | 74.6 | 326 | e 11 | 44 | +10 | — | — | — | — | — | — |
| Jena | 74.6 | 338 | i 11 | 33 | - 1 | e 21 | 1 | - 2 | e 14 | 25 | PP e 39.8 |
| Prague | 74.7 | 336 | i 11 | 35 ^a | + 1 | i 21 | 4 | 0 | i 11 | 57 | PcP e 34.8 |
| De Bilt | 74.9 | 343 | e 25 | 51 | SS | i 21 | 11 | + 5 | i 21 | 36 | sS |
| Cleveland | 75.1 | 42 | i 11 | 37 ^a | 0 | i 21 | 9 | 0 | i 11 | 51 | pP |
| Buffalo (Larkin) | 75.2 | 39 | i 11 | 36 | - 1 | — | — | — | — | — | — |
| Cheb | 75.2 | 337 | i 11 | 35 | - 2 | i 21 | 4 | - 6 | e 26 | 4 | SS e 36.8 |
| Kodaikanal | E. 75.3 | 269 | i 11 | 44 | + 6 | i 21 | 14 | + 3 | — | — | — |
| Rathfarnham Castle | 75.5 | 350 | i 11 | 41 ^a | + 2 | i 21 | 17 | + 4 | i 11 | 53 | pP e 36.8 |
| Ogyalla | 75.6 | 333 | e 11 | 38 | - 2 | e 21 | 20 | + 6 | e 26 | 12 | SS e 41.4 |
| Budapest | 75.7 | 332 | 11 | 42 | + 2 | 21 | 12 | - 3 | 12 | 9 | pP 38.8 |
| Campulung | 75.7 | 327 | e 11 | 34 | - 6 | 21 | 57 | SKS | — | — | — |
| Cincinnati | 75.8 | 44 | i 11 | 41 | 0 | i 21 | 18 | + 2 | — | — | — |
| Bucharest | 76.1 | 326 | i 11 | 43 | + 1 | i 21 | 20 | 0 | i 14 | 31 | PP 34.8 |
| Colombo | E. 76.3 | 264 | 11 | 42 | - 2 | 21 | 27 | + 5 | — | — | 35.4 |
| Uccle | 76.3 | 343 | e 11 | 43 | - 1 | e 21 | 16 | - 6 | e 12 | 3 | pP e 38.8 |
| Kew | 76.4 | 346 | e 11 | 43 ^a | - 1 | e 21 | 21 | - 2 | e 14 | 34 | PP e 33.6 |
| Szeged | E. 76.5 | 331 | e 11 | 49 | + 4 | 21 | 45 | SKS | e 17 | 8 | ? e 48.4 |
| Kalossa | 76.6 | 332 | 11 | 36 | - 9 | 21 | 55 | SP | 11 | 51 | pP e 33.8 |
| Timisoara | 76.6 | 330 | e 11 | 51 [?] | + 6 | e 21 | 58 | SP | e 22 | 26 | PPS e 41.8 |
| Pittsburgh | 76.7 | 41 | i 11 | 45 | - 1 | i 20 | 27 | -59 | — | — | — |
| Karlsruhe | 77.1 | 340 | i 11 | 49 ^a | + 1 | e 21 | 33 | + 3 | i 14 | 45 | PP e 36.8 |
| Stuttgart | 77.2 | 339 | i 11 | 49 ^a | 0 | e 21 | 34 | + 2 | e 14 | 45 | PP e 38.8 |
| Belgrade | 77.7 | 330 | e 11 | 52 | + 1 | i 21 | 37 | 0 | e 22 | 0 | SKS e 43.7 |
| Strasbourg | 77.7 | 340 | i 11 | 50 | - 1 | i 21 | 37 | 0 | e 12 | 24 | pP 36.8 |
| Brisbane | 77.8 | 186 | i 11 | 53 | + 1 | i 21 | 42 | + 4 | i 12 | 10 | pP i 42.4 |
| Istanbul | 77.9 | 322 | i 11 | 52 | 0 | e 21 | 41 | + 2 | e 21 | 54 | SKS 37.8 |
| Harvard | 78.2 | 35 | i 11 | 55 ^a | + 1 | i 21 | 44 | + 2 | e 26 | 51 | SS |
| Weston | 78.4 | 35 | i 11 | 56 ^a | + 1 | i 21 | 45 | + 1 | — | — | e 38.8 |
| Palisades | 78.6 | 38 | i 11 | 57 | + 1 | i 21 | 48 | + 1 | i 14 | 57 | PP e 37.6 |
| Sofia | 78.6 | 327 | i 11 | 58 | + 2 | i 21 | 45 | - 2 | — | — | 40.9 |
| Basle | 78.7 | 340 | e 12 | 7 ^a | pP | — | — | — | — | — | — |
| Chur | 78.9 | 338 | e 11 | 59 ^a | + 1 | — | — | — | — | — | e 43.8 |
| Halifax | 78.9 | 28 | i 11 | 59 | + 1 | 21 | 52 | + 2 | 14 | 57 | PP |
| Jersey | E. 78.9 | 346 | — | — | — | e 21 | 34 | -16 | — | — | 34.8 |
| Triest | 78.9 | 335 | i 11 | 59 ^k | + 1 | i 21 | 49 [?] | - 1 | i 22 | 27 | SP 36.8 |
| Washington | 79.2 | 39 | i 12 | 0 | 0 | e 21 | 54 | + 1 | — | — | — |
| Chambon-la-Forêt | 79.3 | 343 | i 12 | 1 | + 1 | — | — | — | — | — | — |
| Neuchatel | 79.3 | 340 | e 12 | 1 | + 1 | e 21 | 56 | + 2 | — | — | — |
| Propa | 80.4 | 338 | i 12 | 6 | 0 | i 21 | 54 | -11 | 27 | 24 | SS 37.8 |
| Pavia | 80.5 | 338 | i 12 | 8 ^a | + 1 | e 22 | 10 | + 3 | e 15 | 5 | PP e 38.3 |
| Bologna | 80.6 | 336 | i 13 | 54 [?] ^a | P | e 24 | 0 [?] | S | e 16 | 47 [?] | PP |
| Ksara | 81.1 | 313 | i 12 | 12 | + 2 | 22 | 21 [?] | + 8 | — | — | — |
| Clermont-Ferrand | 81.3 | 342 | i 12 | 12 | + 1 | e 22 | 16 | + 1 | i 12 | 47 | pP 40.5 |
| Florence | 81.3 | 335 | i 12 | 14 ^a | + 3 | i 22 | 17 | + 2 | i 12 | 51 [?] | pP |
| Milton | 81.6 | 52 | — | — | — | i 22 | 21 | + 3 | — | — | — |
| Siena | 81.7 | 335 | i 12 | 15 | + 2 | 22 | 25 | + 6 | — | — | — |
| Athens | 82.6 | 324 | i 12 | 17 ^a | 0 | i 22 | 26 [?] | - 2 | i 23 | 30 | PS |
| Taranto | 82.6 | 330 | 11 | 55 | -22 | 22 | 20 | - 8 | — | — | e 44.8 |
| Rome | 82.7 | 335 | i 12 | 17 | - 1 | i 22 | 34 | + 5 | i 15 | 30 | PP |
| Cherry Point | 83.5 | 41 | i 12 | 17 | - 5 | i 23 | 43 | PS | — | — | — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|-------------------|----|----------|-----|----------------------|--------|----------|-------|----------|------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Tacubaya | | 83.8 | 67 | e 12 28 | + 4 | e 22 45 | + 5 | i 12 48 | pP | — |
| Riverview | | 84.2 | 185 | i 12 27 _a | + 1 | i 22 45 | + 1 | i 12 42 | pP | e 39.4 |
| Messina | | 85.2 | 330 | i 12 29 _a | - 2 | i 22 46 | [0] | i 13 1 | pP | e 40.9 |
| Reggio Calabria | | 85.3 | 330 | e 12 30 | - 1 | — | — | — | — | — |
| Barcelona | | 85.7 | 341 | e 12 35 | + 2 | 23 7 | + 8 | — | — | e 47.1 |
| Vera Cruz | | 85.7 | 65 | e 12 39 | + 6 | e 23 3 | + 4 | e 13 1 | sP | — |
| Helwan | | 86.5 | 315 | i 12 37 _k | 0 | 23 0 | - 6 | 16 1 | PP | — |
| Tortosa | | 86.6 | 342 | 12 18 | -19 | i 22 58 | [+ 2] | — | — | — |
| Merida | | 88.0 | 59 | — | — | i 23 24 | + 3 | — | — | — |
| Toledo | | 88.3 | 346 | i 12 46 _a | 0 | 23 14 | [+ 8] | 16 16 | PP | 43.7 |
| Auckland | N. | 88.5 | 166 | — | — | e 23 20? | - 5 | e 22 51? | SKS | e 39.8 |
| Coimbra | | 88.6 | 348 | 12 54 | + 7 | 23 31 | + 5 | 23 12 | SKS | 42.4 |
| Melbourne | E. | 88.7 | 190 | — | — | e 23 35 | + 8 | i 24 3 | ? | — |
| Miami | | 88.7 | 49 | i 12 51 | + 4 | i 23 41 | +14 | — | — | — |
| Alicante | | 89.2 | 342 | e 12 44 | - 6 | i 23 17 | [+ 5] | 16 24 | PP | — |
| Bermuda | | 89.6 | 35 | i 12 54 | + 2 | e 23 21 | [+ 7] | i 16 24 | PP | e 41.7 |
| Bermuda Navy | | 89.7 | 35 | i 13 4 | +12 | i 23 34 | - 2 | — | — | — |
| Karapiro | N. | 89.7 | 166 | e 12 55 | + 3 | e 23 14 | [- 1] | — | — | — |
| Perth | | 89.8 | 214 | — | — | i 23 21 | [+ 5] | i 23 57 | sSKS | 42.3 |
| Algiers Univ. | Z. | 90.0 | 339 | e 12 52 | - 2 | e 23 45 | + 6 | e 13 9 | pP | — |
| Lisbon | | 90.2 | 349 | i 12 54 _a | - 1 | 23 21 | [+ 3] | — | — | 43.8 |
| Granada | | 90.9 | 345 | i 12 57 _k | - 1 | i 23 28 | [+ 6] | 16 31 | PP | i 50.2 |
| Almeria | | 91.0 | 343 | i 12 56 | - 2 | i 23 47 | - 1 | i 23 22 | SKS | 48.8 |
| Angra do Heroismo | | 91.1 | 3 | e 14 25 | ? | e 24 12 | ScS | e 19 38 | ? | — |
| Wellington | | 92.9 | 167 | e 23 59 | S | e 23 29 | [- 5] | e 24 36 | sS | c 42.8 |
| Christchurch | | 94.8 | 169 | e 25 54 | PS | e 23 45 | [+ 1] | e 31 9 | SS | e 43.8 |
| Guantanamo Bay | | 96.3 | 47 | i 13 22 | 0 | — | — | — | — | — |
| San Juan | | 101.7 | 42 | e 17 58 | PP | — | — | — | — | — |
| Tamanrasset | Z. | 102.6 | 333 | e 13 50 | - 1 | e 14 13 | sP | e 13 58 | pP | — |
| Galerazamba | | 104.0 | 53 | e 18 27 | PP | e 24 45 | [+15] | — | — | 43.8 |
| Chinchina | | 108.8 | 56 | e 14 17 | P | e 24 51 | [0] | e 18 54 | PP | 40.8 |
| Bogota | | 109.9 | 55 | e 14 26 | P | e 25 0 | [+ 4] | e 19 2 | PP | 52.8 |
| M'Bour | | 115.1 | 354 | i 19 38 | PP | i 25 57 | [+41] | i 29 7 | SP | 55.8 |
| Huancayo | | 122.9 | 67 | e 18 55 | [+ 6] | e 25 56 | [+13] | e 37 28 | SSP | e 51.8 |
| La Paz | | 130.6 | 63 | i 19 6 _a | [+ 2] | i 28 13 | SKKS | i 21 23 | PP | 62.8 |
| Pretoria | Z. | 133.7 | 282 | i 19 11 | [+ 11] | e 18 56 | ? | e 19 19 | pP' | — |
| Kimberley | Z. | 137.9 | 281 | e 19 7 | [-10] | — | — | i 19 22 | pP' | — |
| Grahamstown | Z. | 139.9 | 276 | e 19 15 | [- 6] | — | — | — | — | e 64.5 |
| La Plata | | 150.5 | 71 | 19 45 | [+ 6] | 33 33 | PS | i 23 16 | PP | 56.0 |

Sept. 4d. 7h. 49m. Provisional epicentre 20°S. 175°W. Depth of focus 500km.

Magnitude 500km.

Seismo. Observatory Bulletin E-133, July, Aug., Sept., New Zealand Department of Scientific and Industrial Research, Wellington, 1954, p. 11.

Sept. 4d. 14h. 7m. 15s. Epicentre 32°-7S. 71°-8W. Focus at Base of Superficial Layers.

A = +.2634, B = -.8010, C = -.5377; $\delta = +10$; $h = +1$;

D = -.950, E = -.312; G = -.168, H = +.511, K = -.843.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|----------------|----|----------|-----|---------------------|------|---------|------|---------|----|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Santa Lucia | N. | 1.2 | 129 | i 0 27 | + 7 | (0 39) | + 3 | — | — | i 0.6 |
| Copiapo | | 5.5 | 14 | 1 19 | - 3 | 2 41 | +16 | — | — | — |
| Antofagasta | E. | 9.1 | 8 | e 2 26 | +14 | 3 49 | - 5 | 4 14 | SS | — |
| Montezuma | | 10.4 | 15 | e 2 21 | - 9 | i 4 9 | -17 | — | — | — |
| Buenos Aires | | 11.2 | 103 | i 2 40 | - 1 | 4 44 | - 2 | — | — | — |
| La Plata | | 11.7 | 105 | 2 42 | - 6 | 4 51 | - 7 | 2 45 | P | 6.6 |
| La Paz | | 16.5 | 12 | i 3 55 _a | + 5 | i 7 17 | +25 | i 4 29 | PP | 8.2 |
| Huancayo | | 20.8 | 350 | i 4 44 | + 3 | e 8 37 | +11 | e 5 3 | PP | — |
| Bogota | | 37.2 | 356 | e 7 11 | + 1 | e 12 57 | + 3 | i 22 46 | ? | — |
| Chinchina | | 37.6 | 354 | e 7 12 | - 1 | e 12 54 | - 6 | e 7 37 | ? | — |
| Galerazamba | N. | 43.4 | 355 | e 8 13 | +12 | e 14 32 | + 5 | — | — | 19.8 |
| Fort de France | | 48.2 | 14 | i 8 38 | - 1 | i 15 26 | - 9 | — | — | — |
| San Juan | | 51.1 | 7 | i 8 57 | - 4 | — | — | i 9 10 | pP | — |
| Tacubaya | | 58.1 | 330 | e 9 51 | - 1 | — | — | — | — | e 28.2 |
| Bermuda | | 65.1 | 7 | i 10 38 | - 2 | e 19 16 | - 2 | — | — | e 31.4 |

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| | | Δ | Az. | P. | | O-C. | S. | O-C. | Supp. | L. | |
|-------------------|----|----------|-----|---------|-----|-------|----------|-------|---------|-------|--------|
| | | | | m. | s. | s. | m. | s. | m. | m. | |
| M'Bour | | 70.2 | 56 | i 11 | 14 | + 3 | i 20 20 | + 1 | i 11 21 | pP | — |
| Washington | | 71.4 | 356 | i 11 | 18 | - 1 | — | — | i 11 54 | ? | — |
| Fayetteville | | 71.6 | 341 | i 11 | 19 | - 1 | i 20 35 | + 1 | i 14 2 | PP | — |
| Palisades | | 73.4 | 359 | i 11 | 30 | 0 | i 20 57 | + 1 | i 11 44 | pP | e 36.9 |
| Cleveland | | 74.4 | 352 | i 11 | 35k | - 1 | i 21 3 | - 4 | i 11 48 | pP | — |
| Tucson | | 74.4 | 327 | i 11 | 37 | + 1 | — | — | — | — | — |
| Weston | | 74.7 | 1 | i 11 | 37a | - 1 | i 21 10 | - 1 | i 11 51 | pP | e 37.8 |
| Harvard | | 74.8 | 1 | i 11 | 39 | 0 | i 21 17 | + 5 | i 11 52 | pP | — |
| Buffalo (Larkin) | | 75.5 | 355 | i 10 | 48 | -55 | — | — | — | — | — |
| Chicago | | 75.5 | 347 | — | — | — | e 21 12 | - 8 | — | — | — |
| Halifax | | 77.3 | 6 | i 11 | 53a | 0 | — | — | 14 49 | PP | — |
| Barratt | z. | 77.6 | 322 | i 11 | 55a | + 1 | — | — | i 12 10 | pP | — |
| Ottawa | | 77.8 | 357 | i 11 | 55a | - 1 | 21 21 | -24 | 14 56 | PP | — |
| Shawinigan Falls | N. | 78.9 | 0 | e 12 | 0 | - 2 | — | — | — | — | — |
| Grahamstown | z. | 79.0 | 121 | i 12 | 3 | + 1 | — | — | — | — | e 37.4 |
| Riverside | z. | 79.0 | 323 | i 12 | 3a | + 1 | i 39 8 | P'P' | i 12 18 | pP | — |
| Nelson | | 79.1 | 326 | i 12 | 5 | + 2 | — | — | i 12 16 | pP | — |
| Boulder City | | 79.3 | 326 | i 12 | 5 | + 1 | — | — | i 12 12 | PcP | — |
| Pasadena | | 79.5 | 323 | i 12 | 6a | + 1 | i 22 7 | + 4 | i 12 19 | pP | e 39.2 |
| Seven Falls | E. | 79.5 | 1 | e 12 | 13 | + 8 | 22 6 | + 3 | — | — | — |
| Kimberley | z. | 80.1 | 118 | i 12 | 8 | 0 | — | — | — | — | — |
| Kirkland Lake | z. | 80.8 | 354 | i 12 | 11a | - 1 | — | — | i 12 24 | pP | — |
| Woody | z. | 81.1 | 323 | i 12 | 14a | + 1 | e 38 56 | P'P' | i 12 28 | pP | — |
| Tinemaha | | 81.8 | 324 | i 12 | 19a | + 2 | i 22 32 | + 6 | i 12 34 | pP | — |
| Angra do Heroismo | | 82.2 | 34 | — | — | — | e 22 39 | + 8 | — | — | — |
| Fresno | z. | 82.4 | 323 | i 12 | 20a | 0 | — | — | — | — | — |
| Pietermaritzburg | z. | 83.7 | 121 | i 12 | 29 | + 2 | — | — | — | — | — |
| Lick | z. | 83.8 | 322 | i 12 | 29a | + 2 | i 13 4 | ? | i 13 25 | ? | — |
| Santa Clara | E. | 83.9 | 322 | e 12 | 44 | +16 | e 23 1 | +13 | — | — | — |
| Christchurch | | 84.0 | 221 | — | — | — | e 22 51 | + 2 | — | — | e 39.2 |
| Pretoria | z. | 84.2 | 117 | i 12 | 30 | + 1 | — | — | — | — | — |
| Wellington | | 84.2 | 224 | — | — | — | e 22 45 | - 6 | — | — | e 39.2 |
| Berkeley | | 84.5 | 322 | i 12 | 33a | + 2 | e 22 52 | - 2 | i 12 54 | sP | e 40.8 |
| Reno | z. | 84.5 | 325 | i 12 | 33a | + 2 | — | — | e 13 27 | ? | — |
| Bozeman | | 85.7 | 334 | e 12 | 39 | + 2 | e 22 57 | [0] | — | — | — |
| Mineral | z. | 86.0 | 324 | e 12 | 39a | + 1 | e 16 17 | PP | i 12 47 | pP | — |
| Butte | | 86.6 | 333 | i 12 | 42 | + 1 | — | — | i 13 7 | sP | — |
| Shasta | | 86.7 | 324 | i 12 | 42a | 0 | e 22 57 | [- 6] | i 12 54 | pP | — |
| Hungry Horse | | 89.1 | 333 | i 12 | 53 | 0 | — | — | — | — | — |
| Seattle | z. | 91.9 | 328 | i 13 | 5 | - 1 | — | — | — | — | — |
| Tamanrasset | z. | 92.1 | 64 | i 13 | 8 | + 1 | e 24 23 | sS | i 16 49 | PP | — |
| Victoria | | 93.1 | 328 | 13 11a | — | - 1 | — | — | — | — | — |
| Granada | | 94.2 | 48 | 17 1k | — | PP | 23 49 | [+ 1] | 26 22 | PPS | 51.6 |
| Almeria | | 94.7 | 49 | 13 22 | — | + 3 | i 23 52 | [+ 2] | i 17 12 | PP | 53.9 |
| Toledo | | 95.6 | 46 | e 13 23 | — | 0 | e 25 35 | SP | 17 13 | PP | 48.6 |
| Alicante | | 96.3 | 48 | e 13 28 | — | + 2 | e 24 36 | - 4 | e 17 18 | PP | 45.6 |
| Algiers Univ. | z. | 98.2 | 52 | e 13 35 | — | 0 | e 25 29 | +33 | i 13 48 | pP | — |
| Tortosa | | 98.9 | 47 | — | — | — | i 24 13 | [+ 1] | — | — | e 49.8 |
| Riverview | | 102.5 | 215 | e 27 25 | — | PS | 24 32 | [+ 2] | e 36 47 | SSS | e 47.6 |
| Clermont-Ferrand | | 103.3 | 44 | — | — | — | e 24 40 | [+ 7] | e 33 30 | PSS | 51.8 |
| Chambon-la-Forêt | | 104.1 | 42 | e 14 2 | — | + 1 | — | — | e 18 13 | PKP | — |
| Paris | | 104.6 | 42 | e 14 7 | — | + 3 | e 33 19 | SS | e 18 11 | PKP | e 50.2 |
| Brisbane | N. | 106.5 | 220 | e 18 41 | — | PP | i 28 2 | PS | — | — | — |
| Pavia | | 106.6 | 47 | — | — | — | e 24 41 | [- 7] | e 29 11 | PPS | — |
| Uccle | E. | 106.7 | 40 | e 27 57 | — | PS | e 24 47? | [- 2] | e 40 51 | SKKKS | e 47.8 |
| Rome | | 107.2 | 51 | e 14 18 | — | + 3 | e 24 52 | [+ 1] | e 18 34 | PP | e 51.8 |
| Florence | | 107.3 | 49 | e 16 6 | — | ? | e 25 21 | [+30] | e 28 18 | PS | — |
| Messina | | 107.5 | 56 | e 18 43 | — | PP | e 34 5 | SS | e 27 58 | PS | e 47.2 |
| Strasbourg | | 107.5 | 43 | e 18 41 | — | PP | e 28 0 | SP | e 32 45 | ? | e 47.8 |
| Stuttgart | | 108.4 | 43 | e 14 20 | — | 0 | e 33 57 | SS | e 29 21 | PPS | e 53.8 |
| Taranto | | 109.7 | 54 | 28 21 | — | PS | — | — | — | — | e 53.8 |
| Triest | z. | 109.7 | 48 | e 18 9 | — | ? | e 19 17 | PP | e 19 53 | ? | — |
| Jena | z. | 110.8 | 42 | e 18 30 | — | [+ 1] | e 14 10? | P | e 19 15 | PP | — |
| Cheb | | 110.9 | 43 | e 14 30 | — | P | e 26 1 | SKKS | e 19 6 | PP | — |
| Collmborg | | 111.7 | 42 | e 18 33 | — | [+ 2] | — | — | e 19 23 | PP | — |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|-----------------|----------|-----|------|-----------------|------------------|------|----|------------------|-------|----|------------------|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Prague | 112.1 | 44 | e 19 | 24 | PP | e 28 | 52 | PS | e 30 | 4 | PPS | e 56.8 |
| Potsdam | 112.2 | 40 | e 19 | 15 | PP | i 29 | 11 | PS | — | — | — | e 51.8 |
| Copenhagen | 113.3 | 37 | — | 29 15 | PS | 35 | 9 | SS | — | — | — | 52.8 |
| College | 113.5 | 333 | e 18 | 35 | [0] | — | — | — | e 14 | 40 | P | — |
| Helwan | 115.6 | 70 | 18 | 36 | [- 3] | e 29 | 21 | PS | 19 | 51 | PP | — |
| Upsala | 117.4 | 35 | i 29 | 55 | PS | e 39 | 28 | SKKKS | — | — | — | e 51.8 |
| Istanbul | 118.2 | 57 | e 19 | 57 | PP | e 25 | 35 | [+ 1] | e 29 | 39 | SP | 56.8 |
| Kishinev | 119.9 | 50 | e 18 | 47 | [0] | — | — | — | e 20 | 3 | PP | — |
| Kiruna | 120.7 | 26 | i 18 | 49 | [0] | e 27 | 21 | SKKS | i 20 | 16 | PP | e 53.8 |
| Ksara | 120.7 | 68 | e 18 | 52 | [+ 3] | e 29 | 55 | SP | i 20 | 17 | PP | — |
| Yalta | 122.8 | 55 | e 18 | 55 | [+ 2] | — | — | — | e 20 | 28 | PP | — |
| Pulkovo | 123.6 | 36 | i 18 | 54 | [0] | — | — | — | e 20 | 37 | PP | — |
| Theodosia | 123.8 | 54 | e 18 | 55 | [0] | — | — | — | e 20 | 30 | PP | — |
| Sotchi | 126.4 | 57 | e 19 | 0 | [0] | — | — | — | — | — | — | — |
| Moscow | 127.0 | 42 | e 18 | 59 | [- 2] | — | — | — | e 20 | 58 | PP | — |
| Leninakan | 128.8 | 61 | e 19 | 11 | [+ 7] | — | — | — | — | — | — | — |
| Piatigorsk | 128.9 | 57 | e 19 | 5 | [0] | — | — | — | i 21 | 7 | PP | — |
| Erevan | 129.2 | 62 | e 19 | 6 | [+ 1] | 39 | 9 | SS | — | — | — | — |
| Tiflis | 129.7 | 60 | e 19 | 5 | [- 1] | — | — | — | e 21 | 15 | PP | — |
| Kirovobad | 130.7 | 61 | e 19 | 9 | [+ 1] | 22 | 33 | PKS | e 21 | 15 | PP | — |
| Makhach-Kala | 131.9 | 58 | e 19 | 11 | [+ 1] | — | — | — | e 21 | 33 | PP | — |
| Shemakla | 132.4 | 62 | e 19 | 13 | [+ 2] | 22 | 57 | PKS | — | — | — | — |
| Baku | 133.3 | 63 | e 19 | 14 | [+ 1] | e 22 | 50 | PKS | e 21 | 37 | PP | — |
| Kizyl-Arvat | 137.9 | 66 | 19 | 26 | [+ 5] | i 22 | 59 | PKS | — | — | — | — |
| Petropavlovsk | 138.8 | 315 | i 19 | 25 | [+ 2] | e 26 | 24 | [- 4] | 23 | 1 | PKS | — |
| Ashkabad | 139.4 | 68 | e 19 | 26 | [+ 2] | i 23 | 3 | PKS | — | — | — | — |
| Sverdlovsk | 139.6 | 39 | i 19 | 26 | [+ 2] | e 23 | 2 | PKS | i 22 | 18 | PP | — |
| Bandung | N. 140.6 | 180 | e 18 | 29 | [- 57] | e 23 | 10 | PKS | e 19 | 44 | PKP ₂ | — |
| Djakarta | E. 141.3 | 177 | e 18 | 30 | [- 57] | — | — | — | — | — | — | — |
| Bairam-Ali | 142.3 | 69 | i 19 | 28 | [- 1] | — | — | — | — | — | — | — |
| Quetta | 144.9 | 82 | i 19 | 35 ^k | [+ 1] | e 41 | 43 | SS | — | — | — | — |
| Bombay | 145.5 | 105 | 19 | 38 | [+ 3] | e 26 | 36 | [- 2] | 33 | 35 | PS | — |
| Samarkand | 146.2 | 67 | i 19 | 37 | [+ 1] | i 23 | 2 | SKP | i 42 | 15 | SS | — |
| Kurilsk | 147.0 | 303 | i 19 | 39 | [+ 2] | — | — | — | — | — | — | — |
| Stalinabad | 147.6 | 68 | i 19 | 41 | [+ 3] | 23 | 18 | PKS | — | — | — | — |
| Madras | E. 147.7 | 120 | e 19 | 44 | [+ 6] | — | — | — | — | — | — | — |
| Tashkent | 148.0 | 63 | e 19 | 41 | [+ 2] | e 23 | 8 | SKP | — | — | — | — |
| Tchimkent | 148.1 | 61 | i 19 | 41 | [+ 2] | — | — | — | — | — | — | — |
| Kulyab | 148.4 | 70 | 19 | 45 | [+ 5] | 23 | 24 | PKS | — | — | — | — |
| Garm | 148.8 | 68 | i 19 | 43 | [+ 3] | i 23 | 16 | PKS | — | — | — | — |
| Hyderabad | E. 149.2 | 112 | i 19 | 49 | [+ 8] | — | — | — | — | — | — | — |
| Dzhergetal | 149.5 | 66 | i 19 | 46 | [+ 5] | — | — | — | — | — | — | — |
| Namangan | 149.8 | 65 | i 19 | 45 | [+ 3] | — | — | — | — | — | — | — |
| Fergana | 149.9 | 65 | 19 | 44 | [+ 2] | — | — | — | — | — | — | — |
| Uglegorsk | 149.9 | 313 | i 19 | 46 | [+ 4] | — | — | — | — | — | — | — |
| Yuzno-Sakhlinsk | 150.2 | 309 | i 19 | 45 | [+ 3] | — | — | — | — | — | — | — |
| Andijan | 150.3 | 65 | i 19 | 44 | [+ 2] | e 42 | 33 | SS | i 23 | 24 | PP | — |
| Frunse | 151.7 | 60 | i 19 | 48 | [+ 3] | — | — | — | — | — | — | — |
| Murgab | 151.7 | 69 | i 19 | 49 | [+ 4] | — | — | — | — | — | — | — |
| Fabrichnaya | 153.0 | 57 | i 20 | 0 | PKP ₂ | — | — | — | — | — | — | — |
| New Delhi | N. 153.1 | 91 | e 19 | 48 | [+ 1] | i 24 | 13 | sPP | 23 | 48 | PP | — |
| Almata | 153.3 | 57 | i 19 | 50 | [+ 3] | — | — | — | — | — | — | — |
| Ili | 153.3 | 55 | e 19 | 49 | [+ 2] | — | — | — | — | — | — | — |
| Almata II | 153.7 | 57 | e 19 | 58 | [+ 11] | — | — | — | — | — | — | — |
| Chilisk | 154.3 | 56 | e 19 | 50 | [+ 2] | — | — | — | — | — | — | — |
| Kurmenty | 154.4 | 58 | e 19 | 59 | [+ 11] | — | — | — | — | — | — | — |
| Przhevalsk | 154.6 | 59 | 19 | 52 | [+ 3] | e 30 | 33 | SKKS | i 20 | 0 | pP' | — |
| Vladivostok | 158.7 | 305 | 19 | 46 | [- 8] | 20 | 21 | PKP ₂ | 24 | 0 | PP | — |
| Irkutsk | 160.2 | 8 | 19 | 57 | [+ 1] | e 44 | 45 | SS | e 20 | 37 | PKP ₂ | — |
| Baguio | 160.3 | 217 | e 20 | 0 | [+ 4] | — | — | — | — | — | — | — |
| Kabansk | 160.6 | 4 | i 19 | 57 | [+ 1] | e 31 | 8 | SKKS | i 24 | 20 | PP | — |
| Chatra | z. 160.8 | 101 | i 19 | 59 | [+ 3] | — | — | — | — | — | — | — |
| Kyakhta | 162.3 | 5 | 19 | 59 | [+ 1] | 20 | 46 | PKP ₂ | 24 | 28 | PP | — |
| Shillong | N. 164.1 | 292 | e 19 | 56 | [- 3] | e 31 | 40 | PcSP' | e 24 | 41 | PP | — |
| Nanking | z. 171.0 | — | i 20 | 7 | [+ 3] | 21 | 27 | PKP ₂ | i 25 | 16 | PP | — |

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1953

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Sept. 4d. 15h. 36m. Epicentre 35°12'N. 118°38'W. Intensity V at Tehachapi.
L. M. Murphy and W. K. Cloud.
United States Earthquakes, 1953, U.S.C.G.S., Serial 785, Washington, 1955, p. 18.

Sept. 5d. 1h. 8m. Epicentre: 35°·3N. 28°·0E. B.C.I.S. Magnitude 5·5.
35°·3N. 27°·3E. Rome.

A. Galanopoulos.
Seismological Institute Bulletin, 1953, Athens, 1954, p. 113.

Sept. 5d. 5h. 29m. Epicentre 41°·1N. 47°·4E.
Bulletin of Seismo. Stations of U.S.S.R. for July-September, 1953, Moscow, 1954,
pp. 135, 136.

Sept. 5d. 8h. 42m. Epicentre 38°·0N. 20°·5E.
Loc. cit., 1h., p. 114.

Sept. 5d. 14h. 18m. 41s. Epicentre 38°·0N. 23°·0E. (as on 1941, July 29d.).

Destructive earthquake. Intensity VIII at Isthmia, Kalamaki, Kato, and Loutron;
VII-VIII at Kyra Vrysi and Kamari; VII at Ano Loutron, Hag, Theodori, and Bissia.
Magnitude 5·5—6. Macroseismic area 90,000 sq. km.

A. Galanopoulos.
Seismo. Institute Bulletin, 1953, Athens, 1954, pp. 114, 115. Epicentre as adopted.

$$A = +\cdot7272, B = +\cdot3087, C = +\cdot6131; \quad \delta = +1; \quad h = -1;$$

$$D = +\cdot391, E = -\cdot921; \quad G = +\cdot564, H = +\cdot240, K = -\cdot790.$$

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|----------|-----|---------------------|----------------|----------|------------------|--------|----------------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Athens | 0·6 | 93 | i 0 13 _a | - 2 | e 0 23 | - 3 | — | — |
| Sofia | 4·7 | 3 | i 1 16 | + 2 | i 2 16 | + 6 | i 2 45 | S _g 2·9 |
| Taranto | 5·1 | 301 | 1 15 | - 5 | 2 21 | + 1 | — | — |
| Istanbul | 5·6 | 55 | e 1 25 _a | - 2 | e 2 24 | - 9 | i 1 53 | P _g 3·1 |
| Reggio Calabria | 5·8 | 273 | e 1 32 | + 3 | i 2 38 | 0 | i 3 20 | Q i 3·5 |
| Messina | 5·9 | 274 | i 1 32 _a | + 1 | i 2 37 | - 3 | i 2 1 | P _g — |
| Bucharest | 6·8 | 19 | i 1 44 _k | 0 | i 3 26 | 0* | i 2 22 | P _g — |
| Belgrade | 7·1 | 345 | e 1 50 _a | + 2 | e 3 15 | + 5 | e 2 18 | S _g i 3·8 |
| Campulung | 7·4 | 11 | e 1 55 | + 3 | e 3 42 | - 2* | — | — |
| Timisoara | 7·9 | 351 | e 2 2 | + 3 | e 3 42 | + 12 | e 4 20 | S _g e 4·8 |
| Focsani | 8·3 | 21 | e 2 11 | + 7 | e 4 4 | - 6* | e 4 24 | S _g — |
| Szeged | 8·5 | 347 | e 2 44 | P _g | e 3 40 | - 5 | 4 44 | S _g e 5·1 |
| Rocca di Papa | 8·8 | 299 | e 2 13 | + 2 | e 4 9 | + 16 | e 4 38 | ? e 4·8 |
| Bacau | 9·0 | 17 | e 2 21 | + 8 | e 4 59 | + 2 _g | — | — |
| Kalossa | 9·0 | 342 | e 2 25 | + 12 | e 4 0 | + 2 | 4 57 | S _g 5·2 |
| Rome | 9·0 | 299 | i 2 15 _a | + 2 | i 3 56 | - 2 | i 2 34 | P* — |
| Kecskemet | 9·2 | 346 | e 2 30 | + 14 | e 5 5 | + 1 _g | 3 8 | P _g e 5·4 |
| Iasi | 9·8 | 19 | e 2 25 | + 1 | e 5 9 | + 14* | — | — |
| Budapest | 9·9 | 344 | 2 31 | + 6 | 4 14 | - 6 | 2 39 | PPP 5·3 |
| Siena | 10·3 | 305 | e 2 28 | - 4 | i 4 31 | + 1 | — | — i 6·0 |
| Triest | 10·3 | 321 | e 2 38 | + 6 | i 4 23 | - 7 | e 3 21 | P _g 5·6 |
| Ogyalla | 10·5 | 342 | e 2 48 | + 13 | e 4 39 | + 4 | e 2 52 | PPP e 5·1 |
| Florence | 10·6 | 307 | e 2 39 | + 3 | e 4 58 | + 21 | — | — |
| Helwan | 10·7 | 137 | i 2 31 _k | - 7 | 4 28 | - 11 | e 2 43 | ? — |
| Bologna | 10·9 | 310 | e 4 36 | S | (e 4 36) | - 8 | — | — e 6·4 |
| Ksara | 11·3 | 108 | i 2 42 | - 4 | 4 44? | - 10 | — | — |
| Skalnate Pleso | 11·3 | 351 | i 2 50 | + 4 | e 5 3 | + 9 | e 3 52 | ? e 6·0 |
| Raciborz | 12·5 | 346 | e 3 4? | + 2 | e 5 55 | SSS | e 3 31 | ? e 6·8 |
| Pavia | 12·6 | 309 | e 3 6 | + 3 | e 5 59 | SSS | e 4 4 | ? e 7·4 |
| Chur | 13·3 | 316 | e 3 13 | 0 | — | — | — | — e 7·6 |
| Oropa | 13·5 | 309 | e 2 55? | - 20 | e 5 38? | - 9 | — | — i 8·0 |
| Prague | 13·5 | 336 | i 3 27 | + 12 | e 6 6 | + 19 | i 3 37 | PP — |
| Zürich | 14·1 | 316 | e 3 23 | 0 | e 5 54 | - 8 | i 3 33 | ? — |
| Cheb | 14·3 | 331 | i 3 35 | + 9 | e 5 59 | - 7 | e 4 30 | ? — |
| Stuttgart | 14·7 | 322 | e 3 32 | + 1 | e 6 23 | + 7 | i 3 40 | PP e 7·1 |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------------|----|----------|-----|----------|------|----------|-------|---------|-----------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Basle | | 14.8 | 315 | e 3 34k | + 2 | e 6 26 | + 8 | — | — |
| Neuchatel | | 14.8 | 312 | e 3 33 | + 1 | e 6 34 | +16 | — | — |
| Collmberg | | 15.1 | 335 | e 3 38 | + 2 | e 6 43 | +18 | i 3 45 | PP e 8.9 |
| Karlsruhe | | 15.2 | 321 | 3 43 | + 5 | e 6 30 | + 2 | i 3 58 | PP e 8.2 |
| Jena | | 15.3 | 332 | e 3 42 | + 3 | e 6 47 | +17 | i 3 49 | PP e 8.4 |
| Strasbourg | | 15.3 | 319 | e 3 39 | 0 | e 6 35 | + 5 | i 3 54 | PP 8.3 |
| Algiers Univ. | z. | 15.9 | 272 | e 3 47 | 0 | e 6 52 | + 8 | e 4 8 | PPP — |
| Potsdam | | 16.0 | 337 | e 3 49 | + 1 | e 7 0 | SS | — | e 8.3 |
| Barcelona | | 16.4 | 289 | e 3 53 | 0 | — | — | — | — |
| Clermont-Ferrand | | 16.7 | 304 | e 3 57 | 0 | e 7 12 | + 9 | — | — |
| Tortosa | | 17.6 | 286 | i 4 6 | - 2 | 7 27 | + 4 | — | — |
| Chambon-la-Forêt | | 18.1 | 310 | e 4 17 | + 3 | — | — | — | — |
| Paris | | 18.4 | 313 | e 4 18 | 0 | e 7 41 | 0 | i 4 31 | PP e 10.3 |
| Uccle | | 18.4 | 320 | 4 20 | + 2 | e 7 51 | +10 | e 4 53 | PPP e 9.7 |
| Alicante | | 18.5 | 279 | i 4 20 | + 1 | e 7 53 | + 9 | 5 41 | PPP 9.4 |
| Witteveen | z. | 18.7 | 329 | i 4 24k | + 2 | — | — | — | — |
| De Bilt | | 18.8 | 325 | e 4 23k | 0 | i 7 59 | + 9 | — | e 9.3 |
| Copenhagen | | 19.1 | 342 | i 4 28 | + 1 | i 8 2 | + 5 | — | 10.0 |
| Almeria | | 20.2 | 275 | i 4 39 | 0 | 8 23 | + 2 | 5 3 | PP 11.4 |
| Granada | | 21.1 | 277 | i 4 47a | - 1 | 9 10 | SS | i 5 36 | PP i 12.8 |
| Toledo | | 21.1 | 283 | i 4 48 | 0 | e 8 40 | + 1 | 9 13 | SS — |
| Jersey | E. | 21.2 | 310 | e 4 51 | + 2 | e 7 47 | -54 | — | 9.8 |
| Kew | | 21.2 | 318 | e 8 51 | S | (e 8 51) | +10 | — | e 12.1 |
| Tamanrasset | z. | 21.3 | 230 | e 4 49 | - 1 | e 8 47 | + 4 | e 5 14 | PP — |
| Upsala | | 22.1 | 353 | i 5 0 | + 1 | i 8 58 | 0 | i 5 23 | PP e 13.9 |
| Durham | | 23.7 | 323 | i 5 14 | 0 | i 9 28 | + 1 | — | i 13.4 |
| Coimbra | | 24.4 | 286 | 5 19 | - 2 | 9 51 | +12 | — | — |
| Bergen | N. | 25.1 | 340 | e 5 23 | - 5 | e 9 45 | - 6 | e 7 1 | ? e 13.4 |
| Lisbon | | 25.2 | 282 | i 5 30 | + 1 | 10 2 | +10 | — | 14.5 |
| Aberdeen | | 25.3 | 328 | i 5 32 | + 2 | i 10 1 | + 7 | — | e 13.3 |
| Rathfarnham Castle | | 25.3 | 317 | e 5 28a | - 2 | i 9 53 | - 1 | — | e 13.8 |
| Kiruna | | 29.9 | 359 | i 6 11 | - 1 | e 11 2 | - 7 | i 7 1 | PP e 15.8 |
| Quetta | z. | 37.0 | 88 | i 7 11 | - 2 | i 13 23 | ScP | i 8 42 | PP — |
| Bombay | | 47.2 | 99 | e 8 36 | 0 | i 15 31 | + 2 | 9 56 | PcP — |
| Chatra | | 54.3 | 81 | e 9 28 | - 2 | e 17 14 | + 7 | — | — |
| Resolute Bay | | 60.5 | 344 | i 10 14k | 0 | — | — | — | — |
| Tananarive | | 61.1 | 153 | i 10 18 | 0 | — | — | e 10 38 | ? — |
| Halifax | | 62.4 | 306 | e 10 26a | - 1 | — | — | — | — |
| Pretoria | z. | 63.6 | 175 | e 10 33 | - 2 | — | — | — | — |
| Seven Falls | E. | 65.7 | 312 | e 10 48 | 0 | — | — | — | — |
| Kimberley | z. | 66.4 | 179 | i 10 52 | - 1 | — | — | — | — |
| Shawinigan Falls | N. | 67.1 | 313 | e 10 59 | + 2 | — | — | — | — |
| Pietermaritzburg | z. | 67.6 | 172 | e 11 1 | 0 | — | — | — | — |
| Weston | | 68.4 | 308 | i 11 5a | - 1 | — | — | — | — |
| Harvard | | 68.5 | 308 | i 11 9k | + 3 | — | — | — | — |
| Ottawa | | 69.5 | 313 | i 11 12a | 0 | — | — | — | — |
| Kirkland Lake | z. | 70.4 | 317 | e 11 20k | + 2 | — | — | — | — |
| Grahamstown | z. | 71.0 | 177 | e 11 20 | - 2 | — | — | — | — |
| Buffalo (Larkin) | | 72.6 | 312 | e 11 32 | + 1 | — | — | — | — |
| Washington | | 74.0 | 307 | i 11 39 | 0 | — | — | — | — |
| Cleveland | | 75.2 | 312 | i 11 49 | + 3 | e 21 29 | + 4 | — | — |
| Nanking | z. | 75.2 | 61 | 11 43 | - 3 | — | — | — | — |
| College | | 77.2 | 357 | e 11 56 | - 1 | — | — | — | — |
| Hungry Horse | | 85.9 | 333 | i 12 42 | - 1 | — | — | — | — |
| Fayetteville | | 86.1 | 314 | i 12 44 | 0 | e 23 23 | + 5 | — | — |
| Victoria | | 88.8 | 338 | 12 54 | - 3 | — | — | — | — |
| Seattle | z. | 89.3 | 337 | i 12 55 | - 4 | — | — | — | — |
| Shasta | | 95.5 | 334 | e 13 28a | 0 | — | — | e 13 53 | PcP — |
| Reno | z. | 95.6 | 331 | e 13 31 | + 3 | — | — | — | — |
| Nelson | | 96.9 | 327 | i 13 35 | + 1 | — | — | — | — |
| Tucson | | 97.9 | 322 | e 13 43 | + 4 | — | — | — | — |
| Fresno | z. | 98.1 | 330 | e 13 42 | + 2 | — | — | — | — |
| Lick | z. | 98.2 | 332 | e 13 32a | - 8 | — | — | — | — |
| Pasadena | | 99.7 | 328 | — | — | e 23 30 | [-56] | — | e 56.7 |
| Tacubaya | | 101.2 | 305 | e 17 29 | ? | e 22 58 | ? | — | — |

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Sept. 5d. 18h. 58m. 21s. Epicentre 51°·2N. 157°·1E. Depth of focus 0·005.
(as on 1953, July 22d.).

| | Δ | Az. | P. | O - C. | S. | O - C. | Supp. | L. |
|-----------------|--------------|--------------|---------------------|--------|--------|--------|---------|---------|
| | ^e | ^e | m. s. | s. | m. s. | s. | m. s. | m. |
| Petropavlovsk | 2·1 | 25 | i 0 33 | - 1 | i 0 59 | 0 | — | — |
| Kurilsk | 8·6 | 229 | i 2 2 | - 2 | i 3 42 | + 1 | — | — |
| Magadan | 9·1 | 339 | e 2 13 | + 2 | — | — | — | — |
| Uglegorsk | 9·9 | 263 | i 2 27 | + 5 | e 4 27 | +15 | — | — |
| Yuzno-Sakhlinsk | 10·3 | 252 | i 2 31 | + 4 | e 4 37 | +15 | — | — |
| Nemuro | 11·1 | 229 | e 2 38 | 0 | e 5 0 | +18 | — | e 5·5 |
| Wakkanai | 11·8 | 247 | e 2 53 | + 5 | e 5 12 | +14 | — | — |
| Asahigawa | 12·4 | 239 | e 3 6 | +10 | — | — | — | — |
| Obihiro | 12·6 | 234 | e 3 14 | +16 | — | — | — | — |
| Sapporo | 13·3 | 239 | i 3 14 | + 6 | i 6 3 | +29 | e 3 40 | ? e 8·0 |
| Urakawa | 13·3 | 233 | e 3 4 | - 4 | e 5 36 | + 2 | e 15 45 | ScS — |
| Tomakomai | 13·7 | 237 | e 3 27 | +14 | 5 56 | +12 | — | — |
| Mori | 14·5 | 238 | 3 27 | + 4 | 6 11 | + 8 | e 3 38 | PP 7·5 |
| Hatinohe | 15·2 | 231 | e 3 36 | + 4 | e 6 28 | + 9 | — | — |
| Aomori | 15·3 | 234 | e 3 35 | + 2 | 6 16 | - 5 | e 4 16 | PP 7·2 |
| Miyako | 15·7 | 228 | 3 39 | + 1 | e 6 31 | 0 | — | — |
| Morioka | 16·0 | 230 | e 3 40 | - 2 | e 6 33 | - 4 | — | — |
| Akita | 16·5 | 233 | e 3 45 | - 4 | e 5 1 | ? | — | — |
| Mizusawa | 16·5 | 229 | e 3 52 | + 3 | 6 55 | + 6 | — | — |
| Sakata | 17·3 | 232 | e 4 7 | + 8 | e 7 35 | +28 | — | — |
| Sendai | 17·3 | 228 | 3 58 | - 1 | e 7 15 | + 8 | — | — |
| Yamagata | 17·5 | 229 | e 4 1 | 0 | e 7 59 | +47 | — | — |
| Hokusima | 17·9 | 228 | e 4 4 | - 2 | 7 22 | + 2 | — | — |
| Inawastro | 18·2 | 229 | e 4 12 | + 2 | e 7 34 | + 7 | — | — |
| Onahama | 18·3 | 226 | e 4 4 | - 7 | e 7 49 | +20 | — | — |
| Niigata | 18·4 | 231 | e 4 19 | + 7 | e 7 46 | +14 | — | e 10·1 |
| Shirakawa | 18·5 | 228 | 4 11 | - 2 | 7 37 | + 3 | — | — |
| Aikawa | 18·7 | 232 | e 4 11 | - 4 | — | — | — | 10·3 |
| Vladivostok | 18·9 | 254 | e 4 14 | - 4 | e 7 39 | - 4 | — | — |
| Mito | 19·0 | 225 | e 4 5 | -14 | e 8 2 | +17 | — | — |
| Utunomiya | 19·1 | 226 | e 4 17 | - 3 | e 8 3 | +16 | e 4 39 | PP — |
| Maebasi | 19·6 | 228 | e 4 24 | - 1 | 8 3 | + 5 | — | — |
| Kashiwa | 19·7 | 225 | e 4 24 | - 3 | e 6 50 | ? | — | — |
| Kumagaya | 19·7 | 227 | 4 25 | - 2 | e 8 5 | + 5 | — | — |
| Nagano | 19·8 | 231 | e 4 30 | + 2 | e 8 18 | +16 | e 4 57 | PP — |
| Matusiro | 19·9 | 234 | i 4 27 _a | - 2 | 8 14 | +10 | 5 28 | PP 10·3 |
| Oiwake | 19·9 | 230 | e 4 22 | - 7 | e 8 22 | +18 | — | — |
| Tokyo | 19·9 | 227 | i 4 30 | + 1 | e 8 11 | + 7 | e 5 14 | PP — |
| Wazima | 19·9 | 233 | e 4 28 | - 1 | e 8 18 | +14 | — | — |
| Titibu | 20·0 | 229 | i 4 29 | - 1 | e 8 19 | +13 | — | — |
| Yokohama | 20·2 | 227 | e 4 44 | +12 | — | — | — | — |
| Matumoto | 20·3 | 231 | 4 33 | 0 | 8 24 | +12 | — | — |
| Toyama | 20·3 | 232 | e 4 35 | + 2 | e 8 23 | +11 | — | — |
| Hunatu | 20·5 | 229 | e 4 33 | - 2 | e 8 18 | + 2 | — | — |
| Mera | 20·5 | 226 | e 4 43 | + 8 | e 8 21 | + 5 | — | — |
| Ajiro | 20·7 | 224 | e 4 37 | 0 | — | — | — | — |
| Misima | 20·7 | 225 | 4 40 | + 3 | 8 36 | +16 | e 4 55 | PP — |
| Osima | 20·8 | 225 | e 4 41 | + 3 | — | — | — | — |
| Iida | 20·9 | 228 | e 4 39 | 0 | e 8 28 | + 5 | — | — |
| Shizuoka | 21·1 | 230 | 4 40 _a | - 1 | 8 36 | + 9 | — | — |
| Hukui | 21·3 | 242 | e 4 42 | - 1 | — | — | — | — |
| Gihu | 21·5 | 230 | e 4 46 | + 1 | — | — | — | — |
| Omaesaki | 21·5 | 225 | e 4 53 | + 8 | e 8 35 | 0 | — | — |
| Nagoya | 21·6 | 229 | e 4 46 | 0 | — | — | — | — |
| Tsuruga | 21·7 | 230 | e 5 12 | +25 | 9 11 | +33 | — | — |
| Hikone | 21·9 | 230 | 5 6 | +17 | e 8 21 | -21 | — | — |
| Kameyama | 22·1 | 233 | e 4 53 | + 2 | 8 57 | +12 | 5 29 | PP 12·2 |
| Tu | 22·2 | 230 | e 4 49 | - 3 | — | — | — | — |
| Kyoto | 22·3 | 233 | e 4 54 | + 1 | e 8 59 | +10 | — | e 11·0 |
| Toyooka | 22·4 | 233 | e 4 52 | - 2 | e 8 55 | + 4 | — | — |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------|----------|-----|------|-----------------|------|------|----|------|-------|----|-----|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Osaka | 22.7 | 233 | i 4 | 54 ^k | - 3 | e 9 | 6 | +10 | e 5 | 28 | PP | — |
| Kobe | 22.9 | 232 | e 5 | 2 | + 3 | e 9 | 11 | +11 | — | — | — | e 11.0 |
| Owase | 22.9 | 231 | e 4 | 55 | - 4 | — | — | — | — | — | — | — |
| Yonago | 23.2 | 236 | i 5 | 4 | + 2 | e 9 | 2 | - 3 | — | — | — | — |
| Sumoto | 23.3 | 232 | 5 | 3 | 0 | 9 | 13 | + 6 | — | — | — | e 14.8 |
| Matsue | 23.4 | 236 | 5 | 5 | + 1 | — | — | — | — | — | — | — |
| Siomisaki | 23.6 | 230 | e 4 | 58 | - 8 | e 9 | 18 | + 6 | — | — | — | — |
| Takamatu | 23.7 | 233 | e 5 | 7 ^a | 0 | e 9 | 18 | + 4 | 16 | 32 | ScS | — |
| Hamada | 24.3 | 237 | 5 | 12 ^a | 0 | 9 | 31 | + 7 | e 5 | 58 | PP | e 12.2 |
| Hirosima | 24.5 | 237 | e 5 | 14 | 0 | e 9 | 31 | + 4 | e 5 | 26 | pP | — |
| Muroto | 24.5 | 232 | i 5 | 16 ^k | + 2 | e 8 | 59 | -28 | — | — | — | e 12.6 |
| Koti | 24.6 | 235 | i 5 | 16 | + 1 | e 9 | 38 | + 9 | i 5 | 30 | pP | — |
| Matuyama | 24.8 | 236 | e 5 | 16 | - 1 | e 9 | 34 | + 2 | e 6 | 21 | PPP | e 11.3 |
| Simidu | 25.5 | 233 | e 5 | 25 | + 1 | e 9 | 58 | +14 | — | — | — | 16.0 |
| Hukuoka | 26.2 | 239 | e 5 | 31 ^a | + 1 | e 10 | 1 | + 5 | — | — | — | e 12.9 |
| Kagosima | 27.7 | 235 | e 5 | 48 | + 4 | 10 | 26 | + 6 | — | — | — | — |
| Kabansk | 30.8 | 292 | e 6 | 12 | 0 | e 11 | 10 | + 1 | — | — | — | — |
| College | 31.1 | 42 | i 7 | 11 | +57 | e 11 | 10 | - 4 | — | — | — | — |
| Kyakhta | 31.5 | 289 | 6 | 18 | 0 | — | — | — | — | — | — | — |
| Irkutsk | 32.1 | 294 | 6 | 23 | 0 | — | — | — | — | — | — | — |
| Nanking | 33.9 | 251 | i 6 | 38 ^a | - 1 | 12 | 38 | +40 | — | — | — | — |
| Sitka | 38.5 | 54 | i 7 | 17 | - 1 | i 13 | 13 | + 5 | — | — | — | — |
| Hong Kong | 44.0 | 246 | 8 | 3 | 0 | 14 | 31 | + 2 | 18 | 1 | ScS | — |
| Baguio | 45.3 | 234 | i 8 | 9 ^a | - 4 | i 14 | 52 | + 4 | 9 | 40 | PP | 24.6 |
| Resolute Bay | 45.8 | 21 | i 8 | 14 ^a | - 3 | e 14 | 58 | + 3 | — | — | — | — |
| Victoria | 48.9 | 60 | 8 | 38 ^a | - 3 | — | — | — | — | — | — | — |
| Seattle | 50.0 | 61 | i 8 | 40 | -10 | — | — | — | e 10 | 54 | PP | — |
| Corvallis | 51.3 | 65 | e 9 | 0 | 0 | e 16 | 14 | + 2 | — | — | — | — |
| Chilisk | 51.4 | 295 | e 9 | 0 | 0 | — | — | — | — | — | — | — |
| Kurmenty | 51.8 | 295 | e 9 | 4 | + 1 | — | — | — | — | — | — | — |
| Przhevalsk | 52.1 | 294 | e 9 | 11 | + 5 | — | — | — | — | — | — | — |
| Sverdlovsk | 52.4 | 317 | i 9 | 7 | - 1 | i 16 | 26 | - 1 | — | — | — | — |
| Almata | 52.5 | 296 | i 9 | 7 | - 2 | — | — | — | — | — | — | — |
| Frunse | 54.0 | 296 | i 9 | 20 | 0 | i 16 | 48 | - 1 | — | — | — | — |
| Hungry Horse | 54.0 | 55 | i 9 | 16 | - 4 | — | — | — | i 11 | 3 | PP | — |
| Naryn | 54.2 | 293 | i 9 | 20 | - 1 | — | — | — | — | — | — | — |
| Shasta | 54.3 | 66 | i 9 | 18 ^a | - 4 | e 16 | 54 | + 1 | e 9 | 29 | pP | — |
| Shillong | 55.1 | 269 | i 9 | 26 | - 2 | e 16 | 52 | -12 | 12 | 44 | PPP | 25.5 |
| Berkeley | 56.2 | 70 | i 9 | 31 | - 5 | e 17 | 15 | - 3 | — | — | — | e 23.6 |
| Butte | 56.3 | 66 | i 9 | 33 | - 3 | — | — | — | i 9 | 48 | pP | — |
| Reno | 56.5 | 65 | e 9 | 35 ^a | - 3 | e 17 | 25 | + 3 | — | — | — | — |
| Santa Clara | 56.7 | 70 | e 9 | 51 ^k | +12 | i 16 | 54 | -31 | — | — | — | e 27.1 |
| Kiruna | 56.9 | 342 | i 9 | 41 | 0 | e 17 | 30 | + 2 | e 13 | 10 | PPP | e 27.2 |
| Lick | 56.9 | 70 | e 9 | 37 ^a | - 4 | — | — | — | e 9 | 51 | pP | — |
| Namangan | 56.9 | 296 | i 9 | 41 | 0 | i 17 | 32 | + 4 | — | — | — | — |
| Chatra | 57.2 | 273 | e 9 | 44 | + 1 | e 17 | 38 | + 6 | 13 | 12 | PPP | 22.8 |
| Tchimkent | 57.2 | 298 | i 9 | 42 | - 1 | — | — | — | — | — | — | — |
| Fergana | 57.3 | 295 | e 9 | 43 | - 1 | — | — | — | — | — | — | — |
| Murgab | 57.4 | 292 | i 9 | 45 | + 1 | — | — | — | — | — | — | — |
| Tashkent | 58.0 | 298 | e 9 | 47 | - 1 | e 17 | 46 | + 4 | — | — | — | — |
| Dzhergetal | 58.4 | 295 | e 9 | 52 | + 1 | — | — | — | — | — | — | — |
| Fresno | 58.4 | 69 | i 9 | 47 ^a | - 4 | — | — | — | — | — | — | — |
| Garm | 59.0 | 295 | i 9 | 54 | - 1 | e 17 | 57 | + 2 | — | — | — | — |
| Tinemaha | 59.1 | 68 | i 9 | 52 ^a | - 4 | e 17 | 54 | - 2 | — | — | — | — |
| Khorog | 59.3 | 293 | e 10 | 0 | + 3 | — | — | — | — | — | — | — |
| Calcutta | 59.5 | 270 | e 10 | 5 | + 6 | i 18 | 16 | +14 | e 20 | 7 | ? | — |
| Obi-garm | 59.6 | 295 | — | — | — | e 18 | 5 | + 2 | — | — | — | — |
| Kulyab | 60.1 | 294 | 9 | 59 | - 4 | — | — | — | — | — | — | — |
| Stalinabad | 60.2 | 296 | i 10 | 2 | - 2 | i 18 | 13 | + 2 | — | — | — | — |
| Dehra Dun | 60.4 | 283 | e 10 | 6 | + 1 | e 18 | 17 | + 4 | 18 | 33 | PS | — |
| Samarkand | 60.4 | 298 | 10 | 3 | - 2 | 18 | 18 | + 5 | — | — | — | — |
| Pasadena | 61.2 | 70 | i 10 | 5 ^a | - 5 | i 18 | 23 | 0 | i 10 | 20 | pP | e 27.8 |
| Pulkovo | 61.3 | 333 | e 10 | 4 | - 7 | — | — | — | — | — | — | — |
| Riverside | 61.7 | 70 | e 10 | 8 ^a | - 6 | — | — | — | e 10 | 23 | pP | — |
| Nelson | 62.0 | 66 | i 10 | 13 | - 3 | — | — | — | i 10 | 28 | pP | — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
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| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Moscow | | 62.2 | 326 | 10 15 | - 2 | — | — | — | — |
| New Delhi | | 62.2 | 282 | 10 14 | - 3 | i 18 38 | + 2 | 18 55 | PS 26.1 |
| Barratt | z. | 63.1 | 72 | e 10 20 | - 3 | — | — | — | — |
| Bairam-Ali | | 64.6 | 300 | i 10 33 | 0 | — | — | — | — |
| Upsala | | 64.6 | 339 | i 10 31 | - 2 | e 19 4 | - 2 | i 11 7 | PcP e 31.6 |
| Ashkabad | | 66.4 | 302 | i 10 44 | 0 | — | — | — | — |
| Kizyl-Arvat | | 66.7 | 305 | i 10 55 | + 9 | — | — | — | — |
| Tucson | | 66.8 | 67 | i 10 43 | - 4 | e 19 38 | + 5 | — | — |
| Quetta | | 67.1 | 291 | i 10 48 | - 1 | e 19 40 | + 4 | i 12 55 | PP |
| Makhach-Kala | | 68.1 | 312 | e 10 56 | + 1 | — | — | — | — |
| Grozny | | 68.6 | 313 | i 10 58 | 0 | — | — | — | — |
| Baku | | 68.9 | 310 | e 11 2 | + 2 | — | — | — | — |
| Piatigorsk | | 69.3 | 316 | 10 58 | - 4 | — | — | — | — |
| Copenhagen | | 69.5 | 340 | i 11 3 | - 1 | i 20 7 | + 2 | 23 9 | ? 31.6 |
| Kirkland Lake | z. | 69.6 | 37 | e 10 59 | - 5 | — | — | — | — |
| Tiflis | | 70.3 | 313 | i 11 8 | - 1 | — | — | — | — |
| Kirovobad | | 70.4 | 311 | 11 8 | - 1 | 20 12 | - 3 | — | — |
| Aberdeen | | 70.6 | 349 | — | — | i 20 19 | + 1 | e 32 4 | Q 39.9 |
| Sotchi | | 71.1 | 317 | e 11 11 | - 2 | e 20 24 | + 1 | — | — |
| Goris | | 71.3 | 310 | i 11 12 | - 3 | — | — | — | — |
| Leninakan | | 71.5 | 313 | e 11 17 | + 1 | — | — | — | — |
| Poona | | 71.6 | 277 | i 11 17 | + 1 | e 20 31 | + 2 | — | — |
| Bandung | N. | 71.7 | 233 | e 11 27 | pP | e 21 51 | ? | e 15 1 | PPP |
| Theodosia | | 71.7 | 321 | e 11 16 | - 1 | e 20 35 | + 5 | — | — |
| Erevan | | 71.7 | 312 | i 11 16 | - 1 | — | — | — | — |
| Bombay | | 72.0 | 278 | i 11 20 | + 1 | i 21 0 | + 26 | 14 20 | PP 31.5 |
| Chihuahua | | 72.2 | 67 | e 11 19 | - 1 | — | — | — | e 38.0 |
| Potsdam | | 72.4 | 339 | i 11 21 _a | 0 | e 20 45 | + 7 | e 21 45 | PPS e 34.6 |
| Kishinev | | 72.5 | 326 | e 11 21 | - 1 | — | — | — | — |
| Yalta | | 72.7 | 321 | e 11 21 | - 2 | e 20 45 | + 3 | — | — |
| Fayetteville | | 73.0 | 53 | i 11 21 | - 4 | e 20 43 | - 2 | i 11 33 | PcP |
| Raciborzu | | 73.2 | 335 | e 11 24 _? | - 2 | — | — | e 11 46 | PcP |
| Uzhgorod | | 73.3 | 330 | e 11 27 | + 1 | e 20 55 | + 6 | — | — |
| Collmberg | | 73.4 | 337 | e 11 25 | - 2 | e 13 43 | PP | e 11 48 | pP |
| Skalnate Pleso | | 73.4 | 333 | i 11 26 | - 1 | e 21 14 | PS | e 21 34 | PPS |
| Witteveen | z. | 73.4 | 343 | i 11 28 _a | + 1 | — | — | — | — |
| Ottawa | | 73.5 | 36 | e 11 24 | - 4 | 20 49 | - 2 | — | — |
| Shawinigan Falls | N. | 73.6 | 33 | e 11 25 | - 3 | — | — | — | — |
| Seven Falls | E. | 73.7 | 33 | e 11 33 | + 4 | 20 50 | - 3 | — | — |
| Jena | | 74.1 | 338 | i 11 29 | - 2 | — | — | e 11 45 | pP |
| Prague | | 74.2 | 336 | e 11 31 | - 1 | e 21 3 | + 4 | e 11 50 | PcP e 38.0 |
| De Bilt | | 74.4 | 343 | i 11 33 _a | 0 | e 21 8 | + 7 | e 25 51 | SS e 36.6 |
| Buffalo (Larkin) | | 74.5 | 39 | i 11 30 | - 3 | — | — | — | — |
| Cleveland | | 74.5 | 42 | i 11 31 _a | - 2 | i 21 3 | + 1 | e 21 42 | PS |
| Cheb | | 74.7 | 338 | e 11 34 | 0 | e 21 13 | + 9 | e 11 42 | PcP e 36.2 |
| Rathfarnham C. | z. | 74.9 | 350 | i 11 35 _a | - 1 | — | — | i 11 52 | PcP |
| Ogyalla | | 75.2 | 333 | e 12 3 | + 26 | e 21 25 | + 15 | e 14 1 | PP |
| Budapest | | 75.3 | 332 | 11 39 | + 1 | — | — | — | e 42.6 |
| Bucharest | | 75.7 | 326 | e 11 40 | 0 | 21 27 | + 12 | — | — |
| Uccle | | 75.8 | 344 | e 11 40 | - 1 | e 21 19 | + 3 | e 11 53 | pP e 31.6 |
| Kew | z. | 75.9 | 346 | e 11 41 | 0 | — | — | — | — |
| Kalossa | N. | 76.2 | 332 | e 11 56 | + 13 | — | — | — | — |
| Timisoara | N. | 76.2 | 330 | e 11 47 | + 4 | e 22 39 | PPS | — | — |
| Karlsruhe | | 76.6 | 340 | e 11 47 _a | + 2 | — | — | e 12 12 | pP e 41.6 |
| Colombo | E. | 76.7 | 294 | 21 29 | S | (21 29) | + 3 | — | 42.6 |
| Stuttgart | | 76.7 | 339 | i 11 45 _a | - 1 | e 21 29 | + 3 | e 14 39 | PP e 38.6 |
| Strasbourg | | 77.2 | 340 | e 11 49 | 0 | e 21 39 | + 7 | e 26 39 | SS |
| Belgrade | | 77.3 | 330 | e 11 49 _k | 0 | e 21 42 | + 9 | e 12 2 | pP e 48.0 |
| Harvard | | 77.5 | 35 | i 11 48 _a | - 2 | e 21 55 | + 20 | i 12 2 | pP |
| Istanbul | | 77.6 | 322 | e 11 48 _a | - 3 | e 21 39 _? | + 3 | e 15 4 | PP |
| Weston | | 77.7 | 35 | i 11 49 _a | - 2 | e 21 58 | + 21 | i 12 3 | pP e 33.9 |
| Paris | | 78.0 | 343 | i 11 53 | 0 | i 21 44 | + 4 | i 12 13 | pP e 36.6 |
| Basle | | 78.2 | 340 | e 11 52 | - 2 | — | — | — | — |
| Halifax | | 78.2 | 29 | i 11 52 | - 2 | 21 36 | - 6 | 14 35 | PP |
| Zürich | | 78.2 | 339 | e 11 52 _a | - 2 | e 21 31 | - 11 | — | — |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
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| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Chur | 78.4 | 338 | e 11 55 | 0 | — | — | — | — |
| Triest | 78.5 | 335 | i 11 56 _a | 0 | e 21 48 | + 3 | e 23 2 | PPS |
| Washington | 78.5 | 39 | e 11 53 | - 3 | — | — | — | — |
| Chambon-la-Forêt | 78.8 | 343 | i 11 58 | + 1 | i 12 33 | sP | i 12 16 | pP |
| Neuchatel | 78.9 | 340 | e 11 58 | 0 | — | — | — | — |
| Oropa | 79.9 | 340 | i 12 31 | +28 | e 21 9 | ? | e 22 40 | PS |
| Pavia | 80.1 | 338 | e 12 4 | 0 | e 22 10 | + 8 | e 23 11 | PPS |
| Bologna | 80.2 | 336 | e 13 48? | ? | e 24 51? | ? | — | — |
| Clermont-Ferrand | 80.8 | 342 | e 12 9 | + 1 | e 22 14 | + 4 | — | — |
| Ksara | 80.8 | 313 | e 12 10 | + 2 | i 22 38 | PS | — | — |
| Florence | 80.9 | 335 | i 12 10 _a | + 1 | e 22 20 | + 9 | i 12 26 | pP |
| Siena | 81.3 | 335 | e 11 53 | -18 | — | — | — | — |
| Taranto | 82.2 | 331 | i 12 24 | + 9 | e 21 24 | -60 | — | — |
| Athens | 82.3 | 324 | e 12 13 _a | - 3 | — | — | i 12 40 | pPcP |
| Rome | 82.3 | 335 | i 12 17 _a | + 1 | e 22 28 | + 3 | e 22 48 | SKS |
| Tacubaya | 83.3 | 68 | e 12 19 | - 2 | e 22 40 | + 5 | e 23 5 | ScS |
| Messina | 84.8 | 330 | e 12 27 _a | - 2 | e 22 47 | - 3 | 28 52 | SS |
| Riverview | 84.8 | 185 | e 12 41 | +12 | 22 56 | + 6 | — | — |
| Reggio Calabria | 84.9 | 330 | e 12 31 | + 2 | — | — | — | — |
| Tortosa | 86.1 | 343 | e 12 53 | +18 | — | — | — | — |
| Helwan | 86.2 | 315 | i 12 36 _k | + 1 | 23 15 | +11 | 23 0 | SKS |
| Toledo | 87.8 | 346 | i 12 43 _a | 0 | e 23 25 | + 6 | e 23 35 | ScS |
| Alicante | 88.7 | 342 | i 12 44 | - 3 | e 23 15 | [+ 6] | 16 11 | PP |
| Algiers Univ. | 89.5 | 336 | e 12 49 | - 2 | e 23 33 | - 1 | e 16 15 | PP |
| Granada | 90.4 | 345 | i 12 56 _a | + 1 | 23 43 | 0 | 17 1 | PP |
| Almeria | 90.5 | 343 | i 12 53 | - 3 | i 23 44 | + 1 | 16 29 | PP |
| Malaga | 90.9 | 345 | i 12 58 | 0 | e 24 20 | PS | — | — |
| Tamanrasset | 102.2 | 333 | e 13 48 | - 1 | e 18 33 | ? | e 18 21 | PP |
| Bogota | 109.3 | 55 | — | — | e 24 56 | [+ 3] | — | — |
| La Paz | 130.1 | 63 | 19 3 | [0] | e 28 9 | SKKS | 38 45 | SS |
| Pretoria | 133.8 | 282 | e 19 10 | [0] | — | — | — | — |
| Kimberley | 138.1 | 281 | e 19 8 | [-10] | — | — | — | — |

Sept. 5d. 21h. 19m. After-shock of 8h.
Loc. cit., 8h., p. 115.

Sept. 5d. 21h. 39m. Epicentre 40°·1N. 73°·3E.
Bulletin of Scismo. Stations of U.S.S.R. for July-September, 1953, Moscow, 1954, p. 137.

Sept. 5d. 22h. 53m. Epicentre 39°·4N. 71°·0E.
Loc. cit., 21h., pp. 137, 138.

Sept. 6d. 1h. 32m. 23s. Epicentre 50°·6N. 90°·8E.

$$A = -0.0088, B = +0.6372, C = +0.7706; \quad \delta = -7; \quad h = -6;$$

$$D = +1.000, E = +0.014; \quad G = -0.011, H = +0.771, K = -0.637.$$

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----------|-----|--------|------|---------|------|---------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Dehra Dun | 22.4 | 210 | e 5 2 | 0 | i 9 5 | + 1 | 5 42 | PPP |
| Shillong | 25.0 | 177 | e 5 25 | - 2 | e 9 45 | - 4 | — | e 13.8 |
| Quetta | 27.0 | 230 | i 5 39 | - 6 | — | — | — | — |
| Bombay | 34.7 | 212 | e 7 2 | + 8 | e 12 30 | + 6 | e 7 8 | ? |
| Poona | 34.7 | 210 | — | — | e 14 34 | SS | — | — |
| Kiruna | 37.4 | 322 | i 7 16 | 0 | e 17 30 | ScS | i 17 47 | Q |
| Upsala | 40.7 | 312 | i 7 42 | - 2 | i 16 48 | SS | e 9 3 | PP |
| Istanbul | 42.9 | 282 | e 7 58 | - 4 | e 14 14 | -13 | e 17 30 | SS |
| Ksara | 43.0 | 269 | — | — | e 13 58 | PcS | — | e 20.5 |
| Skalnate Pleso | 43.9 | 297 | e 9 47 | PP | e 18 43 | SSS | e 12 22 | ? |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
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| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Ogyalla | | 45.7 | 296 | — | — | e 12 48 | ? | — | — |
| Prague | | 46.7 | 300 | e 8 38 | + 6 | e 19 52 | SSS | e 10 19 | PP |
| Collmberg | | 46.8 | 302 | e 8 31 | - 2 | e 18 57 | SS | — | e 25.1 |
| Cheb | | 47.8 | 301 | e 8 44 | + 3 | e 15 49 | +11 | e 17 58 | ? |
| Jena | | 47.8 | 302 | e 8 39? | - 2 | e 9 29 | ? | e 11 13 | PPP |
| Helwan | z. | 48.5 | 269 | i 8 42 | - 4 | — | — | e 8 52 | ? |
| Stuttgart | | 50.2 | 302 | e 8 58 | - 2 | — | — | e 9 4 | ? |
| Strasbourg | | 51.1 | 302 | e 9 33 | +27 | — | — | — | — |
| Zürich | | 51.4 | 301 | e 9 16 | + 7 | e 17 29 | +61 | — | — |
| Florence | z. | 52.0 | 295 | — | — | e 16 28 | - 8 | — | — |
| Pavia | | 52.4 | 298 | — | — | e 18 47 | ScS | — | — |
| Rome | | 52.5 | 292 | — | — | e 16 6 | -37 | — | — |
| Messina | z. | 53.0 | 287 | e 9 16 | - 5 | — | — | — | — |
| Paris | | 53.8 | 305 | e 9 25 | - 1 | i 10 10 | ? | i 9 32 | ? |
| Chambon-la-Forêt | | 54.4 | 304 | e 9 29 | - 2 | — | — | — | — |
| Toledo | | 63.2 | 301 | e 10 39 | + 7 | e 18 54 | - 9 | — | — |
| Tamanrasset | z. | 69.8 | 281 | e 11 11 | - 3 | e 12 49 | ? | e 13 49 | PP |
| Hungry Horse | | 79.2 | 16 | e 12 8 | 0 | — | — | — | — |
| Butte | | 81.7 | 16 | e 12 22 | 0 | — | — | — | — |
| Halifax | | 82.6 | 342 | e 12 25 | - 1 | — | — | — | — |
| Ottawa | | 83.7 | 350 | e 12 26 _a | - 6 | — | — | — | — |
| Shasta | z. | 84.5 | 24 | e 12 37 | + 1 | — | — | — | — |
| Lick | z. | 87.9 | 25 | e 12 54 _a | + 1 | — | — | — | — |
| Boulder City | | 90.9 | 20 | e 13 9 | + 2 | — | — | — | — |
| Nelson | | 91.1 | 20 | i 13 10 | + 2 | — | — | — | — |
| Fayetteville | | 93.6 | 3 | e 13 19 | 0 | — | — | — | — |
| La Paz | | 142.0 | 326 | e 19 9 | [-25] | — | — | — | — |

Sept. 6d. 2h. 25m. Epicentre 39°·4N. 71°·0E.

Bulletin of Seismological Stations of the U.S.S.R. for July-September, 1953, Moscow, 1954, p. 138.

Sept. 6d. 20h. 35m. Provisional epicentre 37°·6S. 176°·5E. Depth of focus 220km.

Magnitude 5.4.

New Zealand Department of Scientific and Industrial Research (Geophysics Division), Seismological Observatory Bulletin No. E-133, for July, August, September, 1953, Wellington, 1956, p. 12.

Sept. 7d. 3h. 58m. 58s. Epicentre 41°·2N. 32°·8E. Epicentre given by Strasbourg.

A = +.6343, B = +.4088, C = +.6561; δ = -8; h = -2;

D = +.542, E = -.841; G = +.552, H = +.355, K = -.755.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|----|------------|------------|---------------------|------|--------|------------------|--------|----------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Istanbul | | 2.8 | 267 | i 0 50 _a | - 1* | i 1 36 | + 4 _g | — | — |
| Bucharest | | 5.9 | 305 | i 1 32 | + 1 | i 3 1 | + 2* | i 2 0 | P _g |
| Focsani | | 6.1 | 320 | i 1 42 | - 5* | i 3 25 | + 3 _g | i 3 28 | ? |
| Bacau | | 6.8 | 324 | e 1 48 | + 4 | i 3 26 | 0* | — | — |
| Campulung | | 7.0 | 308 | e 1 50 | + 4 | i 3 30 | - 2* | — | — |
| Iasi | | 7.1 | 330 | e 1 48 | 0 | i 3 43 | + 8* | — | — |
| Sofia | | 7.2 | 285 | i 2 1 | - 3* | i 3 3 | -10 | i 3 31 | S* |
| Athens | | 7.7 | 248 | e 1 59 _a | + 3 | i 3 46 | - 7* | i 4 11 | S _g |
| Ksara | | 7.8 | 161 | i 1 32 | -26 | 3 36? | + 8 | — | — |
| Timisoara | E. | 9.6 | 302 | e 2 25 | + 4 | e 4 47 | - 2* | — | — |
| Belgrade | | 9.7 | 296 | e 2 26 _a | + 4 | i 5 16 | - 4 _g | e 2 56 | P* |
| Szeged | E. | 10.5 | 303 | 2 42 | PP | 4 46 | SS | 2 59 | PPP |
| Kecskemet | | 11.0 | 306 | e 3 13 | ? | 4 41 | - 6 | 5 14 | SSS |
| Kalossa | N. | 11.3 | 303 | e 3 1 | PPP | 4 35 | -19 | i 5 34 | ? |
| Helwan | | 11.4 | 187 | i 2 38 _k | - 9 | e 5 16 | SS | 2 50 | PP |

Continued on next page.

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1953

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------------|----|------------|------------|-----|-----------------|------|------|-----------------|------|-------|----------------|-----|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Budapest | | 11.7 | 307 | 2 | 55 | + 4 | 4 | 41 | -23 | 5 | 37 | SSS | 6.3 |
| Taranto | | 11.8 | 272 | 2 | 58 | + 5 | 4 | 43 | -23 | e 8 | 28 | PcP | — |
| Skalnate Pleso | | 11.9 | 316 | i 2 | 58 | + 4 | e 5 | 25 | SS | i 3 | 44 | ? | e 6.1 |
| Ogyalla | | 12.4 | 308 | e 3 | 12 | PP | e 5 | 42 | SSS | e 4 | 18 | ? | e 6.1 |
| Raciborzu | | 13.5 | 316 | i 3 | 20 _a | + 5 | e 6 | 12 | SSS | i 3 | 32 | PP | i 7.0 |
| Messina | | 13.6 | 263 | i 3 | 17 _a | 0 | i 5 | 48 | - 2 | i 3 | 34 | PPP | i 6.9 |
| Reggio Calabria | | 13.6 | 262 | e 3 | 16 | - 1 | e 4 | 8 | ? | e 5 | 11 | ? | — |
| Triest | | 14.5 | 294 | i 3 | 30 _k | + 2 | e 6 | 19 | + 8 | i 3 | 34 | PP | 9.2 |
| Rome | | 15.2 | 279 | i 3 | 40 | + 2 | i 6 | 47 | SS | i 3 | 56 | PP | i 9.2 |
| Prague | | 15.6 | 311 | i 3 | 42 | - 1 | i 6 | 57 | SS | i 3 | 55 | PP | e 8.0 |
| Siena | | 16.0 | 285 | e 3 | 59 | PP | 7 | 10 | SS | i 6 | 14 | ? | 9.4 |
| Bologna | | 16.1 | 289 | e 5 | 40 _? | ? | e 7 | 21 _? | SSS | e 6 | 2 _? | ? | e 10.0 |
| Florence | | 16.1 | 286 | i 3 | 47 | - 2 | i 7 | 11 | SS | i 3 | 57 | PP | i 10.2 |
| Cheb | | 16.8 | 309 | e 3 | 59 _? | + 1 | e 7 | 9 | + 4 | e 7 | 29 | SS | — |
| Collmberg | | 17.0 | 313 | e 4 | 2 | + 1 | e 12 | 15 | PcS | e 4 | 15 | PP | — |
| Potsdam | | 17.5 | 317 | i 4 | 6 _k | - 1 | i 7 | 33 | +12 | i 4 | 21 | PP | e 9.0 |
| Chur | | 17.6 | 309 | e 4 | 10 | + 2 | e 7 | 40 | +17 | — | — | — | — |
| Jena | | 17.6 | 311 | e 4 | 8 | 0 | e 7 | 36 | +13 | e 4 | 25 | PP | e 9.4 |
| Pavia | | 17.7 | 292 | e 4 | 16 | + 6 | e 7 | 36 | +10 | e 6 | 43 | ? | e 9.8 |
| Stuttgart | | 18.3 | 303 | i 4 | 18 _k | + 1 | e 7 | 43 | + 4 | i 4 | 35 | PP | e 9.5 |
| Zürich | | 18.4 | 298 | e 4 | 17 _k | - 1 | e 7 | 35 | - 6 | i 4 | 22 | P | — |
| Oropa | | 18.6 | 293 | i 4 | 23 | + 2 | i 7 | 59 | +13 | i 4 | 39 | PP | i 9.6 |
| Karlsruhe | | 18.9 | 304 | 4 | 26 | + 2 | i 7 | 59 | + 6 | e 4 | 45 | PP | e 10.0 |
| Basle | | 19.1 | 298 | e 4 | 28 | + 1 | e 8 | 12 | +15 | — | — | — | e 10.8 |
| Strasbourg | | 19.2 | 303 | i 4 | 28 | 0 | i 8 | 11 | +12 | i 4 | 49 | PP | 9.5 |
| Neuchatel | | 19.4 | 297 | i 4 | 32 | + 2 | e 8 | 16 | +12 | — | — | — | — |
| Copenhagen | | 19.7 | 325 | e 4 | 30 | - 4 | e 8 | 20 | +10 | i 4 | 33 | P | 10.2 |
| Upsala | | 20.9 | 338 | i 4 | 45 | - 1 | i 8 | 30 | - 5 | i 8 | 47 | PcP | i 10.6 |
| Witteveen | z. | 21.2 | 315 | e 4 | 50 | + 1 | — | — | — | — | — | — | — |
| Clermont-Ferrand | | 21.7 | 292 | i 5 | 0 | + 5 | e 9 | 9 | +18 | i 5 | 26 | PP | 11.0 |
| De Bilt | | 21.7 | 311 | e 4 | 57 _k | + 2 | i 9 | 4 | +13 | — | — | — | e 10.2 |
| Uccle | | 21.9 | 306 | e 4 | 56 | - 1 | e 8 | 58 | + 4 | e 5 | 22 | PP | e 11.0 |
| Paris | | 22.6 | 300 | e 5 | 2 | - 1 | i 9 | 10 | + 3 | i 5 | 34 | PP | e 10.5 |
| Chambon-la-Forêt | | 22.7 | 299 | e 5 | 6 | + 2 | — | — | — | i 5 | 10 | P | — |
| Barcelona | | 23.0 | 282 | 5 | 11 | + 4 | 9 | 30 | +16 | — | — | — | e 12.8 |
| Algiers Univ. | z. | 23.5 | 269 | e 5 | 12 | 0 | e 9 | 26 | + 3 | e 5 | 42 | PP | — |
| Tortosa | | 24.3 | 280 | i 5 | 23 | + 3 | i 9 | 51 | +14 | — | — | — | — |
| Kew | | 24.9 | 306 | i 5 | 24 | - 2 | i 9 | 49 | + 2 | i 6 | 11 | PPP | e 14.0 |
| Bergen | | 25.6 | 329 | e 5 | 36 | + 4 | 10 | 9 | +10 | e 6 | 25 | PPP | i 13.2 |
| Alicante | | 25.7 | 276 | i 5 | 35 | + 2 | i 10 | 11 | +10 | 9 | 9 | PcP | 12.7 |
| Jersey | E. | 25.7 | 301 | e 5 | 33 | 0 | e 10 | 5 | + 4 | — | — | — | 13.0 |
| Durham | | 26.4 | 313 | i 5 | 42 | + 2 | i 10 | 16 | + 4 | — | — | — | — |
| Aberdeen | N. | 27.5 | 318 | e 6 | 38 | PP | i 10 | 37 | + 7 | i 17 | 4 | ScS | e 13.4 |
| Kiruna | | 27.5 | 351 | i 5 | 49 _a | - 1 | i 10 | 29 | - 1 | i 6 | 37 | PP | e 14.0 |
| Almeria | | 27.6 | 273 | i 5 | 52 | + 1 | i 10 | 42 | +10 | 9 | 6 | PcP | 17.1 |
| Edinburgh | E. | 27.6 | 315 | — | — | — | 10 | 36 | + 4 | 16 | 36 | ScS | — |
| Toledo | | 27.9 | 280 | i 5 | 54 | 0 | e 10 | 39 | + 2 | 6 | 58 | PPP | 16.0 |
| Granada | | 28.4 | 275 | i 6 | 1 _a | + 3 | i 10 | 55 | +10 | 6 | 43 | PP | i 15.2 |
| Rathfarnham Castle | | 28.8 | 309 | i 6 | 2 _a | 0 | e 10 | 56 | + 5 | e 6 | 46 | PP | e 14.7 |
| Malaga | | 29.1 | 274 | i 6 | 5 | + 1 | i 11 | 2 | + 6 | — | — | — | 14.7 |
| Tamanrasset | z. | 29.3 | 241 | i 6 | 5 | - 1 | e 11 | 18 | +19 | e 7 | 8 | PP | — |
| Quetta | | 29.7 | 100 | i 6 | 3 | - 7 | e 11 | 1 | - 5 | i 7 | 57 | ? | — |
| Coimbra | | 31.1 | 283 | 6 | 21 | - 1 | 11 | 30 | + 2 | — | — | — | 15.4 |
| Lisbon | | 32.0 | 280 | i 6 | 30 _a | 0 | 11 | 45 | + 3 | — | — | — | 19.6 |
| Dehra Dun | N. | 37.9 | 91 | e 7 | 21 | + 1 | 13 | 9 | - 4 | 9 | 3 | PPP | 17.5 |
| New Delhi | N. | 38.1 | 95 | e 7 | 18 | - 4 | i 13 | 12 | - 4 | 9 | 35 | PcP | 18.4 |
| Scoresby Sund | | 40.2 | 335 | e 7 | 41 | + 1 | e 13 | 55 | + 7 | e 18 | 4 | ScS | 19.2 |
| Bombay | | 40.7 | 111 | e 7 | 40 | - 4 | e 13 | 49 | - 6 | 9 | 45 | PcP | 19.1 |
| Poona | | 41.6 | 110 | i 7 | 46 | - 5 | e 14 | 3 | - 5 | — | — | — | 17.2 |
| Hyderabad | | 45.7 | 107 | e 8 | 15 | - 9 | i 14 | 59 | - 9 | 18 | 24 | SS | 22.2 |

Continued on next page.

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1953

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|--------------|----|----------|-----|----------------------|---------|---------|---------|---------|-----|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Chatra | | 46.6 | 90 | i 8 27 | - 5 | e 15 13 | - 8 | 10 5 | PcP | 22.2 |
| Calcutta | E. | 49.8 | 94 | e 8 57 | + 1 | i 16 2 | - 4 | i 11 6 | PP | 20.6 |
| Kodaikanal | E. | 49.9 | 115 | — | — | e 16 1 | - 6 | — | — | — |
| Madras | E. | 49.9 | 110 | e 8 51 | - 6 | i 15 58 | - 9 | 10 49 | PP | 23.8 |
| M'Bour | | 50.6 | 254 | i 9 12 | +10 | i 13 19 | ? | i 11 7 | PP | i 22.4 |
| Shillong | N. | 50.8 | 88 | e 8 59 | - 5 | e 16 3 | -17 | 19 30 | SS | — |
| Colombo | E. | 53.9 | 116 | e 10 2? | ? | 16 53 | - 9 | — | — | 30.4 |
| Resolute Bay | | 59.3 | 346 | e 10 30 | ? | e 18 22 | + 8 | — | — | e 25.9 |
| Tananarive | | 61.4 | 164 | e 10 15 | - 5 | — | — | e 10 26 | P | 33.3 |
| Halifax | | 66.5 | 309 | i 10 53 _a | - 1 | 19 47 | + 3 | — | — | — |
| Pretoria | z. | 66.7 | 185 | e 10 52 | - 3 | — | — | — | — | — |
| Nanking | | 67.0 | 67 | 10 52 | - 5 | e 19 39 | -11 | — | — | — |
| Seven Falls | E. | 69.0 | 315 | e 9 46? | ? | 18 47? | ? | — | — | — |
| Hong Kong | | 69.4 | 78 | e 11 2? | -10 | e 20 2? | -16 | — | — | — |
| Kimberley | z. | 70.0 | 187 | i 11 11 | - 4 | — | — | — | — | — |
| Harvard | | 72.3 | 312 | i 11 30 _k | + 1 | e 21 21 | PS | — | — | — |
| Weston | | 72.3 | 312 | i 11 30 _k | + 1 | — | — | — | — | e 34.2 |
| College | | 74.3 | 1 | e 11 41 | 0 | — | — | i 11 56 | PcP | — |
| Palisades | | 74.7 | 311 | — | — | e 21 31 | +12 | — | — | e 35.7 |
| Baguio | | 77.7 | 79 | e 11 57 | - 3 | e 21 59 | + 7 | — | — | — |
| Washington | | 77.9 | 312 | e 12 2 | + 1 | — | — | — | — | — |
| Cleveland | | 78.5 | 316 | i 12 8 _k | + 4 | e 22 6 | + 5 | — | — | — |
| Butte | | 87.8 | 337 | e 11 1 | ? | e 23 28 | { + 2 } | — | — | — |
| Victoria | | 88.2 | 344 | i 12 3 | ? | e 23 50 | ScS | — | — | 38.0 |
| Fayetteville | | 89.0 | 320 | i 12 56 | - 2 | e 23 27 | [0] | e 16 32 | PP | — |
| Boulder City | | 97.7 | 334 | e 12 39 | -59 | — | — | — | — | — |
| Tinemaha | z. | 97.7 | 337 | e 13 54 | ? | — | — | e 17 55 | PP | — |
| Nelson | | 97.9 | 334 | i 12 26 | ? | — | — | — | — | — |
| Fresno | z. | 98.5 | 338 | e 13 42 | 0 | — | — | — | — | — |
| Santa Clara | E. | 98.5 | 340 | — | — | e 32 18 | SS | — | — | — |
| Bogota | | 99.5 | 285 | — | — | e 27 39 | PPS | e 32 57 | SSP | — |
| Pasadena | | 100.4 | 336 | e 18 9 | PP | — | — | e 18 22 | ? | e 43.5 |
| La Paz | | 108.8 | 264 | e 18 30 | [- 1] | e 25 26 | [+19] | 28 36 | PS | 52.2 |
| Huancayo | | 111.5 | 273 | — | — | e 29 8 | PS | e 35 8 | SSP | e 47.9 |

Sept. 7d. 4h. 58m. Mariana Islands.

Suggested epicentre : 14°N. 146°·25E. (Strasbourg).
12°N. 147°E. (C.M.O.).

B.C.I.S. monthly bulletin for September, 1953, Strasbourg, 1954, pp. 126-127.
Seismo. Bull. Cent. Met. Obs., Japan, for September, 1953, Tokyo, 1954, p. 33.

Sept. 7d. 7h. 32m. Ionian Islands after-shock.

Intensity V at Mytikas. Epicentre 38°·25N. 20°·75E. (Strasbourg).

A. Galanopoulos.

Seismological Institute Bulltein, 1953, Athens, 1954, p. 117.

Sept. 7d. 16h. 7m. Epicentre 33°·5N. 135°·2E. Depth 20·30km.

Intensity IV at Siomisaki and Wakayama ; II-III at Sumoto and Tokusima.

Seismo. Bull. Cent. Met. Obs., Japan, for September, 1953, Tokyo, 1954, pp. 16-17.

Sept. 8d. 9h. 7m. Epicentre 36°·8N. 71°·2E. Depth of focus 140km.

Bulletin of the Seismological Stations of the U.S.S.R. for July-September, 1953, Moscow, 1954, p. 139.

Sept. 8d. 10h. 1m. Mid-Atlantic. Epicentre 25°N. 45°·25W.

Annales de l'Institut de Physique du Globe de Strasbourg, Nouvelle série, Tome XVIII, Deuxième partie, Séismologie for 1953, Strasbourg, 1959, p. 83.

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Sept. 9d. 15h. 51m. 14s. Epicentre 2°·0N. 99°·0E. (as on 1948, December 4d.).

Intensity V in Tapanuli region ; III-IV at P. Djantan.

$$A = -0.1563, B = +0.9871, C = +0.0347; \quad \delta = 0; \quad h = +7;$$

$$D = +0.988, E = +0.156; \quad G = -0.005, H = +0.034, K = -0.999.$$

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|------------------|----|----------|-----|----------------------|-------|---------|-------|----------|-----|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Colombo | E. | 19.7 | 285 | 4 36 | + 2 | 8 31 | SS | (12 36) | PcS | 12.6 |
| Madras | E. | 21.6 | 303 | i 4 54 | 0 | i 8 54 | + 5 | 5 23 | PP | 9.3 |
| Kodaikanal | E. | 22.9 | 293 | i 5 12 | + 6 | i 9 18 | + 5 | — | — | — |
| Shillong | N. | 24.4 | 346 | e 5 15 | - 6 | e 9 58 | +19 | e 5 56 | PP | — |
| Hong Kong | | 25.0 | 34 | e 4 46? | -41 | e 9 33 | -16 | — | — | — |
| Hyderabad | E. | 25.4 | 309 | e 5 34 | + 3 | i 10 1 | + 5 | 11 7 | SS | 14.9 |
| Baguio | | 25.6 | 53 | i 5 34 _a | + 2 | i 10 10 | +11 | — | — | 11.8 |
| Chatra | Z. | 27.2 | 337 | e 5 44 | - 3 | — | — | — | — | — |
| Poona | | 29.6 | 306 | e 6 8 | - 1 | e 11 2 | - 2 | — | — | — |
| Bombay | | 30.7 | 305 | e 6 11 | - 8 | i 11 24 | + 3 | 7 35 | PPP | 14.5 |
| New Delhi | | 33.6 | 325 | e 6 40 | - 4 | e 12 2 | - 4 | — | — | 15.8 |
| Dehra Dun | N. | 34.5 | 328 | e 6 51 | - 1 | i 12 14 | - 6 | 7 59 | PP | 15.9 |
| Nanking | | 35.2 | 29 | e 7 3 | + 5 | e 12 39 | + 8 | 8 29 | PP | — |
| Quetta | | 41.3 | 316 | i 7 48 | - 1 | e 14 0 | - 4 | — | — | — |
| Tananarive | | 54.7 | 246 | e 9 33 | 0 | — | — | i 9 38 | ? | — |
| Brisbane | Z. | 59.6 | 124 | e 10 13 | + 5 | — | — | — | — | — |
| Ksara | | 66.7 | 306 | 10 46? | - 9 | — | — | — | — | — |
| Helwan | Z. | 69.7 | 302 | 11 11 | - 3 | — | — | e 11 53 | ? | — |
| Istanbul | | 73.6 | 313 | e 11 34 | - 3 | e 21 3 | - 4 | e 14 26? | PP | — |
| Pretoria | Z. | 73.7 | 243 | e 11 37 | - 1 | — | — | — | — | — |
| Kimberley | Z. | 77.2 | 240 | e 11 56 | - 1 | — | — | — | — | — |
| Messina | | 83.6 | 308 | e 12 32 | + 1 | e 22 52 | - 1 | — | — | — |
| Kiruna | | 83.8 | 338 | i 12 31 _a | - 1 | e 22 53 | - 2 | — | — | e 39.8 |
| Upsala | Z. | 83.9 | 330 | i 12 31 | - 2 | — | — | — | — | — |
| Prague | | 85.0 | 321 | e 12 40 | + 2 | e 23 5 | - 2 | e 12 55 | ? | — |
| Collmberg | Z. | 85.9 | 322 | e 12 41 | - 2 | — | — | — | — | — |
| Rome | | 86.1 | 312 | — | — | e 24 16 | PS | — | — | — |
| Jena | | 86.8 | 321 | e 12 47 | 0 | e 12 51 | PcP | e 14 16 | ? | — |
| Stuttgart | | 88.4 | 319 | e 12 54 | - 1 | e 23 22 | [- 1] | — | — | — |
| Karlsruhe | Z. | 88.9 | 320 | e 12 56 | - 2 | — | — | — | — | — |
| Strasbourg | | 89.3 | 319 | e 13 2 | + 3 | e 23 52 | + 4 | — | — | — |
| Tamanrasset | Z. | 92.4 | 293 | i 13 15 | + 1 | e 16 37 | ? | e 16 52 | PP | — |
| Chambon-la-Forêt | | 93.0 | 318 | e 13 16 | - 1 | — | — | — | — | — |
| Hungry Horse | | 122.2 | 25 | e 18 55 | [- 2] | — | — | — | — | — |
| Boulder City | | 130.8 | 36 | e 19 14 | [- 0] | e 22 44 | PKS | — | — | — |
| Nelson | | 131.0 | 36 | i 19 16 | [+ 2] | — | — | — | — | — |

Sept. 10d. 1h. 28m. Epicentre 39°·4N. 71°·0E.

Bulletin of Seismological Stations of the U.S.S.R. for July-September, 1953, Moscow, 1954, p. 139.

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Sept. 10d. 4h. 6m. 0s. Epicentre 34°·9N. 32°·2E.

A destructive earthquake which caused considerable damage. The villages of Stroumbi, Lapition, Kithasi, Phasoula, and Axylon were destroyed, and there was also much damage at Ktima and in many villages to the north-east of it.

Macroseismic epicentre : 34°·8N. 32°·5E. (Cyprus).

35°·0N. 32°·25E. (Strasbourg).

Felt also in Egypt, according to Helwan.

$$A = +.6955, B = +.4380, C = +.5696; \quad \delta = +1; \quad h = 0;$$

$$D = +.533, E = -.846; \quad G = +.482, H = +.304, K = -.822.$$

| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|-----------------|----------|-----|-----|-----------------|------|-----|-----|------|-------|-----|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Ksara | 3.2 | 109 | i 0 | 50 | - 2 | 1 | 25? | - 7 | — | — | — |
| Helwan | 5.1 | 189 | i 1 | 17 _a | - 3 | e 2 | 15 | - 5 | — | — | — |
| Istanbul | 6.6 | 339 | e 1 | 44 | + 3 | e 3 | 6 | + 8 | e 1 | 55 | P* |
| Athens | 7.5 | 297 | e 1 | 55 _k | + 2 | i 3 | 20 | 0 | i 3 | 33 | S* |
| Yalta | 9.7 | 8 | i 2 | 27 | + 5 | 14 | 21 | + 6 | — | — | — |
| Sofia | 10.4 | 321 | i 2 | 37 | + 3 | 4 | 52 | SS | i 5 | 14 | Q |
| Sotchi | 10.4 | 32 | e 2 | 36 | + 2 | e 4 | 35 | + 3 | — | — | — |
| Theodosia | 10.4 | 13 | i 2 | 36 | + 2 | i 4 | 36 | + 4 | — | — | — |
| Bucharest | 10.6 | 335 | e 2 | 38 | + 2 | i 5 | 3 | SSS | i 2 | 42 | PP |
| Leninakan | 10.9 | 54 | 2 | 44 | + 4 | — | — | — | — | — | — |
| Erevan | 11.1 | 58 | 2 | 45? | + 2 | 5 | 1? | SS | — | — | — |
| Focsani | 11.5 | 342 | e 2 | 53 | + 5 | — | — | — | — | — | — |
| Campulung | N, 11.7 | 334 | e 2 | 58 | + 7 | — | — | — | — | — | e 5.9 |
| Tiflis | 12.0 | 52 | i 2 | 58? | + 3 | i 5 | 25? | SS | — | — | — |
| Goris | 12.2 | 64 | i 3 | 1 | + 3 | i 5 | 27 | SS | — | — | — |
| Bacau | 12.3 | 342 | e 3 | 3 | + 4 | — | — | — | — | — | — |
| Kishinev | 12.4 | 349 | i 3 | 2 | + 1 | — | — | — | — | — | — |
| Iasi | N, 12.8 | 345 | e 3 | 7 | + 1 | — | — | — | — | — | — |
| Taranto | 13.1 | 300 | 3 | 6 | - 4 | 5 | 27 | -11 | — | — | e 7.2 |
| Belgrade | 13.4 | 321 | e 3 | 16 _a | + 2 | i 6 | 13 | SS | i 3 | 26 | PP |
| Grozny | 13.5 | 47 | i 3 | 16 | + 1 | — | — | — | — | — | — |
| Reggio Calabria | 13.7 | 288 | e 3 | 21 | + 3 | e 5 | 43 | - 9 | i 6 | 18 | SS |
| Timisoara | N, 13.7 | 326 | e 3 | 21 | + 3 | e 6 | 25 | SSS | — | — | e 8.1 |
| Messina | 13.8 | 289 | e 3 | 18 | - 1 | i 5 | 50 | - 4 | i 3 | 33 | PP |
| Cernauti | 14.2 | 343 | 3 | 25 | + 1 | — | — | — | — | — | — |
| Shemakla | 14.2 | 61 | i 3 | 26 | + 2 | — | — | — | — | — | — |
| Makhach-Kala | 14.4 | 51 | i 3 | 29 | + 2 | — | — | — | — | — | — |
| Szeged | N, 14.6 | 325 | 3 | 26 | - 4 | 6 | 10 | - 3 | 3 | 42 | PP |
| Baku | 15.0 | 64 | i 3 | 38 | + 3 | — | — | — | — | — | — |
| Kecskemet | 15.2 | 326 | 3 | 39 | + 1 | 6 | 45 | SS | 3 | 50 | PP |
| Kalossa | 15.3 | 323 | e 3 | 43 | + 4 | — | — | — | 3 | 52 | PP |
| Uzhgorod | 15.6 | 335 | 3 | 44 | + 1 | — | — | — | — | — | — |
| Budapest | 16.0 | 326 | 3 | 50 | + 2 | 6 | 40 | - 6 | 8 | 40 | PcP |
| Lwow | 16.1 | 341 | i 3 | 51 | + 2 | — | — | — | — | — | — |
| Ogyalla | 16.6 | 325 | e 4 | 8 | PP | e 7 | 9 | + 9 | e 7 | 15 | SS |
| Rocca di Papa | 16.7 | 300 | e 4 | 2 | + 5 | i 7 | 17 | SS | i 5 | 3 | ? |
| Skalnate Pleso | 16.8 | 332 | i 4 | 1 | + 3 | e 7 | 14 | + 9 | i 4 | 54 | ? |
| Rome | 16.9 | 300 | e 4 | 2 | + 3 | i 7 | 17 | +10 | — | — | i 9.9 |
| Triest | 17.7 | 313 | i 4 | 10 _a | 0 | i 7 | 31 | + 5 | i 4 | 36 | PPP |
| Vienna | 17.8 | 324 | e 4 | 12 | + 1 | e 7 | 35 | + 7 | 4 | 20? | PP |
| Siena | 18.2 | 305 | e 4 | 20 | + 4 | 7 | 46 | + 9 | 10 | 7 | Q |
| Raciborzu | z, 18.3 | 331 | e 4 | 18 | + 1 | i 4 | 28 | PP | e 4 | 42 | PPP |
| Florence | 18.4 | 306 | i 4 | 19 _a | + 1 | i 8 | 5 | SS | — | — | i 11.7 |
| Bologna | 18.7 | 308 | e 4 | 24 | + 2 | e 8 | 0 | +12 | e 4 | 42 | PP |
| Prague | 20.0 | 326 | i 4 | 36 _a | - 1 | i 8 | 20 | + 3 | e 4 | 52 | PP |
| Pavia | 20.3 | 309 | i 4 | 43 _a | + 3 | i 8 | 31 | + 8 | e 5 | 12 | PPP |
| Chur | 20.8 | 312 | e 4 | 46 _a | + 1 | e 8 | 44 | +11 | — | — | — |
| Cheb | 21.0 | 322 | i 4 | 48 | + 1 | e 8 | 30 | - 7 | i 8 | 47 | PcP |
| Moscow | 21.2 | 8 | 4 | 48 | - 1 | 8 | 43 | + 2 | — | — | e 10.5 |
| Oropa | 21.3 | 308 | e 4 | 50 | 0 | e 8 | 41 | - 2 | i 5 | 25 | PPP |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
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| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Collmburg | 21.5 | 325 | i 4 | 52 | 0 | e 8 | 55 | + 8 | e 5 | 23 | PPP | e 11.8 |
| Zürich | 21.6 | 313 | e 4 | 54 _a | 0 | e 8 | 45 | - 4 | — | — | — | — |
| Jena | 21.9 | 323 | e 4 | 56 | - 1 | e 9 | 3 | + 9 | i 5 | 27 | PP | e 11.5 |
| Stuttgart | 21.9 | 317 | i 4 | 56 _a | - 1 | i 9 | 0 | + 6 | i 5 | 27 | PP | e 11.5 |
| Potsdam | 22.2 | 328 | i 5 | 0 _a | 0 | i 9 | 4 | + 4 | i 9 | 41 | SS | e 12.0 |
| Basle | 22.3 | 313 | e 4 | 59 | - 2 | e 8 | 56 | - 6 | — | — | — | — |
| Karlsruhe | 22.5 | 317 | e 4 | 59 _a | - 3 | i 9 | 11 | + 6 | i 5 | 32 | PP | e 12.0 |
| Neuchatel | 22.5 | 312 | e 5 | 2 | 0 | e 9 | 20 | +15 | — | — | — | — |
| Strasbourg | 22.7 | 316 | i 5 | 4 | 0 | i 9 | 9 | 0 | i 5 | 15 | pP | i 11.9 |
| Algiers Univ. z. | 23.7 | 284 | i 5 | 15 | + 1 | e 9 | 42 | +15 | e 5 | 58 | PPP | — |
| Bairam-Ali | 24.2 | 75 | i 5 | 21 | + 2 | — | — | — | — | — | — | — |
| Barcelona | 24.4 | 296 | e 5 | 23 | + 2 | e 10 | 0 | +21 | 10 | 39 | SS | e 13.4 |
| Clermont-Ferrand | 24.6 | 306 | e 5 | 25 | + 2 | e 9 | 31 | -11 | e 5 | 35 | pP | — |
| Copenhagen | 24.8 | 333 | i 5 | 25 | 0 | e 9 | 46 | 0 | i 10 | 0 | ? | 12.5 |
| Pulkovo | 24.9 | 357 | i 5 | 26 | 0 | i 9 | 54 | + 7 | — | — | — | — |
| Witteveen z. | 25.5 | 324 | i 5 | 31 _a | - 1 | — | — | — | i 5 | 41 | ? | — |
| Tortosa | 25.6 | 293 | i 5 | 23 | - 9 | i 10 | 9 | +10 | — | — | — | — |
| Uccle | 25.7 | 317 | e 5 | 31 | - 2 | e 9 | 58 | - 3 | e 5 | 39 | pP | e 15.0 |
| Chambon-la-Forêt | 25.8 | 311 | i 5 | 36 | + 2 | — | — | — | i 5 | 47 | pP | — |
| De Bilt | 25.8 | 321 | i 5 | 36 _a | + 2 | e 10 | 6 | + 4 | e 9 | 0 | PcP | e 12.0 |
| Paris | 25.9 | 311 | i 5 | 35 | 0 | i 10 | 4 | 0 | i 5 | 47 | pP | e 15.0 |
| Tamanrasset z. | 26.2 | 251 | i 5 | 40 | + 2 | e 10 | 15 | + 6 | e 11 | 12 | SS | — |
| Alicante | 26.4 | 288 | 5 | 41 | + 1 | e 10 | 20 | + 8 | 12 | 45 | PcS | 12.9 |
| Upsala | 26.7 | 343 | i 5 | 41 | - 2 | e 10 | 14 | - 3 | i 6 | 33 | PPP | e 15.6 |
| Samarkand | 28.0 | 70 | i 5 | 50 | - 5 | — | — | — | — | — | — | — |
| Almeria | 28.1 | 285 | i 5 | 54 | - 1 | i 10 | 49 | + 9 | 12 | 54 | PcS | 15.8 |
| Kew | 28.6 | 316 | i 6 | 0 _a | 0 | e 12 | 14 | SS | e 13 | 36 | Q | e 14.0 |
| Granada | 28.9 | 286 | i 6 | 2 _k | - 1 | i 11 | 4 | +11 | 7 | 15 | PPP | 15.4 |
| Toledo | 29.1 | 292 | i 6 | 14 | +10 | e 10 | 40 | -16 | 6 | 17 | pP | 14.8 |
| Sverdlovsk | 29.2 | 32 | i 6 | 5 | 0 | — | — | — | — | — | — | — |
| Stalinabad | 29.4 | 71 | i 6 | 6 | - 1 | — | — | — | — | — | — | — |
| Malaga | 29.6 | 285 | i 6 | 10 | + 1 | i 10 | 42 | -22 | i 9 | 16 | PcP | 14.8 |
| Quetta | 29.6 | 88 | i 6 | 8 _k | - 1 | i 11 | 0 | - 4 | i 12 | 48 | SS | — |
| Tashkent | 29.7 | 66 | i 6 | 9 | - 1 | e 11 | 2 | - 4 | — | — | — | — |
| Tchimkent | 30.0 | 63 | i 6 | 11 | - 1 | — | — | — | — | — | — | — |
| Obi-garm | 30.1 | 71 | i 6 | 5 | - 8 | — | — | — | — | — | — | — |
| Durham E. | 30.7 | 321 | i 6 | 18 | - 1 | i 11 | 13 | - 8 | — | — | — | — |
| Bergen | 30.9 | 335 | e 6 | 17 | - 3 | e 11 | 5 | -19 | e 7 | 29 | PP | e 13.3 |
| Dzhergetal | 31.3 | 69 | 6 | 23 | - 1 | — | — | — | — | — | — | — |
| Namangan | 31.5 | 67 | i 6 | 26 | 0 | e 11 | 33 | - 1 | — | — | — | — |
| Fergana | 31.6 | 68 | i 6 | 26 | 0 | — | — | — | — | — | — | — |
| Khorog | 31.8 | 74 | i 6 | 28 | 0 | — | — | — | — | — | — | — |
| Andijan | 32.0 | 67 | i 6 | 30 | 0 | i 11 | 42 | 0 | — | — | — | — |
| Edinburgh E. | 32.0 | 323 | — | — | — | 11 | 37 | - 5 | — | — | — | — |
| Aberdeen | 32.1 | 325 | i 6 | 27 | - 4 | i 11 | 37 | - 6 | i 7 | 41 | PP | 21.8 |
| Coimbra | 32.4 | 292 | 6 | 32 _? | - 2 | 11 | 48 | 0 | 14 | 6 | SSS | 19.7 |
| Rathfarnham Castle | 32.7 | 317 | i 6 | 39 _a | + 3 | i 11 | 47 | - 5 | i 7 | 40 | PP | e 15.2 |
| Lisbon | 33.1 | 290 | e 6 | 40 _a | 0 | — | — | — | — | — | — | 16.0 |
| Murgab | 33.5 | 71 | i 6 | 44 | + 1 | — | — | — | — | — | — | — |
| Frunse | 33.7 | 63 | i 6 | 44 | - 1 | i 12 | 7 | - 1 | — | — | — | — |
| Kiruna | 33.7 | 353 | i 6 | 43 _a | - 2 | i 12 | 3 | - 5 | i 7 | 52 | PP | e 19.0 |
| Naryn | 34.8 | 66 | i 6 | 55 | + 1 | i 12 | 25 | 0 | — | — | — | — |
| Rybach'e | 34.8 | 64 | i 6 | 54 | 0 | i 12 | 26 | + 1 | — | — | — | — |
| Almata | 35.4 | 62 | i 6 | 59 | - 1 | — | — | — | — | — | — | — |
| Ili | 35.4 | 61 | i 6 | 59 | - 1 | — | — | — | — | — | — | — |
| Almata II | 35.7 | 62 | i 7 | 3 | + 1 | — | — | — | — | — | — | — |
| Chilisk | 36.4 | 62 | i 7 | 8 | 0 | — | — | — | — | — | — | — |
| Przhevalsk | 36.5 | 64 | 7 | 9 | 0 | 12 | 52 | + 1 | — | — | — | — |
| New Delhi | 38.5 | 86 | i 7 | 22 | - 4 | i 13 | 16 | - 6 | 13 | 28 | PcS | 17.5 |
| Dehra Dun N. | 38.6 | 83 | i 7 | 24 | - 2 | 13 | 27 | + 4 | 9 | 7 | PP | — |
| Bombay | 39.3 | 103 | e 7 | 30 | - 2 | e 13 | 36 | + 2 | 9 | 11 | PP | 16.6 |
| Poona | 40.3 | 103 | i 7 | 40 | 0 | e 13 | 49 | 0 | e 9 | 17 | PP | 18.4 |
| Reykjavik | 43.7 | 330 | i 8 | 10 _a | + 2 | — | — | — | i 8 | 13 | ? | e 28.0 |
| Scoresby Sund | 45.7 | 338 | i 8 | 24 | 0 | e 15 | 12 | + 4 | e 10 | 11 | PP | 19.0 |
| Chatra | 47.4 | 83 | i 8 | 36 | - 2 | i 15 | 29 | - 3 | 18 | 28 | ScS | 22.1 |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
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| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Kodaikanal | E. | 47.9 | 109 | i 8 34 | - 8 | i 15 31 | - 8 | 20 16 | SSS | 22.8 |
| Madras | E. | 48.4 | 103 | i 8 45 | - 1 | i 15 43 | - 3 | 10 35 | PP | 22.8 |
| M'Bour | | 48.6 | 259 | i 8 48 | + 1 | i 15 46 | - 3 | i 10 37 | PP | — |
| Shillong | N. | 51.7 | 83 | e 9 6 | - 5 | i 16 26 | - 6 | e 18 51 | ScS | 23.6 |
| Colombo | E. | 51.9 | 112 | — | — | 16 2 | -33 | — | — | 28.8 |
| Irkutsk | | 52.8 | 47 | i 9 18 | - 1 | 16 48 | + 1 | — | — | — |
| Kabansk | | 54.3 | 47 | i 9 29 | - 1 | i 17 7 | 0 | — | — | — |
| Kyakhta | | 54.5 | 49 | i 9 30 | - 2 | 17 10 | 0 | — | — | — |
| Tananarive | | 55.5 | 162 | i 9 40 | + 1 | e 9 44 | ? | e 10 35 | PcP | — |
| Pretoria | Z. | 60.4 | 184 | i 10 14 | + 1 | — | — | — | — | — |
| Kimberley | Z. | 63.7 | 187 | i 10 34 | - 2 | — | — | — | — | — |
| Pietermaritzburg | Z. | 64.2 | 181 | e 10 39 | 0 | — | — | — | — | — |
| Resolute Bay | | 65.3 | 347 | e 10 44 | - 2 | e 19 28 | - 1 | e 13 12 | PP | — |
| Grahamstown | Z. | 68.1 | 185 | e 11 0 | - 4 | — | — | — | — | e 33.3 |
| Nanking | | 70.0 | 65 | i 11 13 _a | - 2 | i 20 19 | - 7 | i 15 41 | PcS | — |
| Halifax | | 70.1 | 312 | i 11 17 _a | + 1 | 20 23 | - 4 | i 11 26 | ? | — |
| Hong Kong | | 71.3 | 75 | 11 22 | - 1 | e 20 15 | -26 | — | — | — |
| Seven Falls | E. | 73.2 | 317 | e 11 32? | - 3 | e 21 0? | - 2 | 14 16? | PP | — |
| Magadan | | 73.2 | 28 | i 11 34 | - 1 | 21 0 | - 2 | — | — | — |
| Shawinigan Falls | N. | 74.6 | 317 | e 11 43 | 0 | — | — | — | — | — |
| Ulegorsk | | 75.8 | 39 | i 11 49 | - 1 | e 21 31 | 0 | — | — | — |
| Weston | | 76.1 | 312 | i 11 52 _a | + 1 | 21 40 | + 5 | 31 27 | Q | 35.2 |
| Harvard | | 76.2 | 312 | i 11 52 _a | 0 | e 21 40 | + 4 | e 26 40 | SS | e 35.3 |
| Ottawa | | 76.9 | 317 | i 11 56 _a | 0 | 21 44 | + 1 | 26 40 | SS | — |
| Bermuda | | 77.3 | 301 | i 11 59 | + 1 | i 21 52 | + 4 | e 12 8 | pP | e 36.7 |
| Yuzno-Sakhlinsk | | 77.4 | 42 | i 11 58 | 0 | i 21 48 | - 1 | — | — | — |
| Hukuoka | | 77.5 | 58 | e 11 58 _a | - 1 | e 21 52 | + 2 | e 22 32 | PS | e 35.4 |
| Kirkland Lake | Z. | 77.6 | 321 | i 12 0 _a | 0 | — | — | — | — | — |
| Saga | E. | 77.7 | 59 | e 17 0 | PPP | — | — | — | — | — |
| Wakkanai | | 77.8 | 43 | e 17 22 | PPP | — | — | — | — | — |
| Hamada | | 78.0 | 56 | e 12 1 | - 1 | e 22 3 | + 8 | — | — | — |
| Kumamoto | | 78.2 | 59 | e 11 50 | -13 | — | — | — | — | — |
| Hirosima | | 78.5 | 57 | e 12 3 | - 1 | e 21 58 | - 3 | — | — | e 42.0 |
| Palisades | | 78.5 | 312 | i 12 5 | + 1 | i 22 4 | + 3 | e 15 2 | PP | e 37.7 |
| Kagosima | | 78.8 | 60 | e 12 18 | +12 | — | — | — | — | — |
| Matuyama | | 79.0 | 56 | e 12 6 | - 1 | e 22 2 | - 4 | e 15 6 | PP | — |
| Sapporo | | 79.0 | 45 | i 12 9 | + 2 | e 22 7 | + 1 | e 15 19 | PP | e 47.8 |
| Mori | | 79.2 | 46 | 12 10 | + 2 | 22 0 | - 8 | 17 13 | PPP | 49.0 |
| Toyooka | | 79.4 | 54 | e 12 9 | 0 | e 22 7 | - 3 | — | — | — |
| Baguio | | 79.5 | 77 | i 12 10 | 0 | i 22 10 | - 1 | — | — | 40.0 |
| Takamatu | | 79.6 | 56 | e 12 10 | 0 | e 22 6 | - 6 | — | — | 39.0 |
| Koti | | 79.7 | 57 | e 12 10 | - 1 | e 22 5 | - 8 | — | — | — |
| Aomori | | 80.1 | 47 | e 12 14 | + 1 | — | — | — | — | — |
| Buffalo (Larkin) | | 80.2 | 316 | i 12 11 | - 3 | e 22 19 | 0 | — | — | — |
| Kobe | | 80.2 | 54 | e 12 9 | - 5 | e 22 14 | - 5 | — | — | e 41.0 |
| Obihiro | | 80.2 | 44 | e 13 19 | +65 | — | — | — | — | — |
| Sumoto | | 80.2 | 54 | e 12 12 | - 2 | e 22 12 | - 7 | — | — | e 43.2 |
| Akita | | 80.3 | 48 | e 12 15 | + 1 | e 22 13 | - 7 | — | — | — |
| Toyama | | 80.3 | 52 | e 12 10 | - 4 | e 21 35 | -45 | — | — | e 44.2 |
| Osaka | | 80.4 | 54 | e 12 19 | + 4 | — | — | — | — | — |
| Urakawa | | 80.4 | 45 | e 12 16 | + 1 | e 22 6 | -15 | — | — | e 48.4 |
| Hikone | | 80.5 | 53 | e 12 15 | 0 | — | — | — | — | — |
| College | | 80.6 | 0 | i 12 15 | - 1 | e 22 40 | +17 | — | — | — |
| Sakata | | 80.7 | 49 | e 12 22 | + 6 | — | — | — | — | — |
| Gihu | | 80.8 | 53 | e 12 17 | 0 | — | — | — | — | — |
| Niigata | | 80.8 | 51 | e 12 26 | + 9 | — | — | e 13 0 | ? | — |
| Petropavlovsk | | 80.8 | 30 | i 12 14 | - 3 | — | — | — | — | — |
| Kameyama | | 80.9 | 54 | 12 20 _a | + 3 | 22 15 | -11 | 17 29 | PPP | 42.7 |
| Morioka | | 81.0 | 48 | e 12 16 | - 2 | — | — | — | — | — |
| Nagano | N. | 81.0 | 52 | e 12 19 | + 1 | e 22 29 | + 2 | — | — | — |
| Pennsylvania | | 81.0 | 314 | i 12 15 | - 3 | i 22 29 | + 2 | — | — | i 42.2 |
| Matumoto | N. | 81.1 | 52 | 12 21 | + 3 | — | — | — | — | — |
| Matusiro | | 81.1 | 52 | i 12 17 | - 1 | i 22 26 | - 2 | 15 29 | PP | 39.1 |
| Nagoya | E. | 81.1 | 53 | e 12 20 | + 2 | — | — | — | — | — |
| Kurilsk | | 81.3 | 41 | i 12 21 | + 1 | 22 29 | - 1 | — | — | — |

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| | △ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------|----------|-----|------|-----------------|------------------|------|----|--------|-------|----|------|--------|
| | | | m. | s. | | m. | s. | | m. | s. | | |
| Mizusawa | 81.3 | 48 | 12 | 23 | + 3 | e 22 | 30 | 0 | 12 | 55 | ? | — |
| Nemuro | 81.3 | 43 | e 12 | 18 | - 2 | e 22 | 35 | + 5 | — | — | — | e 47.1 |
| Oiwake | 81.4 | 52 | e 12 | 20 | 0 | e 22 | 48 | +17 | — | — | — | — |
| Miyako | 81.5 | 48 | e 12 | 19 | - 2 | e 22 | 27 | - 5 | — | — | — | — |
| Maebasi | 81.7 | 52 | e 12 | 20 | - 2 | e 22 | 34 | 0 | e 12 | 27 | PcP | e 52.5 |
| Sendai | 81.7 | 48 | e 12 | 21 | - 1 | e 22 | 30 | - 4 | — | — | — | — |
| Washington | 81.7 | 312 | i 12 | 22 | 0 | e 22 | 29 | - 5 | — | — | — | — |
| Hokusima | 81.8 | 49 | e 12 | 22 | 0 | — | — | — | — | — | — | — |
| Kohu | 81.8 | 52 | e 12 | 26 | + 4 | e 22 | 34 | - 1 | — | — | — | — |
| Shirakawa | 82.0 | 50 | e 12 | 24 | + 1 | — | — | — | — | — | — | — |
| Hunatu | 82.1 | 52 | e 12 | 14 | -10 | — | — | — | — | — | — | — |
| Kumagaya | 82.1 | 52 | e 12 | 24 | 0 | e 22 | 31 | - 7 | — | — | — | — |
| Shizuoka | 82.1 | 53 | 12 | 24 ^a | 0 | 22 | 38 | 0 | — | — | — | e 42.3 |
| Utunomiya | n. 82.1 | 51 | e 12 | 20 | - 4 | e 22 | 34 | - 4 | e 16 | 41 | ? | — |
| Misima | 82.4 | 53 | e 12 | 25 | 0 | i 22 | 40 | - 1 | — | — | — | — |
| Pittsburgh | 82.4 | 315 | i 12 | 29 | + 4 | i 22 | 44 | + 3 | — | — | — | — |
| Tokyo | 82.6 | 52 | 12 | 39 | +13 | 22 | 40 | - 3 | e 16 | 30 | ? | 42.6 |
| Cleveland | e. 82.7 | 317 | e 12 | 26 | - 1 | i 22 | 44 | 0 | — | — | — | — |
| Cincinnati | 85.9 | 316 | i 12 | 43 | 0 | — | — | — | i 12 | 53 | ? | — |
| San Juan | 86.2 | 290 | i 12 | 46 | + 2 | e 23 | 13 | {- 1} | — | — | — | — |
| Saskatoon | 86.2 | 336 | — | — | — | e 23 | 1 | [- 8] | — | — | — | 40.0 |
| Columbia | 87.3 | 311 | e 12 | 51 | + 1 | i 23 | 32 | + 3 | — | — | — | — |
| Hungry Horse | 91.8 | 338 | i 13 | 11 | 0 | — | — | — | — | — | — | — |
| Butte | 93.4 | 337 | e 13 | 18 | 0 | — | — | — | — | — | — | — |
| Fayetteville | 93.5 | 319 | i 13 | 18 | - 1 | e 23 | 50 | [- 3] | e 31 | 10 | PSPS | e 43.0 |
| Victoria | 94.1 | 344 | — | — | — | e 24 | 4 | [+ 8] | — | — | — | 37.0 |
| Bogota | 100.6 | 284 | e 18 | 32 | PP | e 25 | 35 | +10 | e 27 | 8 | PS | 46.0 |
| Shasta | z. 101.2 | 341 | e 13 | 53 ^a | - 1 | e 14 | 4 | ? | e 18 | 10 | PP | — |
| Mineral | z. 101.3 | 340 | e 13 | 55 ^a | + 1 | e 17 | 17 | ? | e 18 | 1 | PP | — |
| Reno | z. 101.5 | 338 | e 13 | 56 | + 1 | — | — | — | — | — | — | — |
| Chinchina | 101.6 | 285 | e 18 | 14 | PP | e 25 | 22 | -12 | — | — | — | — |
| Boulder City | 103.1 | 333 | e 14 | 3 | + 1 | — | — | — | — | — | — | — |
| Nelson | 103.3 | 333 | i 14 | 4 | + 1 | — | — | — | i 17 | 26 | ? | — |
| Tinemaha | z. 103.3 | 336 | e 14 | 4 | + 1 | e 17 | 34 | ? | e 18 | 20 | PP | — |
| Berkeley | 103.8 | 339 | e 18 | 20 ^k | PP | e 26 | 0 | + 8 | e 33 | 13 | SS | e 49.3 |
| Fresno | z. 104.1 | 337 | e 14 | 7 | 0 | — | — | — | — | — | — | — |
| Lick | z. 104.1 | 339 | e 14 | 17 ^a | +10 | e 18 | 25 | PP | e 30 | 12 | PKKP | — |
| Santa Clara | 104.2 | 339 | e 18 | 29 | PP | e 33 | 19 | SS | — | — | — | 62.2 |
| Tucson | 104.7 | 329 | e 14 | 10 | + 1 | e 24 | 46 | [- 3] | — | — | — | — |
| Pasadena | 105.9 | 335 | i 18 | 38 | PP | e 25 | 3 | [+ 8] | e 28 | 0 | PS | e 47.0 |
| La Paz | 107.6 | 262 | e 19 | 7 | PP | i 26 | 28 | S | 29 | 23 | PPS | 54.4 |
| La Plata | 109.0 | 241 | 37 | 24 | ? | 34 | 30 | SS | 38 | 24 | SSS | 54.1 |
| Tacubaya | 109.0 | 312 | e 14 | 26 | P | e 15 | 6 | ? | e 18 | 48 | PP | — |
| Riverview | 130.3 | 107 | e 21 | 52 | PP | e 27 | 59 | {- 23} | i 38 | 55 | SS | 60.1 |
| Cobb River | e. 148.5 | 113 | e 20 | 0 [?] | PKP ₂ | — | — | — | — | — | — | — |
| Apia | 149.8 | 52 | i 20 | 2 | PKP ₂ | — | — | — | — | — | — | — |
| Wellington | 150.0 | 114 | e 19 | 53 | [+ 6] | — | — | — | e 20 | 25 | ? | e 68.0 |
| Karapiro | n. 150.5 | 109 | e 19 | 50 | [+ 2] | — | — | — | — | — | — | — |
| Tongariro | z. 150.5 | 109 | e 19 | 53 | [+ 5] | — | — | — | — | — | — | — |

Sept. 10d. 17h. 3m. Provisional epicentre 21°S. 174°W. Magnitude 6.
Seismo. Observatory Bulletin No. E-133, July, Aug., Sept., 1953, New Zealand Department of Scientific and Industrial Research, Wellington, 1956, p. 12.

Sept. 10d. 22h. 22m. Epicentre 41°·0N. 47°·3E. Eastern Caucasus.
Bulletin of the Seismological Stations of the U.S.S.R. for July-September, 1953, Moscow, 1954, p. 140.

Sept. 11d. 11h. 29m. Epicentre 39°·2N. 71°·2E.
Bulletin of Seismo. Stations of U.S.S.R. for July-September, 1953, Moscow, 1954, pp. 140, 141.

Sept. 11d. 17h. 19m. Epicentre 38°·7N. 70°·6E.
Loc. cit., 11h., p. 141.

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Sept. 11d. 17h. 53m. Epicentre $32^{\circ}2'N$, $137^{\circ}8'E$. Depth of focus 320km.
Intensity II-III at Utunomiya.
Bull. Cent. Met. Obs., Japan, September, 1953, Tokyo, 1954, p. 17.

Sept. 11d. 18h. 26m. Epicentre $38^{\circ}6'N$, $90^{\circ}1'W$.
Intensity VI at Roxana; V at Edwardsville; IV at Alhambra, Aviston, Columbia, Cottage Hills, Hartford, Hoyleton, Lebanon, Maryville, and Summerfield.
L. M. Murphy and W. K. Cloud.
United States Earthquakes, 1953. U.S.C.G.S. Serial No. 785. Washington, 1955, p. 8.

Sept. 11d. 19h. 4m. Epicentre $36^{\circ}7'N$, $70^{\circ}5'E$. Depth of focus 200km.
Loc. cit., 11h. and 17h., p. 141.

Sept. 13d. 4h. 42m. 30s. Epicentre $36^{\circ}5'N$, $140^{\circ}8'E$. Depth of focus 40km.
Intensity IV at Mito, Utunomiya, and Kakioka; II-III at Shirakawa, Hukushima, Titibu, and Kashiwa.
Seismo. Bull. Cent. Met. Obs., Japan, September, 1953, Tokyo, 1954, p. 19, with macroseismic chart.

Sept. 13d. 8h. 2m. Epicentre $47^{\circ}0'N$, $17^{\circ}2'E$.
Intensity VI-VII at Megyer, Ukk, and Turje; VI at Csabrendek and Janoshaza; V at Sumez and Túskevar; IV at Boba, Keszthely, Pakod, and Zalaegerszeg.
Kiss Zoltan.
Ungarischer Erdbebenkatalog für das Jahre, 1953, Series B, 1954, pp. 5, 6, 8.

Sept. 13d. 14h. 47m. 52s. Epicentre $34^{\circ}0'N$, $136^{\circ}75'E$. Depth of focus 360km.
Seismo. Bull. Cent. Met. Obs., Japan, 1953, September, Tokyo, 1954, p. 20.

Sept. 13d. 19h. 46m. Epicentre $41^{\circ}2'N$, $43^{\circ}8'E$.
Bulletin of Seismo. Stations of U.S.S.R. for 1953, July-Sept., Moscow, 1954, p. 142.

Sept. 13d. 23h. 22m. Epicentre $41^{\circ}2'$ $43^{\circ}8'E$.
Loc. cit., 19h.

Sept. 14d. 0h. 26m. 36s. Epicentre $18^{\circ}3'S$, $178^{\circ}2'E$. Focus at Base of Superficial Layers.

$$A = -.9496, B = +.0298, C = -.3121; \quad \delta = +3; \quad h = +5;$$

$$D = +.031, K = +1.000; \quad G = +.312, H = -.010, K = -.950.$$

| | | Δ | | Az. | | P. | | O-C. | | S. | | O-C. | | Supp. | | L. |
|--------------|------|----------|-----|------|-----------------|-----|----------|------|----|---------|-----|------|----|-------|----|--------|
| | | m. | s. | m. | s. | m. | s. | m. | s. | m. | s. | m. | s. | m. | s. | |
| Apia | | 10.6 | 67 | i 2 | 30 | - 3 | (4 16) | -15 | | | | | | | | 4.3 |
| Auckland | N. | 18.7 | 191 | 4 | 14 | - 4 | e 7 54 | +12 | | e 7 16 | ? | | | | | |
| Karapiro | N. | 19.7 | 190 | 4 | 30 | + 1 | 8 30 | SS | | 5 14 | ? | | | | | |
| Tuai | N. | 20.5 | 185 | e 4 | 37 | - 1 | e 9 20? | ? | | e 4 54 | PP | | | | | |
| New Plymouth | E. | 21.0 | 191 | e 4 | 41 | - 2 | (e 9 8) | SS | | | | | | | | e 9.1 |
| Tongariro | Z. | 21.0 | 190 | i 5 | 44 | +61 | | | | | | | | | | |
| Wellington | | 23.1 | 190 | i 5 | 0 | - 4 | e 8 49 | PcP | | e 5 43 | PPP | | | | | e 11.2 |
| Cobb River | E. | 23.2 | 193 | e 5 | 8 | + 3 | (e 9 40) | SS | | | | | | | | e 9.7 |
| Kaimata | N.E. | 24.8 | 194 | 5 | 23 | + 3 | e 10 4 | +26 | | | | | | | | e 14.0 |
| Brisbane | | 24.9 | 245 | i 5 | 22 _a | + 1 | e 9 39 | - 1 | | i 9 57 | sS | | | | | |
| Christchurch | | 25.6 | 191 | i 5 | 27 | - 1 | i 9 50 | - 1 | | e 11 18 | SSS | | | | | |
| Riverview | | 28.7 | 233 | i 5 | 58 _k | + 2 | i 10 44 | + 2 | | i 6 49 | PP | | | | | e 13.0 |
| Melbourne | E. | 34.9 | 230 | e 5 | 53 | -57 | e 12 38 | sS | | i 8 17 | PPP | | | | | 14.6 |
| Guam | | 45.7 | 311 | i 9 | 30 | ? | | | | | | | | | | |
| Honolulu | | 45.7 | 32 | i 8 | 20 | 0 | e 15 8 | + 8 | | | | | | | | |
| Perth | | 57.4 | 244 | | | | i 19 49 | ScS | | i 20 22 | ? | | | | | |
| Mera | | 64.3 | 326 | e 10 | 31 | - 3 | | | | | | | | | | |
| Misima | E. | 64.9 | 326 | e 10 | 41 | + 3 | | | | | | | | | | |
| Omaesaki | | 64.9 | 325 | e 10 | 38 | 0 | | | | | | | | | | e 26.8 |
| Tokyo | | 64.9 | 326 | e 10 | 38 | 0 | e 20 42 | ScS | | e 10 52 | pP | | | | | 26.4 |
| Shizuoka | | 65.1 | 325 | e 10 | 40 | 0 | e 19 13 | - 5 | | | | | | | | e 26.4 |
| Kumagaya | | 65.4 | 327 | 10 | 42 | 0 | | | | e 15 26 | PcS | | | | | |
| Kohu | E. | 65.5 | 326 | e 10 | 41 | - 1 | | | | | | | | | | |
| Utunomiya | | 65.5 | 327 | e 10 | 42 | 0 | e 19 33 | +10 | | e 13 21 | PP | | | | | 28.0 |
| Iida | | 65.8 | 325 | e 10 | 48 | + 4 | | | | | | | | | | |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|-----------------|----|------------|------------|----------|------|---------|--------|---------|------|--------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. | |
| Maebasi | | 65.8 | 327 | e 10 41 | - 3 | e 19 42 | sS | e 10 49 | pP | — |
| Nagoya | E. | 66.0 | 324 | e 10 49 | + 4 | — | — | — | — | — |
| Oiwake | | 66.0 | 326 | e 10 32 | - 13 | — | — | — | — | — |
| Kameyama | | 66.1 | 324 | 10 41 | - 5 | e 19 2 | - 28 | i 12 10 | ? | 28.1 |
| Matumoto | E. | 66.3 | 325 | 10 49 | + 2 | — | — | — | — | — |
| Matusiro | | 66.3 | 326 | 10 47 | 0 | e 19 47 | sS | e 13 14 | PP | e 28.3 |
| Sendai | | 66.3 | 329 | e 10 48 | + 1 | e 18 25 | ? | e 14 49 | PPP | — |
| Baguio | | 66.4 | 298 | e 10 46 | - 2 | i 19 41 | + 7 | — | — | 31.4 |
| Nagano | | 66.4 | 326 | e 10 52 | + 4 | e 19 46 | + 12 | e 11 30 | PcP | — |
| Takayama | N. | 66.6 | 325 | e 10 42 | - 7 | — | — | — | — | — |
| Miyako | | 66.8 | 330 | e 10 46? | - 4 | — | — | — | — | — |
| Mizusawa | E. | 66.8 | 329 | (10 48) | - 2 | 10 48 | P | — | — | — |
| Niigata | | 67.0 | 327 | e 11 4 | pP | — | — | — | — | — |
| Toyama | | 67.0 | 326 | e 11 42 | PcP | e 20 0 | sS | — | — | — |
| Takamatu | | 67.1 | 321 | e 10 50 | - 2 | e 19 49 | + 7 | — | — | 28.0 |
| Morioka | | 67.3 | 331 | e 10 54 | + 1 | — | — | — | — | — |
| Akita | | 67.8 | 330 | e 11 2 | + 5 | e 20 4 | + 13 | — | — | — |
| Hirosima | | 68.1 | 320 | e 9 42 | ? | e 20 1 | + 7 | — | — | — |
| Aomori | | 68.3 | 331 | e 10 59 | - 1 | — | — | e 11 29 | PcP | — |
| Nemuro | | 68.3 | 335 | e 10 44 | - 16 | — | — | e 28 54 | Q | e 32.4 |
| Urakawa | | 68.5 | 333 | e 10 47 | - 14 | e 19 48 | - 11 | e 23 56 | SS | e 28.0 |
| Kurilsk | | 69.0 | 338 | i 11 3 | - 1 | i 20 16 | + 11 | — | — | — |
| Bandung | | 69.4 | 270 | i 14 19 | ? | e 20 7 | - 3 | — | — | — |
| Mori | N. | 69.4 | 332 | e 11 12 | + 6 | — | — | e 14 38 | ? | — |
| Sapporo | | 69.8 | 333 | i 11 8 | - 1 | — | — | e 11 12 | P | — |
| Djakarta | | 70.4 | 270 | e 11 14k | + 1 | e 20 25 | + 3 | i 15 41 | PPP | e 36.5 |
| Yuzno-Sakhiinsk | | 72.4 | 335 | e 11 26 | + 1 | i 20 56 | + 11 | — | — | — |
| Petropavlovsk | | 73.1 | 347 | i 11 28 | - 1 | i 20 59 | + 6 | — | — | — |
| Hong Kong | | 74.5 | 300 | 11 37 | 0 | e 21 12 | + 4 | — | — | — |
| Vladivostok | | 74.5 | 327 | 11 39 | + 2 | 21 21 | + 13 | — | — | — |
| Santa Clara | | 78.9 | 44 | i 12 8k | + 6 | e 21 55 | - 1 | — | — | e 36.2 |
| Berkeley | | 79.0 | 44 | e 12 4 | + 2 | e 21 56 | - 1 | — | — | — |
| Lick | Z. | 79.1 | 44 | e 12 3a | 0 | e 15 5 | PP | e 13 46 | ? | — |
| Pasadena | | 79.9 | 49 | i 12 7 | 0 | e 22 9 | + 2 | i 15 10 | PP | e 36.4 |
| Fresno | Z. | 80.1 | 46 | e 12 9 | + 1 | e 17 44 | ? | e 39 0 | P'P' | — |
| Barratt | Z. | 80.3 | 51 | e 12 11 | + 2 | — | — | — | — | — |
| Riverside | Z. | 80.4 | 49 | e 12 11 | + 1 | i 15 13 | PP | e 39 0 | P'P' | — |
| Shasta | | 80.5 | 42 | e 12 11k | + 1 | e 22 39 | sS | i 12 14 | P | — |
| Magadan | | 80.7 | 347 | 12 9 | - 2 | 22 18 | + 3 | — | — | — |
| Mineral | Z. | 80.8 | 42 | e 12 13k | + 1 | i 12 31 | sP | i 13 8 | ? | — |
| Tinemaha | | 81.3 | 47 | i 12 16 | + 2 | e 22 40 | sS | e 23 6 | PS | — |
| Reno | | 81.5 | 44 | e 12 19 | + 3 | e 22 39 | sS | e 39 1 | P'P' | — |
| Nelson | | 83.0 | 49 | e 12 24 | + 1 | i 12 41 | sP | — | — | — |
| Tucson | | 84.4 | 53 | i 12 20? | - 10 | i 23 7 | sS | — | — | — |
| Victoria | | 84.4 | 35 | — | — | e 22 54 | + 1 | — | — | 33.7 |
| Guadalajara | | 86.1 | 67 | e 12 32 | - 7 | — | — | i 12 44 | pP | — |
| Chihuahua | | 86.7 | 58 | e 12 39 | - 3 | e 23 19 | + 4 | e 27 19 | ? | e 39.4 |
| College | | 86.9 | 14 | e 12 42 | - 1 | e 23 14 | - 3 | — | — | — |
| Logan | | 87.9 | 45 | e 12 48 | + 1 | — | — | e 13 41 | ? | — |
| Tacubaya | | 89.3 | 70 | i 12 48 | - 6 | e 23 55 | sS | i 12 58 | pP | — |
| Butte | | 89.4 | 40 | i 12 55 | 0 | e 23 56 | sS | — | — | — |
| Hungry Horse | | 89.6 | 38 | i 12 55 | - 1 | — | — | — | — | — |
| Vera Cruz | | 91.9 | 70 | — | — | e 23 42 | [+ 8] | e 24 40 | ? | e 45.6 |
| Kyakhta | | 92.8 | 322 | e 13 10 | 0 | — | — | — | — | — |
| Kabansk | | 93.4 | 324 | e 13 12 | - 1 | i 25 36 | PS | i 17 2 | PP | — |
| Shillong | N. | 94.5 | 295 | e 13 13 | - 5 | e 23 33 | [- 16] | e 27 34 | ? | — |
| Irkutsk | | 94.8 | 324 | e 13 19 | - 1 | e 24 32 | + 4 | e 23 56 | SKS | — |
| Fayetteville | | 98.7 | 55 | i 13 40 | + 3 | e 24 20 | [+ 9] | i 17 40 | PP | e 41.4 |
| Chatra | | 98.9 | 297 | e 13 35 | - 3 | i 24 20 | [+ 8] | — | — | — |
| Colombo | E. | 100.0 | 274 | e 15 35 | ? | 24 25 | [+ 7] | — | — | 45.7 |
| Huancayo | | 101.5 | 107 | e 18 0 | PP | e 24 30 | [+ 5] | e 27 42 | PPS | e 39.7 |
| Madras | E. | 101.5 | 280 | i 16 55? | ? | e 24 33 | [+ 8] | e 32 42 | PSS | — |
| La Plata | | 104.9 | 135 | 18 24 | PP | 24 42 | [+ 2] | 27 36 | PS | 43.7 |
| La Paz | | 106.1 | 114 | e 14 15 | P | i 24 56 | [+ 10] | i 18 34 | PP | 50.4 |
| Resolute Bay | | 106.7 | 15 | e 14 10 | P | e 25 0 | [+ 11] | e 33 57 | SS | e 51.4 |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------------|----------|-----|------|-----------------|-------|------|----|-------|-------|----|------------------|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Chinchina | 106.9 | 90 | e 18 | 44 | PP | e 24 | 59 | [+10] | e 33 | 53 | SS | 50.4 |
| Bogota | 108.3 | 91 | e 18 | 56 | PP | e 25 | 9 | [+13] | e 28 | 11 | PS | 51.4 |
| Poona | 108.8 | 284 | e 17 | 24? | ? | — | — | — | — | — | — | — |
| Przhevalsk | 109.2 | 310 | e 18 | 59 | PP | — | — | — | — | — | — | — |
| Cleveland | 109.4 | 52 | e 19 | 39 | ? | e 25 | 15 | [+15] | i 34 | 24 | SS | — |
| Bombay | 109.8 | 284 | e 17 | 56 | ? | 25 | 19 | [+17] | e 34 | 36 | SS | — |
| Almata | 110.4 | 311 | e 19 | 8 | PP | — | — | — | — | — | — | — |
| Frunse | 112.1 | 310 | e 18 | 11 | [-21] | e 21 | 49 | SKP | e 28 | 52 | PS | — |
| Pennsylvania | 112.1 | 53 | i 29 | 33 | PKKP | e 27 | 18 | ? | i 35 | 8 | PSS | — |
| Washington | 112.6 | 55 | e 19 | 56 | ? | — | — | — | e 29 | 26 | PKKP | — |
| Andijan | 113.6 | 308 | e 18 | 41 | [+ 6] | i 29 | 23 | PS | i 19 | 50 | PP | — |
| Fergana | 114.0 | 307 | e 18 | 32 | [- 4] | — | — | — | e 19 | 52 | PP | — |
| Ottawa | 114.0 | 48 | e 19 | 30 | PP | 26 | 28 | SKKS | 29 | 4 | PS | — |
| Namangan | 114.1 | 308 | e 19 | 43 | PP | e 26 | 28 | SKKS | e 29 | 23 | pPS | — |
| Dzhergetal | 114.3 | 306 | e 18 | 42 | [+ 6] | — | — | — | — | — | — | — |
| Palisades | 115.1 | 53 | e 19 | 44 | PP | e 25 | 33 | [+10] | e 29 | 15 | PS | e 53.9 |
| Kulyab | 115.4 | 304 | e 18 | 46 | [+ 8] | 25 | 33 | [+ 9] | — | — | — | — |
| Obi-garm | 115.5 | 305 | e 18 | 41 | [+ 2] | — | — | — | — | — | — | — |
| Tchikent | 115.7 | 309 | e 18 | 45 | [+ 6] | i 20 | 12 | pPP | i 22 | 26 | PPP | — |
| Tashkent | 115.9 | 308 | e 18 | 42 | [+ 3] | i 26 | 45 | SKKS | e 35 | 54 | SS | — |
| Stalinabad | 116.2 | 305 | — | — | — | e 25 | 17 | [-10] | — | — | — | — |
| Harvard | 116.9 | 51 | — | — | — | e 36 | 10 | SS | — | — | — | 48.0 |
| Quetta | 117.0 | 296 | e 18 | 43 | [+ 1] | — | — | — | e 29 | 14 | PKKP | — |
| Weston | 117.1 | 51 | — | — | — | e 28 | 10 | ? | e 36 | 20 | PSS | e 60.3 |
| Seven Falls | 117.4 | 46 | e 20 | 15 | pPP | e 25 | 44 | [+13] | 36 | 7 | SS | — |
| Samarkand | 117.6 | 306 | e 18 | 44 | [+ 1] | — | — | — | 20 | 24 | pPP | — |
| San Juan | 119.3 | 79 | e 18 | 49 | [+ 3] | e 25 | 47 | [+ 8] | — | — | — | — |
| Sverdlovsk | 120.2 | 326 | e 19 | 0 | pPKP | e 25 | 48 | [+ 7] | 36 | 48 | SS | — |
| Bairam-Ali | 121.4 | 303 | i 18 | 54 | [+ 4] | — | — | — | i 20 | 37 | PP | — |
| Bermuda | 122.6 | 63 | e 21 | 1 | pPP | e 37 | 17 | SS | e 30 | 42 | PS | e 57.4 |
| Halifax | 122.6 | 48 | 30 | 28 | SP | e 26 | 13 | sSKS | 36 | 54 | SS | — |
| Ashkabad | 124.4 | 304 | i 18 | 59 | [+ 3] | — | — | — | — | — | — | — |
| Scoresby Sund | 126.4 | 8 | e 21 | 1 | PP | e 37 | 36 | SS | e 30 | 58 | PS | 57.4 |
| Kimberley | 126.6 | 209 | e 19 | 3 | [+ 3] | — | — | — | — | — | — | — |
| Pretoria | 127.4 | 215 | e 19 | 4 | [+ 2] | — | — | — | — | — | — | — |
| Kiruna | 128.5 | 350 | i 19 | 3 | [- 1] | e 28 | 6 | SKKS | e 21 | 9 | PP | e 59.4 |
| Baku | 130.6 | 308 | e 19 | 14 | [+ 6] | — | — | — | e 21 | 33 | PP | — |
| Shemakla | 131.5 | 309 | e 19 | 11 | [+ 2] | i 22 | 49 | PKS | — | — | — | — |
| Lenkoran | 131.8 | 306 | e 19 | 12 | [+ 2] | — | — | — | — | — | — | — |
| Makhach-Kala | 131.8 | 313 | i 19 | 14 | [+ 4] | e 22 | 38 | SKP | — | — | — | — |
| Moscow | 132.3 | 332 | 19 | 14 | [+ 3] | i 22 | 40 | SKP | — | — | — | — |
| Pulkovo | 132.6 | 339 | e 19 | 12 | [+ 1] | e 22 | 40 | SKP | e 24 | 23 | PPP | — |
| Grozny | 133.0 | 313 | i 19 | 13 | [+ 1] | 22 | 45 | PKS | — | — | — | — |
| Kirovobad | 133.2 | 310 | 19 | 14 | [+ 1] | — | — | — | — | — | — | — |
| Goris | 133.5 | 309 | 19 | 17 | [+ 4] | 26 | 9 | [-10] | 31 | 52 | SKSP | — |
| Tiflis | 134.1 | 311 | e 19 | 17 | [+ 3] | e 22 | 49 | PKS | 22 | 9 | pPP | — |
| Erevan | 134.7 | 309 | e 19 | 16 | [+ 1] | 32 | 22 | PS | 21 | 56 | PP | — |
| Leninakan | 135.0 | 311 | e 19 | 24 | pPKP | — | — | — | — | — | — | — |
| Upsala | 136.2 | 347 | e 19 | 17 | [- 1] | i 22 | 49 | PKS | i 22 | 0 | PP | e 59.4 |
| Sotchi | 137.0 | 316 | e 19 | 23 | [+ 3] | e 22 | 53 | PKS | — | — | — | — |
| Bergen | 137.6 | 356 | e 20 | 6 | ? | e 22 | 55 | PKS | e 32 | 55 | PS | — |
| Simferopol | 140.0 | 321 | e 19 | 23 | [- 2] | — | — | — | — | — | — | — |
| Yalta | 140.2 | 320 | e 19 | 23 | [- 2] | — | — | — | — | — | — | — |
| Copenhagen | 141.1 | 349 | i 19 | 31 | [+ 4] | 41 | 4 | SS | 22 | 30 | PP | 64.4 |
| Aberdeen | 141.2 | 0 | i 19 | 51 | [+24] | i 23 | 10 | PKS | i 25 | 52 | PPP | e 64.7 |
| Kishinev | 141.9 | 327 | e 19 | 25 | [- 4] | — | — | — | e 22 | 35 | PP | — |
| Lwow | 142.3 | 333 | e 19 | 29 | [0] | — | — | — | i 22 | 43 | PP | — |
| Ksara | 143.0 | 303 | i 19 | 30 | [0] | 23 | 1? | PKS | — | — | — | — |
| Potsdam | 144.0 | 346 | 19 | 33 _a | [+ 1] | — | — | — | — | — | — | e 63.4 |
| Skalnate Pleso | 144.4 | 336 | e 19 | 32 | [- 1] | e 26 | 49 | [+12] | e 19 | 12 | ? | — |
| Raciborz | 144.5 | 339 | e 19 | 33 | [0] | e 21 | 58 | ? | e 20 | 10 | ? | — |
| Rathfarnham Castle | 144.9 | 5 | e 19 | 31 | [- 3] | e 42 | 49 | PSS | e 25 | 46 | PPP | e 66.9 |
| Witteveen | 144.9 | 353 | i 19 | 35 _k | [+ 1] | — | — | — | i 19 | 40 | PKP ₂ | — |
| Bucharest | 145.0 | 325 | i 19 | 34 _a | [0] | 29 | 6 | SKKS | i 19 | 38 | PKP ₂ | — |
| Collmberg | 145.0 | 345 | e 19 | 34 | [0] | e 22 | 56 | PP | e 19 | 39 | PKP ₂ | — |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----------|-----|----------------------|------------------|----------------------|-------|--------------------------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Istanbul | 145.2 | 318 | e 19 33 | [- 1] | e 26 43 | [+ 5] | e 19 44 pPKP | 59.4 |
| Jena | 145.7 | 345 | e 19 37 | [+ 2] | e 22 37 | PP | e 20 0 pPKP | — |
| Prague | 145.7 | 343 | e 19 36 | [+ 1] | e 26 45 | [+ 6] | e 23 3 PP | e 62.4 |
| De Bilt | 145.8 | 353 | i 19 39 ^k | [+ 4] | e 29 59 | SKKS | e 42 24 [?] SS | e 65.4 |
| Budapest | 146.2 | 335 | e 19 36 | [0] | e 26 11 | [-28] | 19 53 pPKP | e 69.4 |
| Cheb | 146.3 | 345 | i 19 40 | [+ 4] | e 26 52 | [+12] | e 29 49 SKKS | — |
| Ogyalla | 146.3 | 336 | e 19 42 | [+ 6] | e 26 44 | [+ 4] | e 29 45 SKKS | — |
| Kecskemet | 146.4 | 335 | e 19 28 | [- 8] | — | — | e 19 43 pPKP | — |
| Timisoara | 146.6 | 331 | e 19 41 | [+ 4] | — | — | e 20 42 ? | — |
| Szeged | 146.7 | 332 | 19 35 | [- 2] | e 20 51 | ? | e 19 44 pPKP | — |
| Kew | 146.9 | 358 | i 19 39 | [+ 2] | e 47 52 | SSS | i 21 27 ? | e 63.4 |
| Uccle | 147.2 | 355 | e 19 41 | [+ 3] | e 26 49 | [+ 8] | e 29 57 SKKS | e 68.4 |
| Belgrade | 147.7 | 330 | e 19 42 ^a | [+ 4] | e 27 39 | ? | e 23 13 PP | e 76.4 |
| Helwan | z. 147.7 | 298 | e 19 39 | [+ 1] | e 22 49 | SKP | i 29 24 ? | — |
| Karlsruhe | 148.3 | 348 | e 19 44 | [+ 5] | e 26 57 | [+15] | e 20 3 pPKP | e 68.4 |
| Stuttgart | 148.3 | 347 | e 19 40 | [+ 1] | e 30 14 | SKKS | e 20 3 pPKP | 74.4 |
| Strasbourg | 148.8 | 349 | e 19 44 | [+ 4] | e 34 24 | PS | i 20 10 pPKP | e 67.4 |
| Jersey | E. 149.2 | 0 | e 19 57 | PKP ₂ | — | — | — | — |
| Paris | 149.4 | 355 | e 19 43 | [+ 2] | e 43 24 | SSP | i 20 13 pPKP | e 70.4 |
| Basle | 149.8 | 349 | e 19 48 | [+ 6] | e 23 17 | PP | e 21 50 ? | — |
| Triest | 149.8 | 340 | e 19 44 | [+ 2] | e 26 32 | [-12] | e 30 31 SKKS | 71.4 |
| Zürich | 149.8 | 348 | e 19 46 ^k | [+ 4] | — | — | e 23 11 PP | — |
| Chur | 150.0 | 346 | e 19 44 ^k | [+ 2] | — | — | i 19 53 PKP ₂ | — |
| Chambon-la-Forêt | 150.2 | 355 | e 19 44 | [+ 2] | — | — | i 19 50 PKP ₂ | — |
| Athens | 150.3 | 317 | e 19 48 | [+ 6] | i 20 23 | ? | e 20 8 pPKP | — |
| Neuchatel | 150.5 | 349 | e 19 55 | pPKP | — | — | — | — |
| Oropa | 151.6 | 347 | e 19 31 | [-14] | e 42 36 | SS | e 23 35 PP | 68.0 |
| Pavia | 151.7 | 345 | e 20 0 | pPKP | e 44 48 | ? | e 25 34 ? | e 74.8 |
| Clermont-Ferrand | 152.3 | 354 | e 19 49 | [+ 4] | e 29 59 | SKKS | e 20 7 pPKP | — |
| Florence | 152.3 | 340 | i 19 48 ^a | [+ 3] | e 30 33 | SKKS | i 20 22 pPKP | — |
| Taranto | 152.5 | 329 | 20 25 [?] | ? | e 42 51 [?] | ? | e 48 35 [?] SSS | e 68.2 |
| Siena | 152.7 | 340 | 19 52 | [+ 6] | — | — | e 20 41 ? | — |
| Rome | 153.5 | 337 | e 19 49 | [+ 2] | e 43 9 | SS | e 23 47 PP | — |
| Messina | 155.0 | 328 | e 19 54 | [+ 5] | e 30 38 | SKKS | e 23 57 PP | 72.4 |
| Coimbra | 157.4 | 13 | 19 48 | [- 4] | — | — | 20 13 PKP ₂ | 77.4 |
| Tortosa | 157.5 | 355 | i 19 57 | [+ 4] | i 33 56 | ? | — | — |
| Toledo | 158.4 | 6 | e 20 6 | pPKP | 44 34 | SSP | e 24 13 PP | 80.1 |
| Lisbon | 158.7 | 16 | i 19 58 ^a | [+ 4] | — | — | — | 76.8 |
| Alicante | 160.0 | 358 | 19 50 | [- 5] | 26 44 | [-12] | 24 18 PP | 76.1 |
| Algiers Univ. | z. 161.1 | 350 | e 19 59 | [+ 2] | e 24 26 | PP | e 20 18 pPKP | — |
| Granada | 161.1 | 6 | i 19 59 ^k | [+ 2] | 27 2 | [+ 6] | i 24 29 PP | i 81.0 |
| Almeria | 161.5 | 3 | i 20 2 | [+ 5] | 27 4 | [+ 7] | i 24 28 PP | 79.2 |
| Malaga | 161.5 | 7 | i 20 0 | [+ 3] | 27 2 | [+ 5] | i 24 30 PP | 81.6 |
| Tamanrasset | z. 171.8 | 304 | i 20 8 | [+ 3] | e 27 4 | [+ 1] | e 20 28 pPKP | — |

Sept. 14d. 11h. 12m. 3s. Epicentre 52°-8S. 26°-3E. (as on 1952, August 28d.).

A = +.5443, B = +.2690, C = -.7945; δ = -15; h = -6;
D = +.443, E = -.896; G = -.712, H = -.352, K = -.607.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----------|-----|--------|------|----------------------|------|---------|------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Grahamstown | z. 19.5 | 1 | i 4 29 | - 2 | — | — | — | — |
| Pietermaritzburg | z. 23.4 | 9 | i 5 11 | 0 | — | — | — | — |
| Kimberley | z. 24.1 | 357 | i 5 15 | - 3 | — | — | — | — |
| Johannesburg | z. 26.6 | 4 | e 5 39 | - 3 | — | — | — | — |
| Pretoria | z. 27.0 | 4 | i 5 44 | - 1 | — | — | — | — |
| Heard Island | 28.0 | 107 | — | — | e 11 57 [?] | SS | — | — |
| Tananarive | 37.7 | 33 | i 7 20 | + 1 | e 13 14 | + 4 | 8 46 PP | 17.1 |
| La Plata | 59.8 | 251 | 17 51 | ? | 18 9 | -11 | 20 51 ? | 24.0 |
| Colombo | E. 74.7 | 56 | 11 46 | + 3 | 21 26 | + 7 | — | 30.8 |
| Kodaikanal | E. 76.4 | 51 | — | — | e 21 41 | + 3 | — | — |

Continued on next page.

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| | | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. | |
|------------------|------|---------------|----------|----------------------|------------|-------------|------------|----------------|------------------|--------|
| Tamanrasset | z. | 77.4 | 340 | i 11 57 | - 1 | e 21 49 | 0 | e 14 55 | PP | — |
| Bandung | | 79.3 | 86 | e 11 22 | -47 | e 21 21 | -48 | — | — | — |
| La Paz | | 79.7 | 256 | i 12 13 _a | + 2 | i 22 11 | - 2 | 15 6 | PP | 37.2 |
| Christchurch | | 79.8 | 155 | — | — | e 26 57? | SS | e 33 57? | Q | e 38.0 |
| Kaimata | N.E. | 80.4 | 154 | e 12 23 | PcP | — | — | — | — | — |
| Riverview | | 81.3 | 136 | i 12 19 _a | - 1 | i 22 32 | + 2 | i 22 43 | ScS | e 39.0 |
| Bombay | | 82.0 | 44 | i 12 25 | + 2 | i 22 40 | + 3 | 23 24 | PS | — |
| Poona | | 82.1 | 45 | i 12 23 | - 1 | i 22 38 | 0 | 27 6 | ? | — |
| Helwan | | 82.4 | 4 | i 12 25 _a | 0 | e 22 48 | + 7 | e 12 57 | ? | — |
| Wellington | | 82.4 | 155 | — | — | e 27 42? | SS | — | — | e 39.0 |
| Hyderabad | N. | 83.2 | 49 | e 12 29 | 0 | 22 49 | 0 | e 14 5 | ? | 35.3 |
| Ksara | | 86.7 | 8 | i 12 48 | + 1 | 23 34 | +10 | — | — | — |
| Huancayo | | 87.4 | 253 | e 12 49 | - 1 | e 23 22 | - 8 | e 29 12 | SS | e 36.3 |
| Brisbane | | 87.6 | 134 | i 12 50 | - 1 | i 23 32 | 0 | i 23 17 | SKS | e 37.2 |
| Quetta | | 90.0 | 35 | i 13 3 _a | 0 | i 23 37 | { - 5} | i 13 15 | ? | — |
| Messina | | 91.1 | 351 | e 13 11? | + 3 | 23 38 | { - 1} | 24 15 | S | 43.8 |
| Algiers Univ. | z. | 91.5 | 341 | e 13 7 | - 3 | e 23 23 | { - 19} | e 16 43 | PP | — |
| New Delhi | E. | 92.4 | 44 | e 13 12 | - 2 | i 24 16 | 0 | e 16 53 | PP | — |
| Almeria | | 92.7 | 338 | i 13 22 | + 7 | 23 52 | { + 4} | i 24 28 | S | 48.6 |
| Taranto | | 93.2 | 353 | — | — | 24 17 | - 6 | — | — | — |
| Granada | | 93.3 | 336 | i 13 20 _k | + 2 | 23 59 | { + 7} | i 24 34 | S | 44.2 |
| Istanbul | | 93.5 | 2 | e 13 44 | +25 | e 24 52 | +27 | e 17 26 | PP | 43.0 |
| Alicante | | 93.7 | 339 | 13 23 | + 3 | 24 29 | + 2 | 17 10 | PP | 44.8 |
| Rome | | 95.1 | 349 | e 13 29 _k | + 3 | e 24 5 | { + 3} | i 17 12 | PP | e 42.8 |
| Chatra | | 95.3 | 51 | e 13 23 | - 4 | e 24 4 | { + 1} | — | — | — |
| Tortosa | | 95.9 | 341 | e 14 29 | +59 | 24 58 | +12 | — | — | — |
| Toledo | | 96.0 | 337 | e 13 28 | - 2 | e 25 7 | +20 | 31 23 | SS | — |
| Florence | | 97.1 | 350 | e 13 43 | + 8 | e 25 0 | + 4 | e 24 7 | SKS | — |
| Triest | | 98.6 | 350 | e 17 39 | PP | e 28 1 | PPS | e 31 57 | SS | 47.0 |
| Pavia | | 98.7 | 349 | e 17 47 | PP | e 27 27 | PPS | e 32 7 | SS | e 47.5 |
| Oropa | | 99.3 | 346 | i 13 48 | + 3 | e 24 44 | { - 5} | e 26 26 | PS | 43.0 |
| Bogota | | 99.9 | 265 | e 17 54 | PP | e 24 29 | { + 2} | e 32 5 | SS | 44.0 |
| Clermont-Ferrand | | 100.2 | 344 | e 17 47 | PP | e 32 15 | SS | — | — | 49.4 |
| Neuchatel | | 100.8 | 348 | e 17 51 | PP | — | — | — | — | — |
| Zürich | | 100.9 | 348 | e 13 54 | + 2 | e 27 40 | PPS | e 17 53 | PP | — |
| Chinchina | | 101.1 | 264 | e 13 50 | - 3 | e 24 16 | { - 16} | e 18 4 | PP | 47.0 |
| Strasbourg | | 102.2 | 347 | e 18 6 | PP | e 24 42 | { + 4} | e 27 20 | PS | 49.4 |
| Stuttgart | | 102.2 | 347 | e 14 0 | + 2 | e 27 57 | PPS | e 18 4 | PP | e 49.0 |
| Chambon-la-Forêt | | 102.5 | 344 | e 14 7 | + 7 | — | — | e 18 9 | PP | — |
| Karlsruhe | | 102.6 | 347 | e 14 27? | +27 | e 18 10 | PP | e 15 48 | ? | — |
| Prague | | 103.0 | 352 | e 14 7 | + 5 | e 24 39 | { - 2} | e 32 51 | SS | — |
| Cheb | | 103.2 | 351 | e 14 27 | ? | e 24 43 | { + 1} | e 32 53 | SS | — |
| Paris | | 103.2 | 345 | e 14 12 | + 9 | e 24 44 | { + 2} | e 18 20 | PP | e 48.0 |
| Jena | z. | 104.1 | 351 | e 14 11? | + 4 | e 18 27 | PP | e 14 26 | ? | — |
| Collmberg | z. | 104.3 | 352 | e 14 16 | + 8 | — | — | e 18 19 | PP | — |
| Uccle | z. | 104.9 | 345 | e 18 24 | PP | e 28 46 | PPS | e 33 18 | SS | e 51.0 |
| De Bilt | | 106.0 | 347 | e 18 39 | PP | e 25 4 | { + 9} | e 29 1 | PPS | e 50.0 |
| Kew | | 106.3 | 343 | e 18 57? | PP | — | — | — | — | e 58.0 |
| Copenhagen | | 108.7 | 352 | 19 1 | PP | 28 24 | PP | 34 9 | SS | 52.0 |
| Upsala | | 112.5 | 355 | e 19 27 | PP | e 28 57? | PS | i 29 31 | PKKP | e 45.0 |
| Kiruna | | 120.4 | 356 | e 25 11 | ? | e 29 57? | PS | e 36 14 | SS | e 52.0 |
| Weston | | 126.4 | 294 | i 19 5 _k | { 0} | — | — | i 19 13 | ? | — |
| Tacubaya | | 126.5 | 254 | e 19 13 | { + 8} | — | — | i 19 20 | ? | — |
| Scoresby Sund | | 127.8 | 341 | — | — | e 38 42 | SSP | e 39 4 | ? | 61.0 |
| Ottawa | | 130.8 | 295 | e 19 12 | { - 2} | — | — | — | — | — |
| Kirkland Lake | z. | 134.8 | 296 | e 19 11 | { - 10} | — | — | — | — | — |
| Fayetteville | | 135.7 | 273 | i 19 19 | { - 4} | — | — | e 21 58 | PP | e 57.6 |
| Tucson | | 143.0 | 254 | e 19 29 | { - 7} | — | — | e 19 33 | PKP | — |
| Barratt | z. | 146.7 | 249 | e 19 40 | { - 2} | — | — | i 19 44 | PKP | — |
| Nelson | | 147.8 | 255 | i 19 42 | { - 2} | — | — | — | — | — |
| Boulder City | | 148.0 | 255 | i 19 42 | { - 2} | — | — | — | — | — |
| Riverside | z. | 148.0 | 249 | e 19 42 | { - 2} | — | — | i 19 47 | PKP | — |
| Resolute Bay | | 148.1 | 335 | e 19 40 | { - 4} | i 19 58 | ? | e 19 52 | PKP ₂ | — |
| Honolulu | | 148.4 | 173 | i 19 47 | { + 2} | — | — | — | — | — |
| Pasadena | z. | 148.6 | 249 | e 19 43 | { - 2} | i 20 34 | ? | i 20 3 | ? | — |

Continued on next page.

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|--------------|----------|-----|----------------------|------------------|---------|------|---------|------------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Logan | 149.9 | 267 | e 19 44 | [- 3] | — | — | — | — |
| Woody | z. 150.1 | 252 | e 19 58 | PKP _s | — | — | — | — |
| Tinemaha | z. 150.8 | 252 | e 19 53 | [+ 4] | — | — | — | — |
| Fresno | z. 151.4 | 250 | e 19 48 | [- 2] | — | — | e 19 57 | ? |
| Butte | 152.7 | 275 | e 19 45 | [- 6] | — | — | — | — |
| Lick | z. 152.9 | 249 | i 19 57 _a | [+ 5] | e 23 39 | PP | i 20 14 | PKP _t |
| Reno | z. 153.3 | 255 | e 19 52 | [0] | — | — | — | — |
| Berkeley | z. 153.6 | 249 | e 19 53 | [0] | — | — | — | — |
| Hungry Horse | 154.6 | 277 | i 19 51 | [- 3] | — | — | — | — |
| Mineral | z. 154.9 | 255 | e 19 52 _k | [- 2] | e 24 15 | PP | i 20 21 | PKP _s |
| Shasta | 155.2 | 254 | e 19 52 | [- 3] | e 22 50 | ? | e 20 43 | ? |
| College | 167.5 | 348 | e 20 7 | [- 1] | — | — | — | — |

Sept. 14d. 14h. 56m. 14s. Epicentre 38°·3N. 20°·8E. (as on August 13d.).

Felt in the regions of Aetolia (Intensity VII at Astakos ; VI at Mytikas, Agrinion, and Aetolikon ; V at Mesologgion, Stamma, Lepaenu, etc.), Elis (VI at Gastouni ; V at Kylini), Achaea (IV at Kalavryta), Arcadia (IV and Tripolis and Vytina), Corinthia, Messinia, Argolis, Phokis, Arta, Preveza, Thesprotia, and Magnisia, and in the islands of Leukas (V at Leukas), Cephalonia (IV at Lixourion), and Corfu. Macroseismic area 110,000 sq. km. Epicentre 38°·5N. 20°·7E. (Strasbourg).

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, pp. 122-123.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----------|-----|---------------------|------------------|--------|------------------|--------|----------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Athens | 2.3 | 98 | e 0 41 | + 1 | i 1 9 | 0 | i 0 45 | P _g |
| Taranto | 3.5 | 309 | 1 4? | + 1* | 1 38? | - 2 | — | — |
| Reggio Calabria | 4.1 | 269 | e 1 3 | - 2 | i 1 53 | - 2 | i 1 22 | P _g |
| Messina | 4.1 | 270 | i 1 5 _k | 0 | i 1 52 | - 3 | i 1 29 | P _g |
| Sofia | 4.8 | 23 | i 1 15 | 0 | i 2 17 | + 5 | e 2 40 | S _g |
| Belgrade | 6.5 | 358 | e 1 39 _a | 0 | e 3 21 | + 4* | i 2 6 | P _g |
| Istanbul | E. 7.0 | 64 | e 1 56 | - 6* | — | — | — | — |
| Rocca di Papa | 7.1 | 302 | e 1 46 | - 2 | e 3 27 | - 8* | — | i 4.0 |
| Bucharest | 7.3 | 32 | e 1 50 | 0 | i 4 3 | + 2 _g | i 3 33 | S* |
| Rome | 7.3 | 302 | e 1 49 | - 1 | i 3 14 | - 1 | i 3 39 | S* |
| Timisoara | 7.4 | 2 | e 1 51 | - 1 | e 3 26 | + 8 | e 2 25 | P _g |
| Szeged | 8.0 | 357 | e 2 35 | - 5 _g | e 3 34 | + 1 | 4 27 | S _g |
| Kecskemet | 8.7 | 355 | 2 50 | P _g | e 4 19 | - 3* | e 4 43 | S _g |
| Siena | 8.8 | 308 | e 2 12 | + 1 | i 4 46 | - 5 _g | i 4 7 | ? |
| Florence | 9.0 | 310 | e 2 18 | + 5 | e 4 3 | + 5 | — | — |
| Triest | 9.0 | 327 | e 2 10 | - 3 | i 5 1 | + 4 _g | i 4 21 | S* |
| Budapest | 9.3 | 353 | e 2 26 | + 9 | 4 14 | + 9 | 5 12 | S _g |
| Bologna | 9.5 | 314 | e 2 22 | + 2 | e 4 43 | - 3* | e 3 50 | ? |
| Ogyalla | 9.7 | 350 | e 3 10 | ? | e 4 12 | - 3 | e 4 57 | S* |
| Skalnate Pleso | 10.9 | 358 | e 2 38 | - 2 | e 4 33 | -11 | e 3 1 | PPP |
| Pavia | 11.1 | 312 | e 2 48 | + 5 | i 5 4 | SS | — | — |
| Chur | 11.9 | 320 | e 2 52 _k | - 2 | e 4 55 | -14 | — | — |
| Raciborzu | 11.9 | 352 | e 2 45? | - 9 | e 5 16 | + 7 | e 3 2 | PP |
| Oropa | 12.0 | 312 | e 2 55 | 0 | i 3 50 | ? | i 3 13 | PPP |
| Helwan | 12.1 | 131 | e 2 52 | - 5 | 5 8 | - 6 | e 3 7 | PP |
| Prague | 12.6 | 341 | i 3 2 | - 1 | e 5 23 | - 3 | e 3 22 | PPP |
| Zürich | 12.7 | 319 | e 3 6 | + 1 | e 5 12 | -16 | i 3 14 | PP |
| Ksara | 13.0 | 106 | i 3 8 | - 1 | i 5 51 | SS | — | — |
| Cheb | 13.2 | 336 | e 3 37 | PPP | e 5 35 | - 5 | e 4 43 | ? |
| Neuchatel | 13.4 | 315 | e 3 9 | - 5 | e 5 26 | -19 | — | — |
| Stuttgart | 13.4 | 325 | e 3 9 | - 5 | e 5 50 | + 5 | e 3 26 | PP |
| Karlsruhe | 13.9 | 324 | e 3 17 | - 4 | e 5 46 | -11 | e 3 29 | PP |
| Strasbourg | 14.0 | 322 | e 3 19 | - 3 | e 5 56 | - 3 | e 3 29 | PP |
| Collnberg | 14.1 | 340 | e 3 24 | + 1 | e 6 26 | SS | e 3 38 | PP |
| Algiers Univ. | z. 14.2 | 269 | e 3 22 | - 2 | e 6 7 | + 3 | e 3 34 | PP |
| Jena | 14.2 | 336 | e 3 22 | - 2 | e 5 50 | -14 | e 3 34 | PP |
| Barcelona | 14.7 | 288 | — | — | e 6 28 | +12 | — | — |
| Clermont-Ferrand | 15.1 | 305 | e 3 33 | - 3 | e 6 47 | SS | e 3 52 | PP |
| Potsdam | 15.1 | 342 | — | — | e 6 38 | SS | — | — |
| Tortosa | 15.9 | 286 | i 3 44 | - 3 | i 7 2 | SS | — | — |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|--------------------|----------|-----|------|-----|------|------|-----|------|-------|-----|-----|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Chambon-la-Forêt | 16.6 | 312 | e 3 | 53 | - 3 | — | — | — | i 3 | 56 | P | — |
| Alicante | 16.7 | 277 | i 3 | 57 | 0 | i 7 | 5 | + 2 | 4 | 11 | PP | 8.4 |
| Paris | 16.9 | 314 | e 3 | 55 | - 4 | e 7 | 4 | - 3 | e 7 | 39 | SS | e 8.8 |
| Uccle | 17.1 | 322 | e 4 | 3 | + 1 | e 7 | 14 | + 2 | e 4 | 32 | PPP | e 9.8 |
| De Bilt | 17.6 | 328 | e 4 | 8 | 0 | e 7 | 27 | + 4 | i 4 | 15 | ? | e 9.3 |
| Copenhagen | 18.3 | 345 | i 4 | 16 | - 1 | i 7 | 41 | + 2 | — | — | — | 9.4 |
| Almeria | 18.5 | 273 | i 4 | 15 | - 4 | i 7 | 49 | + 5 | 8 | 45 | PcP | 11.4 |
| Granada | 19.3 | 274 | i 4 | 28k | - 1 | 7 | 57 | - 5 | 12 | 24 | PcS | i 11.3 |
| Toledo | 19.3 | 283 | i 4 | 27 | - 2 | i 8 | 5 | + 3 | — | — | — | 11.1 |
| Jersey | E. 19.7 | 312 | e 4 | 32 | - 2 | e 8 | 22 | +12 | — | — | — | 9.4 |
| Kew | 19.8 | 318 | i 4 | 35 | 0 | e 7 | 39 | ? | e 16 | 17? | ScS | e 11.5 |
| Malaga | 20.1 | 275 | i 4 | 38 | 0 | i 8 | 13 | - 6 | — | — | — | 10.2 |
| Tamanrasset | Z. 20.3 | 225 | e 4 | 41 | + 1 | e 8 | 21 | - 2 | e 5 | 0 | PP | e 9.9 |
| Upsala | 21.7 | 356 | i 4 | 50a | - 5 | i 8 | 46? | - 5 | i 5 | 20 | PP | e 11.8 |
| Durham | N. 22.4 | 325 | 6 | 54 | ? | i 9 | 6 | + 2 | i 12 | 7 | PcS | i 11.1 |
| Coimbra | 22.7 | 285 | 5 | 0 | - 4 | 9 | 13 | + 4 | — | — | — | — |
| Lisbon | 23.4 | 281 | — | — | — | e 9 | 18 | - 3 | — | — | — | 13.4 |
| Rathfarnham Castle | 23.9 | 319 | i 5 | 18a | + 2 | i 9 | 36 | + 6 | i 5 | 55 | PP | e 13.3 |
| Aberdeen | 24.2 | 330 | i 5 | 22 | + 3 | i 9 | 38 | + 3 | — | — | — | e 13.1 |
| Bergen | N. 24.2 | 342 | 5 | 18 | - 1 | e 9 | 39 | + 4 | — | — | — | e 13.3 |
| Kiruna | Z. 29.6 | 0 | e 6 | 5 | - 4 | — | — | — | i 6 | 10 | P | — |
| Reykjavik | Z. 36.1 | 331 | e 7 | 9 | + 4 | — | — | — | — | — | — | — |
| Quetta | Z. 38.7 | 87 | e 7 | 31 | + 4 | — | — | — | — | — | — | — |
| Scoresby Sund | 39.2 | 339 | — | — | — | e 13 | 33 | + 1 | — | — | — | 20.8 |
| New Delhi | 47.4 | 84 | e 8 | 36 | - 2 | e 15 | 26 | - 6 | — | — | — | — |
| Bombay | N. 48.9 | 98 | e 8 | 55 | + 5 | e 15 | 51 | - 2 | e 10 | 14 | PcP | — |
| Poona | Z. 49.9 | 98 | i 8 | 57 | 0 | — | — | — | — | — | — | — |
| Chatra | 56.0 | 80 | i 9 | 41 | - 2 | e 17 | 28 | - 2 | — | — | — | — |
| Resolute Bay | 59.7 | 345 | e 10 | 9 | 0 | — | — | — | — | — | — | — |
| Halifax | 60.9 | 306 | e 10 | 8 | - 9 | — | — | — | — | — | — | — |
| Tananarive | 62.2 | 151 | e 10 | 26 | 0 | — | — | — | e 10 | 35 | ? | — |
| Pretoria | Z. 64.1 | 173 | e 10 | 38 | 0 | — | — | — | — | — | — | — |
| Weston | 66.9 | 306 | i 10 | 57a | + 1 | — | — | — | — | — | — | — |
| Ottawa | 68.0 | 311 | e 11 | 1 | - 2 | — | — | — | — | — | — | — |
| Kirkland Lake | Z. 69.0 | 316 | e 11 | 11 | + 2 | — | — | — | — | — | — | — |
| College | 76.8 | 356 | e 11 | 53 | - 2 | — | — | — | — | — | — | — |
| Fayetteville | 84.7 | 313 | i 12 | 36 | - 1 | — | — | — | — | — | — | — |
| Hungry Horse | 84.8 | 332 | i 12 | 37 | 0 | — | — | — | — | — | — | — |
| Butte | 86.2 | 330 | e 12 | 44 | 0 | — | — | — | e 12 | 57 | ? | — |
| Mineral | Z. 94.5 | 332 | e 13 | 22a | - 1 | — | — | — | e 13 | 43 | ? | — |
| Nelson | 95.7 | 325 | i 13 | 29 | 0 | — | — | — | i 13 | 48 | ? | — |

Sept. 15d. 7h. 41m. 16s. Epicentre 42°·0N. 144°·9E. Depth of focus 60km.

Intensity II-III at Kusiro.

Seismo. Bull. Cent. Met. Obs., Japan, 1953, September, Tokyo, 1954, p. 21, with macroseismic chart.

Sept. 15d. 9h. 43m. 49s. Epicentre 42°·6N. 145°·8E. Depth of focus 60km.

Intensity II-III at Kusiro and Nemuro.

Loc. cit., 7h.

Sept. 15d. 11h. 31m. 43s. Epicentre 43°·0N. 148°·0E. Depth of focus 100km.

Intensity II-III at Nemuro.

Loc. cit., 9h., p. 22.

Sept. 15d. 11h. 34m. Epicentre 38°·5N. 20°·7E.

Loc. cit., below at 11h. 38m.

Sept. 15d. 11h. 38m. Epicentre 38°·5N. 20°·7E.

Intensity IV at Leukas; III at Lixourion, Agrinion, and Vytina. Magnitude 5.25-5.5.

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, p. 124.

Sept. 15d. 17h. 11m. Epicentre 39°·2N. 70°·4E.

Bulletin of Seismo. Stations of U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 144.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

566

Sept. 16d. 1h. 48m. 42s. Epicentre 15°·8S. 174°·2W. (as on 1949, March 9d.).

A = -·9577, B = -·0973, C = -·2706; $\delta = -12$; $h = +6$;
D = -·101, E = +·995; G = +·269, H = +·027, K = -·963.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|----------|-----|----------------------|------------------|---------|------------------|----------|-------------------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Auckland | N. | 23·1 | 203 | e 6 56 | ? | e 9 28 | +12 | — | e 11·3 |
| Karapiro | N. | 23·8 | 200 | e 5 19 | + 4 | — | — | — | — |
| Brisbane | | 32·5 | 244 | e 6 34 | 0 | e 11 50 | + 1 | — | i 15·2 |
| Riverview | | 36·0 | 234 | 7 8 | + 3 | i 12 45 | + 1 | i 8 50 | e 17·0 |
| Baguio | | 71·9 | 294 | e 11 24 | - 3 | i 20 47 | - 1 | — | 34·3 |
| Santa Clara | | 72·2 | 42 | e 11 31 | + 2 | e 20 57 | + 6 | — | — |
| Berkeley | | 72·3 | 42 | e 11 31 | + 2 | e 20 55 | + 3 | — | e 32·9 |
| Lick | z. | 72·4 | 42 | i 11 29 _a | - 1 | i 11 40 | ? | i 11 48 | ? |
| Pasadena | | 72·8 | 47 | e 11 31 | - 1 | e 20 56 | - 2 | — | e 32·8 |
| Barratt | z. | 73·1 | 48 | e 11 24 | -10 | — | — | — | — |
| Fresno | z. | 73·2 | 43 | e 11 36 | + 1 | — | — | — | — |
| Riverside | z. | 73·3 | 47 | e 11 35 | 0 | — | — | — | — |
| Shasta | z. | 73·9 | 39 | e 11 36 _k | - 3 | — | — | e 11 56 | PcP |
| Mineral | z. | 74·2 | 39 | e 11 37 _a | - 3 | — | — | e 11 58 | PcP |
| Tinemaha | z. | 74·4 | 44 | e 11 26 | -16 | — | — | — | — |
| Reno | z. | 74·8 | 42 | e 11 42 | - 2 | — | — | — | — |
| Nelson | | 76·0 | 47 | e 11 47 | - 4 | — | — | i 11 52 | PcP |
| Boulder City | | 76·1 | 47 | e 11 51 | 0 | — | — | — | — |
| Tucson | | 77·2 | 51 | e 12 0 | + 3 | — | — | e 12 33 | PcP |
| Victoria | | 78·3 | 32 | — | — | e 22 6 | + 7 | — | 36·3 |
| Nanking | | 79·8 | 307 | — | — | 22 12 | - 2 | — | — |
| Tacubaya | | 81·6 | 67 | e 11 29 | -52 | — | — | — | — |
| Butte | | 82·8 | 38 | e 12 26 | - 1 | — | — | i 12 31 | PcP |
| College | | 82·9 | 11 | e 12 22 | - 6 | — | — | — | — |
| Hungry Horse | | 83·2 | 36 | i 12 27 | - 2 | — | — | — | — |
| Fayetteville | | 91·3 | 53 | i 13 9 | 0 | — | — | — | e 43·4 |
| Huancayo | | 95·1 | 104 | — | — | e 25 6 | +26 | e 31 42 | SSP e 46·4 |
| La Paz | | 100·3 | 110 | 27 6 | PS | e 25 1 | {+ 5} | i 27 54 | PPS 48·3 |
| Bermuda | | 114·6 | 61 | — | — | e 35 42 | SS | — | e 58·5 |
| Kiruna | | 127·1 | 353 | e 22 1 | PKS | e 31 26 | PS | e 23 48 | PPP e 60·3 |
| Upsala | z. | 135·2 | 352 | e 22 57 | PKS | — | — | — | — |
| Copenhagen | | 139·9 | 355 | i 19 42 | [+12] | 26 24 | [-15] | 23 18 | PKS 65·3 |
| Potsdam | | 143·0 | 353 | e 19 45 | [+ 9] | — | — | — | 74·3 |
| De Bilt | | 143·8 | 0 | e 19 48 | [+11] | — | — | e 20 29 | ? e 73·3 |
| Collmberg | z. | 144·1 | 351 | e 19 35 | [- 3] | — | — | — | — |
| Jena | | 144·6 | 352 | e 19 39 | [+ 1] | — | — | e 22 17 | PP |
| Prague | | 145·1 | 350 | e 19 41 | [+ 2] | e 24 34 | ? | e 21 31 | ? |
| Uccle | | 145·1 | 3 | e 19 41 | [+ 2] | e 41 45 | SS | e 25 52? | PPP e 67·3 |
| Karlsruhe | z. | 146·8 | 356 | e 19 42 | [0] | i 19 48 | PKP ₂ | e 19 54 | ? |
| Paris | | 146·9 | 4 | i 19 48 | [+ 6] | i 19 56 | PKP ₂ | e 26 34 | PPP e 69·3 |
| Stuttgart | | 147·0 | 355 | e 19 43 | [0] | — | — | e 19 48 | PKP ₂ e 76·3 |
| Strasbourg | | 147·3 | 357 | e 19 48 | [+ 5] | e 24 32 | ? | e 20 8 | PKP ₂ e 65·3 |
| Ksara | | 147·5 | 309 | i 19 59 | [+16] | — | — | i 22 55 | PP |
| Chambon-la-Forêt | | 147·7 | 5 | i 19 46 | [+ 2] | — | — | i 19 58 | PKP ₂ |
| Istanbul | | 147·8 | 327 | e 20 13 | [+29] | — | — | i 20 21 | PKP ₂ 71·3 |
| Triest | | 149·5 | 350 | e 19 54 | [+ 7] | e 26 40 | [-13] | e 21 36 | ? |
| Clermont-Ferrand | | 150·1 | 4 | e 19 50? | [+ 2] | — | — | — | 74·8 |
| Bologna | | 151·0 | 353 | e 21 9 | ? | — | — | — | — |
| Florence | z. | 151·7 | 353 | i 19 46 | [- 4] | — | — | i 20 5 | PKP ₂ |
| Helwan | z. | 152·7 | 305 | e 19 59 | [+ 8] | 24 32 | PP | 20 42 | PKP ₂ |
| Athens | | 152·8 | 328 | e 19 54 | [+ 2] | — | — | e 20 16 | PKP ₂ |
| Rome | z. | 153·4 | 350 | e 19 46 | [- 6] | e 25 32 | ? | — | — |
| Messina | E. | 156·1 | 342 | e 20 7 | [+11] | e 25 57 | ? | — | e 66·6 |
| Alicante | | 156·9 | 13 | 19 54 | [- 3] | 27 0 | [- 2] | 23 58 | PP 73·5 |
| Granada | | 157·1 | 20 | 20 36 _a | PKP ₂ | e 32 18 | {+80} | 44 0 | SS 82·7 |
| Almeria | | 157·8 | 17 | 20 24 | PKP ₂ | 31 24 | {+23} | 24 44 | PP 86·1 |
| Algiers Univ. | z. | 159·0 | 6 | e 20 23 | PKP ₂ | — | — | — | — |
| Tamanrasset | z. | 173·0 | 2 | e 20 18 | [+ 7] | e 25 28 | PP | e 21 40 | PKP ₂ |

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

567

Sept. 16d. 11h. 15m. Epicentre 41·1N. 47°·4E.
Bulletin of Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, pp. 144, 145.

Sept. 16d. 12h. 4m. Epicentre 38°·6N. 20°·7E.
Intensity III at Vytina and Lixourion.
A. Galanopoulos.
Seismological Institute Bulletin for 1953, Athens, 1954, p. 125.

Sept. 16d. 19h. 29m. Provisional epicentre 33°·0S. 174°·0W. Magnitude 6.
Seismological Observatory Bulletin for July, August, September, 1953, New Zealand Department of Scientific and Industrial Research. No. E-133, Wellington, 1956, p. 13.

Sept. 17d. 10h. 39m. Provisional epicentre 36°·6S. 179°·4E. Depth of focus 220km. Magnitude 5 ?
Seismo. Observatory Bulletin for 1953, July, August, September, No. E-133, New Zealand Department of Scientific and Industrial Research, Wellington, 1956, p. 13.

Sept. 17d. 21h. 11m. 41s. Epicentre 20°·5S. 174°·0W. (as on 1947, July 12d.).

Depth suggested by Pasadena 100km.

$$A = -.9323, B = -.0980, C = -.3481; \quad \delta = -4; \quad h = +5;$$

$$D = -.105, E = +.995; \quad G = +.346, H = +.036, K = -.937.$$

| | | Δ | | Az. | | P. | | O-C. | | S. | | O-C. | | Supp. | | L. |
|---------------|------|----------|-----|------|-----------------|-----|------|------|-----|------|----|------|-----|--------|----|--------|
| | | m. | s. | m. | s. | m. | s. | m. | s. | m. | s. | m. | s. | | m. | |
| Apia | | 7·0 | 18 | e 1 | 45 | - 1 | e 2 | 52? | -16 | — | — | — | — | — | — | 3·1 |
| Auckland | N. | 19·0 | 209 | e 4 | 25 | - 1 | e 8 | 0? | + 5 | — | — | — | — | — | — | e 10·7 |
| Karapiro | N. | 19·6 | 203 | 4 | 32 | 0 | e 8 | 17 | + 9 | — | — | — | — | — | — | e 9·5 |
| Tuai | N. | 19·8 | 201 | — | — | — | e 8 | 9 | - 4 | — | — | — | — | — | — | — |
| Tongariro | Z. | 20·7 | 203 | e 4 | 48 | + 4 | c 8 | 49 | +18 | — | — | — | — | — | — | e 11·5 |
| New Plymouth | E. | 21·2 | 205 | e 4 | 55 | + 6 | e 8 | 48 | + 7 | — | — | — | — | — | — | — |
| Wellington | | 22·8 | 203 | e 5 | 6 | + 1 | e 9 | 14 | + 3 | e 9 | 6 | PcP | PcP | e 11·6 | — | — |
| Cobb River | E. | 23·4 | 206 | e 5 | 21 | +10 | c 9 | 35 | +14 | e 9 | 20 | PcP | PcP | — | — | — |
| Kaimata | N.E. | 25·2 | 206 | e 5 | 32 | + 3 | e 9 | 59 | + 7 | e 5 | 58 | PP | PP | e 14·6 | — | — |
| Christchurch | | 25·6 | 203 | e 5 | 33 | + 1 | e 10 | 2 | + 3 | e 6 | 7 | PP | PP | e 17·3 | — | — |
| Brisbane | | 30·9 | 250 | i 6 | 20 | 0 | i 11 | 22 | - 2 | i 7 | 25 | PP | PP | e 13·1 | — | — |
| Riverview | | 33·6 | 239 | i 6 | 43 _a | - 1 | e 12 | 3 | - 3 | i 7 | 58 | PP | PP | e 14·9 | — | — |
| Guam | | 52·8 | 307 | i 9 | 4 | -15 | — | — | — | — | — | — | — | — | — | — |
| Mera | | 70·4 | 321 | e 11 | 30 | +12 | — | — | — | — | — | — | — | — | — | — |
| Tokyo | | 71·0 | 322 | e 11 | 20 | - 2 | e 20 | 12 | -25 | e 21 | 12 | PS | PS | e 33·0 | — | — |
| Misima | E. | 71·1 | 321 | e 11 | 20 | - 2 | — | — | — | — | — | — | — | — | — | — |
| Kumagaya | | 71·5 | 322 | 11 | 26 | + 2 | 20 | 29 | -14 | — | — | — | — | — | — | — |
| Kohu | N. | 71·7 | 321 | e 11 | 28 | + 2 | — | — | — | — | — | — | — | — | — | — |
| Maebasi | | 71·9 | 322 | e 11 | 27 | 0 | e 20 | 57 | + 9 | — | — | — | — | — | — | — |
| Oiwake | | 72·2 | 322 | e 11 | 31 | + 2 | — | — | — | — | — | — | — | — | — | — |
| Sendai | | 72·2 | 325 | e 11 | 23 | - 6 | e 20 | 39 | -12 | — | — | — | — | — | — | — |
| Nagoya | N. | 72·3 | 320 | e 11 | 36 | + 7 | — | — | — | — | — | — | — | — | — | — |
| Kameyama | | 72·4 | 320 | e 11 | 35 | + 5 | e 21 | 1 | + 8 | — | — | — | — | — | — | e 31·7 |
| Matusiro | | 72·5 | 322 | 11 | 30 _a | 0 | 20 | 55 | + 1 | 14 | 30 | PP | PP | e 38·5 | — | — |
| Osaka | | 72·8 | 319 | e 11 | 36 | + 4 | — | — | — | — | — | — | — | — | — | — |
| Niigata | | 73·0 | 324 | e 11 | 49 | +16 | — | — | — | e 12 | 19 | ? | ? | — | — | — |
| Sakata | | 73·2 | 325 | e 11 | 48 | +13 | — | — | — | — | — | — | — | — | — | — |
| Akita | Z. | 73·6 | 326 | e 11 | 39 | + 2 | — | — | — | — | — | — | — | — | — | — |
| Takamatu | | 73·6 | 318 | e 11 | 40 | + 3 | e 21 | 11 | + 4 | — | — | — | — | — | — | — |
| Baguio | | 73·9 | 295 | i 11 | 39 | 0 | i 21 | 11 | + 1 | — | — | — | — | — | — | — |
| Aomori | | 74·1 | 327 | e 11 | 45 | + 5 | — | — | — | e 12 | 27 | ? | ? | — | — | — |
| Kurilsk | | 74·1 | 333 | i 11 | 39 | - 1 | i 21 | 15 | + 3 | — | — | — | — | — | — | — |
| Obihiro | | 74·4 | 329 | e 11 | 57 | +15 | — | — | — | — | — | — | — | — | — | — |
| Santa Clara | | 75·6 | 41 | e 11 | 49 | + 1 | e 21 | 35 | + 6 | — | — | — | — | — | — | e 31·3 |
| Berkeley | | 75·7 | 41 | e 11 | 50 _k | + 1 | e 21 | 32 | + 2 | e 26 | 19 | SS | SS | e 31·3 | — | — |
| Lick | Z. | 75·8 | 41 | e 11 | 49 _a | - 1 | i 12 | 31 | ? | i 12 | 40 | ? | ? | — | — | — |
| Pasadena | | 76·0 | 46 | e 11 | 49 | - 2 | i 21 | 31 | - 3 | i 12 | 13 | pP | pP | e 31·3 | — | — |
| Palomar | Z. | 76·4 | 47 | i 11 | 52 | - 1 | — | — | — | i 12 | 14 | pP | pP | — | — | — |
| Riverside | Z. | 76·4 | 46 | e 11 | 52 | - 1 | — | — | — | — | — | — | — | — | — | — |
| Petropavlovsk | | 77·1 | 343 | i 11 | 55 | - 2 | 21 | 47 | + 1 | — | — | — | — | — | — | — |

Continued on next page.

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1953

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|------------|------------|----------------------|-------|---------|-------|---------|-----------|
| | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Shasta | 77.5 | 38 | e 11 58 _a | - 1 | — | — | — | — |
| Yuzno-Sakhlinsk | 77.6 | 331 | i 12 0 | 0 | i 21 57 | + 6 | — | — |
| Djakarta | 77.7 | 268 | e 11 59 _a | - 1 | e 21 54 | + 2 | e 20 7 | ? |
| Mineral | z. 77.7 | 38 | e 12 2 _k | + 2 | i 12 10 | PcP | i 12 21 | ? |
| Tinemaha | 77.7 | 43 | i 12 2 | + 2 | e 21 54 | + 2 | e 12 28 | pP |
| Reno | z. 78.3 | 40 | e 12 3 | 0 | — | — | — | — |
| Nelson | 79.1 | 45 | i 12 7 | - 1 | — | — | i 12 18 | pP |
| Boulder City | 79.3 | 45 | i 12 8 | - 1 | — | — | — | — |
| Tucson | 80.0 | 50 | i 12 11 | - 2 | — | — | i 12 30 | pP |
| Vladivostok | 80.5 | 323 | i 12 16 | + 1 | i 22 29 | + 7 | — | — |
| Z6-S6 | z. 80.6 | 308 | 12 15 _a | - 1 | — | — | — | — |
| Seattle | z. 82.2 | 33 | i 12 29 | + 5 | — | — | — | — |
| Victoria | 82.2 | 32 | — | — | e 22 43 | + 4 | — | 41.3 |
| Nanking | 82.8 | 308 | i 12 30 _a | + 3 | e 22 49 | + 4 | — | — |
| Tacubaya | 83.3 | 67 | e 12 31 | + 1 | e 22 36 | -14 | e 23 23 | sS |
| Logan | 84.5 | 42 | e 12 35 | - 1 | e 23 5 | + 3 | — | — |
| Magadan | 84.8 | 343 | 12 36 | - 1 | 23 4 | - 1 | — | — |
| Vera Cruz | 85.8 | 68 | e 12 43 | + 1 | e 23 7 | [+ 1] | — | — |
| Butte | 86.4 | 38 | i 12 46 | + 1 | — | — | i 13 20 | sP |
| Hungry Horse | 86.9 | 36 | e 12 48 | 0 | — | — | — | — |
| College | 87.4 | 11 | i 12 49 | - 1 | e 23 27 | - 3 | — | — |
| Saskatoon | 93.0 | 35 | — | — | e 24 22 | + 1 | — | 44.3 |
| Huancayo | 93.8 | 104 | e 13 25 | + 5 | i 24 3 | [+ 9] | i 24 43 | S e 38.0 |
| Fayetteville | 94.0 | 53 | i 13 22 | + 1 | e 24 34 | + 4 | i 13 39 | pP e 46.1 |
| La Plata | N. 98.1 | 132 | e 13 55 | +15 | 24 13 | [- 5] | 26 13 | PS e 50.0 |
| La Paz | 98.5 | 111 | i 13 45 _a | + 3 | i 24 21 | [+ 1] | i 17 59 | PP 46.3 |
| Kyakhta | 99.1 | 320 | 13 46 | + 2 | 24 22 | [- 1] | — | — |
| Chinchina | 99.6 | 88 | — | — | e 24 26 | [+ 1] | — | 48.3 |
| Kabansk | 99.6 | 321 | i 13 45 | - 1 | i 26 58 | PS | i 17 48 | PP |
| Chicago | 100.8 | 49 | — | — | e 25 27 | 0 | — | — |
| Bogota | 100.9 | 89 | e 18 35 | PP | e 24 21 | [-10] | e 25 7 | SKKS 48.3 |
| Irkutsk | 101.0 | 321 | e 13 53 | 0 | 24 33 | [+ 1] | 27 18 | PS |
| Shillong | N. 102.2 | 293 | e 17 58 | PP | e 24 37 | [- 1] | e 27 4 | PS |
| Cleveland | 105.1 | 51 | e 14 10 | - 1 | e 26 11 | + 8 | e 19 10 | PP |
| Pennsylvania | N. 107.6 | 52 | — | — | e 26 33 | S | — | e 50.0 |
| Ottawa | 110.0 | 48 | 28 35 | PS | 26 3 | [- 2] | 34 23 | SS |
| Fordham | 110.6 | 53 | e 22 13 | PKS | e 26 55 | S | — | — |
| Palisades | 110.6 | 53 | e 19 5 | PP | e 25 13 | [- 2] | i 26 57 | S e 53.6 |
| Hyderabad | E. 111.9 | 281 | — | — | e 25 22 | [+ 2] | — | — |
| Harvard | 112.6 | 51 | — | — | e 27 19 | S | — | e 50.1 |
| Weston | 112.7 | 51 | — | — | i 22 15 | PKS | — | 58.2 |
| Seven Falls | E. 113.6 | 46 | e 18 39 | [- 1] | 25 33 | [+ 6] | 21 49 | PPP |
| Poona | z. 116.4 | 281 | e 18 51 | [+ 5] | — | — | — | — |
| Przhevalsk | 116.4 | 308 | e 18 48 | [+ 2] | — | — | — | — |
| Almata | 117.5 | 309 | e 19 59 | PP | — | — | — | — |
| Bombay | 117.5 | 281 | e 18 35 | [-13] | 25 46 | [+ 5] | 19 49 | PP |
| Naryn | 118.1 | 306 | e 18 52 | [+ 3] | i 25 49 | [+ 6] | i 20 7 | PP |
| Rybach'e | 118.1 | 308 | e 20 0 | PP | e 25 23 | [-20] | — | — |
| Halifax | 118.5 | 49 | e 20 12 | PP | 25 42 | [- 3] | 29 40 | PS 47.6 |
| Frunse | 119.2 | 308 | e 18 53 | [+ 2] | e 25 50 | [+ 3] | e 22 42 | PKS |
| Murgab | 119.5 | 303 | 20 9 | PP | 25 41 | [- 7] | — | — |
| Andijan | 120.8 | 305 | e 18 57 | [+ 3] | i 25 59 | [+ 6] | i 30 19 | PSKS |
| Fergana | 121.2 | 305 | e 20 26 | PP | — | — | — | — |
| Namangan | 121.3 | 305 | e 18 57 _? | [+ 2] | i 26 5 | [+11] | i 22 28 | PKS |
| Dzhergetal | 121.6 | 304 | e 18 59 | [+ 3] | 25 57 | [+ 1] | 20 29 | PP |
| Garm | 122.3 | 303 | e 18 59 | [+ 2] | e 25 58 | [0] | e 20 31 | PP |
| Kulyab | 122.7 | 302 | e 19 7 | [+ 9] | — | — | — | — |
| Obi-garm | 122.8 | 303 | e 19 1 | [+ 3] | e 25 59 | [0] | — | — |
| Tchimkent | 122.9 | 308 | e 19 0 | [+ 2] | — | — | e 20 38 | PP |
| Grahamstown | z. 123.0 | 201 | e 18 31 _? | [-27] | — | — | — | e 66.7 |
| Tashkent | 123.1 | 307 | e 19 0 | [+ 1] | e 26 3 | [+ 3] | e 27 39 | SKKS |
| Stalinabad | 123.5 | 303 | e 19 2 | [+ 2] | e 25 52 | [- 9] | — | — |
| Quetta | 124.6 | 293 | i 19 4 | [+ 2] | e 25 55 | [-10] | i 22 47 | pPKS |
| Sverdlovsk | 126.1 | 327 | e 19 5 | [+ 1] | i 26 13 | [+ 4] | i 20 57 | PP |
| Scoresby Sund | 127.3 | 12 | e 21 30 | PP | e 31 3 | PS | 38 13 | SS 60.3 |

Continued on next page.

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1953

569

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|------------|------------|----------------------|------------------|---------|------------------|---------|------------------|
| | | $^{\circ}$ | $^{\circ}$ | m. s. | s. | m. s. | s. | m. s. | m. |
| Kimberley | z. | 127.8 | 201 | e 19 10 | [+ 2] | — | — | — | — |
| Bairam-Ali | | 128.9 | 302 | i 19 13 | [+ 3] | — | — | i 21 17 | PP |
| Kiruna | | 131.8 | 353 | e 21 48 | PP | 26 19? | {- 5} | — | — |
| Kizyl-Arvat | | 133.2 | 306 | 19 21 | [+ 3] | i 22 48 | PKS | — | — |
| Moscow | | 137.6 | 334 | e 19 33 | [+ 7] | e 24 2 | PKS | — | — |
| Baku | | 137.8 | 309 | e 19 32 | [+ 5] | — | — | i 22 18 | PP |
| Makhach-Kala | | 138.7 | 314 | e 19 32 | [+ 4] | i 23 7 | PKS | — | — |
| Upsala | | 139.8 | 352 | i 19 23 | [- 7] | — | — | i 22 26 | PP |
| Kirovobad | | 140.3 | 310 | e 19 24 | [- 7] | e 23 3 | PKS | e 22 28 | PP |
| Goris | | 140.7 | 308 | 19 27 | [- 5] | 26 28 | [-12] | 22 35 | PP |
| Tiflis | | 141.1 | 311 | i 19 27 | [- 5] | e 29 11 | {-17} | — | — |
| Erevan | | 141.8 | 310 | i 19 29 | [- 5] | 29 13 | {-19} | 32 33 | PSKS |
| Tsikhlis-Dzhvari | | 142.0 | 312 | e 19 27 | [- 7] | — | — | — | — |
| Aberdeen | | 142.9 | 8 | i 22 47 | PP | i 32 59 | PS | e 40 59 | SS |
| Sotchi | | 143.7 | 317 | e 19 36 | [- 1] | — | — | — | — |
| Copenhagen | | 144.5 | 354 | i 19 39k | [+ 1] | — | — | 23 37 | PKP |
| Durham | | 145.3 | 8 | i 19 42 | [+ 2] | i 41 49 | SS | — | — |
| Theodosia | | 145.6 | 322 | i 19 42 | [+ 2] | — | — | — | — |
| Rathfarnham C. | z. | 145.9 | 13 | e 19 42k | [+ 1] | — | — | e 22 53 | PP |
| Simferopol | | 146.3 | 324 | e 19 44 | [+ 3] | — | — | — | — |
| Yalta | | 146.6 | 322 | i 19 44 | [+ 2] | — | — | — | — |
| Lwow | | 147.4 | 338 | e 19 46 | [+ 3] | — | — | — | — |
| Kishinev | | 147.7 | 332 | i 19 47 | [+ 3] | — | — | — | — |
| Potsdam | | 147.7 | 353 | i 19 49k | [+ 5] | — | — | i 20 22 | ? |
| Witteveen | z. | 147.7 | 359 | e 19 51 | [+ 7] | — | — | — | — |
| Cernauti | | 148.0 | 335 | e 19 47 | [+ 3] | — | — | — | — |
| De Bilt | | 148.5 | 0 | e 19 51 | [+ 6] | i 42 35 | SS | i 20 19 | pPKP |
| Kew | | 148.7 | 8 | e 19 58 | [+13] | e 42 6 | SS | e 19 25 | ? |
| Collnberg | | 148.8 | 353 | e 19 49 | [+ 4] | e 23 18 | PP | e 26 47 | PPP |
| Raciborzu | | 148.9 | 346 | e 19 50 | [+ 4] | — | — | e 21 56 | ? |
| Skalnate Pleso | | 149.2 | 342 | e 19 54 | [+ 8] | e 34 0 | PSKS | e 43 4 | SS |
| Jena | | 149.3 | 352 | e 19 46 | [0] | e 26 41 | [-12] | e 23 22 | PP |
| Prague | | 149.7 | 349 | i 19 53 | [+ 6] | e 26 47 | [- 6] | e 20 5 | PKP ₂ |
| Uccle | | 149.7 | 3 | e 19 46 | [- 1] | e 42 47 | SS | e 20 1 | PKP ₂ |
| Cheb | | 150.0 | 352 | e 19 56 | [+ 9] | e 30 27 | {+ 9} | e 23 27 | PKS |
| Ksara | | 150.4 | 303 | i 19 49 | [+ 1] | 23 35 | PKS | 20 27 | pPKP |
| Bucharest | | 150.9 | 330 | e 19 52 | [+ 3] | — | — | — | — |
| Ogyalla | | 151.0 | 344 | e 19 56 | [+ 7] | e 33 49 | SKSP | e 23 19 | PP |
| Karlsruhe | | 151.5 | 357 | e 19 51 _a | [+ 1] | e 23 43 | PP | e 20 1 | PKP ₂ |
| Istanbul | | 151.6 | 322 | e 20 5 | [+15] | e 26 54 | [- 2] | e 20 30 | pPKP |
| Paris | | 151.6 | 6 | e 19 51 | [+ 1] | e 23 46 | PP | i 20 24 | pPKP |
| Stuttgart | | 151.7 | 355 | e 19 51 | [+ 1] | e 33 55 | SKSP | e 20 0 | PKP ₂ |
| Strasbourg | | 151.9 | 357 | e 19 51 | [+ 1] | e 23 45 | PP | i 20 11 | PKP ₂ |
| Chambon-la-Forêt | | 152.4 | 6 | e 19 53 | [+ 2] | i 20 12 | PKP ₂ | i 20 1 | pPKP |
| Belgrade | | 152.9 | 337 | e 19 54 _a | [+ 2] | e 25 47 | [-70] | e 20 11 | PKP ₂ |
| Basle | | 153.0 | 357 | e 20 20 | PKP ₂ | — | — | e 24 6 | PP |
| Zürich | | 153.1 | 357 | e 20 2 _k | [+10] | e 23 49 | PP | e 20 14 | PKP ₂ |
| Triest | | 154.1 | 349 | e 19 56 | [+ 3] | e 26 24 | [-35] | e 23 49 | PKS |
| Clermont-Ferrand | | 154.7 | 5 | e 19 57 | [+ 3] | e 43 35 | SS | e 20 22 | PKP ₂ |
| Oropa | | 154.9 | 357 | e 19 40 | [-14] | — | — | e 20 45 | PKP ₂ |
| Pavia | | 155.2 | 355 | e 20 8 | [+13] | — | — | e 23 17 | PP |
| Helwan | z. | 155.3 | 297 | 19 58 | [+ 3] | 26 49 | [-11] | 20 25 | PKP ₂ |
| Bologna | | 155.7 | 351 | e 20 20 | PKP ₂ | 24 26 | PP | e 30 12 | SKKS |
| Florence | | 156.4 | 351 | i 19 58 | [+ 2] | e 31 0 | {+ 7} | i 20 28 | PKP ₂ |
| Taranto | | 157.9 | 338 | e 20 55 | PKP ₂ | e 28 55 | ? | 24 23 | PP |
| Rome | | 158.0 | 347 | 19 57 | [- 1] | 31 2 | { 0} | 20 32 | PKP ₂ |
| Toledo | | 158.8 | 22 | e 20 1 | [+ 2] | e 24 19 | PP | i 20 41 | PKP ₂ |
| Tortosa | | 159.2 | 11 | e 19 51 | [- 9] | — | — | i 25 20 | PP |
| Messina | | 160.5 | 338 | e 20 4 | [+ 3] | 26 58 | [- 7] | e 20 47 | PKP ₂ |
| Alicante | | 161.3 | 17 | 19 51 | [-11] | 31 23 | {+ 3} | 20 37 | PKP ₂ |
| Granada | | 161.4 | 25 | i 20 7 _k | [+ 5] | 30 30 | [-50] | 20 52 | PKP ₂ |
| Malaga | | 161.4 | 27 | i 20 3 | [+ 1] | i 24 31 | PP | i 20 51 | PKP ₂ |
| Almeria | | 162.1 | 23 | 20 7 | [+ 4] | 31 24 | { 0} | 23 34 | PKS |
| Algiers Univ. | z. | 163.6 | 8 | e 20 7 | [+ 3] | e 24 44 | PP | e 20 57 | sPKP |
| Tamanrasset | z. | 177.7 | — | e 20 14 | [+ 2] | e 32 52 | {+12} | e 20 39 | pPKP |

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1953

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Sept. 17d. 23h. 6m. Epicentre 42°·8N. 78°·0E.
Bulletin of Seismo. Stations of U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 147.

Sept. 18d. 2h. 42m. Epicentre 37°·6N. 71°·7E. Depth of focus 100km.
Bulletin of Seismo. Stations of U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 147.

Sept. 18d. 9h. 32m. 46s. Epicentre 33°·8N. 135°·6E.
Intensity IV at Siomisaki, Wakayama, Owasi, and Sumoto; II-III at Hikone and Okayama.
Seismo. Bull. Cent. Met. Obs, Japan, for 1953, September, Tokyo, 1954, pp. 23, 24, with macroseismic chart.

Sept. 18d. 10h. 18m. Tonga region. Magnitude 5 ?
Seismological Observatory Bulletin for July, August, September, 1953, New Zealand Department of Scientific and Industrial Research No. E-133, Wellington, 1953, p. 14.

Sept. 18d. 15h. 8m. Provisional epicentre 20°·5S. 174°·0W. Magnitude 5·5-6.
Loc. cit., 10h.

Sept. 18d. 22h. 22m. Provisional epicentre 20°·5S. 174°·0W. Depth of focus 100km.
Magnitude 5·5-6.
Loc. cit.

Sept. 19d. 18h. 24m. Provisional epicentre 20°·0S. 174°·0W. Magnitude 5.
Loc. cit.

Sept. 20d. 8h. 50m. Epicentre 43°·2N. 78°·5E.
Bulletin of the Seismological Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 147.

Sept. 20d. 16h. 9m. Epicentre 35°·2N. 139°·8E. Depth of focus 110km.
Intensity IV at Tokyo; II-III at Yokohama, Kashiwa, Hunatu, Utunomiya, etc.
Loc. cit., 19d. 18h., pp. 24, 25.

Sept. 20d. 18h. 55m. 31s. Epicentre 54°·6S. 2°·2E.

A = +·5814, B = +·0223, C = -·8133; $\delta = -2$; $h = -8$;
D = +·038, E = -·999; G = -·813, H = -·031, K = -·582.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|------|----------|-----|----------|------|---------|---------|----------|------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Grahamstown | z. | 27·3 | 47 | e 5 49 | + 1 | e 11 56 | SS | — | — |
| Pietermaritzburg | z. | 32·2 | 49 | e 6 33 | + 1 | — | — | — | — |
| Pretoria | z. | 34·6 | 43 | i 6 53 | 0 | — | — | — | — |
| Tananarive | | 49·5 | 61 | e 8 57 | + 3 | e 16 20 | PPS | e 10 18 | PcP e 22·7 |
| La Paz | | 65·3 | 277 | i 10 40k | - 6 | i 19 26 | - 3 | 13 0 | PP e 30·5 |
| Huancayo | | 73·1 | 273 | e 11 32 | - 2 | e 21 1 | 0 | e 25 44 | SS e 29·8 |
| Tamanrasset | z. | 77·1 | 3 | i 11 56 | - 1 | e 13 46 | ? | e 14 48 | PP — |
| Christchurch | | 81·9 | 172 | e 12 29 | + 6 | e 22 41 | + 5 | e 39 29? | Q e 45·5 |
| Kaimata | N.E. | 82·8 | 171 | e 12 34 | + 7 | — | — | e 12 51 | ? — |
| Cobb River | E. | 84·3 | 172 | e 12 34 | - 1 | — | — | — | — |
| Wellington | | 84·3 | 174 | e 12 35? | 0 | e 23 1 | + 1 | — | — e 39·8 |
| Bogota | | 85·8 | 284 | e 12 41 | - 1 | e 23 12 | - 3 | — | — 40·5 |
| Chinchina | | 87·0 | 283 | i 12 45 | - 3 | e 23 19 | { - 1 } | — | — |
| Helwan | | 87·8 | 25 | i 12 54 | + 2 | e 23 47 | + 13 | — | — |
| Riverview | | 88·0 | 154 | i 23 41 | S | i 23 27 | { 0 } | i 29 41 | SS e 44·5 |
| Colombo | E. | 88·5 | 76 | 12 58 | + 2 | 24 50 | PS | — | — |
| Algiers Univ. | z. | 91·0 | 1 | e 13 7 | 0 | — | — | e 16 40 | PP — |
| Malaga | | 91·1 | 355 | i 13 7 | - 1 | i 24 4 | 0 | 16 45 | PP 43·0 |
| Almeria | | 91·2 | 356 | i 13 13 | + 5 | 23 57 | { + 7 } | i 24 15 | S 44·2 |
| Granada | | 91·6 | 355 | i 13 9k | - 1 | 24 17 | + 8 | 16 57 | PP 44·9 |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|----------------|----------|-----|------|-----------------|------|------|----|-------|-------|-----|-----|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Alicante | 92.6 | 358 | e 12 | 54 | -21 | e 25 | 37 | PS | e 21 | 15 | ? | 42.7 |
| Ksara | 92.7 | 28 | i 13 | 18 | +3 | e 24 | 38 | +20 | e 17 | 0 | PP | — |
| Messina | 93.1 | 11 | e 13 | 17 | 0 | e 23 | 58 | [+7] | e 25 | 44 | PS | — |
| Poona | 94.8 | 65 | — | — | — | e 24 | 57 | +21 | — | — | — | — |
| Taranto | 95.6 | 12 | e 14 | 59 | ? | e 26 | 29 | PPS | — | — | — | e 60.5 |
| Rome | 96.5 | 8 | e 13 | 30 | -2 | 24 | 22 | {-7} | 17 | 22 | PP | 45.5 |
| Istanbul | 98.0 | 20 | e 18 | 2 | PP | e 24 | 46 | {+6} | e 20 | 8 | PPP | 34.5 |
| Oropa | 100.0 | 4 | e 13 | 25 | -23 | e 24 | 16 | [-11] | e 27 | 54 | PPS | — |
| Triest | 100.4 | 8 | e 15 | 33 | ? | — | — | — | e 17 | 50 | PP | 56.0 |
| Quetta | z. 101.1 | 53 | 13 | 59 | +6 | — | — | — | — | — | — | — |
| Strasbourg | 102.9 | 4 | e 18 | 19 | PP | e 18 | 43 | ? | e 20 | 28 | PPP | e 47.5 |
| Paris | 103.0 | 0 | e 17 | 49 | ? | e 27 | 22 | PS | e 18 | 18 | PP | e 47.5 |
| Stuttgart | 103.2 | 5 | e 18 | 20 | PP | e 28 | 17 | PPS | e 32 | 59 | SS | e 50.5 |
| Bermuda | 103.9 | 307 | — | — | — | e 33 | 6 | SS | — | — | — | e 48.6 |
| Prague | 104.8 | 8 | e 19 | 15 | PP | e 28 | 42 | PPS | e 19 | 34 | ? | — |
| Kew | 105.7 | 358 | — | — | — | e 33 | 42 | SS | — | — | — | e 49.5 |
| Collmberg | z. 105.9 | 7 | e 18 | 20 | PKP | — | — | — | — | — | — | — |
| De Bilt | 106.4 | 2 | e 18 | 41 | PP | e 27 | 49 | PS | e 33 | 29? | SS | e 49.5 |
| Rathfarnham C. | z. 107.8 | 354 | e 19 | 8 | PP | — | — | — | — | — | — | — |
| Copenhagen | 110.2 | 6 | 19 | 8 | PP | 28 | 40 | PS | 21 | 17 | PPP | 52.5 |
| Upsala | 114.8 | 8 | i 18 | 40 | [-3] | e 29 | 10 | PS | e 39 | 29? | SSS | e 56.5 |
| Palisades | 115.2 | 306 | e 14 | 44 | P | i 29 | 23 | PS | e 19 | 37 | PP | e 51.7 |
| Fayetteville | 122.0 | 289 | i 18 | 55 | [-2] | — | — | — | e 20 | 24 | PP | — |
| Kiruna | z. 122.9 | 9 | i 18 | 57 | [-1] | — | — | — | — | — | — | — |
| Nanking | 130.6 | 90 | i 19 | 4 | [-9] | i 22 | 32 | PKS | i 21 | 19 | PP | — |
| Zô-Sè | 131.3 | 93 | 19 | 16 | [+2] | 22 | 44 | PKS | i 21 | 37 | PP | — |
| Palomar | z. 133.0 | 270 | i 19 | 18 | [0] | — | — | — | — | — | — | — |
| Pasadena | z. 134.3 | 270 | e 19 | 20 | [0] | — | — | — | — | — | — | — |
| Tinemaha | z. 136.4 | 272 | e 19 | 25 | [+1] | — | — | — | — | — | — | — |
| Lick | z. 138.5 | 270 | e 19 | 29 _a | [+1] | e 20 | 13 | ? | e 21 | 3 | ? | — |
| Reno | z. 138.9 | 275 | e 19 | 28 | [-1] | — | — | — | — | — | — | — |
| Berkeley | z. 139.3 | 270 | e 19 | 29 | [0] | — | — | — | — | — | — | — |
| Mineral | z. 140.5 | 274 | e 19 | 30 _k | [-1] | e 19 | 41 | ? | e 19 | 52 | ? | — |
| Shasta | z. 141.2 | 274 | e 19 | 31 | [-2] | — | — | — | e 20 | 6 | ? | — |

Sept. 20d. 22h. 9m. Epicentre 38°·25N. 20°·75E.

After-shock of big earthquake of August 12d. Probably two separate shocks. Unfelt.

A. Galanopoulos.

Seismological Institute Bulletin, 1953, Athens, 1954, p. 126.

Sept. 21d. 17h. 10m. Provisional epicentre 34°S. 178°W.

New Zealand Department of Scientific and Industrial Research (Geophysics Division),
Seismological Observatory Bulletin No. E-133, for July, August, September, 1953,
Wellington, 1956, p. 14.

Sept. 21d. 20h. 30m. Epicentre 39°·3N. 71°·2E.

Bulletin of the Seismological Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954,
p.p. 147, 148.

Sept. 22d. 10h. 43m. Epicentre 58°·25S. 25°·25W. Near the Sandwich Islands.

Annales de l'Institut de Physique du Globe de Strasbourg, Nouvelle série, Tome XVIII,
Deuxième partie, Séismologie, 1953, Strasbourg, 1959, p. 87.

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Sept. 23d. 2h. 14m. 38s. Epicentre 50°·0N. 156°·4E. Depth of focus 0·005.
(as on 1953, March 17d.).

A = -·5913, B = +·2583, C = +·7639; $\delta = -10$; $h = -5$;
D = +·400, E = +·916; G = -·700, H = +·306, K = -·645.

| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|-----------|----|---------------|----------|-----|-----------------|------------|------|-----|------------|-------|-----|----------|--------|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Nemuro | | 10·0 | 232 | e 2 | 25 | + 2 | e 3 | 58 | -17 | e 2 | 37 | PP | e 4·7 |
| Wakkanai | E. | 10·9 | 251 | e 2 | 41 | + 5 | e 4 | 56 | SS | e 16 | 5 | sScS | 6·1 |
| Asahigawa | | 11·4 | 242 | e 2 | 38 | - 4 | | | | | | | |
| Obihiro | | 11·5 | 237 | e 3 | 3 | PPP | e 4 | 22 | -29 | | | | |
| Urakawa | | 12·3 | 235 | e 2 | 54 | 0 | e 5 | 4 | - 6 | e 5 | 32 | SS | e 6·8 |
| Sapporo | | 12·5 | 242 | e 2 | 58 | + 1 | e 5 | 38 | SS | e 3 | 11 | PP | e 7·6 |
| Tomakomai | | 12·7 | 239 | e 3 | 2? | + 2 | 5 | 23 | + 3 | i 4 | 42 | ? | |
| Suttsu | | 13·3 | 243 | e 3 | 16 | + 8 | | | | e 3 | 27 | PP | e 7·2 |
| Mori | | 13·6 | 240 | 3 | 9 | - 2 | e 6 | 9 | SS | e 16 | 10 | sScS | e 6·8 |
| Hakodate | | 13·7 | 239 | e 3 | 14 | + 1 | | | | | | | |
| Hatinohe | | 14·1 | 233 | e 3 | 16 | - 2 | e 5 | 40 | -13 | e 6 | 31 | SSS | e 7·4 |
| Aomori | | 14·3 | 236 | e 3 | 26 | + 5 | (e 5 | 51) | - 7 | e 3 | 34 | PP | e 5·8 |
| Miyako | | 14·6 | 230 | e 3 | 27 | + 3 | e 5 | 55 | -10 | (e 6 | 12) | SS | e 6·2 |
| Morioka | | 14·9 | 232 | e 3 | 24 | - 4 | e 6 | 1 | -11 | | | | e 7·0 |
| Mizusawa | | 15·4 | 231 | 3 | 37 | + 2 | e 6 | 36 | +12 | e 6 | 42 | S | |
| Akita | | 15·5 | 234 | e 3 | 37 | + 1 | e 6 | 42 | +16 | e 7 | 37 | Q | e 8·0 |
| Sendai | | 16·1 | 229 | 3 | 46 | + 2 | e 6 | 38 | - 2 | i 4 | 7 | PPP | 7·4 |
| Sakata | | 16·2 | 233 | e 3 | 58 | PP | | | | | | | |
| Yamagata | | 16·6 | 230 | e 3 | 50 | 0 | | | | | | | e 9·7 |
| Hokusima | | 16·8 | 229 | 3 | 54 | + 2 | e 6 | 42 | -14 | | | | |
| Inawasiro | E. | 17·1 | 230 | e 3 | 43 | -13 | i 7 | 19 | +16 | e 4 | 13 | PP | |
| Onahama | | 17·2 | 226 | e 3 | 59 | + 2 | e 6 | 54 | -11 | | | | e 8·1 |
| Niigata | | 17·3 | 232 | e 4 | 11 | PP | e 6 | 40 | -27 | 7 | 35 | SS | |
| Shirakawa | | 17·4 | 229 | e 4 | 1 | + 1 | e 7 | 3 | - 6 | | | | |
| Aikawa | | 17·7 | 233 | e 4 | 4 | + 1 | 7 | 20 | + 4 | | | | 8·7 |
| Mito | | 17·8 | 227 | e 4 | 11 | + 6 | e 7 | 27 | + 9 | | | | |
| Utunomiya | | 18·0 | 227 | e 4 | 9 | + 2 | e 7 | 26 | + 3 | e 4 | 28 | PP | e 8·3 |
| Kakioka | | 18·1 | 226 | e 4 | 5 | - 3 | e 7 | 22 | - 3 | | | | |
| Kumagaya | | 18·5 | 227 | 4 | 14 | + 1 | | | | e 8 | 20 | SSS | |
| Maebasi | | 18·5 | 229 | e 4 | 13 | 0 | e 7 | 47 | +13 | e 4 | 45 | PPP | |
| Nagano | | 18·7 | 233 | e 4 | 15 | 0 | e 8 | 10 | SS | | | | e 10·2 |
| Matusiro | | 18·8 | 234 | i 4 | 13 _a | - 4 | 7 | 37 | - 4 | i 8 | 16 | SS | 9·5 |
| Oiwake | | 18·8 | 232 | e 4 | 22 | + 5 | e 8 | 8 | SS | | | | |
| Titibu | | 18·8 | 228 | e 4 | 19 | + 2 | | | | | | | |
| Tokyo | | 18·8 | 227 | e 4 | 12 _a | - 5 | 7 | 36 | - 5 | i 8 | 6 | SS | 9·9 |
| Wazima | | 18·9 | 236 | e 4 | 18 | 0 | e 8 | 6 | SS | e 5 | 12 | ? | e 9·2 |
| Yokohama | | 19·0 | 226 | e 4 | 17 | - 2 | | | | | | | |
| Matumoto | N. | 19·2 | 232 | 4 | 18 | - 3 | e 7 | 55 | + 6 | | | | e 10·5 |
| Toyama | | 19·2 | 234 | e 4 | 13 | - 8 | e 4 | 46 | PP | i 5 | 6 | ? | e 8·9 |
| Mera | | 19·3 | 226 | e 4 | 26 | + 4 | | | | | | | |
| Hunatu | | 19·4 | 228 | e 4 | 25 | + 2 | 8 | 2 | + 9 | | | | |
| Kohu | | 19·4 | 229 | e 4 | 23 | 0 | e 7 | 48 | - 5 | | | | |
| Ajiro | | 19·6 | 224 | e 4 | 22 | - 3 | | | | | | | |
| Kanazawa | | 19·6 | 234 | e 4 | 12 | -13 | | | | | | | |
| Misima | | 19·6 | 227 | e 4 | 24 | - 1 | e 8 | 22 | SS | e 4 | 40 | pP | 9·2 |
| Osima | | 19·7 | 226 | e 4 | 29 | + 2 | | | | e 5 | 36 | ? | |
| Iida | | 19·8 | 231 | e 4 | 32 | + 4 | | | | | | | e 9·7 |
| Shizuoka | | 20·0 | 228 | e 4 | 34 | + 4 | e 8 | 8 | + 2 | | | | |
| Gihu | | 20·4 | 231 | e 4 | 35 | + 1 | | | | | | | |
| Omaesaki | | 20·4 | 227 | 4 | 34 _a | 0 | e 8 | 19 | + 5 | e 4 | 48 | pP | e 11·5 |
| Nagoya | E. | 20·5 | 231 | e 4 | 34 | - 1 | e 8 | 43 | SS | e 5 | 43 | ? | |
| Tsuruga | N. | 20·6 | 234 | e 4 | 40 | + 4 | e 8 | 33 | +15 | e 4 | 46 | ? | |
| Hikone | | 20·8 | 232 | e 4 | 36 | - 2 | e 8 | 46 | SS | | | | 11·5 |
| Kameyama | | 21·0 | 233 | 4 | 41 | + 1 | 8 | 30 | + 5 | 5 | 24 | PPP | 8·8 |
| Kyoto | | 21·3 | 232 | e 4 | 42 | - 1 | e 8 | 38 | + 7 | | | | |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|----|----------|-----|----------------------|------|----------|------|-----------|-------------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Toyooka | | 21.4 | 233 | e 4 42 | - 2 | e 8 44 | +11 | — | e 10.5 |
| Osaka | | 21.6 | 233 | e 4 52 | + 6 | e 8 51 | +15 | e 5 37 | e 11.9 |
| Saigo | | 21.7 | 239 | e 4 48 | + 1 | e 8 51 | +13 | — | — |
| Kobe | N. | 21.8 | 233 | i 4 48 | 0 | i 8 48 | + 8 | (i 12 21) | i 12.4 |
| Owase | | 21.8 | 230 | e 4 41 | - 7 | — | — | — | — |
| Sumoto | | 22.2 | 233 | i 4 54 | + 2 | e 8 59 | +12 | — | 12.0 |
| Yonago | | 22.2 | 236 | e 5 15 | PP | e 8 58 | +11 | — | 11.2 |
| Siomisaki | | 22.5 | 230 | e 5 1 | + 6 | e 7 59 | -54 | e 5 35 | e 10.2 |
| Tokusima | | 22.6 | 233 | 5 6 | +10 | — | — | — | — |
| Takamatu | | 22.7 | 234 | e 4 54 | - 3 | e 8 51 | - 5 | — | 10.3 |
| Hamada | | 23.3 | 239 | 5 4 | + 1 | (9 12) | + 5 | e 8 25 | ? 9.2 |
| Hirosima | | 23.5 | 236 | e 5 0 | - 5 | e 9 8 | - 2 | — | e 11.9 |
| Muroto | | 23.5 | 233 | e 5 21 | pP | e 9 16 | + 6 | e 6 8 | ? e 11.4 |
| Koti | | 23.6 | 235 | i 5 7 | + 1 | e 9 13 | + 1 | — | 10.8 |
| Matuyama | | 23.8 | 236 | e 5 8 | 0 | e 9 18 | + 3 | e 6 8 | ? e 12.1 |
| Simidu | | 24.5 | 234 | e 5 14 | 0 | 9 37 | +10 | 11 22 | Q 13.3 |
| Ooita | | 24.8 | 238 | e 5 3 | -14 | e 9 51 | +19 | — | — |
| Hukuoka | | 25.2 | 239 | 5 23 _a | + 2 | 9 40 | + 1 | i 5 40 | pP 11.4 |
| Kumamoto | | 25.6 | 239 | e 5 33 | + 8 | (10 2) | +16 | — | 10.0 |
| Miyazaki | | 25.9 | 234 | e 5 36 | + 8 | e 9 58 | + 7 | — | 12.1 |
| Tomie | | 26.9 | 239 | e 5 29 | - 8 | e 10 14 | + 7 | — | 13.5 |
| College | | 32.3 | 42 | i 6 24 | - 1 | i 11 32 | - 1 | — | — |
| Nanking | | 33.1 | 252 | i 6 30 | - 2 | 11 46 | + 1 | — | — |
| Sitka | | 39.6 | 53 | i 7 30 | + 3 | i 13 22 | - 3 | — | — |
| Hong Kong | | 43.1 | 246 | 7 55 | 0 | 13 41 | PcS | — | — |
| Baguio | | 44.2 | 234 | i 8 5 _a | + 1 | i 14 35 | + 3 | — | 20.4 |
| Honolulu | | 45.8 | 111 | i 8 31 | pP | i 15 3 | + 8 | — | — |
| Resolute Bay | | 47.0 | 21 | i 8 28 _a | + 1 | i 15 17 | + 5 | i 10 20 | PP |
| Victoria | | 49.9 | 60 | 8 41? | - 8 | i 15 48? | - 5 | i 16 19? | sS 23.4 |
| Seattle | z. | 51.0 | 61 | e 8 58 | + 1 | e 16 34 | sS | e 9 16 | pP |
| Corvallis | z. | 52.3 | 63 | e 9 18 | +11 | e 16 40 | +14 | — | e 25.1 |
| Arcata | | 54.1 | 67 | e 9 24 | + 4 | — | — | e 9 35 | pP |
| Shillong | N. | 54.7 | 268 | e 9 24 | - 1 | i 16 54 | - 4 | 17 17 | PPS 24.4 |
| Hungry Horse | | 55.1 | 55 | i 9 28 | 0 | — | — | — | — |
| Shasta | | 55.2 | 66 | i 9 29 _a | + 1 | i 17 12 | + 7 | i 9 44 | pP |
| Mineral | z. | 55.9 | 66 | i 9 34 _a | 0 | e 17 58 | PPS | i 9 46 | pP |
| Saskatoon | | 56.4 | 48 | e 9 33 | - 4 | i 17 22 | + 1 | e 19 39 | ScS 25.4 |
| Chatra | | 56.8 | 273 | i 9 39 | - 1 | i 17 55 | sS | 11 52 | PP 28.0 |
| Berkeley | | 57.1 | 70 | i 9 42 _a | 0 | e 17 34 | + 4 | i 9 57 | pP e 26.1 |
| Reno | | 57.4 | 65 | i 9 46 _a | + 2 | i 18 11 | PPS | i 10 6 | pP |
| Santa Clara | | 57.6 | 70 | e 9 46 _k | 0 | i 17 41 | + 4 | e 10 1 | pP e 26.9 |
| Lick | | 57.8 | 70 | e 9 47 _a | 0 | e 17 45 | + 6 | i 10 2 | pP |
| Kiruna | | 57.9 | 342 | i 9 45 | - 3 | e 17 39 | - 2 | i 39 27 | P'P' e 27.4 |
| Calcutta | E. | 59.1 | 269 | i 9 56 _k | 0 | i 17 56 | 0 | e 19 56 | ScS |
| Scoresby Sund | | 59.8 | 0 | i 9 58 | - 3 | i 18 4 | - 1 | e 22 24 | SS |
| Tinemaha | | 60.0 | 67 | i 10 4 _a | + 2 | e 18 14 | + 6 | i 10 19 | pP |
| Dehra Dun | | 60.2 | 283 | i 10 4 | 0 | i 18 11 | 0 | 13 50 | PPP |
| Woody | z. | 60.5 | 67 | i 10 6 _a | 0 | i 12 31 | PP | i 10 22 | pP |
| China Lake | z. | 61.2 | 67 | i 10 11 _a | + 1 | i 10 39 | sP | i 10 22 | pP |
| New Delhi | N. | 62.0 | 282 | e 10 14 | - 2 | e 18 35 | + 1 | 19 3 | sS 28.7 |
| Pasadena | | 62.0 | 69 | i 10 16 _a | 0 | i 18 34 | 0 | i 10 31 | pP e 28.3 |
| Riverside | z. | 62.6 | 69 | i 10 18 _a | - 2 | i 10 48 | sP | i 10 34 | pP |
| Nelson | | 62.9 | 66 | i 10 22 | 0 | — | — | i 10 35 | pP |
| Palomar | z. | 63.3 | 69 | i 10 24 _a | 0 | i 10 33 | ? | i 10 38 | pP |
| Upsala | | 65.5 | 339 | i 10 36 _a | - 3 | e 19 15 | - 2 | i 11 7 | PcP e 29.4 |
| Reykjavik | | 66.2 | 359 | i 10 43 | 0 | — | — | i 10 46 | P |
| Quetta | | 67.1 | 291 | i 10 48 _k | - 1 | i 19 36 | 0 | i 11 15 | sP e 37.6 |
| Bergen | | 67.5 | 345 | e 10 54 | + 3 | e 19 38 | - 3 | e 27 11 | SSS e 30.1 |
| Tucson | | 67.7 | 67 | i 10 53 | 0 | i 19 51 | + 7 | — | — |
| Hyderabad | | 69.1 | 272 | i 11 2 | + 1 | i 20 0 | 0 | 20 28 | sS 33.4 |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|--------------------|----|----------|-----|----------------------|------|----------|------|----------------------|-------------------|--------|
| | | c | c | m. s. | s. | m. s. | s. | m. s. | m. | |
| Copenhagen | | 70.5 | 340 | e 11 10 | 0 | i 20 18 | + 1 | 21 10 | PPS | — |
| Djakarta | | 70.5 | 234 | e 11 10 _a | 0 | i 20 46 | sS | — | — | e 35.8 |
| Bandung | | 70.7 | 233 | e 11 20 | + 9 | e 20 48 | sS | e 21 36 | sS ₇ S | — |
| Kirkland Lake | z. | 70.8 | 36 | i 11 11 _a | - 1 | — | — | i 11 26 | pP | — |
| Madras | E. | 71.3 | 269 | — | — | i 20 25 | - 1 | — | — | — |
| Poona | N. | 71.3 | 277 | e 11 11 | - 4 | 20 23 | - 3 | 20 53 | sS | 29.2 |
| Aberdeen | | 71.7 | 349 | i 11 13 | - 4 | i 20 26 | - 4 | i 20 58 | sS | e 36.7 |
| Bombay | | 71.7 | 278 | e 11 15 | - 2 | i 20 32 | + 2 | 13 53 | PP | 33.4 |
| Chihuahua | | 73.1 | 66 | e 11 22 | - 3 | e 20 47 | + 1 | i 22 4 | ? | — |
| Potsdam | | 73.4 | 338 | i 11 25 _a | - 2 | e 20 42 | - 8 | e 11 54 | pP | e 35.4 |
| Iasi | | 73.6 | 327 | e 11 34 | + 6 | — | — | — | — | — |
| Durham | | 74.0 | 347 | e 11 40 | +10 | i 21 26 | sS | — | — | — |
| Fayetteville | | 74.1 | 53 | i 11 31 | 0 | i 20 57 | 0 | i 11 46 | pP | e 35.4 |
| Raciborzu | | 74.1 | 333 | e 11 31 | 0 | e 12 12 | ? | e 11 23? | ? | — |
| St. Louis | | 74.1 | 49 | i 11 33 | + 2 | i 21 1 | + 4 | — | — | — |
| Skalnate Pleso | | 74.3 | 332 | e 11 27 | - 5 | e 21 6 | + 6 | e 22 9 | PPS | e 36.4 |
| Collmberg | | 74.4 | 337 | e 11 31 | - 2 | e 22 52 | ? | e 12 0 | sP | e 40.9 |
| Witteveen | z. | 74.4 | 342 | i 11 34 | + 1 | — | — | — | — | — |
| Ottawa | | 74.8 | 35 | i 11 34 _a | - 1 | 21 2 | - 3 | 14 20 | PP | — |
| Shawinigan Falls | N. | 74.8 | 33 | e 11 35 | 0 | 21 5 | 0 | — | — | — |
| Seven Falls | E. | 75.0 | 31 | e 11 45? | + 9 | 21 16? | + 8 | e 21 41 | sS | — |
| Jena | | 75.1 | 338 | i 11 35 | - 2 | e 21 4 | - 5 | e 14 25 | PP | e 37.9 |
| Prague | | 75.1 | 336 | e 11 36 _a | - 1 | e 21 11 | + 2 | i 11 53 | pP | e 37.4 |
| De Bilt | | 75.4 | 342 | i 11 39 _a | + 1 | i 21 15 | + 3 | i 21 39 | sS | e 32.4 |
| Buffalo (Larkin) | | 75.7 | 39 | e 11 40 | 0 | — | — | — | — | — |
| Cheb | | 75.7 | 338 | i 11 40 | 0 | e 21 16 | + 1 | e 21 40 | sS | e 36.4 |
| Cleveland | | 75.7 | 42 | i 11 41 _a | + 1 | i 21 15 | 0 | i 11 56 | pP | — |
| Rathfarnham Castle | | 76.0 | 350 | i 11 40 | - 2 | i 21 21 | + 2 | i 11 31 _a | ? | 30.4 |
| Budapest | | 76.1 | 331 | e 11 44 | + 2 | 21 22 | + 2 | e 11 59 | pP | 37.4 |
| Colombo | E. | 76.1 | 264 | 11 26 | -16 | 21 21 | + 1 | — | — | 35.7 |
| Ogyalla | | 76.1 | 332 | e 11 43 | + 1 | e 21 23? | + 3 | e 21 49 | sS | e 42.9 |
| Cincinnati | | 76.3 | 44 | i 11 44 | 0 | — | — | i 11 59 | pP | — |
| Bucharest | | 76.5 | 326 | e 11 41 | - 4 | i 21 24 | 0 | i 21 48 | sS | 35.4 |
| Uccle | | 76.8 | 343 | e 11 45 | - 1 | e 21 21 | - 6 | e 21 50 | sS | e 33.4 |
| Szeged | | 76.9 | 330 | 12 14 | sP | e 21 39 | +11 | 22 30 | PPS | — |
| Kew | | 77.0 | 345 | i 11 46 | - 2 | e 21 29 | 0 | e 21 57 | sS | e 32.4 |
| Timisoara | | 77.0 | 329 | e 11 51 | + 3 | e 21 55 | sS | e 22 35 | PPS | e 41.4 |
| Brisbane | N. | 77.2 | 183 | i 11 49 | 0 | i 21 29 | - 3 | i 22 9 | SP | — |
| Pittsburgh | | 77.2 | 40 | i 11 51 | + 2 | i 21 37 | + 5 | — | — | — |
| Karlsruhe | | 77.6 | 340 | i 11 51 _a | 0 | e 12 18 | sP | e 14 40 | PP | e 39.4 |
| Stuttgart | | 77.6 | 338 | i 11 50 _a | - 1 | e 21 35 | - 1 | e 12 21 | sP | 40.4 |
| Pennsylvania | | 77.8 | 39 | i 11 55 | + 3 | i 21 38 | 0 | e 14 53 | PP | — |
| Morgantown | | 77.9 | 42 | i 11 53 | + 1 | i 21 40 | + 1 | — | — | — |
| Belgrade | | 78.1 | 329 | e 11 52 | - 2 | e 21 38 | - 3 | e 22 10 | sS | e 43.5 |
| Istanbul | | 78.2 | 321 | e 12 15 | pP | e 21 41 | - 1 | e 15 1 | PP | — |
| Strasbourg | | 78.2 | 339 | e 11 53 | - 1 | i 21 45 | + 3 | e 22 5 | ScS | e 36.0 |
| Harvard | | 78.8 | 35 | e 11 56 | - 1 | i 21 50 | + 1 | i 12 15 | pP | — |
| Paris | | 79.0 | 343 | i 11 59 | 0 | i 21 54 | + 3 | i 12 18 | pP | e 37.4 |
| Sofia | | 79.0 | 327 | e 12 7 | + 8 | e 23 7 | PPS | — | — | 32.7 |
| Weston | | 79.0 | 35 | i 11 59 _a | 0 | e 21 44 | - 7 | 30 58 | Q | 43.8 |
| Zürich | | 79.1 | 339 | e 11 58 _a | - 1 | e 21 40 | -12 | e 14 40 | PP | — |
| Basle | | 79.2 | 339 | e 11 58 | - 2 | — | — | e 15 38 | ? | — |
| Palisades | | 79.2 | 38 | i 12 0 | 0 | i 21 52 | - 1 | i 22 20 | sS | e 36.2 |
| Fordham | | 79.3 | 38 | e 12 0 | 0 | e 21 53 | - 1 | — | — | — |
| Chur | | 79.4 | 337 | e 12 0 _a | - 1 | e 21 41 | -14 | — | — | — |
| Triest | | 79.4 | 335 | e 11 58 | - 3 | e 21 50 | - 5 | e 15 7 | PP | e 39.4 |
| Halifax | E. | 79.5 | 28 | i 12 3 _a | + 2 | 21 59 | + 3 | i 22 25 | sS | 32.8 |
| Jersey | | 79.5 | 345 | — | — | e 22 25 | sS | — | — | 33.4 |
| Washington | | 79.7 | 39 | i 12 4 | + 2 | e 21 8 | -50 | — | — | — |
| Besançon | | 79.8 | 340 | i 12 3 | 0 | i 12 29 | sP | i 13 27 | ? | — |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|-------------------|----------|-----|------|-----------------|-------|------|----|-------|-------|----|------|--------|
| | ' | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Chambou-la-Forêt | 79.8 | 343 | i 12 | 3 | 0 | — | — | — | i 12 | 35 | sP | — |
| Neuchatel | 79.8 | 339 | e 12 | 3 | 0 | e 22 | 26 | sS | — | — | — | — |
| Salo | 80.3 | 337 | i 12 | 3 _a | - 2 | e 21 | 50 | -14 | e 12 | 33 | sP | e 49.8 |
| Oropa | 80.9 | 338 | i 12 | 10 | + 1 | i 22 | 38 | sS | e 28 | 30 | ? | 37.4 |
| Pavia | 81.0 | 337 | e 12 | 10 | + 1 | e 22 | 44 | sS | i 12 | 40 | sP | — |
| Bologna | 81.1 | 335 | e 12 | 15 | + 5 | e 22 | 25 | +12 | e 27 | 37 | SS | — |
| Ksara | 81.3 | 313 | i 12 | 11 | 0 | i 22 | 39 | sS | — | — | — | — |
| Clermont-Ferrand | 81.8 | 341 | i 12 | 14 | + 1 | i 22 | 25 | + 5 | e 15 | 21 | PP | 39.4 |
| Florence | 81.8 | 335 | i 12 | 14 _a | + 1 | i 22 | 18 | - 2 | i 12 | 37 | pP | 37.4 |
| Siena | 82.2 | 335 | e 12 | 19 | + 4 | 22 | 50 | sS | e 13 | 32 | ? | — |
| Athens | 83.0 | 323 | i 12 | 16 _a | - 4 | e 22 | 27 | - 5 | e 23 | 18 | SP | — |
| Taranto | 83.0 | 330 | 12 | 22 | + 2 | e 21 | 16 | -76 | e 33 | 22 | Q | 39.0 |
| Rome | 83.2 | 335 | i 12 | 20 _a | - 1 | 22 | 42 | + 8 | e 28 | 24 | SS | e 37.4 |
| Riverview | 83.6 | 184 | i 12 | 25 _a | + 2 | i 22 | 42 | + 4 | i 12 | 41 | pP | e 39.1 |
| Tacubaya | 84.2 | 67 | i 12 | 29 | + 3 | e 22 | 43 | - 1 | e 23 | 19 | sS | — |
| Puebla | 85.1 | 66 | — | — | — | e 23 | 22 | sS | — | — | — | — |
| Messina | 85.6 | 330 | i 12 | 30 _a | - 3 | 22 | 47 | [- 2] | 15 | 49 | PP | 40.7 |
| Barcelona | 86.2 | 341 | — | — | — | 23 | 37 | sS | — | — | — | e 44.4 |
| Vera Cruz | 86.2 | 64 | — | — | — | e 23 | 22 | +18 | — | — | — | — |
| Helwan | 86.8 | 315 | i 12 | 38 _k | 0 | 23 | 2 | [+ 5] | 16 | 1 | PP | — |
| Tortosa | 87.1 | 341 | 13 | 5 | sP | i 23 | 1 | [+ 2] | — | — | — | — |
| Auckland | 88.0 | 165 | — | — | — | e 23 | 9 | [+ 4] | — | — | — | e 40.9 |
| Melbourne | 88.0 | 189 | e 13 | 16 | +32 | e 23 | 16 | - 5 | e 23 | 31 | ? | — |
| Merida | 88.5 | 59 | — | — | — | e 23 | 32 | + 7 | i 24 | 1 | sS | — |
| Toledo | 88.9 | 345 | i 12 | 49 | + 1 | 23 | 13 | [+ 3] | e 23 | 25 | S | 37.2 |
| Coimbra | 89.2 | 348 | — | — | — | 23 | 21 | SKKS | — | — | — | 43.4 |
| Karapiro | 89.2 | 165 | e 12 | 49 | - 1 | e 23 | 13 | [+ 1] | — | — | — | e 40.7 |
| Alicante | 89.7 | 342 | 12 | 46 | - 6 | e 23 | 30 | - 6 | 16 | 20 | PP | 42.6 |
| Bermuda | 90.3 | 34 | i 12 | 56 | + 1 | i 23 | 47 | + 5 | e 16 | 31 | PP | e 42.0 |
| Bermuda (Navy) | 90.3 | 34 | i 12 | 56 | + 1 | i 23 | 47 | + 5 | — | — | — | — |
| Algiers Univ. | 90.4 | 339 | e 12 | 53 | - 2 | e 22 | 53 | [-26] | e 13 | 16 | pP | — |
| Lisbon | 90.7 | 349 | — | — | — | 23 | 25 | [+ 4] | — | — | — | 47.4 |
| Granada | 91.4 | 345 | i 12 | 46 _k | -14 | 23 | 58 | + 7 | 24 | 26 | sS | i 47.1 |
| Almeria | 91.5 | 343 | i 12 | 51 | -10 | i 23 | 38 | SKKS | 16 | 47 | PP | 42.6 |
| Angra do Heroismo | 91.7 | 3 | — | — | — | c 24 | 18 | sS | — | — | — | — |
| Malaga | 92.0 | 345 | i 13 | 5 | + 2 | i 24 | 1 | + 4 | 18 | 53 | PPP | 44.1 |
| Wellington | 92.3 | 166 | — | — | — | e 23 | 28 | [- 2] | — | — | — | e 43.1 |
| Christchurch | 94.2 | 168 | e 23 | 14 | ? | e 23 | 44 | [+ 3] | e 25 | 46 | PS | e 43.9 |
| Tamanrasset | 103.1 | 332 | i 13 | 52 | - 1 | e 14 | 22 | sP | e 14 | 7 | pP | — |
| Fort de France | 107.6 | 38 | e 18 | 44 | PP | — | — | — | — | — | — | — |
| Chinchina | 109.3 | 56 | e 19 | 3 | PP | e 25 | 3 | [+10] | e 26 | 55 | S | 51.4 |
| Bogota | 110.4 | 55 | e 18 | 53 | PP | e 25 | 3 | [+ 5] | e 28 | 45 | PS | — |
| M'Bour | 115.6 | 354 | i 19 | 44 | PP | — | — | — | — | — | — | — |
| Tananarive | 116.3 | 273 | e 18 | 39 | [+ 3] | e 29 | 20 | PS | e 19 | 48 | PP | 49.1 |
| Huancayo | 123.3 | 66 | e 18 | 53 | [+ 4] | e 27 | 28 | SKKS | e 20 | 42 | PP | e 48.1 |
| La Paz | 131.1 | 62 | e 18 | 51 | [-14] | i 27 | 53 | SKKS | i 22 | 32 | PKS | 62.9 |
| Pretoria | 133.6 | 282 | e 19 | 14 | [+ 5] | — | — | — | e 18 | 56 | ? | — |
| Pietermaritzburg | 134.9 | 276 | e 19 | 15 | [+ 3] | — | — | — | — | — | — | — |
| Grahamstown | 139.8 | 276 | e 19 | 15 | [- 6] | — | — | — | — | — | — | e 74.3 |
| La Plata | 150.8 | 71 | 19 | 40 | [+ 1] | 30 | 46 | SKKS | 33 | 34 | SKSP | 70.6 |

Sept. 23d. 6h. 21m. Epicentre 35°·7N. 121°·1W. Intensity V at Bryson.
L. M. Murphy and W. K. Cloud.
United States Earthquakes, 1953, U.S.C.G.S., Serial 785, Washington, 1955, p. 18.

Sept. 25d. 6h. 19m. Epicentre 38°·6N. 73°·3E. Depth 100km.
Bulletin Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1955, p. 148-149.

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Sept. 25d. 13h. 41m. 7s. Epicentre 28°·1N. 140°·7E.

Seismo. Bull. Cent. Met. Obs., Japan, 1953, Sept., Tokyo, 1954, pp. 25, 26.

A = -·6836, B = +·5596, C = +·4686; $\delta = +5$; $h = +2$;
D = +·633, E = +·774; G = -·363, H = +·297, K = -·883.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-------------|----|----------|-----|---------|------------------|---------|------------------|-------|------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Osima | | 6·7 | 351 | — | — | e 3 40? | - 1 _g | — | — |
| Mera | | 6·8 | 354 | e 2 7 | + 8* | — | — | — | — |
| Omaesaki | | 6·8 | 342 | e 1 44 | 0 | 3 51 | + 6 _g | — | — |
| Siomisaki | | 6·8 | 323 | 2 8 | - 8 _g | — | — | — | — |
| Owase | | 7·1 | 328 | e 1 46 | - 2 | 4 3 | + 8 _g | — | — |
| Shizuoka | | 7·1 | 345 | e 1 54 | + 6 | 4 3 | + 8 _g | — | — |
| Misima | z. | 7·2 | 348 | e 1 55 | + 6 | — | — | — | — |
| Hunatu | | 7·6 | 348 | e 2 0 | + 5 | — | — | — | — |
| Kameyama | | 7·6 | 333 | 2 7 | - 6* | 4 19 | + 8 _g | — | — |
| Muroto | | 7·6 | 314 | — | — | e 3 34 | +11 | — | — |
| Tokyo | | 7·6 | 354 | e 2 0 | + 5 | 3 25 | + 2 | — | — |
| Kohu | z. | 7·7 | 347 | e 2 2 | + 6 | 4 43 | +29 _g | — | — |
| Gihu | | 8·0 | 336 | e 2 7 | + 7 | — | — | — | — |
| Sumoto | | 8·0 | 323 | e 2 9 | + 9 | — | — | — | — |
| Titibu | | 8·0 | 351 | e 2 12 | +12 | — | — | — | — |
| Hikone | | 8·1 | 333 | (e 2 8) | + 6 | e 2 8 | P | — | — |
| Kobe | N. | 8·1 | 326 | e 2 13 | - 8* | 4 20 | - 8 _g | — | — |
| Kumagaya | z. | 8·1 | 352 | e 2 6 | + 4 | 4 52 | +24 _g | — | — |
| Kyoto | | 8·1 | 330 | e 2 9 | + 7 | 3 43 | + 8 | — | — |
| Simidu | E. | 8·1 | 307 | e 2 0 | - 2 | 4 6 | + 2* | — | — |
| Koti | | 8·2 | 313 | e 2 7 | + 4 | 3 59 | - 8* | — | — |
| Maebasi | z. | 8·4 | 351 | e 2 11 | + 5 | 5 7 | +30 _g | — | — |
| Matumoto | N. | 8·4 | 345 | 2 12 | + 6 | 4 39 | + 2 _g | — | — |
| Takamatu | N. | 8·4 | 319 | 2 12 | + 6 | 4 15? | + 2* | — | — |
| Utunomiya | N. | 8·4 | 356 | e 2 11 | + 5 | 3 44 | + 1 | — | — |
| Takayama | N. | 8·5 | 341 | 2 13 | + 6 | 5 38 | ? | — | — |
| Matusiro | E. | 8·7 | 347 | e 2 3 | - 7 | — | — | — | — |
| Nagano | N. | 8·8 | 347 | 2 20 | + 9 | 4 0 | + 7 | — | — |
| Matuyama | | 8·9 | 312 | e 3 41 | ? | 6 15 | ? | — | — |
| Miyazaki | | 8·9 | 298 | — | — | (i 4 3) | + 8 | — | 14·0 |
| Toyooka | | 8·9 | 327 | e 2 21 | + 9 | — | — | — | — |
| Shirakawa | | 9·0 | 358 | e 2 47 | P* | 3 56 | - 2 | — | — |
| Ooita | | 9·3 | 305 | — | — | e 4 27 | -13* | — | — |
| Hirosima | | 9·4 | 313 | e 2 28 | +10 | 4 40 | - 3* | — | — |
| Kagosima | | 9·5 | 294 | e 0 50 | P | 3 4 | -66 | — | — |
| Hukusima | | 9·6 | 359 | e 2 23 | + 2 | — | — | — | — |
| Kumamoto | | 9·8 | 301 | e 2 43 | P* | — | — | — | — |
| Niigata | | 9·9 | 352 | — | — | e 4 23 | + 3 | — | — |
| Hamada | | 10·0 | 315 | e 2 39 | PP | 4 37 | SS | — | — |
| Aikawa | | 10·1 | 349 | e 2 34 | + 5 | — | — | — | — |
| Sendai | | 10·1 | 1 | e 2 41 | PP | 4 16 | - 9 | — | — |
| Hukuoka | | 10·4 | 304 | e 2 24 | -10 | 4 51 | +19 | — | — |
| Sakata | | 10·8 | 356 | — | — | e 4 55 | +13 | — | — |
| Mizusawa | E. | 11·0 | 2 | 3 0 | PP | 4 39 | - 8 | — | — |
| Akita | z. | 11·6 | 358 | e 2 50 | 0 | — | — | — | — |
| Miyako | | 11·6 | 5 | — | — | e 4 51 | -10 | — | — |
| Morioka | | 11·6 | 2 | e 4 49 | ? | — | — | — | — |
| Mori | E. | 14·0 | 0 | e 3 51 | +29 | — | — | — | — |
| Urakawa | | 14·1 | 6 | e 3 32 | + 9 | 5 54 | - 8 | — | — |
| Tomakomai | | 14·4 | 3 | e 3 53? | PP | — | — | — | — |
| Obihiro | | 14·9 | 7 | — | — | e 6 33 | +13 | — | — |
| Sapporo | z. | 14·9 | 2 | e 3 36 | + 2 | — | — | — | — |
| Guam | | 15·0 | 165 | e 3 12 | -23 | i 5 40 | ? | — | — |
| Nemuro | | 15·7 | 13 | e 3 47 | + 3 | 6 51 | SS | — | — |
| Vladivostok | | 16·6 | 337 | e 4 1 | + 5 | e 7 15 | SS | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------------|----|----------|-----|----------------------|------|----------------------|------|---------|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Z0-Sè | E. | 17.2 | 285 | 4 6 | + 3 | 7 20 | + 6 | — | — |
| Wakkanai | E. | 17.3 | 2 | — | — | e 7 28 | +12 | — | — |
| Yuzno-Sakhlinsk | | 18.9 | 4 | i 4 26 | + 2 | e 8 0 | + 7 | — | — |
| Nanking | | 19.3 | 288 | i 4 33 | + 4 | i 8 12 | +10 | — | — |
| Baguio | | 21.9 | 243 | i 5 3 | + 6 | i 9 3 | + 9 | — | — |
| Hong Kong | | 24.7 | 262 | 5 26 | + 2 | — | — | — | — |
| Petropavlovsk | | 28.3 | 22 | i 5 56 | - 1 | e 10 40 | - 3 | — | — |
| Magadan | | 32.2 | 10 | i 6 30 | - 2 | 11 43 | - 2 | — | — |
| Kyakhta | | 34.2 | 320 | 6 47 | - 2 | — | — | — | — |
| Irkutsk | | 36.2 | 322 | e 7 5 | - 1 | — | — | — | — |
| Shillong | N. | 43.4 | 279 | e 8 8 | + 2 | e 14 34 | - 1 | e 18 8 | ScS |
| Bandung | | 47.2 | 227 | e 8 44 | + 8 | e 15 34 | + 5 | e 15 16 | ? |
| Chatra | | 47.2 | 282 | i 8 37 | + 1 | i 15 30 | + 1 | 10 28 | PP |
| Djakarta | | 47.2 | 229 | e 8 38 _a | + 2 | e 15 37 | + 8 | e 10 6 | PcP |
| Calcutta | E. | 47.4 | 276 | i 8 45 | + 7 | i 15 33 | + 1 | — | — |
| Semipalatinsk | | 50.3 | 314 | e 8 57 | - 3 | — | — | — | — |
| Przhevalsk | | 51.7 | 304 | 9 12 | + 1 | — | — | — | — |
| Kurmenty | | 51.8 | 305 | e 9 12 | 0 | — | — | — | — |
| Almata II | | 52.4 | 306 | e 9 16 | 0 | — | — | — | — |
| Ili | | 52.6 | 306 | e 9 16 | - 2 | — | — | — | — |
| Almata | | 52.7 | 306 | i 9 19 | + 1 | e 16 48 | + 2 | — | — |
| Naryn | | 53.6 | 303 | i 9 24 | - 1 | — | — | — | — |
| Dehra Dun | N. | 54.1 | 288 | i 9 32 | + 3 | i 17 15 | PS | 17 23 | PPS |
| Frunse | | 54.5 | 305 | i 9 31 | - 1 | i 17 10 | 0 | — | — |
| New Delhi | | 55.3 | 287 | e 9 36 | - 2 | i 17 20 | - 1 | 17 31 | PS |
| Murgab | | 55.7 | 299 | i 9 38 | - 2 | i 17 25 | - 1 | — | — |
| Andijan | | 56.5 | 302 | i 9 45 | - 1 | 17 39 | + 2 | — | — |
| Namangan | | 56.9 | 302 | i 9 49 | 0 | — | — | — | — |
| Fergana | | 57.0 | 302 | i 9 48 | - 2 | — | — | — | — |
| College | | 57.1 | 29 | e 9 49 | - 1 | e 17 45 | 0 | — | — |
| Dzhergetal | | 57.6 | 301 | i 9 54 | 0 | — | — | — | — |
| Khorog | | 57.7 | 298 | e 9 55 | 0 | e 17 56 | + 3 | — | — |
| Hyderabad | | 57.8 | 274 | i 9 57 | + 2 | i 17 58 | + 4 | 12 8 | PP |
| Madras | E. | 58.1 | 270 | i 9 58 | 0 | i 18 3 | + 5 | 10 43 | PcP |
| Tchimkent | | 58.2 | 305 | i 9 58 | 0 | — | — | — | — |
| Tashkent | | 58.6 | 303 | e 10 1 | 0 | 18 3 | - 1 | — | — |
| Obi-garm | | 58.9 | 300 | i 10 1 | - 2 | i 18 10 | + 2 | — | — |
| Kulyab | | 59.0 | 299 | 10 0 | - 4 | — | — | — | — |
| Stalinabad | | 59.6 | 300 | e 10 7 | - 1 | i 18 19 | + 2 | — | — |
| Samarkand | | 60.7 | 302 | e 10 7 | - 8 | — | — | — | — |
| Poona | | 61.5 | 277 | i 10 18 | - 3 | e 18 44 [?] | + 2 | — | — |
| Sverdlovsk | | 61.6 | 323 | i 10 18 | - 4 | 18 41 | - 2 | — | — |
| Bombay | E. | 62.2 | 278 | i 10 26 | 0 | i 19 0 | + 9 | 15 1 | PcS |
| Riverview | | 62.4 | 170 | 10 25 | - 2 | i 18 53 | 0 | i 18 50 | S |
| Quetta | | 63.3 | 292 | i 10 31 _a | - 2 | i 19 6 | + 2 | i 11 1 | PcP |
| Bairam-Ali | | 64.9 | 301 | i 10 43 | 0 | i 19 25 | + 1 | — | — |
| Ashkabad | | 67.7 | 302 | i 11 1 | 0 | — | — | — | — |
| Kizyl-Arvat | | 68.9 | 305 | i 11 7 | - 2 | i 20 12 | - 1 | — | — |
| Resolute Bay | | 71.4 | 14 | e 11 23 _a | - 1 | e 20 44 | + 2 | — | e 44.1 |
| Baku | | 73.0 | 307 | 11 35 | + 2 | e 21 4 | + 4 | — | — |
| Makhach-Kala | | 73.6 | 311 | e 11 36 | - 1 | — | — | — | — |
| Shemakla | | 73.8 | 308 | i 11 25 [?] | -13 | — | — | — | — |
| Moscow | | 74.1 | 325 | 11 39 | - 1 | 21 13 | + 1 | — | — |
| Seattle | Z. | 74.2 | 44 | e 11 41 | + 1 | — | — | — | — |
| Kiruna | | 74.7 | 340 | i 11 41 | - 2 | i 21 17 | - 2 | e 14 28 | PP |
| Kirovobad | | 75.3 | 309 | e 11 44 | - 3 | e 21 21 | - 5 | — | — |
| Pulkovo | | 75.6 | 331 | e 11 46 | - 2 | e 21 25 | - 4 | — | — |
| Goris | | 75.8 | 308 | i 11 48 | - 2 | e 21 32 | + 1 | — | — |
| Tiflis | | 76.0 | 310 | e 11 47 | - 4 | e 21 33 | - 1 | — | — |
| Erevan | | 76.8 | 309 | i 11 53 | - 2 | 21 43 | + 1 | — | — |

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| | | Δ ° | Az. ° | P. m. s. | O-C. s. | S. m. s. | O-C. s. | Supp. m. s. | L. m. |
|--------------------|----|---------------|----------|-------------|------------|-------------|------------------|----------------|----------|
| Shasta | | 77.1 | 51 | e 11 56k | - 1 | e 12 18 | PcP | e 12 36 | ? |
| Mineral | z. | 77.8 | 51 | e 11 59k | - 2 | i 12 40 | ? | e 14 56 | PP |
| Berkeley | | 78.4 | 53 | i 12 4a | 0 | e 22 17 | [+ 2] | — | — |
| Sotchi | | 78.5 | 313 | e 12 1 | - 3 | — | — | — | — |
| Hungry Horse | | 78.8 | 41 | i 12 6 | 0 | — | — | — | — |
| Santa Clara | E. | 78.9 | 53 | e 39 11 | P'P' | — | — | — | e 35.6 |
| Lick | z. | 79.1 | 53 | i 12 8a | 0 | i 12 37 | PcP | e 15 24 | PP |
| Reno | | 79.4 | 51 | e 12 9 | 0 | e 22 10 | 0 | e 14 33 | ? |
| Theodosia | | 80.5 | 316 | e 12 13 | - 2 | e 22 17 | - 5 | — | — |
| Fresno | z. | 80.7 | 53 | e 12 15 | - 1 | — | — | — | — |
| Upsala | | 80.7 | 335 | i 12 14 | - 2 | i 22 20 | - 4 | i 12 23 | PcP |
| Butte | | 80.9 | 42 | e 12 16 | - 1 | — | — | i 12 26 | PcP |
| Simferopol | | 81.3 | 317 | e 12 18 | - 2 | e 22 27 | - 3 | — | — |
| Yalta | | 81.5 | 316 | e 12 19 | - 2 | e 22 28 | - 4 | — | — |
| Tinemaha | | 81.6 | 52 | i 12 21k | 0 | — | — | — | — |
| Pasadena | | 83.1 | 55 | i 12 28k | - 1 | i 22 47 | - 1 | i 12 57 | ? |
| Kishinev | | 83.3 | 321 | e 12 27 | - 3 | — | — | — | e 38.0 |
| Riverside | z. | 83.7 | 55 | e 12 31 | - 1 | — | — | — | — |
| Cernauti | | 84.2 | 323 | e 12 34 | 0 | — | — | — | — |
| Lwow | | 84.2 | 325 | — | — | e 22 58 | - 1 | — | — |
| Palomar | z. | 84.4 | 55 | i 12 34k | - 2 | — | — | — | — |
| Nelson | | 84.7 | 52 | i 12 36 | - 1 | — | — | i 13 6 | ? |
| Copenhagen | | 85.6 | 334 | e 12 40 | - 1 | i 23 10 | - 3 | e 13 3 | ? |
| Ksara | | 85.9 | 306 | e 12 42 | - 1 | — | — | i 16 14 | PP |
| Uzhgorod | | 85.9 | 324 | e 12 43 | 0 | e 23 16 | 0 | e 24 23 | PS |
| Istanbul | | 86.5 | 315 | e 13 4 | +18 | e 23 38 | +16 | e 29 25 | SS |
| Potsdam | | 87.7 | 331 | e 12 53 | + 1 | e 23 44 | +11 | 16 23 | PP |
| Collmberg | | 88.5 | 330 | e 12 54 | - 2 | — | — | e 13 42 | ? |
| Prague | | 88.8 | 329 | e 12 59 | + 2 | e 23 32 | [+ 7] | e 16 28 | PP |
| Tucson | | 89.3 | 53 | e 13 1 | + 2 | — | — | — | — |
| Aberdeen | | 89.4 | 341 | — | — | i 26 1 | PPS | — | — |
| Jena | z. | 89.4 | 330 | e 12 56 | - 4 | e 13 17 | ? | e 14 19 | ? |
| De Bilt | | 91.1 | 334 | e 13 8 | 0 | e 25 6 | PS | — | e 46.9 |
| Helwan | z. | 91.3 | 305 | e 13 7 | - 2 | — | — | e 16 38 | PP |
| Stuttgart | | 92.1 | 330 | e 13 9 | - 3 | e 23 35 | [-10] | e 13 45 | ? |
| Triest | | 92.2 | 326 | e 12 36 | -37 | e 23 9 | [-37] | e 23 59 | S |
| Strasbourg | | 92.8 | 331 | e 13 14 | - 2 | — | — | e 16 58 | PP |
| Kew | | 93.7 | 336 | e 7 5 | ? | e 25 53 | PS | — | e 46.9 |
| Rathfarnham Castle | | 94.0 | 341 | i 13 45 | +24 | e 24 21 | - 9 | e 23 23 | ? |
| Bologna | | 94.2 | 326 | e 21 59 | ? | e 26 13 | PPS | — | e 38.0 |
| Besançon | | 94.6 | 331 | e 13 22 | - 2 | — | — | e 14 10 | ? |
| Paris | | 94.8 | 334 | e 13 22 | - 3 | e 13 46 | ? | e 13 58 | ? |
| Pavia | | 94.8 | 328 | e 20 13 | ? | e 28 13 | ? | e 34 31 | SSS |
| Oropa | | 95.0 | 329 | e 20 53 | ? | — | — | — | e 39.6 |
| Chambon-la-Forêt | | 95.5 | 334 | e 13 26 | - 2 | — | — | — | — |
| Rome | | 95.5 | 324 | e 17 16 | PP | e 26 32 | PPS | e 29 14 | ? |
| Messina | E. | 96.4 | 320 | e 16 39 | ? | — | — | — | e 39.4 |
| Fayetteville | | 97.3 | 42 | i 13 38 | + 2 | e 24 12 | [- 1] | — | — |
| Palisades | | 104.1 | 26 | e 18 23 | PP | e 24 44 | [- 2] | — | — |
| Algiers Univ. | z. | 104.2 | 325 | 17 42 | ? | — | — | — | e 50.0 |
| Alicante | | 104.6 | 329 | e 14 9 | 0 | e 26 1 | + 2 | 20 49 | PPP |
| Almeria | | 106.7 | 330 | 14 24 | + 6 | 26 14 | - 2 | 18 50 | PP |
| Tamanrasset | z. | 113.4 | 315 | e 18 40 | [0] | e 19 26 | PP | e 21 59 | PPP |
| Pretoria | z. | 120.5 | 255 | e 18 53 | [- 1] | — | — | — | — |
| Huancayo | | 142.8 | 72 | e 19 33 | [- 2] | — | — | — | — |
| La Paz | | 151.0 | 73 | i 19 53a | [+ 4] | i 20 14 | PKP ₁ | i 23 50 | PP |

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Sept. 26d. 1h. 2m. 30s. Epicentre 50°·4N. 157°·8E. Focus at Base of Superficial Layers.
(as on 1952, November 20d.).

A = -·5925, B = +·2418, C = +·7684; δ = -4; h = -6;
D = +·378, E = +·926; G = -·711, H = +·290, K = -·640.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|----------|-----|----------------------|------|----------|------|---------|-----------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Nemuro | | 10·9 | 234 | e 2 48 | +11 | e 4 35 | - 4 | e 3 3 | — |
| Wakkanai | E. | 11·9 | 251 | e 2 55 | + 5 | e 5 15 | +12 | — | — |
| Urakawa | | 13·3 | 237 | e 3 13 | + 4 | e 5 18 | -19 | e 6 5 | Q e 6·6 |
| Sapporo | | 13·5 | 243 | e 3 18 | + 6 | e 5 55 | +14 | i 3 41 | PP e 7·8 |
| Tomakomai | | 13·7 | 241 | — | — | 6 4 | +18 | — | — |
| Miyako | | 15·5 | 232 | — | — | e 6 27 | - 2 | — | — |
| Morioka | | 15·9 | 234 | e 3 48 | + 5 | e 6 22 | -16 | — | — |
| Sendai | | 17·1 | 231 | — | — | e 7 4 | - 2 | e 7 12 | ? — |
| Hukusima | | 17·7 | 231 | e 4 10 | + 4 | e 7 13 | - 6 | — | — |
| Shirakawa | | 18·3 | 231 | e 4 32 | PP | e 7 34 | + 1 | — | — |
| Utunomiya | | 18·9 | 231 | e 4 22 | + 2 | e 7 52 | + 6 | — | — |
| Kakioka | | 19·0 | 230 | 4 28 | + 6 | e 7 38 | -10 | — | e 9·7 |
| Maebasi | | 19·4 | 233 | e 4 32 | + 6 | e 8 6 | + 9 | e 5 2 | ? — |
| Kumagaya | | 19·5 | 231 | e 4 36 | + 9 | e 8 8 | + 8 | — | — |
| Nagano | E. | 19·7 | 235 | e 4 35 | + 6 | e 8 23 | +19 | — | — |
| Matusiro | | 19·8 | 235 | e 4 24 | - 6 | e 8 5 | - 1 | i 4 54 | PP 10·3 |
| Titibu | | 19·8 | 232 | e 4 34 | + 4 | e 8 21 | +15 | — | — |
| Matumoto | | 20·1 | 234 | 4 34 | 0 | 8 17 | + 5 | — | — |
| Hunatu | | 20·3 | 232 | e 4 32 | - 4 | e 8 21 | + 5 | — | — |
| Kohu | | 20·3 | 232 | e 4 37 | + 1 | e 8 29 | +13 | — | — |
| Misima | E. | 20·5 | 229 | e 4 58 | +20 | e 8 33 | +13 | — | — |
| Gihu | | 21·4 | 234 | e 4 50 | + 3 | — | — | — | — |
| Nagoya | E. | 21·5 | 233 | e 4 52 | + 4 | e 8 51 | +12 | e 5 32 | PP — |
| Sumoto | E. | 23·2 | 235 | e 5 7 | + 2 | e 9 18 | + 8 | — | — |
| Takamatu | | 23·6 | 236 | e 5 14 | + 5 | e 9 24 | + 7 | — | — |
| Hamada | | 24·3 | 239 | 5 17 | + 2 | e 9 29 | 0 | — | e 11·8 |
| Hirosima | | 24·5 | 238 | e 5 19 | + 2 | — | — | — | — |
| Koti | | 24·5 | 236 | e 6 12 | +55 | e 9 34 | + 1 | — | — |
| Simidu | | 25·4 | 235 | e 5 30 | + 4 | e 9 41 | - 7 | — | — |
| Kumamoto | | 26·6 | 239 | e 5 42 | + 5 | — | — | — | — |
| Kagosima | | 27·6 | 237 | e 5 50 | + 4 | — | — | — | — |
| College | | 31·4 | 40 | e 6 20 | 0 | — | — | — | — |
| Nanking | | 34·1 | 252 | i 6 43 | - 1 | 12 7 | + 1 | — | — |
| Bagnio | | 45·2 | 235 | i 8 16 _a | 0 | i 14 52 | - 1 | — | — |
| Victoria | | 49·0 | 59 | — | — | (15 30) | -16 | — | 15·5 |
| Seattle | Z. | 50·0 | 59 | e 8 57 | + 4 | — | — | — | — |
| Hungry Horse | | 54·1 | 54 | i 9 25 | + 1 | — | — | — | — |
| Shasta | Z. | 54·2 | 67 | i 9 26 _a | + 2 | e 12 16 | ? | e 12 43 | ? — |
| Mineral | Z. | 54·9 | 67 | i 9 31 _a | + 1 | — | — | i 10 19 | PcP — |
| Shillong | Z. | 55·6 | 270 | i 9 33 | - 2 | — | — | — | — |
| Berkeley | | 56·1 | 71 | e 9 43 | + 5 | e 17 28 | + 5 | e 9 53 | pP — |
| Butte | | 56·4 | 57 | i 9 40 | 0 | — | — | i 9 58 | pP — |
| Reno | | 56·5 | 66 | i 9 43 _a | + 2 | e 17 36 | + 8 | i 9 56 | pP — |
| Santa Clara | | 56·6 | 71 | e 9 47 _k | + 5 | e 17 40 | +10 | — | e 26·2 |
| Lick | Z. | 56·8 | 71 | i 9 45 _a | + 2 | e 11 41 | PP | i 10 0 | pP — |
| Chatra | | 57·7 | 274 | e 9 49 | - 1 | e 19 34 | ScS | — | e 33·5 |
| Kiruna | | 57·8 | 342 | i 9 46 _a | - 4 | e 17 29? | -17 | i 11 57 | PP e 26·5 |
| Fresno | Z. | 58·3 | 68 | e 9 54 | 0 | — | — | — | — |
| Tinemaha | | 59·0 | 68 | i 10 2 | + 3 | e 18 9 | + 8 | i 10 15 | pP — |
| Woody | Z. | 59·6 | 68 | i 10 3 | 0 | — | — | i 10 28 | pP — |
| Salt Lake City | | 60·2 | 60 | e 9 48 | -19 | — | — | e 10 2 | P — |
| Pasadena | | 61·0 | 70 | i 10 13 | + 1 | e 18 32 | + 5 | i 10 28 | pP e 27·1 |
| Riverside | Z. | 61·6 | 70 | i 10 13 | - 3 | — | — | i 10 31 | pP — |
| Palomar | Z. | 62·3 | 70 | i 10 23 | + 2 | — | — | i 10 37 | pP — |
| Upsala | | 65·5 | 340 | i 10 39 _a | - 3 | i 19 12 | -11 | i 10 49 | pP e 29·5 |
| Reykjavik | Z. | 65·8 | 0 | i 10 42 | - 2 | — | — | — | — |
| Tucson | | 66·7 | 67 | e 10 52 | + 2 | — | — | e 11 6 | pP — |
| Quetta | | 67·8 | 292 | i 10 55 | - 2 | i 19 46 | - 5 | i 11 22 | pP — |
| Hyderabad | | 70·0 | 273 | 11 7 | - 3 | 20 13 | - 4 | 20 31 | PS — |
| Kirkland Lake | Z. | 70·0 | 37 | e 11 8 _a | - 2 | — | — | — | — |

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580

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|--------------------|----|----------|-----|-----------------------|-------|----------|-------|----------|-----|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Copenhagen | | 70.4 | 341 | e 11 4 | - 9 | i 20 15 | - 7 | 21 10 | PPS | 28.5 |
| Aberdeen | N. | 71.5 | 350 | i 11 16 | - 3 | i 20 51 | +17 | i 21 36 | PS | e 32.8 |
| Poona | | 72.1 | 278 | i 11 23 | 0 | e 20 36 | - 5 | — | — | — |
| Bombay | | 72.5 | 278 | e 11 24 | - 1 | e 20 43 | - 3 | 21 15 | PS | — |
| Fayetteville | | 73.1 | 53 | i 11 29 | 0 | e 20 52 | - 1 | i 11 40 | pP | e 40.5 |
| Potsdam | | 73.3 | 339 | i 11 28 _a | - 2 | e 20 56 | + 1 | e 21 48 | PPS | e 35.5 |
| Durham | | 73.8 | 346 | e 11 32 | - 1 | i 20 56 | - 5 | i 21 54 | PPS | — |
| Ottawa | | 73.9 | 37 | i 11 32 _a | - 1 | — | — | — | — | — |
| Raciborzu | | 74.1 | 334 | e 11 30? | - 5 | e 15 49 | PPP | e 11 58 | PcP | — |
| Seven Falls | E. | 74.2 | 34 | e 11 41? | + 6 | 21 7? | + 2 | 14 23? | PP | — |
| Collmburg | | 74.3 | 338 | e 11 33 | - 3 | e 14 53 | PP | e 12 0 | pP | — |
| Skalnate Pleso | | 74.3 | 333 | e 11 23 | -13 | e 21 54 | PPS | e 12 3 | pP | — |
| Witteveen | Z. | 74.3 | 343 | i 11 45 _a | + 9 | — | — | — | — | — |
| Cleveland | | 74.8 | 42 | e 11 40 | + 1 | e 21 32 | PS | i 11 47 | pP | — |
| Jena | | 75.0 | 338 | e 11 37 | - 3 | e 14 32 | PP | e 12 3 | pP | — |
| Prague | | 75.1 | 337 | e 11 35 | - 5 | e 21 7 | - 8 | e 11 57 | PcP | e 40.0 |
| De Bilt | | 75.3 | 342 | i 11 40 _a | - 2 | i 21 13 | - 4 | e 26 6 | SS | e 35.5 |
| Cheb | | 75.6 | 338 | e 11 43 | 0 | e 21 17? | - 4 | — | — | e 39.5 |
| Rathfarnham Castle | | 75.8 | 350 | i 11 43 _a | - 1 | e 21 30 | + 7 | e 26 40 | SS | e 40.0 |
| Ogyalla | | 76.1 | 334 | e 11 47 | + 1 | e 21 24 | - 2 | e 14 48 | PP | — |
| Budapest | | 76.2 | 333 | e 11 43 | - 4 | e 21 28 | + 1 | e 16 10 | PPP | e 41.5 |
| Bucharest | | 76.7 | 327 | e 11 41 | - 9 | e 22 0 | PS | — | — | — |
| Kew | | 76.8 | 346 | i 11 48 | - 2 | e 26 30 | SS | — | — | e 35.5 |
| Morgantown | | 77.0 | 42 | i 11 52 | + 1 | — | — | — | — | — |
| Szeged | | 77.0 | 331 | e 12 53 | +62 | 14 38 | PP | 16 38 | PPP | — |
| Karlsruhe | | 77.5 | 340 | e 11 53 _a | - 1 | — | — | — | — | e 42.5 |
| Stuttgart | | 77.6 | 340 | i 11 52 _a | - 2 | e 21 36 | - 6 | e 14 42 | PP | 42.5 |
| Harvard | | 77.9 | 35 | i 11 56 _a | 0 | — | — | — | — | e 42.5 |
| Strasbourg | | 77.9 | 340 | i 11 56 | 0 | e 21 42 | - 4 | i 12 21 | pP | e 37.5 |
| Weston | | 78.1 | 35 | i 11 58 _a | + 1 | 21 46 | - 2 | — | — | e 39.3 |
| Belgrade | | 78.2 | 331 | e 11 57 _a | - 1 | e 21 46 | - 3 | e 17 9 | PPP | e 49.6 |
| Palisades | | 78.3 | 37 | i 11 58 | 0 | i 21 49 | - 1 | e 14 46 | PP | e 36.8 |
| Istanbul | | 78.5 | 323 | 12 17 | +18 | e 22 4? | +12 | e 14 58 | PP | 39.5 |
| Halifax | | 78.7 | 29 | i 12 1 | + 1 | 21 45 | - 9 | 22 36 | PPS | — |
| Paris | | 78.9 | 344 | i 12 0 | - 2 | i 21 52 | - 4 | i 12 25 | pP | e 37.5 |
| Washington | | 78.9 | 40 | i 12 0 | - 2 | — | — | — | — | — |
| Besançon | | 79.7 | 341 | i 12 5 | - 1 | i 12 42 | sP | i 12 29 | pP | — |
| Salo | | 80.3 | 337 | e 11 58 | -11 | e 21 58 | -13 | e 12 10 | P | — |
| Manzanillo | | 80.4 | 72 | e 12 9 | - 1 | e 27 40 | SS | — | — | — |
| Oropa | | 80.8 | 339 | i 12 14 | + 2 | — | — | — | — | — |
| Pavia | | 81.0 | 338 | e 12 16 | + 3 | e 22 16 | - 2 | e 15 5 | PP | e 43.5 |
| Bologna | | 81.1 | 336 | e 12 26 | +13 | e 22 56 | +37 | e 13 27 | ? | — |
| Clermont-Ferrand | | 81.7 | 343 | i 12 6 | -11 | e 22 27 | + 2 | i 12 32 | pP | 42.5 |
| Ksara | | 81.7 | 314 | i 12 15 | - 2 | 22 47 | +22 | 12 36 | pP | — |
| Florence | | 81.8 | 336 | i 12 13? _a | - 4 | 22 24? | - 2 | i 12 42? | pP | — |
| Taranto | | 83.1 | 331 | — | — | e 21 52 | -48 | — | — | e 48.5 |
| Rome | | 83.2 | 335 | i 12 22 _a | - 2 | 22 35 | - 6 | 12 55 | pP | — |
| Tacubaya | | 83.2 | 67 | e 12 26 | + 2 | e 22 46 | + 5 | — | — | — |
| Riverview | | 84.1 | 185 | i 12 32 _a | + 3 | i 22 52 | + 2 | e 35 24 | Q | e 39.1 |
| Messina | | 85.7 | 331 | e 12 35 | - 2 | e 22 53 | [- 4] | 29 7 | SS | 41.8 |
| Helwan | Z. | 87.1 | 315 | i 12 42 _k | - 2 | e 16 6 | PP | e 19 51 | ? | — |
| Bermuda | | 89.4 | 35 | e 12 56 | + 1 | e 23 45 | + 5 | e 24 3 | PS | e 47.0 |
| Bermuda (Navy) | | 89.5 | 35 | e 12 56 | + 1 | e 24 3 | PS | — | — | — |
| Alicante | | 89.6 | 343 | 12 50 | - 6 | e 23 44 | + 2 | — | — | 42.8 |
| Algiers Univ. | Z. | 90.4 | 340 | — | — | e 25 10 | PS | — | — | — |
| Granada | | 91.3 | 345 | i 12 53 _k | -11 | — | — | — | — | — |
| Almeria | | 91.4 | 344 | 13 8 | + 4 | 24 2 | + 4 | 16 43 | PP | 46.0 |
| Malaga | | 91.8 | 345 | i 13 4 | - 2 | e 23 36 | [+ 2] | — | — | 47.8 |
| Tamanrasset | Z. | 103.1 | 334 | e 13 54 | - 3 | — | — | — | — | — |
| La Paz | Z. | 130.1 | 64 | i 19 10 _a | [+ 3] | — | — | — | — | — |
| Pretoria | Z. | 134.4 | 284 | e 19 18 | [+ 3] | — | — | — | — | — |
| Kimberley | Z. | 138.7 | 284 | e 19 13 | [-10] | — | — | — | — | — |

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

581

Sept. 26d. 3h. 34m. 29s. Epicentre 39°·6N. 119°·8W.

Intensity VI at Reno, Ollinghouse Canyon, and Floriston; V at Fernley, Sparks, Virginia City, Baxter, Chilcoot, and La Porte. Macroseismic area 12,000 sq. m.

L. M. Murphy and W. K. Cloud.

United States Earthquakes, 1953, U.S.C.G.S., Serial No. 785, Washington, 1955, pp. 18-20, with macroseismic chart.

Sept. 27d. 6h. 5m. 25s. Epicentre 13°·6N. 57°·8W.

A = +·5181, B = -·8228, C = +·2337; $\delta = +4$; $h = +6$;
D = -·846, E = -·533; G = +·125, H = -·198, K = -·972.

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------------|----------|-----|---------------------|------|---------|------|---------|-------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Fort de France | 3·4 | 289 | i 0 55 | 0 | i 1 34 | - 3 | — | — |
| San Juan | 9·3 | 302 | i 2 16 | - 1 | i 3 57 | - 8 | — | — |
| Galerazamba | 17·3 | 263 | i 4 9 | + 5 | i 7 22 | + 6 | — | 8·6 |
| Bogota | z. 18·4 | 243 | e 4 15 | - 3 | e 7 35 | - 6 | e 8 10 | SS |
| Chinchina | 19·5 | 245 | i 4 29 | - 2 | i 7 59 | - 7 | i 4 43 | PP |
| Bermuda | 19·7 | 342 | e 4 33 | - 1 | e 7 51 | - 19 | — | e 8·0 |
| Balboa Heights | 21·8 | 260 | e 4 57 | + 1 | — | — | — | — |
| Washington | 30·4 | 330 | i 6 15 | - 1 | e 10 47 | - 29 | — | — |
| Fordham | 30·6 | 337 | i 6 17 | - 1 | e 11 21 | + 1 | — | — |
| Palisades | 30·7 | 337 | i 6 18 | - 1 | i 11 22 | + 1 | e 7 13 | PP |
| Huancayo | 30·9 | 215 | i 6 22 | + 2 | e 11 17 | - 7 | e 7 6 | PP |
| Weston | 31·0 | 341 | i 6 21 _k | 0 | 11 26 | 0 | 12 34 | Q |
| Harvard | 31·2 | 341 | i 6 23 _k | 0 | i 11 30 | + 1 | — | — |
| Merida | 31·2 | 288 | e 7 38 | PP | — | — | — | — |
| Halifax | 31·3 | 353 | i 6 24 _k | 0 | 11 32 | + 1 | 7 6 | PP |
| La Paz | 31·6 | 198 | i 6 28 | + 2 | i 11 35 | 0 | i 7 10 | PP |
| Pennsylvania | 32·3 | 331 | e 6 38 | + 5 | e 11 47 | + 1 | i 13 2 | SS |
| Morgantown | 32·4 | 326 | i 6 35 | + 1 | e 13 5 | SS | — | — |
| Buffalo (Larkin) | 34·3 | 332 | e 6 50 | 0 | — | — | — | — |
| Cleveland | 34·6 | 328 | e 6 52 | - 1 | e 12 23 | + 1 | e 8 12 | PP |
| Cincinnati | 34·7 | 322 | i 6 54 | 0 | — | — | — | — |
| Ottawa | 35·1 | 338 | i 6 57 _k | 0 | 12 39 | + 9 | 7 15 | PP |
| Seven Falls | E. 35·1 | 345 | e 6 49 _? | - 8 | i 12 23 | - 7 | 14 22 | SS |
| Shawinigan Falls N. | 35·2 | 343 | e 6 58 | 0 | — | — | — | — |
| Angra do Heroismo | 36·8 | 42 | — | — | e 15 52 | SSS | — | — |
| Oaxaca | 37·7 | 282 | e 7 38 | + 19 | — | — | — | — |
| Chicago | 38·2 | 323 | e 6 57 | - 26 | e 13 17 | 0 | — | — |
| Kirkland Lake | z. 39·1 | 336 | e 7 30 _k | - 1 | — | — | — | — |
| Fayetteville | 39·5 | 312 | i 7 35 | + 1 | e 13 38 | + 1 | e 8 55 | PP |
| M'Bour | 39·6 | 82 | e 7 37 | + 2 | — | — | e 9 12 | PP |
| Tacubaya | 40·0 | 284 | e 7 46 | + 8 | e 13 49 | + 5 | — | — |
| La Plata | 48·2 | 180 | — | — | 15 29 | - 14 | 19 23 | SS |
| Lisbon | 49·6 | 50 | e 8 57 | + 2 | 16 0 | - 3 | 21 17 | Q |
| Coimbra | 50·6 | 49 | 9 3 | + 1 | 16 10 | - 7 | 21 11 | Q |
| Tucson | 51·7 | 301 | i 9 14 | + 3 | e 16 37 | + 5 | — | — |
| Malaga | 52·8 | 54 | i 9 1 | - 18 | e 16 51 | + 4 | 10 22 | PcP |
| Granada | 53·5 | 54 | i 9 24 _k | 0 | 17 5 | + 8 | 11 20 | PP |
| Toledo | 53·7 | 51 | i 9 27 _a | + 1 | e 17 8 | + 9 | 11 24 | PP |
| Almeria | 54·3 | 54 | 9 29 | - 1 | i 17 9 | + 2 | 11 38 | PP |
| Nelson | 55·5 | 304 | i 9 40 | + 1 | — | — | — | — |
| Butte | 56·0 | 317 | i 9 43 | 0 | — | — | 19 55 | ? |
| Alicante | 56·1 | 53 | 9 54 | + 11 | e 17 39 | + 7 | 19 40 | ScS |
| Rathfarnham Castle | 56·6 | 35 | i 9 47 _a | 0 | e 18 4 | + 26 | 9 59 | ? |
| Palomar | z. 56·9 | 302 | i 9 50 _a | + 1 | — | — | i 10 30 | PcP |
| Riverside | z. 57·4 | 302 | i 9 52 _a | - 1 | i 10 4 | ? | i 10 7 | ? |
| Hungry Horse | 57·7 | 319 | i 9 53 | - 2 | — | — | — | — |
| Pasadena | 58·0 | 302 | i 9 57 _a | 0 | e 17 57 | 0 | e 13 7 | PPP |
| Tinemaha | 58·4 | 305 | i 10 0 _a | 0 | e 18 4 | + 2 | e 12 11 | PP |
| Algiers Univ. | z. 58·7 | 56 | e 10 1 | - 1 | e 18 12 | + 6 | e 12 32 | PP |
| Woody | z. 58·7 | 304 | i 10 2 _k | 0 | i 10 13 | ? | e 12 11 | PP |

Continued on next page.

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1953

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| | | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. |
|------------------|----|----------|-----|------|-----|-------|------|-----|------|-------|----|------------|
| | | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. |
| Kew | | 59.4 | 38 | i 10 | 4 | - 2 | e 18 | 1 | -14 | e 14 | 36 | ScP e 26.6 |
| Fresno | z. | 59.6 | 305 | i 10 | 8k | 0 | — | — | — | — | — | — |
| Durham | z. | 59.8 | 34 | e 10 | 7 | - 2 | — | — | — | — | — | — |
| Chambon-la-Forêt | | 60.1 | 42 | i 10 | 10 | - 1 | — | — | — | i 10 | 22 | pP |
| Clermont-Ferrand | | 60.1 | 45 | i 10 | 11 | 0 | e 18 | 41 | +17 | e 22 | 27 | SS 29.1 |
| Aberdeen | | 60.4 | 31 | — | — | — | i 18 | 41 | +13 | i 22 | 51 | SS 28.7 |
| Paris | | 60.4 | 41 | i 10 | 14 | + 1 | i 18 | 30 | + 2 | i 10 | 26 | pP |
| Tamanrasset | z. | 60.5 | 71 | i 10 | 15 | + 1 | e 12 | 38 | PP | e 10 | 51 | PcP |
| Lick | z. | 61.1 | 306 | e 10 | 19k | + 1 | i 10 | 59 | PcP | e 14 | 7 | PPP |
| Mineral | z. | 61.4 | 309 | e 10 | 19k | - 1 | — | — | — | i 11 | 16 | PcP |
| Berkeley | N. | 61.7 | 306 | i 10 | 23 | + 1 | e 18 | 49 | + 5 | e 22 | 59 | SS e 30.9 |
| Shasta | z. | 62.0 | 309 | i 10 | 23a | - 1 | e 14 | 16 | PPP | — | — | — |
| Uccle | | 62.0 | 40 | e 10 | 21 | - 3 | e 18 | 48 | 0 | e 10 | 32 | pP e 26.6 |
| Besançon | | 62.4 | 44 | i 10 | 26 | - 1 | e 12 | 48 | PP | i 10 | 40 | pP |
| De Bilt | | 62.8 | 38 | e 10 | 29 | - 1 | e 19 | 0 | + 2 | — | — | e 26.6 |
| Corvallis | z. | 63.1 | 312 | e 10 | 33 | + 1 | — | — | — | — | — | — |
| Basle | | 63.5 | 44 | e 10 | 37 | + 3 | e 19 | 7 | 0 | — | — | — |
| Oropa | | 63.5 | 46 | i 10 | 34 | 0 | i 19 | 36 | +29 | — | — | 34.6 |
| Strasbourg | | 63.8 | 43 | i 10 | 36 | 0 | e 19 | 8 | - 3 | i 10 | 50 | pP 26.6 |
| Witteveen | z. | 63.9 | 37 | i 10 | 37 | 0 | — | — | — | — | — | — |
| Zürich | | 64.1 | 44 | e 10 | 37k | - 1 | e 19 | 12 | - 2 | e 11 | 11 | PcP |
| Karlsruhe | | 64.3 | 42 | i 10 | 39 | 0 | e 19 | 19 | + 2 | e 13 | 4 | PP |
| Pavia | | 64.3 | 46 | e 18 | 19 | ? | e 19 | 29 | +12 | e 20 | 5 | PPS e 31.4 |
| Chur | | 64.7 | 45 | e 10 | 42k | 0 | — | — | — | — | — | — |
| Stuttgart | | 64.7 | 43 | i 10 | 41k | - 1 | e 19 | 23 | + 1 | e 11 | 15 | PcP e 26.6 |
| Salo | | 65.3 | 46 | e 10 | 50 | + 4 | e 20 | 21 | PPS | e 14 | 47 | PPP |
| Florence | | 65.6 | 48 | e 10 | 47a | - 1 | e 19 | 23 | -10 | e 19 | 55 | PS |
| Bologna | | 65.7 | 47 | — | — | — | e 21 | 12 | ? | — | — | e 29.0 |
| Rome | | 66.4 | 50 | i 10 | 53 | 0 | i 19 | 44 | + 1 | 24 | 4 | SS e 30.9 |
| Jena | | 66.6 | 40 | e 10 | 52 | - 2 | e 19 | 45 | 0 | e 13 | 35 | PP |
| Cheb | | 67.0 | 41 | e 10 | 59 | + 2 | e 19 | 54 | + 4 | e 13 | 50 | PP |
| Collnberg | | 67.5 | 40 | e 10 | 59 | - 1 | e 20 | 11 | +15 | e 13 | 21 | PP |
| Copenhagen | | 67.7 | 35 | i 11 | 0 | - 1 | i 19 | 59 | + 1 | 24 | 35 | SS |
| Potsdam | | 67.7 | 39 | e 11 | 1 | 0 | i 20 | 8 | +10 | — | — | e 27.7 |
| Prague | | 68.3 | 41 | i 11 | 4k | - 1 | e 20 | 12 | + 6 | i 11 | 20 | PcP |
| Messina | | 68.7 | 54 | e 11 | 14 | + 7 | e 20 | 9 | - 1 | — | — | e 27.7 |
| Raciborzu | z. | 70.7 | 41 | e 11 | 20 | 0 | — | — | — | — | — | — |
| Upsala | | 71.0 | 31 | i 11 | 20 | - 2 | e 20 | 36? | - 1 | i 11 | 32 | PcP e 30.6 |
| Belgrade | | 72.2 | 47 | e 11 | 29 | 0 | e 20 | 51 | 0 | e 12 | 12 | PcP e 34.7 |
| Kiruna | | 73.1 | 23 | i 11 | 33 | - 1 | e 21 | 11 | +10 | e 21 | 57 | PPS e 32.6 |
| College | | 77.8 | 334 | i 12 | 0 | - 1 | — | — | — | — | — | — |
| Istanbul | | 78.9 | 50 | e 12 | 27 | +20 | e 22 | 32 | PS | — | — | — |
| Helwan | z. | 82.6 | 61 | i 12 | 28a | + 2 | e 22 | 49 | + 6 | 15 | 41 | PP |
| Ksara | | 85.6 | 57 | i 12 | 44 | + 3 | 23 | 20 | + 7 | 16 | 4 | PP |
| Kimberley | z. | 90.1 | 120 | i 13 | 4 | + 1 | — | — | — | — | — | i 48.9 |
| Pretoria | z. | 92.3 | 116 | e 13 | 15 | + 2 | — | — | — | — | — | i 48.0 |
| Grahamstown | z. | 92.8 | 124 | i 13 | 16 | 0 | — | — | — | — | — | i 49.6 |
| Quetta | z. | 111.3 | 50 | e 19 | 21 | PP | — | — | — | — | — | — |
| Bombay | N. | 121.6 | 58 | — | — | — | e 36 | 50 | SS | — | — | — |
| Riverview | | 146.9 | 228 | i 20 | 0 | [+18] | e 42 | 23 | SS | — | — | e 72.0 |
| Baguio | | 150.1 | 3 | i 19 | 55a | [+ 7] | — | — | — | — | — | — |

Sept. 27d. 8h. 32m. Epicentre 38°·7N. 70°·8E.
Bulletin of Seismo. Stations of U.S.S.R. for 1953, July-Sept., Moscow, 1954, p. 150.

Sept. 27d. 9h. 53m. Provisional epicentre 30°S. 180°. Depth of focus 400km.
Magnitude 5.5.
Seismo. Observatory Bulletin No. E-133 for 1953, July, August, September, New Zealand
Department of Scientific and Industrial Research, Wellington, 1956, p. 15.

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

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1953

583

Sept. 28d. 5h. 50m. 29s. Epicentre 22°-5S. 66°-0W. Depth of focus 0.040.
(as on 1952, September 21d.).

Felt Intensity III between 22° and 23°S. in Chili and II at Arequipa in Peru.

A = +.3762, B = -.8448, C = -.3805; $\delta = -1$; $h = +4$;
D = -.914, E = -.407; G = -.155, H = +.348, K = -.925.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|----------|-----|----------------------|------|----------------------|-------|---------|------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Montezuma | | 2.6 | 267 | i 0 52 | + 1 | — | — | — | — |
| Antofagasta | E. | 4.2 | 254 | i 1 9 | + 1 | i 2 4 | + 2 | e 14 41 | ScS |
| La Paz | | 6.3 | 341 | i 1 28 _a | - 5 | i 2 48 | + 2 | i 2 56 | SS |
| Santa Lucia | N. | 11.7 | 200 | e 2 46 | + 6 | 4 58 | +11 | i 2 57 | PP |
| Buenos Aires | | 13.7 | 153 | i 3 10 | + 6 | i 5 43 | +12 | — | — |
| Huancayo | | 13.7 | 318 | i 3 6 | + 2 | i 5 38 | + 7 | — | — |
| La Plata | | 14.2 | 152 | i 3 13 | + 3 | 5 43 | + 1 | 4 13 | ? |
| Concepción | N. | 15.5 | 202 | e 3 27 | + 1 | 6 43 | SS | 3 38 | PP |
| Bogota | | 28.1 | 343 | e 5 26 | - 2 | e 9 55 | + 5 | e 11 31 | sS |
| Chinchina | | 28.9 | 341 | e 5 43 | + 8 | i 10 56 | SS | i 5 51 | pP |
| Fort de France | | 37.3 | 8 | i 6 43 | - 4 | i 12 3 | - 9 | i 16 33 | ScS |
| San Juan | | 40.6 | 0 | i 7 9 | - 5 | i 12 50 | -12 | — | — |
| Tacubaya | | 52.8 | 320 | e 8 46 | - 2 | e 15 55 | + 2 | e 17 38 | ScS |
| Bermuda | | 54.5 | 2 | i 8 58 | - 2 | i 15 53 | -23 | — | — |
| Morgantown | | 63.2 | 348 | i 9 58 | - 2 | e 18 3 | - 4 | — | — |
| Palisades | | 63.6 | 353 | i 10 1 | - 1 | i 18 9 | - 3 | i 19 55 | sS |
| Cincinnati | | 63.7 | 344 | i 10 1 | - 2 | — | — | — | — |
| Fayetteville | | 64.1 | 335 | i 10 3 | - 3 | i 18 16 | - 2 | i 11 6 | pP |
| Weston | | 64.7 | 355 | i 10 9 _k | 0 | 18 26 | + 1 | — | — |
| Harvard | | 64.9 | 357 | i 10 10 _k | - 1 | i 18 26 | - 2 | — | — |
| St. Louis | | 64.9 | 340 | i 10 7 | - 4 | i 18 22 | - 6 | — | — |
| Cleveland | | 65.3 | 347 | i 10 13 _k | 0 | i 18 28 | - 5 | i 11 15 | pP |
| Halifax | | 66.8 | 3 | i 10 22 _k | - 1 | 18 49 | - 2 | 12 42 | PP |
| Ottawa | | 68.1 | 353 | i 10 30 _k | - 1 | i 19 5 | - 1 | e 20 51 | sS |
| Shawinigan Falls | N. | 69.0 | 356 | e 10 35 | - 1 | — | — | 12 8 | sP |
| Tucson | | 69.3 | 321 | i 10 42 | + 4 | — | — | i 11 45 | pP |
| Seven Falls | E. | 69.4 | 357 | e 10 40 _? | + 1 | i 19 19 _? | - 2 | e 21 7 | sS |
| Kirkland Lake | Z. | 71.4 | 350 | i 11 2 _a | +11 | — | — | e 12 6 | pP |
| Palomar | Z. | 73.8 | 318 | i 11 6 _k | + 1 | — | — | i 12 8 | pP |
| Nelson | | 74.1 | 321 | i 11 8 | + 2 | — | — | i 12 12 | pP |
| Boulder City | | 74.3 | 321 | i 11 9 | + 1 | — | — | i 12 14 | pP |
| Rapid City | | 74.5 | 333 | i 11 8 | - 1 | — | — | e 12 11 | pP |
| Riverside | | 74.5 | 318 | i 11 9 _k | 0 | — | — | i 12 15 | pP |
| Pasadena | | 75.1 | 318 | i 11 13 _k | + 1 | i 20 28 | + 2 | i 12 18 | pP |
| Logan | | 76.2 | 327 | e 10 23 | -55 | — | — | e 12 28 | pP |
| Tinemaha | | 77.0 | 320 | i 11 25 _k | + 2 | e 20 50 | + 4 | i 12 31 | pP |
| Bozeman | | 79.2 | 330 | — | — | e 21 11 | + 2 | — | — |
| Lick | Z. | 79.3 | 319 | i 11 37 _k | + 2 | e 17 37 | ? | i 12 43 | pP |
| Berkeley | Z. | 80.0 | 319 | i 11 40 _k | + 1 | e 12 12 | ? | e 12 47 | pP |
| Grahamstown | Z. | 80.0 | 121 | i 11 42 | + 3 | — | — | — | — |
| Butte | | 80.2 | 330 | i 11 41 | + 1 | — | — | i 12 48 | pP |
| Mineral | Z. | 81.1 | 321 | e 11 45 _k | 0 | i 12 13 | ? | i 12 52 | pP |
| Shasta | | 81.8 | 321 | i 11 48 _k | 0 | e 21 36 | 0 | i 12 55 | pP |
| Hungry Horse | | 82.6 | 330 | i 11 53 | + 1 | — | — | i 13 0 | pP |
| Malaga | | 82.7 | 46 | i 11 58 | + 5 | — | — | e 13 4 | pP |
| Tamanrasset | Z. | 82.9 | 61 | i 11 55 | + 1 | e 13 27 | sP | e 12 58 | pP |
| Pretoria | Z. | 84.1 | 115 | i 12 3 | + 3 | — | — | — | — |
| Pietermaritzburg | Z. | 84.4 | 119 | e 12 5 | + 4 | — | — | — | — |
| Toledo | | 84.7 | 44 | i 12 5 _a | + 2 | — | — | e 14 54 | PP |
| Algiers Univ. | Z. | 87.8 | 49 | e 12 16 | - 2 | e 12 24 | PcP | e 13 20 | pP |
| Clermont-Ferrand | | 92.3 | 41 | i 13 40 | pP | — | — | — | — |
| Besançon | | 94.8 | 40 | e 12 49 | - 1 | — | — | — | — |
| Strasbourg | | 96.5 | 40 | e 12 52 | - 6 | — | — | e 13 15 | ? |
| Messina | E. | 97.3 | 52 | — | — | e 23 12 | [+ 2] | e 32 33 | SKKP |
| Stuttgart | | 97.4 | 40 | i 13 2 _a | 0 | e 13 33 | ? | e 16 57 | PP |

Continued on next page.

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1953

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|-----------|----------|-----|---------|-------|---------|--------|---------|----|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Jena | 99.7 | 39 | e 13 13 | + 1 | e 13 22 | ? | e 17 14 | PP |
| Collmberg | 100.7 | 39 | e 13 17 | 0 | — | — | e 17 22 | PP |
| Prague | 101.1 | 40 | e 13 19 | 0 | e 13 33 | ? | e 17 30 | PP |
| Upsala | z. 106.1 | 31 | e 13 41 | P | — | — | e 17 56 | PP |
| College | 106.7 | 334 | e 13 43 | P | — | — | — | — |
| Helwan | 106.9 | 64 | e 17 56 | PP | e 24 3 | [+ 8] | — | — |
| Ksara | 111.7 | 62 | i 18 47 | PP | e 24 4 | [- 11] | — | — |
| Quetta | z. 137.5 | 69 | e 18 46 | [- 4] | i 21 40 | SKP | — | — |
| Poona | z. 142.3 | 88 | e 19 0 | [+ 1] | — | — | — | — |
| New Delhi | 146.4 | 72 | e 19 10 | [+ 5] | e 28 56 | SKKS | e 34 13 | ? |
| Dehra Dun | N. 147.0 | 68 | i 19 15 | [+ 8] | — | — | — | — |
| Chatra | z. 155.2 | 74 | e 19 25 | [+ 7] | — | — | — | — |
| Baguio | 171.3 | — | e 24 23 | PP | i 31 14 | SKKS | — | — |

Sept. 28d. 6h. 41m. Epicentre 44°·5N. 128°W. (U.S.C.G.S.). Off the coast of Oregon.
Bureau Central International de Séismologie, Bulletin Mensuel, septembre, 1953, p. 157.

Sept. 28d. 11h. 50m. Epicentre 40°·4N. 45°·8E.
Bulletin of Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 150.

Sept. 28d. 13h. 13m. 52s. Epicentre 52°·6N. 160°·3E. (as on 1953, April 6d.).

$$A = -.5742, B = +.2056, C = +.7924; \quad \delta = -13; \quad h = -6;$$

$$D = +.337, E = +.941; \quad G = -.746, H = +.267, K = -.610.$$

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----------|-----|----------|------|---------|------|---------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Mizusawa | E. 18.9 | 233 | 4 28 | + 4 | — | — | 4 51 | PPP |
| College | 28.7 | 44 | i 5 58 | + 3 | — | — | — | — |
| Baguio | 47.7 | 236 | e 8 43 | + 3 | — | — | — | — |
| Hungry Horse | 51.6 | 58 | e 9 9 | - 1 | — | — | — | — |
| Shasta | z. 51.9 | 70 | i 9 12k | 0 | — | — | e 9 57 | ? |
| Mineral | z. 52.6 | 70 | e 9 16a | - 2 | i 9 25 | ? | i 9 35 | ? |
| Butte | 53.9 | 59 | e 9 26 | - 1 | — | — | e 9 44 | ? |
| Lick | z. 54.6 | 73 | i 9 41a | + 9 | e 10 46 | PcP | i 12 28 | PPP |
| Kiruna | 56.2 | 344 | i 9 42 | - 2 | — | — | i 9 54 | ? |
| Tinemaha | z. 56.8 | 71 | e 9 49 | + 1 | — | — | — | e 32.1 |
| Logan | 57.1 | 63 | e 9 51 | + 1 | — | — | — | — |
| Mount Wilson | z. 58.9 | 73 | i 10 2 | - 1 | — | — | e 10 12 | ? |
| Riverside | z. 59.4 | 73 | e 10 15 | + 9 | — | — | — | — |
| Boulder City | 59.5 | 69 | i 10 9 | + 2 | — | — | — | — |
| Nelson | 59.7 | 69 | i 10 8 | - 1 | — | — | i 10 28 | ? |
| Palomar | z. 60.2 | 73 | e 10 12 | 0 | — | — | e 10 19 | ? |
| Upsala | z. 63.9 | 340 | i 10 36a | - 1 | i 10 43 | ? | i 10 49 | ? |
| Tucson | 64.5 | 70 | e 10 43 | + 2 | — | — | — | — |
| Quetta | z. 68.5 | 292 | i 11 5 | - 1 | — | — | — | — |
| Copenhagen | 68.9 | 342 | e 11 9 | 0 | — | — | — | — |
| Fayetteville | 70.6 | 56 | i 11 17 | - 2 | — | — | — | — |
| Ottawa | 71.2 | 38 | e 11 21 | - 2 | — | — | — | — |
| Shawinigan Falls | N. 71.3 | 35 | e 11 35 | PcP | — | — | — | — |
| Potsdam | z. 71.8 | 340 | e 11 27 | + 1 | — | — | — | — |
| Raciborzu | z. 72.8 | 336 | e 11 31 | - 1 | — | — | — | — |
| Collmberg | 72.9 | 339 | e 11 32 | - 1 | — | — | — | — |
| Poona | z. 73.4 | 279 | e 11 35 | - 1 | — | — | — | — |
| Jena | 73.5 | 340 | e 11 36 | 0 | — | — | e 11 47 | PcP |
| Prague | 73.7 | 338 | e 11 39 | + 1 | e 12 22 | ? | e 13 20 | ? |
| Rathfarnham C. | z. 73.9 | 352 | e 11 28 | - 11 | — | — | e 11 48 | PcP |
| Morgantown | 74.4 | 45 | i 11 40 | - 2 | — | — | — | — |
| Weston | 75.4 | 37 | i 11 54a | + 7 | — | — | — | — |
| Karlsruhe | z. 76.0 | 341 | e 11 54 | + 3 | — | — | — | — |
| Halifax | 76.1 | 41 | i 11 36 | - 15 | — | — | — | — |
| Stuttgart | 76.1 | 341 | e 11 51 | 0 | — | — | e 12 5 | PcP |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----------|-----|----------|------|---------|------|---------|--------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Strasbourg | 76.5 | 342 | i 11 54 | 0 | — | — | — | — |
| Paris | 77.2 | 345 | c 11 58 | + 1 | — | — | i 12 7 | PcP |
| Istanbul | 77.6 | 325 | c 12 15 | PcP | — | — | — | — |
| Chambon-la-Forêt | 78.0 | 345 | i 12 2 | 0 | — | — | — | 44.1 |
| Triest | z. 78.0 | 337 | e 12 1 | - 1 | e 12 21 | ? | c 13 34 | ? |
| Besançon | 78.1 | 342 | i 12 3 | + 1 | — | — | e 12 44 | ? |
| Florence | 80.4 | 338 | e 11 56 | -19 | — | — | — | c 54.1 |
| Ksara | 81.3 | 316 | i 12 20 | 0 | — | — | 15 49 | PP |
| Helwan | z. 86.6 | 318 | i 12 52k | + 6 | — | — | e 16 8 | PP |
| Tamanrasset | z. 101.8 | 336 | c 13 55 | - 1 | 17 43 | ? | c 17 58 | PP |

Sept. 28d. 21h. 23m. Epicentre 39°·2N. 71°·2E.

Bulletin of the Seismo. Stations of the U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 151.

Sept. 28d. 21h. 41m. 10s. Epicentre 41°·1N. 1°·7W.

Felt in a large part of N.E. Spain; Intensity VIII at Used (Saragossa); VII-VIII at Maluenda, Velilla, de Jiloca, and Villafeliche; VI-VII in a strip of country stretching north-south between Calatayud, Daroca, and Used (according to Tortosa).

Suggested epicentres: 41°·0N. 1°·75W. (Strasbourg).

41°N. 2°W. (U.S.C.G.S.).

41°·2'N. 1°30'5''W. (Alicante).

41°8'N. 1°40'W., $h=8.64$ km. (Bonelli and Carrasco).

41°10'N. 1°40'W. (Toledo).

E. Fontseré.

Los Temblores de tierra catalanes de los años 1952 y 1953, Registros de la estación sísmica durante el año 1953, Barcelona, 1955, p. 82, with macroseismic chart on p. 83.

A. Rey Pastor and T. Bonelli Rubio.

El sismo de Daroca-Used de 28 de septiembre de 1953, y su relación con la línea sismotectónica de Jiloca, Instituto geográfica y catastral, Madrid, 1957, 16 pages.

$$A = +.7555, B = -.0224, C = +.6548; \quad \delta = +5; \quad h = -3;$$

$$D = -.030, E = -1.000; \quad G = +.655, H = -.019, K = -.756.$$

| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----------|-----|-------------------|------------------|----------|------------------|--------|----------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Tortosa | 1.7 | 100 | i 0 31 | 0 | 0 49 | - 5 | — | — |
| Toledo | 2.2 | 236 | i 0 40 | 0* | i 1 6 | 0 | i 0 44 | P _g |
| Alicante | 2.9 | 161 | 0 51 | - 1* | 1 27 | + 3 | 1 38 | S _g |
| Barcelona | 2.9 | 84 | e 0 51 | - 1* | 1 22 | - 2 | i 1 36 | S _g |
| Granada | 4.2 | 201 | 1 12 _a | - 3* | 1 54 | - 3 | 1 25 | P _g |
| Almeria | 4.3 | 188 | i 1 25 | - 1 _g | 2 2 | + 2 | i 2 25 | S _g |
| Malaga | 4.8 | 206 | i 1 19 | + 4 | i 2 34 | - 5 _g | — | — |
| Coimbra | 5.2 | 262 | 1 21 _k | 0 | 2 20 | - 2 | 2 55 | S _g |
| Algiers Univ. | z. 5.7 | 138 | e 1 27 | - 1 | — | — | e 1 40 | P* |
| Clermont-Ferrand | 5.8 | 35 | e 1 30 | + 1 | i 2 36 | - 2 | i 1 42 | P* |
| Lisbon | 6.2 | 250 | 1 38 | + 3 | 2 43 | - 5 | 3 20 | S _g |
| Chambon-la-Forêt | 7.5 | 21 | 1 51 | - 2 | i 3 17 | - 3 | i 3 35 | S* |
| Jersey | 8.1 | 358 | — | — | e 3 27 | - 8 | — | — |
| Besançon | 8.3 | 40 | e 2 5 | + 1 | i 3 42 | + 2 | i 4 25 | S _g |
| Paris | 8.3 | 20 | i 2 2 | - 2 | i 3 35 | - 5 | i 4 34 | S _g |
| Oropa | 8.4 | 54 | i 2 7 | + 1 | i 4 5 | - 8* | i 2 34 | P* |
| Neuchatel | 8.6 | 44 | i 2 9 | 0 | (e 4 32) | -12 _g | — | — |
| Pavia | 8.9 | 59 | — | — | e 3 56 | + 1 | — | — |
| Basle | 9.3 | 43 | e 2 19 | + 2 | e 4 10 | + 5 | e 3 1 | P _g |
| Zürich | 9.7 | 46 | e 2 22 | 0 | — | — | e 2 37 | P* |
| Chur | 9.9 | 51 | e 2 28 | + 3 | — | — | — | — |
| Florence | 9.9 | 70 | e 2 27 | + 2 | e 5 15 | -12 _g | — | — |
| Strasbourg | 10.1 | 39 | e 2 29 | + 1 | e 4 33 | + 8 | i 2 38 | PP |
| Bologna | 10.2 | 66 | e 2 45 | PPP | e 4 40 | SS | e 6 26 | Q |
| Uccle | 10.6 | 22 | e 2 33 | - 3 | e 4 37 | 0 | e 2 41 | PP |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|----------------|----|----------|-----|---------|------|---------|------|-------------|-------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Karlsruhe | | 10.7 | 39 | e 2 42 | + 4 | e 4 50 | SS | e 2 52? PPP | e 5.4 |
| Rome | | 10.7 | 81 | — | — | e 4 10 | -29 | — | — |
| Stuttgart | | 10.9 | 42 | e 2 41 | + 1 | e 4 40 | - 4 | e 5 8 SSS | e 5.4 |
| Triest | | 12.1 | 63 | e 2 41 | -16 | e 4 14 | -60 | — | — |
| Rathfarnham C. | z. | 12.6 | 347 | i 3 2 | - 1 | i 5 21 | - 5 | i 3 18 PPP | — |
| Cheb | n. | 13.3 | 43 | — | — | e 5 55 | SS | e 6 7 SSS | e 6.6 |
| Jena | | 13.5 | 39 | e 3 15 | 0 | e 5 54 | + 7 | e 3 25 PP | e 6.9 |
| Messina | z. | 13.6 | 97 | e 3 29 | PP | — | — | — | — |
| Collnberg | | 14.4 | 40 | e 3 27 | 0 | e 3 39 | PP | — | e 7.8 |
| Prague | | 14.4 | 46 | e 3 28 | + 1 | e 6 9 | 0 | e 6 25 SS | — |
| Raciborzu | | 16.5 | 50 | e 3 50? | - 4 | e 4 0 | PP | e 4 17 PPP | e 9.1 |
| Tamanrasset | z. | 19.2 | 159 | e 4 29 | + 1 | — | — | — | — |
| Upsala | z. | 22.3 | 25 | e 5 2 | + 1 | — | — | — | — |
| Istanbul | | 23.1 | 78 | e 5 29 | PP | — | — | — | — |
| Kiruna | z. | 29.4 | 17 | i 6 6 | - 1 | — | — | — | — |
| Halifax | | 44.5 | 296 | e 8 15 | 0 | — | — | — | — |
| Quetta | z. | 55.6 | 77 | — | — | e 19 24 | ScS | — | — |
| Fayetteville | | 69.1 | 300 | i 11 9 | - 1 | — | — | — | — |
| College | | 71.1 | 345 | i 8 55? | ? | — | — | — | — |
| Nelson | | 82.0 | 311 | i 12 25 | + 2 | — | — | — | — |
| Tucson | | 82.1 | 306 | e 12 25 | + 1 | — | — | — | — |

Sept. 28d. 22h. 41m. Epicentre 35°·9N. 139°·5E. Depth of focus 70km.

Intensity IV at Tokyo; II-III at Titibu, Kashiwa, Kumagaya, Utunomiya, Mito, and Ajiro.

Seismo. Bull. Cent. Met. Obs., Japan, for September, 1953, Tokyo, 1953, p. 27, with macroseismic chart.

Sept. 28d. 23h. 34m. Provisional epicentre 15°S. 178°W.

New Zealand Department of Scientific and Industrial Research (Geophysics Division), Seismological Observatory Bulletin No. E-133 for July, August, September, 1953, Wellington, 1956, p. 15.

Sept. 29d. 1h. 36m. 46s. Epicentre 36°·9S. 177°·1E. Depth of focus 0·040.

(as on 1951, March 28d.).

Felt from the Coromandel Peninsula and East Cape as far as the northern part of Otago.

Intensity VII in the eastern part of the Bay of Plenty, the region of Gisborne, and the northern part of Hawkes Bay. Epicentre 37°·3S. 176°·8E. Depth 300km. (Wellington).

R. C. Hayes.

Earthquakes in New Zealand during the year 1953, Seismological Bulletin S-99, Wellington, 1955, p. 5, with macroseismic chart.

A = -·8006, B = +·0406, C = -·5978; $\delta = -3$; $h = -1$;

D = +·051, E = +·999; G = +·597, H = -·030, K = -·802.

| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|------------------|----|----------|-----|---------|------|---------|------|-----------|------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Karapiro | N. | 1.6 | 231 | i 0 42 | - 1 | — | — | — | — |
| Auckland | N. | 1.8 | 271 | 0 44? | 0 | 1 14? | - 5 | — | — |
| Tuai | N. | 1.9 | 179 | i 0 44 | - 1 | 1 18 | - 2 | — | — |
| Tongariro | z. | 2.6 | 208 | i 0 49 | - 2 | — | — | — | — |
| Wellington | | 4.7 | 201 | i 1 9 | - 5 | 1 59? | -13 | — | — |
| Cobb River | E. | 5.4 | 218 | e 1 16 | - 6 | e 2 16 | -11 | — | — |
| Christchurch | | 7.5 | 206 | i 1 42 | - 6 | i 2 59 | -14 | — | — |
| Riverview | | 21.4 | 269 | i 4 27k | + 1 | i 8 3 | + 2 | i 5 24 pP | — |
| Macquarie Island | | 21.6 | 209 | e 4 28 | 0 | i 8 5 | + 1 | 5 18 pP | — |
| Brisbane | | 22.4 | 287 | i 4 32 | - 4 | i 8 17 | - 1 | i 5 27 pP | — |
| Apia | | 25.1 | 27 | i 5 2 | + 1 | e 9 13? | +11 | — | — |
| Melbourne | E. | 25.5 | 259 | i 5 3 | - 1 | i 9 19 | +10 | i 5 55 pP | — |
| Perth | | 50.0 | 257 | i 8 36 | + 9 | i 17 9 | sS | i 8 9 sP | 23.7 |
| Guam | | 58.6 | 322 | i 9 32 | + 3 | e 20 12 | ? | — | — |
| Honolulu | | 62.4 | 26 | i 9 56 | + 2 | — | — | — | — |

Continued on next page.

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|--------------|----|----------|-----|----------------------|------|---------|------|---------|-----|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Heard Island | | 68.8 | 217 | i 10 38 | + 3 | — | — | e 11 40 | pP | — |
| Bandung | | 69.5 | 277 | e 10 38 | - 1 | i 19 20 | - 3 | i 21 29 | sS | — |
| Djakarta | | 70.6 | 277 | i 10 44 _a | - 2 | i 19 32 | - 3 | i 12 0 | pP | — |
| Punta Arenas | N. | 72.8 | 144 | e 12 15 | pP | 19 42 | -18 | 16 32 | PPP | — |
| Baguio | | 75.1 | 304 | i 11 12 | 0 | i 20 24 | - 2 | i 12 31 | pP | — |
| Torisima | | 75.4 | 328 | 11 13 | - 1 | e 20 20 | - 9 | — | — | — |
| Hatidyozima | | 77.8 | 329 | e 11 24 | - 3 | — | — | — | — | — |
| Mera | | 79.4 | 330 | 11 24 | -12 | — | — | — | — | — |
| Osima | | 79.5 | 330 | e 11 38 | + 2 | e 21 13 | + 1 | e 14 42 | PP | — |
| Omaesaki | | 79.8 | 329 | 11 40 | + 2 | e 21 18 | + 3 | e 16 28 | PPP | — |
| Ajiro | | 79.8 | 329 | e 11 16 | -22 | — | — | — | — | — |
| Siomisaki | | 79.9 | 327 | 11 40 | + 2 | e 21 15 | - 1 | e 23 20 | sS | — |
| Yokohama | | 79.9 | 330 | 11 39 | + 1 | 21 11 | - 5 | 14 48 | PP | — |
| Misima | | 80.0 | 329 | 11 40 | + 1 | e 22 16 | SP | e 12 50 | pP | — |
| Shizuoka | | 80.0 | 329 | e 11 40 _a | + 1 | e 21 18 | 0 | e 14 40 | PP | — |
| Yakusima | | 80.0 | 320 | e 11 42 | + 3 | i 21 19 | + 1 | e 13 18 | sP | — |
| Tokyo | E. | 80.1 | 330 | 11 43 | + 4 | e 21 2 | -17 | i 24 21 | ? | — |
| Kashiwa | | 80.2 | 330 | e 11 43 | + 3 | — | — | e 13 11 | sP | — |
| Owase | | 80.2 | 327 | e 11 36 | - 4 | — | — | — | — | — |
| Mito | | 80.4 | 331 | e 11 43 | + 2 | — | — | e 14 46 | PP | — |
| Muroto | | 80.5 | 324 | e 11 44 | + 2 | e 21 21 | - 2 | e 17 8 | PPP | — |
| Kohu | | 80.6 | 329 | e 11 42 | 0 | e 21 23 | - 1 | e 14 49 | PP | — |
| Simidu | | 80.6 | 323 | e 11 43 | + 1 | e 21 24 | 0 | — | — | — |
| Titibu | | 80.6 | 330 | e 11 45 | + 3 | e 21 26 | + 2 | — | — | — |
| Kumagaya | | 80.7 | 330 | i 11 43 _a | 0 | 21 23 | - 2 | 14 59 | PP | — |
| Iida | | 80.8 | 329 | e 11 44 | + 1 | — | — | — | — | — |
| Kagosima | | 80.8 | 321 | 11 46 _a | + 3 | e 21 21 | - 5 | e 17 11 | PPP | — |
| Kameyama | | 80.8 | 328 | i 11 44 _a | + 1 | 21 28 | + 2 | 14 51 | PP | 31.2 |
| Nagoya | | 80.8 | 328 | 11 45 | + 2 | 21 28 | + 2 | — | — | — |
| Onahama | | 80.8 | 332 | e 11 44 _k | + 1 | e 21 25 | - 1 | 27 44 | ? | — |
| Koti | | 81.0 | 325 | e 11 46 | + 2 | e 21 28 | 0 | e 13 0 | pP | — |
| Osaka | | 81.0 | 326 | e 11 47 | + 3 | e 21 29 | + 1 | e 12 0 | pP | — |
| Tokusima | | 81.0 | 326 | 11 40 | - 4 | — | — | — | — | — |
| Gihu | | 81.1 | 328 | e 11 46 | + 1 | — | — | — | — | — |
| Maebasi | | 81.1 | 330 | e 11 43 | - 2 | e 21 24 | - 5 | e 14 45 | PP | e 35.2 |
| Sumoto | | 81.1 | 326 | i 11 46 _k | + 1 | 21 30 | + 1 | — | — | 34.3 |
| Hikone | | 81.2 | 327 | e 11 48 | + 3 | e 23 23 | sS | e 11 56 | PcP | — |
| Kobe | N. | 81.2 | 326 | i 11 47 | + 2 | e 23 1 | PS | e 13 16 | sP | — |
| Kyoto | | 81.2 | 327 | e 11 43 | - 2 | e 21 17 | -13 | — | — | — |
| Oiwake | | 81.2 | 329 | e 11 45 | 0 | e 21 25 | - 5 | — | — | — |
| Shirakawa | | 81.2 | 331 | e 11 47 | + 2 | 15 12 | PP | e 15 59 | ? | — |
| Matumoto | N. | 81.3 | 329 | 11 47 | + 1 | 21 30 | - 1 | 15 0 | PP | — |
| Takamatu | | 81.4 | 325 | e 11 46 _a | 0 | e 21 31 | - 1 | e 15 55 | ? | 33.6 |
| Matusiro | | 81.5 | 329 | i 11 46 | - 1 | 21 31 | - 2 | 12 47 | pP | — |
| Takayama | N. | 81.5 | 328 | e 11 51 | + 4 | — | — | — | — | — |
| Hokusima | | 81.6 | 332 | e 11 49 | + 2 | — | — | — | — | — |
| Inawasiro | E. | 81.6 | 331 | e 11 59 | PcP | — | — | — | — | — |
| Matuyama | | 81.6 | 324 | e 11 30 | -17 | e 21 15 | -19 | e 14 43 | PP | e 37.4 |
| Nagano | | 81.6 | 329 | e 11 50 | + 3 | e 21 36 | + 2 | e 13 0 | pP | — |
| Ooita | | 81.7 | 323 | e 11 51 | + 3 | e 21 38 | + 3 | e 23 48 | sS | — |
| Kumamoto | | 81.8 | 322 | e 11 39 | - 9 | 21 36 | 0 | — | — | — |
| Sendai | | 81.9 | 332 | e 11 58 | PcP | e 21 38 | + 1 | e 13 45 | sP | — |
| Unzendake | | 81.9 | 322 | e 11 51 _k | + 2 | e 21 35 | - 2 | — | — | — |
| Kanazawa | | 82.1 | 328 | e 11 52 | + 2 | — | — | — | — | — |
| Toyooka | | 82.1 | 326 | e 11 52 | + 2 | e 21 42 | + 3 | e 23 14 | PS | — |
| Yamagata | | 82.1 | 332 | e 11 52 | + 2 | — | — | — | — | — |
| Hirosima | | 82.2 | 324 | e 11 49 | - 1 | e 21 49 | + 9 | e 23 6 | PS | — |
| Niigata | | 82.3 | 331 | e 11 59 | + 8 | e 16 12 | pPP | e 13 3 | pP | — |
| Saga | N. | 82.3 | 322 | 11 54 | + 3 | i 22 43 | pS | — | — | — |
| Hukuoka | | 82.5 | 322 | i 11 52 _a | 0 | i 21 45 | + 2 | e 13 39 | sP | e 34.9 |

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| | | Δ | Az. | P. | | O-C. | S. | O-C. | Supp. | | L. |
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| | | ^c | ^o | m. | s. | s. | m. | s. | m. | s. | m. |
| Mizusawa | | 82.6 | 333 | e 11 | 53 | + 1 | 21 45 | + 1 | 11 56 | P | — |
| Concepción | N. | 82.7 | 129 | e 15 | 52 | ? | e 25 45 | ? | e 27 47 | ? | — |
| Miyako | Z. | 82.7 | 334 | e 11 | 52 _a | - 1 | — | — | e 13 7 | pP | — |
| Wazima | | 82.7 | 329 | e 11 | 55 _a | + 2 | e 21 45 | 0 | e 13 7 | pP | — |
| Hamada | | 82.8 | 324 | 11 | 54 | + 1 | 21 43 | - 3 | e 22 22 | SP | 35.2 |
| Alkawa | | 82.9 | 330 | e 11 | 52 | - 2 | — | — | e 20 58 | ? | — |
| Sakata | | 82.9 | 332 | e 12 | 5 | +11 | — | — | — | — | — |
| Morioka | N. | 83.1 | 332 | i 11 | 57 _a | + 2 | — | — | — | — | — |
| Akita | | 83.5 | 332 | e 11 | 57 _a | 0 | e 21 51 | - 2 | e 23 50 | sS | — |
| Hong Kong | | 83.6 | 304 | 11 | 58 | + 1 | 21 53 | - 1 | 13 2 | pP | — |
| Hatinohe | | 83.7 | 334 | i 11 | 58 _a | 0 | e 15 14 | PP | e 13 13 | pP | — |
| Aomori | | 84.2 | 333 | e 11 | 57 | - 3 | e 17 23 | PPP | i 13 13 | pP | — |
| Urakawa | | 84.7 | 336 | e 12 | 4 | + 1 | e 23 59 | sS | e 19 7 | ? | — |
| Mori | | 85.4 | 334 | 12 | 10 | + 4 | 22 12 | + 1 | e 24 21 | sS | — |
| Tomakomai | | 85.4 | 335 | e 12 | 12 | + 6 | — | — | e 14 28 | ? | — |
| Santa Lucia | N. | 85.7 | 129 | e 12 | 14 | + 6 | e 22 11 | - 3 | e 13 20 | pP | — |
| Kurilsk | | 85.9 | 339 | i 12 | 8 | - 1 | — | — | — | — | — |
| Sapporo | | 86.0 | 335 | e 12 | 6 | - 3 | e 22 21 | + 4 | i 13 23 | pP | — |
| Nanking | | 87.6 | 313 | i 12 | 17 _a | 0 | i 22 17 | [+ 2] | i 13 28 | pP | — |
| Yuzno-Sakhlinsk | | 89.0 | 337 | 12 | 24 | 0 | 16 9 | PP | 13 43 | pP | — |
| Vladivostok | | 89.6 | 329 | 12 | 28 | + 2 | 25 2 | sS | 13 41 | pP | — |
| Copiapo | E. | 90.0 | 124 | e 12 | 11 | -17 | e 23 8 | ? | — | — | — |
| Petropavlovsk | | 91.1 | 348 | i 12 | 32 | - 1 | e 22 36 | [0] | i 13 45 | pP | — |
| Ulegorsk | | 91.1 | 339 | 12 | 32 | - 1 | i 23 7 | + 4 | 13 44 | pP | — |
| Buenos Aires | | 92.1 | 138 | e 12 | 40 | + 2 | — | — | e 17 27 | ? | — |
| La Plata | | 92.1 | 138 | 12 | 32 | - 6 | 22 38 | [- 4] | i 16 18 | PP | 37.1 |
| Manzanillo | | 92.5 | 68 | e 12 | 45 | + 5 | e 22 47 | [+ 3] | e 13 58 | pP | — |
| Barratt | Z. | 92.8 | 50 | i 12 | 44 _a | + 3 | e 29 48 | PKKP | i 13 57 | pP | — |
| Pasadena | | 92.9 | 49 | i 12 | 43 _a | + 1 | i 22 47 | [+ 1] | i 13 57 | pP | e 36.2 |
| Santa Clara | E. | 92.9 | 44 | e 16 | 49 | PP | i 25 28 | sS | — | — | e 37.5 |
| Berkeley | | 93.1 | 44 | i 12 | 45 _a | + 2 | e 23 30 | + 9 | i 13 58 | pP | — |
| Lick | Z. | 93.1 | 44 | e 12 | 42 _a | - 1 | e 23 26 | + 5 | e 13 59 | pP | — |
| Palomar | Z. | 93.1 | 50 | i 12 | 45 _a | + 2 | i 14 42 | sP | i 13 10 | pP | — |
| Riverside | Z. | 93.3 | 49 | i 12 | 44 _a | + 1 | e 29 50 | PKKP | i 13 57 | pP | — |
| Fresno | N. | 93.7 | 46 | e 12 | 48 | + 3 | e 25 54 | PPS | — | — | — |
| Guadalajara | | 94.2 | 67 | e 12 | 52 | + 4 | e 22 54 | [+ 1] | e 14 4 | pP | — |
| Tinemaha | | 94.8 | 47 | i 12 | 52 _a | + 2 | e 23 49 | +14 | i 14 50 | sP | — |
| Shasta | | 95.1 | 41 | i 12 | 53 _a | + 1 | e 22 56 | [- 2] | e 14 7 | pP | — |
| Mineral | Z. | 95.2 | 42 | e 12 | 52 _a | 0 | e 37 53 | P'P' | i 14 32 | sP | — |
| Nelson | | 96.0 | 49 | i 12 | 58 | + 2 | — | — | i 13 9 | ? | — |
| Tucson | | 96.2 | 54 | i 13 | 0 | + 3 | — | — | i 14 12 | pP | — |
| Huancayo | | 96.5 | 110 | e 13 | 4 | + 6 | i 23 13 | [+ 7] | e 14 16 | pP | — |
| Tacubaya | | 96.6 | 71 | e 13 | 6 | + 8 | e 24 6 | +16 | e 25 29 | SP | — |
| Oaxaca | | 97.0 | 73 | e 13 | 21 | ? | e 24 27 | ? | e 17 14 | PP | — |
| Chihuahua | | 97.1 | 60 | e 17 | 14 | PP | e 23 14 | [+ 5] | e 26 14 | sS | — |
| Puebla | | 97.1 | 71 | e 17 | 9 | PP | e 25 25 | SP | e 30 59 | SSP | — |
| Magadan | | 98.5 | 347 | e 13 | 9 | + 2 | — | — | e 17 17 | PP | — |
| Vera Cruz | | 98.8 | 73 | e 13 | 13 | + 5 | e 24 11 | + 2 | i 14 15 | pP | — |
| La Paz | | 99.2 | 118 | i 13 | 6 _a | - 4 | i 18 53 | sPP | i 14 21 | pP | — |
| Colombo | E. | 99.9 | 271 | 13 | 14 | + 1 | e 25 33 | pS | — | — | — |
| Victoria | | 100.1 | 36 | e 17 | 20 | PP | e 24 26 | + 6 | (26 32) | sS | 26.5 |
| Shillong | | 101.3 | 293 | e 13 | 19 | - 1 | i 25 38 | pS | e 17 49 | PP | — |
| Calcutta | E. | 102.2 | 289 | e 12 | 57 | -27 | e 24 55 | +17 | i 19 21 | ? | — |
| Madras | E. | 103.2 | 277 | e 14 | 40 | pP | i 24 44 | - 2 | 17 50 | PP | — |
| Kodaikanal | E. | 103.7 | 273 | i 14 | 38 | pP | — | — | — | — | — |
| Butte | | 103.9 | 42 | e 13 | 29 | - 2 | — | — | e 15 36 | ? | — |
| Hungry Horse | | 104.6 | 40 | i 13 | 37 | + 3 | — | — | i 17 53 | PP | — |
| Merida | | 104.8 | 75 | e 13 | 52 | ? | e 27 38 | PS | e 14 20 | ? | — |
| Grahamstown | Z. | 104.9 | 206 | e 13 | 41 | + 5 | e 29 38 | ? | e 17 47 | PP | — |
| College | | 105.1 | 14 | e 13 | 34 | - 2 | — | — | e 17 50 | PP | — |

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
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| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Chatra | 105.5 | 293 | e 13 | 36 | - 2 | 23 | 55 | [+ 6] | e 24 | 54 | S | — |
| Chinchina | 106.8 | 96 | e 14 | 8 | ? | e 24 | 4 | [+ 9] | e 26 | 24 | sS | 50.2 |
| Kyakhta | 106.8 | 321 | e 18 | 4 | PP | 27 | 28 | PS | — | — | — | — |
| Tananarive | 106.9 | 230 | e 13 | 48 | P | e 27 | 37 | PS | e 15 | 28 | sP | 35.2 |
| Hyderabad | E. 107.0 | 280 | e 16 | 55 | ? | e 25 | 15 | S | e 26 | 58 | SP | — |
| Kabansk | 107.7 | 323 | i 18 | 13 | PP | i 23 | 58 | [0] | i 27 | 38 | PS | — |
| Bogota | 107.8 | 98 | e 18 | 26 | PP | e 24 | 4 | [+ 5] | e 25 | 2 | SKKS | — |
| Irkutsk | 109.0 | 322 | e 13 | 53 | P | e 25 | 40? | S | e 15 | 8 | pP | — |
| Fayetteville | 109.6 | 59 | i 14 | 0 | P | e 25 | 2 | SKKS | e 17 | 35 | PKP | — |
| Kimberley | Z. 109.7 | 207 | i 17 | 57 | [+ 1] | i 29 | 16 | PPS | 14 | 14? | P | — |
| Galerazamba | 110.5 | 92 | e 20 | 12 | ? | e 26 | 28 | ? | — | — | — | 49.2 |
| Saskatoon | 110.7 | 40 | i 18 | 39 | PP | 28 | 15 | PS | — | — | — | — |
| Pretoria | Z. 111.1 | 211 | e 18 | 0 | [+ 1] | e 28 | 59 | SPP | 14 | 26 | ? | — |
| Poona | Z. 111.3 | 278 | e 15 | 55 | ? | — | — | — | — | — | — | — |
| Bombay | 112.3 | 278 | e 17 | 52 | [- 10] | 24 | 18 | [+ 1] | e 17 | 33 | ? | — |
| St. Louis | 113.6 | 58 | i 14 | 47 | ? | — | — | — | — | — | — | — |
| New Delhi | N. 113.9 | 289 | e 18 | 6 | [+ 1] | i 28 | 24 | PS | 18 | 59 | PP | 36.4 |
| Cincinnati | 117.8 | 61 | i 18 | 12 | [- 1] | — | — | — | i 19 | 34 | PP | — |
| Przhevalsk | 119.5 | 303 | 18 | 15 | [- 1] | — | — | — | 19 | 40 | pPKP | — |
| Kurmenty | 119.8 | 304 | e 18 | 14 | [- 2] | — | — | — | — | — | — | — |
| Chilisk | 119.9 | 305 | i 18 | 19 | [+ 3] | — | — | — | — | — | — | — |
| Almata II | 120.5 | 304 | i 18 | 16 | [- 2] | — | — | — | — | — | — | — |
| Naryn | 120.7 | 301 | 18 | 18 | [0] | i 29 | 41 | PS | — | — | — | — |
| Almata | 120.8 | 304 | i 18 | 18 | [0] | — | — | — | i 19 | 33 | pPKP | — |
| Cleveland | 120.9 | 59 | i 18 | 18 _a | [0] | i 21 | 12 | SKP | e 19 | 30 | pPKP | — |
| Ili | 120.9 | 305 | e 18 | 15 | [- 3] | — | — | — | — | — | — | — |
| Murgab | 120.9 | 297 | i 18 | 20 | [+ 2] | 26 | 27 | SKKS | 19 | 44 | pPKP | — |
| Rybach'e | 121.0 | 302 | i 18 | 19 | [0] | — | — | — | 19 | 56 | PP | — |
| Morgantown | 121.2 | 63 | i 18 | 18 | [- 1] | — | — | — | i 19 | 57 | PP | — |
| Semipalatinsk | 121.4 | 313 | e 18 | 16 | [- 3] | — | — | — | e 19 | 52 | PP | — |
| Pittsburgh | 121.6 | 60 | i 18 | 22 | [+ 2] | i 26 | 24 | SKKS | i 20 | 5 | PP | — |
| San Juan | 122.0 | 89 | i 18 | 20 | [0] | — | — | — | i 19 | 36 | pPKP | — |
| Frunse | 122.2 | 313 | i 18 | 20 | [- 1] | i 21 | 36 | SKP | i 19 | 32 | pPKP | — |
| Khorog | 122.2 | 295 | e 18 | 21 | [0] | i 21 | 39 | SKP | — | — | — | — |
| Quetta | 122.5 | 286 | i 18 | 23 | [+ 2] | e 29 | 41 | PS | e 31 | 11 | PPS | — |
| Andijan | 122.9 | 299 | 18 | 21 | [- 1] | i 21 | 40 | SKP | i 19 | 41 | pPKP | — |
| Washington | 123.0 | 63 | i 18 | 22 | [0] | — | — | — | — | — | — | — |
| Fergana | 123.2 | 299 | e 18 | 20 | [- 3] | e 21 | 40 | SKP | e 19 | 35 | pPKP | — |
| Pennsylvania | 123.2 | 61 | e 18 | 22 | [- 1] | i 36 | 43 | SS | i 19 | 39 | pPKP | — |
| Namangan | 123.5 | 299 | e 18 | 24 | [+ 1] | e 26 | 50 | SKKS | e 22 | 45 | PPP | — |
| Garm | 123.7 | 297 | e 18 | 23 | [- 1] | — | — | — | — | — | — | — |
| Kulyab | 123.7 | 295 | 18 | 23 | [- 1] | — | — | — | — | — | — | — |
| Fort de France | 124.0 | 97 | i 18 | 26 | [+ 2] | i 21 | 21 | SKP | e 19 | 48 | pPKP | — |
| Obi-garm | 124.0 | 297 | i 18 | 24 | [0] | — | — | — | — | — | — | — |
| Kirkland Lake | Z. 124.3 | 52 | e 18 | 24 | [- 1] | — | — | — | i 19 | 39 | pPKP | — |
| Resolute Bay | 124.7 | 18 | e 18 | 26 | [0] | — | — | — | e 19 | 43 | pPKP | — |
| Stalinabad | 124.7 | 297 | i 18 | 25 | [- 1] | — | — | — | — | — | — | — |
| Tashkent | 125.3 | 299 | e 18 | 26 | [- 1] | e 24 | 41 | [- 21] | e 15 | 3 | P | — |
| Tchimkent | 125.4 | 301 | i 18 | 18 | [- 9] | i 24 | 46 | [- 16] | i 19 | 38 | pPKP | — |
| Fordham | 126.0 | 62 | e 18 | 28 | [0] | — | — | — | — | — | — | — |
| Palisades | 126.0 | 62 | i 18 | 29 | [+ 1] | e 22 | 15 | PKS | e 19 | 44 | pPKP | e 51.6 |
| Ottawa | 126.2 | 56 | e 18 | 24 | [- 4] | 26 | 54 | SKKS | i 19 | 34 | pPKP | — |
| Samarkand | 126.4 | 296 | i 18 | 24 | [- 5] | 24 | 56 | [- 9] | — | — | — | — |
| Harvard | 128.2 | 61 | i 18 | 33 _k | [+ 1] | i 37 | 51 | SS | i 19 | 48 | pPKP | — |
| Weston | 128.3 | 61 | i 18 | 33 _k | [0] | 21 | 54 | SKP | 19 | 48 | pPKP | e 42.5 |
| Shawinigan Falls | N. 128.5 | 55 | e 18 | 36 | [+ 3] | — | — | — | 20 | 28 | PP | — |
| Bairam-Ali | 129.2 | 292 | i 18 | 35 | [+ 1] | 21 | 58 | SKP | 19 | 51 | pPKP | — |
| Bermuda | 129.7 | 76 | i 18 | 35 | [0] | e 38 | 7 | SS | i 19 | 50 | pPKP | — |
| Seven Falls | E. 130.0 | 55 | e 18 | 31? | [- 5] | 25 | 22 | [+ 7] | 20 | 52 | PP | — |
| Ashkabad | 132.1 | 291 | i 18 | 39 | [- 1] | 22 | 10. | SKP | 19 | 51 | pPKP | — |

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| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Kizyl-Arvat | 134.0 | 294 | i 18 | 44 | [+ 1] | i 21 | 20 | PP | i 20 | 3 | pPKP | — |
| Sverdlovsk | 134.1 | 317 | e 18 | 37 | [- 6] | i 22 | 14 | PKS | e 31 | 20 | PS | — |
| Halifax | 134.3 | 61 | e 18 | 39 | [- 5] | 27 | 53 | SKKS | 38 | 55 | SS | — |
| Baku | 139.1 | 293 | e 18 | 44 | [- 9] | e 22 | 7 | SKP | e 20 | 1 | pPKP | — |
| Lenkoran | 139.6 | 290 | 18 | 46 | [- 8] | — | — | — | 21 | 50 | PP | — |
| Shemakla | 140.1 | 293 | i 18 | 46 | [- 8] | — | — | — | i 20 | 1 | pPKP | — |
| Makhach-Kala | 141.4 | 296 | i 18 | 49 | [- 8] | — | — | — | i 20 | 6 | pPKP | — |
| Goris | 141.6 | 291 | i 18 | 50 | [- 7] | 22 | 20 | PKS | 20 | 9 | pPKP | — |
| Kirovobad | 141.8 | 293 | i 18 | 50 | [- 8] | — | — | — | e 22 | 3 | PP | — |
| Grozny | 142.7 | 296 | e 18 | 57 | [- 3] | — | — | — | — | — | — | — |
| Erevan | 143.1 | 291 | i 18 | 55 | [- 5] | 28 | 11 | SKKS | — | — | — | — |
| Tiflis | 143.2 | 293 | i 18 | 57 | [- 3] | — | — | — | i 20 | 13 | pPKP | — |
| Leninakan | 143.7 | 292 | 18 | 58 | [- 3] | — | — | — | — | — | — | — |
| Tsikhlis-Dzhvari | 144.2 | 293 | i 19 | 2 | [0] | — | — | — | — | — | — | — |
| Scoresby Sund | 144.9 | 11 | i 18 | 57 | [- 6] | e 22 | 21 | SKP | i 20 | 19 | pPKP | — |
| Kiruna | 146.3 | 344 | i 19 | 3 | [- 2] | e 28 | 51 | SKKS | i 20 | 16 | pPKP | — |
| Moscow | 146.9 | 319 | 19 | 6 | [0] | 41 | 2 | SS | 20 | 24 | pPKP | — |
| Sochi | 147.1 | 296 | e 19 | 5 | [- 2] | — | — | — | i 20 | 23 | pPKP | — |
| Ksara | 148.4 | 276 | i 19 | 7 | [- 2] | i 33 | 51 | PS | — | — | — | — |
| Pulkovo | 148.7 | 328 | 19 | 8 | [- 1] | i 22 | 38 | PKS | i 20 | 24 | pPKP | — |
| Reykjavik | 150.4 | 17 | i 19 | 17 | [+ 5] | i 19 | 30 | PKP ₂ | i 20 | 38 | pPKP | — |
| Helwan | 150.7 | 267 | 19 | 11 | [- 1] | 26 | 47 | PPP | 20 | 28 | pPKP | — |
| Simferopol | 151.1 | 299 | e 19 | 11 | [- 2] | 19 | 19 | PKP ₂ | e 20 | 24 | pPKP | — |
| Yalta | 151.1 | 298 | e 19 | 11 | [- 2] | i 19 | 19 | PKP ₂ | i 20 | 24 | pPKP | — |
| Upsala | 153.5 | 338 | i 19 | 17 | [+ 1] | i 26 | 0 | [+ 7] | i 20 | 54 | pPKP ₂ | e 57.2 |
| Kishinev | 154.5 | 305 | 19 | 16 | [- 1] | i 33 | 58 | PS | i 20 | 30 | pPKP | — |
| Istanbul | 154.9 | 291 | e 19 | 36 | [+18] | e 26 | 7 | [+12] | e 20 | 48 | pPKP | 82.2 |
| Iasi | 155.3 | 307 | i 19 | 31 | [+13] | e 19 | 37 | ? | e 19 | 46 | PKP ₂ | — |
| Bergen | 155.9 | 351 | i 19 | 51 ^k | PKP ₂ | e 43 | 52 | SSP | i 23 | 27 | PP | e 63.4 |
| Cernanti | 156.1 | 308 | e 19 | 34 | PKP ₂ | — | — | — | — | — | — | — |
| Bucharest | 156.8 | 300 | e 19 | 19 | [- 2] | 28 | 38 | ? | i 19 | 53 | PKP ₂ | — |
| Uzhgorod | 158.2 | 313 | 19 | 22 | [0] | 22 | 42 | PKS | 20 | 0 | PKP ₂ | — |
| Copenhagen | 158.5 | 337 | e 19 | 27 | [+ 4] | 43 | 26 | SS | i 20 | 0 | PKP ₂ | — |
| Athens | 158.9 | 281 | e 20 | 0 | PKP ₂ | i 26 | 10 | [+11] | e 20 | 38 | pPKP | — |
| Sofia | 159.1 | 295 | e 19 | 37 | [+14] | e 31 | 56 | ? | (44 41) | — | PSS | 44.7 |
| Skalnate Pleso | 159.2 | 315 | e 19 | 29 | [+ 6] | e 29 | 44 | SKKS | e 20 | 30 | pPKP | — |
| Aberdeen | 159.7 | 359 | i 19 | 26 | [+ 2] | i 29 | 7 | SKKS | i 20 | 20 | pPKP | 47.2 |
| Raciborzu | 159.9 | 319 | e 19 | 14 [?] | [-10] | e 25 | 42 | [-18] | e 21 | 42 | sPKP | — |
| Timisoara | 159.9 | 305 | e 19 | 28 | [+ 4] | 22 | 16 | SKP | (e 46 14) | — | ? | e 46.2 |
| Szeged | 160.4 | 308 | e 19 | 56 | [+31] | 26 | 59 | [+59] | 24 | 45 | ? | — |
| Angra do Heroismo | 160.7 | 78 | e 21 | 37 | ? | — | — | — | — | — | — | — |
| Belgrade | 160.7 | 302 | e 19 | 17 ^a | [- 8] | e 26 | 23 | [+23] | i 20 | 9 | PKP ₂ | e 51.8 |
| Budapest | 160.7 | 311 | e 19 | 24 | [- 1] | 26 | 41 | [+41] | 21 | 20 | sPKP | — |
| Potsdam | 160.9 | 331 | i 19 | 23 ^a | [- 2] | i 27 | 40 | PPP | i 20 | 42 | pPKP | — |
| Ogyalla | 161.0 | 313 | e 19 | 32 | [+ 7] | e 43 | 20 | SS | e 20 | 40 | pPKP | — |
| Kalossa | 161.1 | 309 | e 19 | 31 | [+ 6] | e 24 | 8 | PP | 21 | 28 | sPKP | — |
| Collmberg | 161.7 | 327 | e 19 | 23 | [- 3] | e 30 | 20 | SKKS | e 23 | 59 | PP | — |
| Prague | 161.9 | 324 | e 19 | 24 | [- 2] | e 25 | 50 | [-11] | e 20 | 39 | pPKP | — |
| Vienna | 161.9 | 316 | e 19 | 25 | [- 1] | e 28 | 2 | sSKS | i 20 | 17 | pPKP | — |
| Durham | 162.1 | 357 | e 20 | 18 | PKP ₂ | — | — | — | i 23 | 32 | PP | — |
| Jena | 162.6 | 328 | e 19 | 24 | [- 3] | e 27 | 58 | sSKS | i 20 | 21 | pPKP | — |
| Witteveen | 162.7 | 342 | i 20 | 20 ^k | PKP ₂ | — | — | — | e 24 | 4 | PP | — |
| Cheb | 162.8 | 327 | e 20 | 20 | PKP ₂ | e 29 | 33 | SKKS | e 20 | 38 | pPKP | — |
| Rathfarnham C. | 163.4 | 7 | e 19 | 27 | [- 1] | e 24 | 6 | PP | i 20 | 28 | pPKP | — |
| De Bilt | 163.8 | 342 | e 19 | 32 | [+ 4] | e 29 | 35 | SKKS | e 21 | 29 | pPKP ₂ | — |
| Taranto | 163.9 | 289 | 20 | 18 | PKP ₂ | 32 | 24 | ? | e 21 | 18 | pPKP ₂ | 52.3 |
| Tamanrasset | 164.2 | 209 | i 19 | 29 | [0] | e 31 | 32 | SKKS | e 20 | 49 | pPKP | — |
| Triest | 164.7 | 313 | i 19 | 28 | [- 1] | e 45 | 4 | SS | i 20 | 27 | pPKP | — |
| Reggio Calabria | 165.2 | 280 | e 19 | 25 | [- 4] | e 44 | 26 | SS | — | — | — | — |
| Stuttgart | 165.2 | 328 | e 19 | 28 | [- 1] | e 30 | 24 | SKKS | e 20 | 29 | pPKP | — |

Continued on next page.

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| | Δ ° | Az. ° | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|------------------|---------------|----------|----|--------------------|--------|----|--------|--------|-------|--------|------------------|--------|
| | | | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Uccle | 165.2 | 342 | e | 20 29 | pPKP | e | 31 23 | pSKKS | e | 24 15 | PP | e 78.2 |
| Kew | 165.3 | 354 | i | 19 31 | [+ 1] | i | 25 35 | [- 29] | i | 20 29 | pPKP | — |
| Messina | 165.3 | 281 | e | 19 27 | [- 3] | i | 24 20 | PP | i | 20 33 | pPKP | — |
| Karlsruhe | 165.4 | 329 | e | 19 28 | [- 2] | e | 26 4 | [0] | e | 24 17 | PP | — |
| Strasbourg | 166.0 | 331 | e | 19 27 | [- 3] | i | 26 4 | [0] | i | 20 32 | pPKP | e 67.8 |
| Chur | 166.4 | 321 | e | 19 28 | [- 2] | e | 24 27 | PP | e | 20 34 | pPKP | — |
| Zürich | 166.5 | 324 | e | 19 29 | [- 2] | e | 24 25 | PP | i | 20 35 | pPKP | — |
| Salo | 166.7 | 315 | e | 19 29 | [- 2] | i | 25 59 | [- 6] | i | 20 37 | pPKP | — |
| Basle | 166.8 | 327 | e | 19 28 | [- 3] | e | 24 29 | PP | e | 20 38 | pPKP | — |
| Bologna | 166.8 | 310 | e | 19 36 | [+ 5] | e | 26 14 | [+ 9] | e | 20 38 | pPKP | — |
| Rome | 167.0 | 300 | i | 19 29 | [- 2] | i | 47 4 | sSS | i | 20 37 | pPKP | — |
| Florence | z. 167.2 | 307 | i | 19 27 _a | [- 4] | i | 24 27 | PP | i | 20 36 | pPKP | — |
| Paris | 167.4 | 346 | i | 19 30 | [- 1] | i | 26 21 | [+ 16] | i | 20 40 | pPKP | e 65.2 |
| Neuchatel | 167.5 | 327 | e | 20 40 | pPKP | e | 30 6 | ? | — | — | — | — |
| Jersey | κ. 167.7 | 357 | e | 38 14? | PPS | e | 33 14? | ? | e | 51 14? | SSS | — |
| Pavia | 167.7 | 316 | e | 19 30 | [- 1] | e | 24 31 | PP | i | 20 43 | pPKP | — |
| Besançon | 167.8 | 331 | e | 19 30 | [- 1] | i | 30 24 | SKKS | i | 20 41 | pPKP | — |
| Oropa | 168.0 | 320 | i | 19 43 | [+ 11] | i | 24 33 | PP | i | 20 45 | pPKP | — |
| Chambon-la-Forêt | 168.3 | 343 | e | 19 32 | [0] | — | — | — | i | 20 44 | pPKP | — |
| Clermont-Ferrand | 170.1 | 335 | e | 19 32 | [- 1] | i | 26 25 | [+ 19] | i | 20 52 | pPKP | 59.2 |
| Coimbra | 174.6 | 51 | 19 | 35 | [0] | 46 | 13 | SS | 21 | 16 | PKP ₂ | — |
| Lisbon | 174.7 | 68 | i | 19 36 | [+ 1] | 26 | 19 | [+ 11] | i | 20 47 | pPKP | 75.1 |
| Averroes | 174.8 | 133 | — | — | — | e | 22 14 | SKP | — | — | — | — |
| Algiers Univ. | z. 175.2 | — | e | 19 35 | [0] | e | 31 24 | SKKS | e | 20 53 | pPKP | — |
| Tortosa | 175.7 | — | — | — | — | i | 26 2 | [- 6] | i | 32 3 | ? | — |
| Toledo | 176.9 | — | e | 19 36 | [+ 1] | i | 26 37 | [+ 29] | i | 21 23 | PKP ₂ | — |
| Alicante | 177.6 | — | 19 | 29 | [- 7] | 25 | 55 | [- 13] | 21 | 13 | PKP ₂ | 84.1 |
| Malaga | 178.8 | — | i | 19 37 | [+ 1] | 24 | 38 | PP | 29 | 37 | PPP | 75.7 |
| Granada | 179.4 | — | i | 19 35 _a | [- 1] | i | 27 6 | [+ 58] | 20 | 54 | pPKP | i 74.0 |
| Almeria | 179.6 | — | i | 19 37 | [+ 1] | i | 26 35 | [+ 27] | 31 | 39 | SKKS | 74.3 |

Sept. 30d. 4h. 54m. 32s. Epicentre 4°·5S. 102°·0E. Depth of focus 0·010.
(as on 1937, February 8d.).

A = -·2073, B = +·9752, C = -·0779; δ = +6; h = +7;
D = +·978, E = +·208; G = +·016, H = -·076, K = -·997.

| | Δ ° | Az. ° | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|------------|---------------|----------|----|-------------------|------|----|-------|------|-------|------|-----|--------|
| | | | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Djakarta | 5.1 | 109 | i | 1 17 | + 1 | i | 2 11 | - 3 | i | 1 54 | ? | i 13.6 |
| Bandung | 6.1 | 113 | i | 1 28 | - 1 | i | 2 36 | - 2 | i | 1 49 | ? | i 13.4 |
| Colombo | E. 24.8 | 296 | 5 | 17 | + 3 | 9 | 39 | + 12 | — | — | — | — |
| Baguio | 27.7 | 40 | i | 5 39 _a | - 2 | i | 9 23 | - 51 | i | 6 30 | PP | — |
| Madras | E. 27.8 | 310 | i | 4 44 | - 58 | i | 10 21 | + 5 | 6 | 32 | PP | — |
| Hong Kong | 29.2 | 23 | — | — | — | 10 | 39 | + 1 | — | — | — | — |
| Calcutta | E. 30.0 | 334 | e | 6 0 | - 2 | i | 10 52 | + 1 | 12 | 34 | SSS | — |
| Shillong | 31.5 | 344 | e | 6 14 | - 1 | i | 11 10 | - 5 | 12 | 17 | Q | 13.9 |
| Hyderabad | κ. 31.9 | 313 | e | 6 33 | + 15 | 11 | 20 | - 1 | 12 | 30 | SS | — |
| Chatra | z. 34.3 | 336 | i | 6 39 | 0 | i | 11 59 | + 1 | — | — | — | — |
| Poona | 36.0 | 311 | e | 6 53 | 0 | e | 12 27 | + 3 | 8 | 8 | PP | 16.7 |
| Bombay | 37.0 | 310 | e | 7 4 | + 2 | i | 12 41 | + 1 | 8 | 32 | PP | 17.0 |
| Nanking | 39.7 | 22 | i | 7 24 | 0 | i | 13 19 | - 1 | i | 7 42 | pP | — |
| Zô-Sè | 39.9 | 26 | i | 7 25 | - 1 | i | 13 25 | + 2 | i | 7 45 | pP | — |
| New Delhi | 40.6 | 325 | e | 7 34 | + 2 | i | 13 35 | + 1 | i | 7 52 | pP | 18.5 |
| Dehra Dun | 41.5 | 328 | e | 7 42 | + 3 | i | 13 44 | - 3 | 13 | 52 | PS | — |
| Quetta | 48.1 | 318 | i | 8 32 _a | 0 | i | 15 23 | + 1 | i | 8 52 | pP | — |
| Murgab | 50.0 | 331 | i | 8 46 | 0 | i | 15 47 | - 1 | — | — | — | — |
| Khorog | 50.4 | 329 | 8 | 51 | + 2 | i | 15 56 | + 2 | i | 9 8 | pP | — |
| Przhevalsk | 51.4 | 338 | 8 | 58 | + 1 | 16 | 12 | + 4 | — | — | — | — |

Continued on next page.

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| | Δ | Az. | P. | | O-C. | S. | | O-C. | Supp. | | L. | |
|---------------------|----------|-----|------|-----------------|------|------|-----|------|-------|----|-----|--------|
| | ° | ° | m. | s. | s. | m. | s. | s. | m. | s. | m. | |
| Naryn | 51.5 | 335 | 8 | 57 | -1 | i 16 | 12 | +3 | i 9 | 14 | pP | — |
| Kulyab | 51.7 | 327 | 9 | 10? | +11 | — | — | — | — | — | — | — |
| Dzhergetal | 52.0 | 330 | e 9 | 1 | 0 | e 16 | 16 | 0 | — | — | — | — |
| Kurmenty | 52.0 | 339 | 9 | 8 | +7 | — | — | — | — | — | — | — |
| Rybach'e | 52.3 | 336 | i 9 | 3 | -1 | i 16 | 21 | +1 | i 9 | 20 | pP | — |
| Obi-garm | 52.4 | 328 | i 9 | 2 | -2 | i 16 | 18 | -3 | — | — | — | — |
| Almata II | 52.5 | 337 | i 9 | 5 | 0 | i 16 | 26 | +3 | 9 | 24 | pP | — |
| Andijan | 52.6 | 331 | i 9 | 6 | 0 | i 16 | 22 | -2 | i 9 | 23 | pP | — |
| Fergana | 52.6 | 331 | e 9 | 4 | -2 | 16 | 24 | 0 | — | — | — | — |
| Almata | 52.7 | 337 | i 9 | 6 | -1 | i 16 | 26 | +1 | i 9 | 24 | pP | — |
| Stalinabad | 52.7 | 328 | e 9 | 10 | +3 | — | — | — | — | — | — | — |
| Namangan | 53.1 | 331 | i 9 | 10 | 0 | 16 | 31 | 0 | i 9 | 26 | pP | — |
| Ili | 53.2 | 338 | e 9 | 8 | -2 | — | — | — | — | — | — | — |
| Frunse | 53.3 | 335 | i 9 | 11 | 0 | i 16 | 35 | +1 | i 9 | 28 | pP | — |
| Brisbane | 53.6 | 121 | i 9 | 13 ^a | 0 | i 16 | 41 | +3 | — | — | — | — |
| Riverview | 54.1 | 128 | i 9 | 31 | +14 | i 16 | 51 | +7 | — | — | — | — |
| Samarkand | 54.5 | 326 | e 9 | 19 | -1 | — | — | — | — | — | — | — |
| Tashkent | 54.5 | 330 | e 9 | 20 | 0 | i 16 | 48 | -2 | i 9 | 35 | pP | — |
| Kyakhta | 54.8 | 3 | i 9 | 21 | -1 | 16 | 55 | +1 | — | — | — | — |
| Tananarive | 55.0 | 250 | i 9 | 26 | +2 | — | — | — | i 9 | 51 | pP | — |
| Tchimkent | 55.1 | 331 | e 9 | 25 | +1 | i 16 | 58 | 0 | — | — | — | — |
| Bairam-Ali | 55.9 | 322 | e 9 | 29 | -1 | 17 | 9 | +1 | i 9 | 47 | pP | — |
| Irkutsk | 56.6 | 2 | i 9 | 34 | -1 | e 17 | 15 | -3 | e 9 | 52 | pP | — |
| Semipalatinsk | 57.8 | 344 | i 9 | 42 | -2 | i 17 | 33 | 0 | — | — | — | — |
| Kizyl-Arvat | 60.5 | 321 | e 10 | 1 | -1 | 18 | 7 | -1 | — | — | — | — |
| Yuzno-Sakhlinsk | 62.6 | 30 | e 10 | 13? | -3 | — | — | — | — | — | — | — |
| Baku | 65.3 | 318 | e 10 | 35 | +1 | i 19 | 12 | +4 | e 10 | 54 | pP | — |
| Shemakla | 66.3 | 318 | 10 | 43 | +3 | — | — | — | — | — | — | — |
| Goris | 67.3 | 316 | e 10 | 46 | 0 | — | — | — | — | — | — | — |
| Kirovobad | 67.8 | 318 | 10 | 50 | 0 | 19 | 41 | +3 | — | — | — | — |
| Makhach-Kala | 68.2 | 320 | — | — | — | i 19 | 44 | +1 | — | — | — | — |
| Erevan | 68.9 | 316 | e 10 | 55 | -1 | — | — | — | 11 | 11 | pP | — |
| Tiflis | 69.4 | 317 | i 11 | 1 | +1 | i 20 | 1 | +4 | i 11 | 19 | pP | — |
| Sverdlovsk | 69.7 | 337 | i 11 | 1 | 0 | 20 | 0 | -1 | 11 | 17 | pP | — |
| Tsikhlis-Dzhvari | 70.3 | 317 | 11 | 5 | 0 | 20 | 11 | +3 | — | — | — | — |
| Pietermaritzburg z. | 71.8 | 241 | e 11 | 17 | +3 | — | — | — | — | — | — | — |
| Ksara | 73.0 | 307 | i 11 | 24 | +3 | 20 | 55 | +16 | — | — | — | — |
| Pretoria z. | 73.5 | 245 | i 11 | 26 | +2 | — | — | — | — | — | — | — |
| Petropavlovsk | 74.4 | 31 | i 11 | 47? | +18 | — | — | — | — | — | — | — |
| Magadan | 74.5 | 24 | i 11 | 28 | -2 | — | — | — | — | — | — | — |
| Grahamstown z. | 75.4 | 237 | i 11 | 37 | +2 | — | — | — | — | — | — | — |
| Helwan z. | 75.6 | 302 | i 11 | 37 ^a | +1 | — | — | — | e 11 | 52 | pP | — |
| Kimberley z. | 76.6 | 241 | i 11 | 43 | +1 | — | — | — | — | — | — | — |
| Moscow | 79.6 | 329 | e 11 | 59 | +1 | 21 | 50 | -1 | i 12 | 16 | pP | — |
| Istanbul | 80.2 | 313 | e 12 | 21 | +20 | e 22 | 16 | +19 | e 22 | 51 | PS | — |
| Kishinev | 81.9 | 318 | e 12 | 10 | 0 | e 22 | 13 | -1 | i 12 | 29 | pP | — |
| Cernauti | 84.1 | 319 | e 12 | 24 | +3 | — | — | — | — | — | — | — |
| Sofia | 84.7 | 313 | e 12 | 50 | +26 | — | — | — | — | — | — | — |
| Apia | 85.3 | 103 | i 12 | 48 | +21 | — | — | — | — | — | — | — |
| Lwow | 85.7 | 320 | e 12 | 31 | +2 | e 22 | 57 | +5 | i 12 | 48 | pP | — |
| Uzhgorod | 86.6 | 319 | e 12 | 38 | +4 | e 23 | 7 | +6 | i 12 | 58 | pP | — |
| Szeged N. | 87.6 | 317 | e 13 | 30 | +52 | e 23 | 13 | +3 | e 22 | 42 | SKS | — |
| Kalossa | 88.4 | 317 | e 13 | 10 | +28 | e 23 | 38 | +20 | 24 | 33 | PS | — |
| Budapest | 88.5 | 318 | e 12 | 33 | -10 | e 24 | 38 | PPS | e 13 | 16 | ? | — |
| Taranto | 88.9 | 310 | — | — | — | 23 | 0 | [-3] | — | — | — | — |
| Raciborzu | 89.4 | 321 | e 12 | 50 | +3 | e 23 | 22 | -5 | e 23 | 50 | ScS | — |
| Messina | 90.0 | 308 | 12 | 53? | +3 | e 23 | 11 | [+1] | i 23 | 33 | S | — |
| Kiruna | 91.0 | 338 | i 12 | 54 | 0 | i 23 | 43 | +2 | i 16 | 42 | PP | e 44.5 |
| Upsala | 91.0 | 330 | i 12 | 56 | +2 | e 23 | 29? | -12 | i 16 | 32 | PP | — |
| Prague | 91.9 | 320 | e 13 | 9 | +10 | e 24 | 16 | +27 | e 17 | 2 | PP | — |

Continued on next page.

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| | | Δ ° | Az. ° | P. | | O-C. s. | S. | | O-C. s. | Supp. | | L. m. | |
|---------------|----|---------------|----------|------|-----------------|-------------------|------|----|------------|-------|----|----------|---|
| | | | | m. | s. | | m. | s. | | m. | s. | | |
| Triest | | 92.0 | 316 | e 12 | 58 | - 1 | e 24 | 0 | +10 | e 24 | 36 | sS | — |
| Rome | | 92.6 | 312 | e 13 | 26 | +24 | e 23 | 58 | + 3 | — | — | — | — |
| Collmberg | | 92.9 | 321 | e 13 | 4 | + 1 | e 17 | 13 | PP | e 13 | 31 | ? | — |
| Potsdam | | 92.9 | 322 | — | — | — | e 24 | 3 | + 5 | e 24 | 40 | PS | — |
| Florence | | 93.6 | 314 | e 13 | 25 | +19 | e 24 | 12 | + 8 | i 13 | 44 | pP | — |
| Jena | | 93.7 | 321 | e 13 | 8? | + 1 | e 23 | 58 | - 7 | e 17 | 8 | PP | — |
| Stuttgart | | 95.2 | 319 | e 13 | 13 | - 1 | e 17 | 29 | PP | e 13 | 38 | pP | — |
| Strasbourg | | 96.1 | 319 | e 13 | 42 | pP | — | — | — | e 17 | 40 | PP | — |
| Tamanrasset | z. | 97.7 | 293 | e 13 | 28 | + 3 | e 17 | 43 | PP | e 13 | 57 | pP | — |
| College | | 102.6 | 24 | e 13 | 51 | + 4 | — | — | — | — | — | — | — |
| Shasta | | 126.3 | 41 | e 18 | 47k | [- 4] | e 21 | 12 | PP | e 19 | 14 | pPKP | — |
| Hungry Horse | | 126.6 | 30 | i 18 | 54 | [+ 2] | — | — | — | — | — | — | — |
| Mineral | z. | 127.0 | 41 | e 18 | 51 _a | [- 2] | e 21 | 24 | PP | — | — | — | — |
| Lick | z. | 128.5 | 44 | e 18 | 59k | [+ 3] | i 21 | 19 | PP | i 19 | 17 | pPKP | — |
| Butte | | 128.9 | 30 | e 22 | 44 | PKS | — | — | — | — | — | — | — |
| Fresno | z. | 130.1 | 44 | e 18 | 47k | [- 12] | — | — | — | — | — | — | — |
| Tinemaha | | 131.0 | 44 | e 19 | 12 | [+ 11] | i 22 | 19 | SKP | e 19 | 25 | pPKP | — |
| Woody | z. | 131.2 | 45 | e 19 | 2 | [+ 1] | i 22 | 19 | SKP | i 19 | 24 | pPKP | — |
| Pasadena | | 132.5 | 46 | e 19 | 5 | [+ 2] | i 22 | 25 | SKP | i 19 | 27 | pPKP | — |
| Riverside | z. | 133.1 | 46 | e 19 | 3 | [- 1] | i 22 | 26 | SKP | e 19 | 29 | pPKP | — |
| Palomar | z. | 133.8 | 46 | e 19 | 11 | [+ 5] | i 22 | 31 | SKP | i 19 | 32 | pPKP | — |
| Boulder City | | 133.9 | 43 | e 19 | 11 | [+ 5] | — | — | — | i 19 | 30 | pPKP | — |
| Nelson | | 134.0 | 43 | e 18 | 57 | [- 9] | — | — | — | i 19 | 29 | pPKP | — |
| Kirkland Lake | z. | 136.5 | 2 | e 21 | 50 | ? | — | — | — | — | — | — | — |
| Halifax | | 138.1 | 345 | e 19 | 21 | [+ 7] | — | — | — | 22 | 57 | SKP | — |
| Tucson | | 138.7 | 44 | e 19 | 10 | [- 5] | — | — | — | i 22 | 46 | SKP | — |
| Ottawa | | 139.2 | 357 | e 19 | 35 | [+ 19] | 23 | 18 | SKP | i 22 | 9 | PP | — |
| Harvard | | 141.7 | 352 | i 19 | 51 _a | [+ 31] | — | — | — | — | — | — | — |
| Cincinnati | | 145.0 | 9 | i 19 | 26 | [0] | — | — | — | i 19 | 55 | pPKP | — |
| Morgantown | | 145.0 | 3 | i 19 | 17 | [- 9] | — | — | — | i 19 | 48 | pPKP | — |
| Fayetteville | | 145.2 | 22 | i 19 | 27 | [+ 1] | i 20 | 38 | ? | i 19 | 47 | pPKP | — |
| Washington | | 145.7 | 358 | i 19 | 28 | [+ 1] | — | — | — | i 19 | 50 | pPKP | — |
| Bermuda | | 149.6 | 338 | i 19 | 40 | [+ 7] | — | — | — | — | — | — | — |
| Tacubaya | | 154.6 | 53 | e 21 | 58 | pPKP ₂ | — | — | — | — | — | — | — |
| San Juan | | 162.0 | 322 | e 20 | 11 | [+ 22] | — | — | — | e 24 | 45 | PP | — |
| Huancayo | | 163.4 | 189 | e 20 | 23 | [+ 32] | — | — | — | — | — | — | — |
| Bogota | | 176.1 | — | e 20 | 33 | [+ 35] | — | — | — | — | — | — | — |
| Chinchina | | 177.6 | — | e 20 | 14 | [+ 15] | e 26 | 15 | [- 35] | e 32 | 17 | ? | — |

Sept. 30d. 10h. 59m. Epicentre 46°·5N. 9°·5E.

Intensity IV in Engadine and at Oberhalbstein; III-IV at Albula; III at Splügen and Prätigau.

E. Wanner.

Jahresbericht des Erbebendienstes der Schweiz im Jahre 1953, Zürich, 1954, p. 4, with macroseismic chart fig. 6.

Sept. 30d. 21h. 14m. Provisional epicentre 37°·3S. 176°·3E. Depth of focus 300km.

Magnitude 5.25.

Seismo. Observatory Bulletin of New Zealand, Department of Scientific and Industrial Research, No. E-133, for 1953, July, August, September, Wellington, 1956, p. 16.

Sept. 30d. 21h. 24m. Epicentre 42°·7N. 77°·3E.

Bulletin of Seismo. Stations of U.S.S.R. for July-Sept., 1953, Moscow, 1954, p. 155.

Sept. 30d. 21h. 57m. Epicentre 37°·6N. 71°·9E. Depth of focus 100km.

Loc. cit., pp. 155, 156.

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Sept. 30d. 23h. 4m. 11s. Epicentre 22°·0N. 107°·5W. (as on 1945, April 15d.).

A = -·2791, B = -·8851, C = +·3724; δ = -2; h = +4;
D = -·954, E = +·301; G = -·112, H = -·355, K = -·928.

| | | \wedge ° | Az. ° | P. | | O-C. | | S. | | O-C. | | Supp. | | L. m. | |
|------------------|----|---------------|----------|-----|-----------------|------|----|------|----|------|----------------|-------|----|----------|--------|
| | | | | m. | s. | s. | s. | m. | s. | m. | s. | | | | |
| Mazatlan | | 1·5 | 41 | i 0 | 26k | - | 2 | — | — | — | — | — | — | i 0·9 | |
| Guadalajara | | 4·1 | 108 | e 1 | 7k | + | 2 | i 2 | 9 | + | 3* | — | — | i 2·3 | |
| Manzanillo | | 4·2 | 134 | i 1 | 13k | + | 6 | i 2 | 17 | - | 2 _g | — | — | i 2·5 | |
| Chihuahua | | 6·7 | 11 | i 1 | 35 | - | 7 | i 2 | 55 | - | 5 | — | — | 3·2 | |
| Tacubaya | | 8·2 | 107 | i 2 | 8k | + | 5 | i 3 | 57 | + | 19 | — | — | i 4·4 | |
| Puebla | | 9·2 | 107 | i 2 | 20k | + | 4 | i 4 | 25 | - | 12* | — | — | i 4·9 | |
| Tucson | | 10·6 | 345 | i 2 | 33 | - | 3 | i 4 | 32 | - | 5 | — | — | — | |
| Vera Cruz | | 11·0 | 103 | i 2 | 46k | + | 4 | i 5 | 10 | + | 23 | — | — | 5·8 | |
| Oaxaca | | 11·3 | 114 | e 2 | 49 | + | 3 | i 5 | 14 | + | 20 | — | — | i 5·9 | |
| Barratt | z. | 13·4 | 325 | i 3 | 13k | - | 1 | — | — | — | — | — | — | — | |
| Palomar | z. | 14·0 | 326 | i 3 | 22k | | 0 | — | — | — | — | — | — | — | |
| Riverside | z. | 14·8 | 326 | i 3 | 33k | + | 1 | — | — | — | — | — | — | — | |
| Nelson | | 15·1 | 336 | i 3 | 35 | - | 1 | — | — | — | — | — | — | i 8·0 | |
| Pasadena | | 15·3 | 325 | i 3 | 39k | | 0 | i 6 | 31 | + | 1 | — | — | i 7·4 | |
| Merida | | 16·7 | 90 | i 3 | 52k | - | 5 | i 7 | 12 | + | 9 | — | — | — | |
| Tinemaha | | 17·7 | 331 | i 4 | 9k | - | 1 | i 7 | 38 | + | 12 | — | — | — | |
| Fayetteville | | 18·2 | 36 | i 4 | 10 | - | 6 | e 7 | 18 | - | 19 | e 4 | 24 | ? | — |
| Lick | | 19·6 | 325 | e 4 | 31k | - | 1 | e 8 | 11 | + | 3 | i 5 | 38 | ? | e 9·4 |
| Santa Clara | | 19·8 | 325 | i 4 | 34 _a | - | 1 | i 8 | 6 | - | 7 | — | — | — | e 9·3 |
| Berkeley | | 20·3 | 325 | i 4 | 41k | + | 1 | i 8 | 20 | - | 3 | e 5 | 8 | PP | e 9·6 |
| Reno | | 20·4 | 333 | i 4 | 42 _a | + | 1 | i 8 | 37 | + | 12 | — | — | — | — |
| Mineral | | 21·9 | 331 | e 4 | 56k | - | 1 | — | — | — | — | e 5 | 18 | PP | e 11·0 |
| St. Louis | | 22·2 | 38 | i 4 | 56 | - | 4 | i 8 | 58 | - | 2 | — | — | — | — |
| Shasta | | 22·5 | 330 | i 5 | 2 _a | | 0 | e 9 | 6 | + | 1 | e 5 | 39 | PP | e 13·2 |
| Arcata | | 23·5 | 327 | e 5 | 18 | + | 6 | — | — | — | — | — | — | — | e 11·1 |
| Butte | | 24·3 | 354 | e 5 | 19 | - | 1 | e 9 | 40 | + | 3 | — | — | — | — |
| Terre Haute | | 24·5 | 38 | 6 | 4 | + | 41 | 10 | 49 | + | 69 | — | — | — | — |
| Chicago | | 25·9 | 35 | e 5 | 33 | - | 2 | e 9 | 57 | - | 7 | — | — | — | — |
| Corvallis | z. | 26·0 | 333 | e 5 | 41 | + | 5 | e 10 | 18 | + | 12 | — | — | — | e 13·2 |
| Columbia | | 26·2 | 57 | i 5 | 36 | - | 2 | — | — | — | — | — | — | — | — |
| Hungry Horse | | 26·8 | 351 | i 5 | 41 | - | 3 | — | — | — | — | — | — | — | — |
| Seattle | z. | 28·2 | 339 | 6 | 19 | + | 23 | i 9 | 13 | PcP | — | e 10 | 7 | ? | 16·3 |
| Cleveland | | 29·2 | 42 | i 6 | 1k | - | 4 | i 10 | 51 | - | 7 | i 11 | 32 | ? | — |
| Victoria | | 29·4 | 339 | 6 | 2 | - | 5 | 11 | 3 | + | 2 | — | — | — | 14·2 |
| Pittsburgh | | 29·7 | 46 | i 6 | 13 | + | 3 | i 11 | 6 | | 0 | i 7 | 15 | PPP | — |
| Saskatoon | | 30·1 | 0 | 6 | 17 | + | 4 | e 11 | 6 | - | 6 | — | — | — | 14·3 |
| Washington | | 31·0 | 50 | e 6 | 18 | - | 3 | — | — | — | — | i 7 | 27 | PP | — |
| Pennsylvania | | 31·3 | 45 | i 6 | 23 | - | 1 | i 11 | 25 | - | 6 | e 7 | 26 | PP | — |
| Galerazamba | | 32·8 | 103 | e 7 | 17 | + | 40 | e 12 | 34 | + | 40 | — | — | — | — |
| Fordham | | 34·0 | 49 | e 6 | 45 | - | 3 | e 12 | 9 | - | 4 | — | — | — | — |
| Kirkland Lake | z. | 34·1 | 33 | e 6 | 45 | - | 3 | — | — | — | — | — | — | — | i 17·7 |
| Palisades | | 34·1 | 49 | i 6 | 46 | - | 2 | e 12 | 2 | - | 12 | e 8 | 7 | PP | e 15·5 |
| Ottawa | | 34·9 | 41 | i 6 | 51k | - | 4 | 12 | 22 | - | 5 | 8 | 14 | PP | 18·0 |
| Chinchina | | 35·2 | 113 | e 7 | 2 | + | 4 | e 12 | 39 | + | 8 | e 8 | 32 | PPP | 17·8 |
| Harvard | | 36·3 | 48 | i 7 | 4 | - | 3 | e 12 | 44 | - | 4 | — | — | — | e 15·0 |
| Weston | | 36·4 | 48 | i 7 | 5 _a | - | 3 | 12 | 47 | - | 3 | 15 | 29 | Q | 20·2 |
| Bogota | | 36·7 | 113 | e 7 | 16 | + | 6 | e 13 | 5 | + | 11 | e 8 | 45 | PP | 15·8 |
| Shawinigan Falls | N. | 37·3 | 41 | e 7 | 13 | - | 3 | 12 | 58 | - | 6 | 8 | 44 | PP | e 18·1 |
| Seven Falls | E. | 38·7 | 41 | i 7 | 40 | + | 13 | 13 | 37 | + | 12 | 9 | 8 | PP | — |
| San Juan | | 38·9 | 87 | i 7 | 29 | | 0 | e 13 | 28 | | 0 | — | — | — | — |
| Bermuda (Navy) | | 39·1 | 65 | e 7 | 32 | + | 1 | e 13 | 29 | - | 2 | — | — | — | — |
| Bermuda | | 39·2 | 65 | e 7 | 31 | | 0 | e 13 | 29 | - | 3 | e 9 | 5 | PP | e 18·5 |
| Sitka | | 40·9 | 337 | i 7 | 48 | + | 2 | e 13 | 57 | - | 1 | — | — | — | — |
| Halifax | | 42·4 | 47 | e 7 | 56 _a | - | 2 | 14 | 17 | - | 3 | 9 | 41 | PP | 20·3 |
| Fort de France | | 44·4 | 92 | i 8 | 16 | + | 2 | e 14 | 54 | + | 5 | e 8 | 36 | ? | — |

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| | | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. | |
|--------------------|----|----------|-----|----------------------|------|---------|---------|----------|-----|--------|
| | | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. | |
| Huancayo | | 46.3 | 133 | e 8 26 | - 3 | e 15 31 | +15 | e 10 6 | PP | e 19.0 |
| Honolulu | | 46.6 | 279 | i 8 40 | + 8 | i 15 37 | +16 | — | — | — |
| College | | 50.3 | 340 | i 8 59 | - 1 | e 16 12 | - 1 | — | — | — |
| Resolute Bay | | 53.2 | 5 | e 9 19 _a | - 3 | i 16 52 | 0 | e 10 15 | PcP | — |
| La Paz | | 54.3 | 131 | i 9 34 _k | + 4 | i 17 17 | +10 | i 17 31 | PS | 25.8 |
| Antofagasta | E. | 58.0 | 139 | e 11 31 | PP | — | — | — | — | e 24.5 |
| Santa Lucia | N. | 65.3 | 146 | e 10 58 | +12 | e 20 7 | PPS | — | — | e 31.8 |
| Scoresby Sund | | 68.0 | 21 | — | — | i 20 6 | + 4 | i 24 26 | SS | 31.8 |
| Reykjavik | Z. | 68.5 | 28 | i 11 5 | - 1 | — | — | — | — | — |
| La Plata | | 73.6 | 139 | — | — | 20 55 | -12 | 25 43 | SS | 35.7 |
| Petropavlovsk | | 75.0 | 322 | i 11 49 | + 4 | i 21 27 | + 4 | — | — | — |
| Rathfarnham Castle | | 79.1 | 37 | i 12 7 | - 1 | i 22 6 | - 1 | e 32 54 | Q | e 35.8 |
| Aberdeen | | 79.7 | 32 | — | — | i 22 19 | + 6 | i 27 5 | SS | 35.3 |
| Durham | | 81.0 | 34 | e 12 25 | + 7 | e 22 25 | - 2 | 32 0 | ? | — |
| Bergen | N. | 81.7 | 27 | — | — | e 22 41 | + 7 | e 24 45? | ? | e 33.7 |
| Kiruna | | 82.6 | 18 | i 12 24 | - 2 | e 22 40 | - 3 | e 27 49? | SS | e 33.8 |
| Coimbra | | 82.7 | 49 | 12 31 | + 4 | — | — | — | — | 34.0 |
| Lisbon | | 82.7 | 51 | e 12 28 | + 1 | 22 47 | + 3 | — | — | 39.1 |
| Jersey | E. | 83.1 | 39 | — | — | e 23 9 | +21 | — | — | — |
| Kew | | 83.2 | 37 | i 12 32 | + 3 | i 22 50 | + 1 | i 12 46 | PcP | e 40.8 |
| De Bilt | | 85.9 | 35 | i 12 57 | +14 | e 23 17 | + 1 | e 28 49? | SS | e 35.8 |
| Toledo | | 85.9 | 49 | i 12 45 | + 2 | e 23 17 | + 1 | 16 9 | PP | 38.5 |
| Paris | | 86.0 | 39 | e 12 43 | 0 | i 23 18 | + 1 | i 13 1 | pP | 37.8 |
| Averroes | | 86.1 | 55 | e 12 51 | + 7 | 23 45 | +27 | e 13 37 | ? | — |
| Uccle | | 86.1 | 36 | e 12 47 | + 3 | e 23 16 | - 2 | e 13 0 | pP | e 34.8 |
| Ulegorsk | | 86.1 | 322 | i 12 48 | + 4 | i 23 24 | + 6 | — | — | — |
| Chambon-la-Forêt | | 86.3 | 39 | e 12 46 | + 1 | e 16 7 | PP | i 13 2 | pP | — |
| Witteveen | Z. | 86.3 | 33 | e 12 53 | + 8 | — | — | — | — | — |
| Yuzno-Sakhlinsk | | 86.8 | 320 | i 12 50 | + 3 | 23 27 | + 2 | — | — | — |
| Malaga | | 87.0 | 52 | 12 51 | + 3 | 23 35 | + 8 | e 16 17 | PP | 43.6 |
| Upsala | | 87.0 | 25 | i 12 52 | + 4 | e 23 23 | - 4 | e 24 24 | PS | — |
| Copenhagen | | 87.4 | 29 | e 16 15 | PP | 23 52 | +22 | i 23 35 | S | — |
| Granada | | 87.4 | 51 | i 12 53 _k | + 3 | i 23 33 | + 3 | 15 51 | PP | i 44.0 |
| Clermont-Ferrand | | 87.9 | 41 | e 13 7 | +14 | e 23 41 | + 6 | e 30 10 | ? | 37.8 |
| Almeria | | 88.3 | 51 | i 12 58 | + 3 | 23 44 | + 5 | 16 28 | PP | 43.8 |
| Tortosa | | 88.6 | 46 | e 13 41 | ? | 24 27 | PS | — | — | — |
| Besançon | | 88.8 | 39 | e 12 58 | + 1 | e 16 26 | PP | e 13 2 | PcP | — |
| Alicante | | 89.0 | 48 | e 12 57 | - 1 | 23 45 | 0 | 16 29 | PP | 42.6 |
| Strasbourg | | 89.1 | 37 | e 12 59 | + 1 | e 23 49 | + 3 | e 13 3 | PcP | e 36.2 |
| Karlsruhe | | 89.2 | 36 | e 13 15 | PcP | e 23 49 | + 2 | e 16 31 | PP | e 39.8 |
| Barcelona | | 89.4 | 45 | e 15 52 | PP | — | — | — | — | e 42.6 |
| Potsdam | | 89.7 | 32 | e 16 37? | PP | i 23 55 | + 3 | i 25 14 | PS | e 37.8 |
| Jena | | 89.8 | 34 | e 13 1? | - 1 | e 24 1 | + 8 | e 16 28 | PP | e 40.8 |
| Stuttgart | | 89.8 | 36 | e 13 6 | + 4 | e 23 53 | 0 | e 13 16 | PcP | e 38.8 |
| Zürich | | 90.2 | 38 | e 12 49 | -15 | e 22 55 | -61 | e 16 49 | PP | — |
| Collmberg | Z. | 90.3 | 33 | e 13 2 | - 2 | — | — | e 13 20 | PcP | — |
| Cheb | | 90.7 | 34 | e 13 30 | PcP | e 24 10 | + 9 | e 16 28 | PP | — |
| Oropa | | 90.8 | 39 | e 13 17 | +11 | e 24 22 | +20 | e 25 22 | PS | 43.8 |
| Chur | | 91.1 | 38 | e 16 17 | PP | e 25 17 | PS | — | — | e 43.3 |
| Pulkovo | | 91.5 | 20 | e 16 43 | PP | e 24 11 | + 3 | e 18 33 | PPP | — |
| Pavia | | 91.8 | 39 | e 13 54 | ? | e 24 12 | + 1 | e 18 26 | PPP | e 40.3 |
| Prague | | 91.8 | 33 | e 13 26 | +15 | e 24 19 | + 8 | e 17 3 | PP | e 40.3 |
| Bologna | | 93.5 | 39 | e 13 36 | +17 | e 24 38 | +13 | e 17 19 | PP | e 44.4 |
| Raciborzu | | 93.7 | 31 | e 13 24 | + 4 | — | — | e 17 8 | PP | — |
| Florence | | 93.8 | 40 | e 13 20 _a | 0 | i 24 9 | { - 1 } | e 17 13 | PP | — |
| Triest | | 94.2 | 37 | e 13 39 | +17 | e 24 6 | [+ 9] | e 17 23 | PP | 36.8 |
| Ogyalla | | 95.1 | 33 | e 18 7 | ? | e 25 2 | +23 | e 25 28 | ? | — |
| Skalnate Pleso | | 95.3 | 31 | e 17 3 | PP | — | — | — | — | e 40.8 |
| Wellington | | 95.5 | 228 | — | — | e 25 3 | +21 | e 31 23 | SS | e 44.3 |
| Rome | | 95.7 | 41 | e 13 34 | + 5 | e 24 3 | [- 2] | 17 30 | PP | — |

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| | Δ | Az. | P. | O-C. | S. | O-C. | Supp. | L. |
|---------------|----------|-----|----------------------|------------------|----------|--------|----------|-----------------------|
| | ° | ° | m. s. | s. | m. s. | s. | m. s. | m. |
| Budapest | 95.8 | 33 | e 16 49 | PP | e 23 55 | [-10] | e 26 14 | PS e 42.8 |
| Lwow | 96.6 | 29 | e 13 18 | -15 | — | — | — | — |
| Moscow | 97.1 | 19 | e 13 39 | + 4 | e 24 21 | [+ 9] | e 31 13 | SS |
| Szeged | 97.2 | 33 | e 21 35 | ? | — | — | — | — |
| Christchurch | 97.9 | 226 | — | — | e 25 14 | +11 | e 32 13 | SS e 40.1 |
| Timisoara | 98.1 | 33 | — | — | e 25 49 | +45 | — | — e 49.8 |
| Belgrade | 98.3 | 34 | e 17 31 ^a | PP | e 27 42 | PPS | e 18 34 | ? e 51.6 |
| Taranto | 99.4 | 39 | 17 49 | PP | e 25 34 | +19 | 24 29 | SKS 44.8 |
| Messina | 99.8 | 42 | e 17 59 | PP | 24 30 | [+ 4] | 31 4 | SS 44.8 |
| Kabansk | 100.5 | 340 | i 13 53 | + 2 | — | — | i 17 59 | PP |
| Sverdlovsk | 100.8 | 6 | 17 55 | PP | 25 23 | - 4 | 24 32 | SKS |
| Irkutsk | 101.0 | 341 | 13 57 | + 4 | e 25 34 | + 5 | 18 4 | PP |
| Tamanrasset | z. 101.0 | 60 | e 13 59 | + 6 | e 17 56 | PP | e 30 38 | PKKP |
| Sofia | 101.3 | 35 | — | — | e 26 53 | PS | — | — |
| Simferopol | 104.7 | 27 | e 18 19 | PP | — | — | — | — |
| Yalta | 105.1 | 27 | — | — | e 27 55 | PS | — | — |
| Theodosia | 105.2 | 26 | e 18 39 | PP | — | — | — | — |
| Istanbul | 105.4 | 32 | e 18 53 | PP | e 25 15? | [+ 23] | e 28 7 | PS 54.8 |
| Semipalatinsk | 107.6 | 354 | e 18 49 | PP | e 24 56 | [- 6] | e 21 26 | PPP |
| Brisbane | 107.8 | 247 | — | — | e 25 1 | [- 2] | e 34 25 | SS e 50.1 |
| Nanking | z. 110.4 | 319 | i 19 13 | PP | — | — | 21 37 | PPP |
| Grozny | 110.5 | 20 | i 19 9 | PP | — | — | — | — |
| Riverview | 111.0 | 241 | — | — | e 29 0 | PS | e 46 37 | Q e 51.7 |
| Makhach-Kala | 111.4 | 21 | — | — | i 28 52 | PS | — | — |
| Tiflis | 111.6 | 22 | e 19 16 | PP | — | — | e 21 18 | PPP |
| Erevan | 112.9 | 23 | e 19 19 | PP | e 29 3 | PS | — | — |
| Kirovobad | 113.0 | 21 | — | — | e 25 20 | [- 4] | e 28 50 | PS |
| Goris | 114.1 | 20 | e 19 34 | PP | — | — | — | — |
| Ksara | 114.4 | 33 | i 20 3 | PP | 30 47 | PPS | — | — |
| Baku | 114.5 | 19 | e 19 39 | PP | i 29 20 | PS | — | — |
| Almata | 114.9 | 356 | e 19 37 | PP | e 29 30 | PS | — | — |
| Helwan | 115.0 | 39 | e 19 39 | PP | 25 37? | [+ 5] | — | — |
| Frunse | 115.4 | 358 | i 19 52 | PP | e 29 37 | PS | e 35 55 | SS |
| Rybach'e | 115.8 | 357 | e 19 49 | PP | — | — | i 22 23 | PKS |
| Tchimkent | . 116.0 | 2 | e 19 6? | [+ 21] | e 25 45? | [+ 9] | i 19 56? | PP |
| Naryn | 116.8 | 355 | — | — | i 29 55 | PS | — | — |
| Tashkent | 116.9 | 2 | i 19 55 | PP | e 25 47 | [+ 8] | e 29 30 | PS |
| Namaugan | 117.3 | 0 | e 18 49 | [+ 2] | e 25 28 | [- 12] | e 20 6 | PP |
| Kizyl-Arvat | 117.4 | 13 | e 20 21? | PP | e 26 59? | [+ 3] | — | — |
| Andijan | 117.6 | 0 | i 20 7 | PP | — | — | — | — |
| Fergana | 117.9 | 0 | e 18 53 | [+ 4] | — | — | e 20 9 | PP |
| Garm | 119.3 | 2 | e 20 5 | PP | — | — | — | — |
| Baguio | 119.4 | 306 | i 18 38 | [- 14] | — | — | — | 48.8 |
| Obi-garm | 119.6 | 2 | e 18 58 | [+ 6] | — | — | — | — |
| Stalinabad | 119.7 | 3 | — | — | e 30 4 | PS | — | — |
| Bairam-Ali | 119.9 | 8 | e 20 21 | PP | e 25 52 | [+ 2] | — | — |
| Murgab | 119.9 | 358 | 20 22 | PP | e 26 8 | [+ 18] | 22 55 | PPP |
| Kulyab | 120.4 | 2 | 18 57 | [+ 3] | — | — | — | — |
| Quetta | z. 127.8 | 5 | e 19 12 | [+ 4] | — | — | e 21 11 | PP |
| Shillong | N. 129.1 | 336 | 19 11 | [+ 1] | 22 46 | PKS | 21 14 | PP 58.0 |
| Chatra | z. 129.4 | 343 | e 19 16 | [+ 5] | — | — | — | — |
| New Delhi | 129.5 | 354 | e 19 15 | [+ 4] | — | — | i 21 26 | PP |
| Calcutta | E. 133.1 | 340 | — | — | i 22 56 | PKS | i 31 19 | PS |
| Kimberley | z. 136.6 | 110 | 19 19 | [- 5] | — | — | — | — |
| Grahamstown | z. 138.1 | 115 | e 19 31? | [+ 4] | — | — | — | e 65.1 |
| Bombay | 139.4 | 359 | e 19 30 | [+ 1] | 25 52 | ? | 22 18 | PP |
| Pretoria | z. 139.5 | 103 | e 19 29 | [- 1] | — | — | — | — |
| Hyderabad | 140.4 | 351 | — | — | e 23 9 | PKS | — | 61.7 |
| Madras | E. 144.4 | 348 | e 19 8 | [- 30] | — | — | — | — |
| Colombo | E. 150.4 | 346 | 20 10 | PKP ₁ | — | — | — | 67.2 |
| Tananarive | 156.4 | 86 | e 20 4 | [+ 8] | e 24 5 | PP | e 20 18 | PKP ₂ 77.6 |

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A digital hypocenter file of the ISS (Villaseñor and Engdahl, 2005) can be obtained from the USGS web site: <http://earthquake.usgs.gov/scitech/iss/>

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