

Comparative analysis of both IDC & ISC bulletins (Part I and II)

Comparative analysis of both IDC & ISC bulletins (Part I)

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Both the International Data Centre in Vienna, Austria (IDC) and the International Seismological Centre in Berkshire, UK (ISC) produce global comprehensive bulletins of seismic events. The purpose, data, techniques and production deadlines at these centres are substantially different. Nevertheless the mutual value of these products to each other is enormous. The IDC bulletin is in many ways a corner stone of the ISC bulletin production. This is because the IDC reports constitute almost a quarter of the total station readings and about a half of all amplitude readings contributed to the ISC. The IDC bulletin is almost the sole source of weak to moderate events in poorly monitored regions like mid-oceanic ridges. In turn the ISC bulletin, being based on much denser seismic network and presenting a joint result of many seismological organization's effort is an excellent benchmark for the IDC bulletin quality control. We compare two bulletins for the period from March to December 2000. In the first part of our analysis we study events which were located by both IDC and ISC. The discrepancy in position and depth, reliability of the depth phase picking and magnitude estimation is our prime interest.

Comparative analysis of both IDC & ISC bulletins (Part II)

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In the second part of our analysis we concentrate on events large enough to be recorded at distances greater than 20 degrees. We study the peculiarities of events, which were located by either IDC or ISC only. The events located only by the ISC are of great interest as these are events possibly missed by the IDC. Considering such cases helps to improve the IDC detection capability. The events located only by the IDC are of particular interest too. These are usually based on a limited number of seismic arrivals at stations with a comparatively low azimuthal coverage. We are trying to assess their location reliability or at times even question their existence. One way to achieve this is to use additional data at local seismic stations inland or hydrophones in oceanic areas, if available. We also study those IDC events, which the ISC did not include in its bulletin considering them as bogus. In this regard we identify certain weak points in analysis procedures of both centres and consider ways of their improvement.