

Influence of Local, Regional and Teleseismic S on ISC Hypocenters

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A poster in Sunday morning session S71A, "[Tools of Seismology: Instruments, Networks and the Internet](#)"

R Lockett

R J Willemann

For earthquakes from 2001 January and on, the ISC is using local, regional and teleseismic S arrival times to compute hypocenters in addition to the local, regional and teleseismic P that it has always used. S times are used with one half the weight of P times to allow for the greater variance of reported S arrival times. The hypocenters are computed using the Jeffreys-Bullen travel time tables, but without correcting for the well-known difference between baseline shifts in teleseismic P and S. The principal benefit is that local and regional S times allow the ISC to compute hypocenters where the ISC previously had to adopt a reported hypocenter, or to invert for depth where previously the ISC had to fix depth at a reported or standard value. For earthquakes recorded well enough to compute a hypocenter with a free depth using P times alone, the use of local and regional S times usually does not significantly change epicentres, depths or origin times. Teleseismic S is reported only infrequently, and usually only for well-recorded earthquakes where the hypocenter is already well constrained by P arrival times.