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Truth Events in Mongolia (2011-2012)

The International Data Centre (IDC) of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) will ultimately process 170 seismic stations for the purpose of monitoring underground nuclear explosions. However, for most of events with lower magnitude, only sparse network or several stations are able to contribute on monitoring, meanwhile the location uncertainty will be quite large. The Regional Seismic Travel Time (RSTT) modeling approach (Myers, et al., 2009) provides a path toward reducing location uncertainty. IDC has performed validation tests on events from Europe, Asia, and North America. Before integrating in IDC processing platform, the validating test must be performed with ground truth events or events with good location in local or regional scale. Locating east of Eurasia, Mongolia has seismic stations with quite good background noise level, which give excellent monitoring performance for regional scale. The local and regional phases travel times information of 15 events happened in Mongolia during 2011 and early 2012 were gathered, which had been compared with travel time correction from RSTT model. With station-specific source corrections of some of these stations, relocating tests were performed. Some events relocation got better results, which gave positive support the RSTT model applying in some regional scale in Eurasia.

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