

Quality assessment of REB through comparison with NEIC bulletin for the month of September 2018

The quality of the IDC REB was assessed by comparing it with an international bulletin viz., NEIC. To accomplish the task, NEIC (NEIC located events) and IDC REB events for the month of September 2018 were utilized. During this period, 2268 and 2976 events were considered for NEIC and IDC, respectively. The comparison was performed using the BULCMP software to identify matched and unmatched events of the two bulletins. The results showed that a total of 1444 events could be matched between the two bulletins. The percentage of matched events with location difference (D) $< 1\sigma$ is about 97.0% while the percentage of events with $D \geq 5\sigma$ is about 0.1%. The percentage of matched events without intersecting error ellipses is 18.2%. There were 18 events with magnitude (M) ≥ 4.0 and $D \geq 2\sigma$. Of these events, waveform investigation showed that the locations of 11 events were closer to the NEIC solutions. 13 unmatched NEIC events with $M \geq 4.0$ were found during the comparison. Waveform investigation for these events revealed that 1 REB and 4 LEB only events were legitimate LEB/REB events. The results showed that available data should be utilized not to miss and mislocate events.

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