

**Supplementary Material for**  
**“Detection and location of the oceanic intraplate earthquakes at the oldest Pacific Plate**  
**using Pacific Array (Oldest-1) data”**

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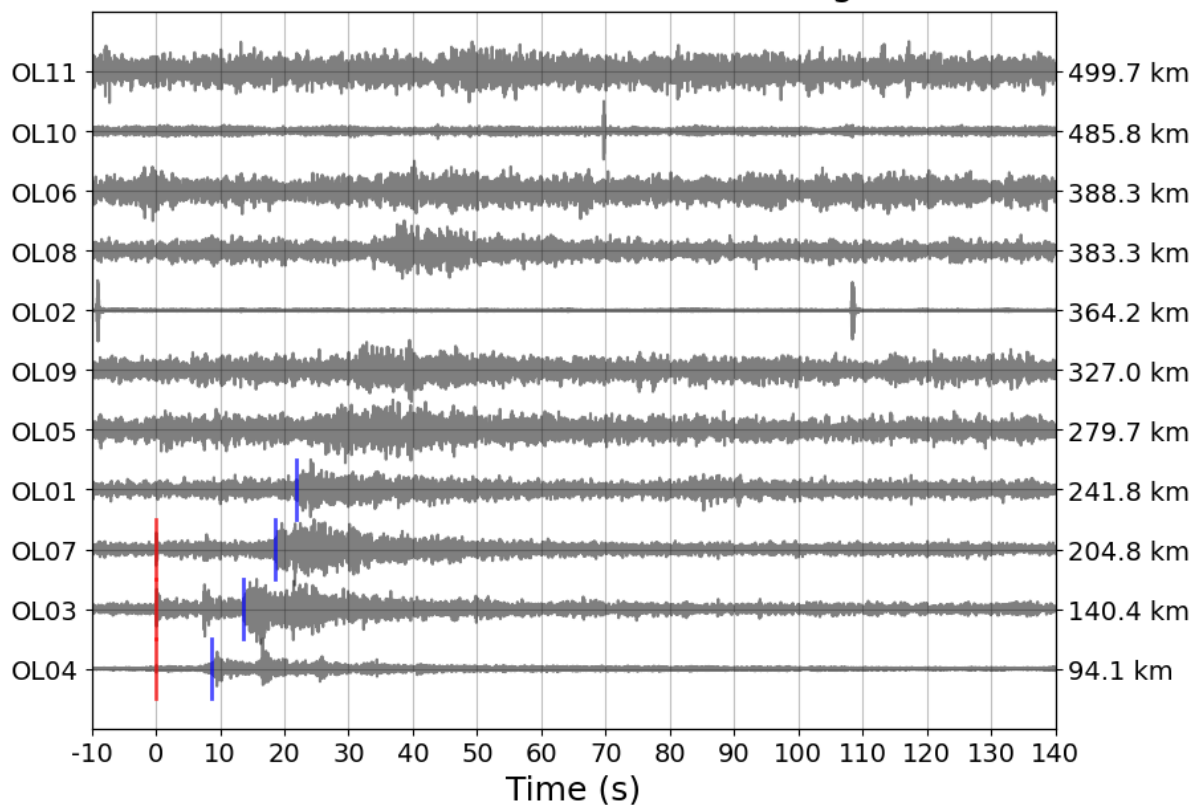
**Figure S3.** Event locations and uncertainties

**Figure S4.** Average horizontal uncertainties assuming different fixed depth

**Table S1.** Hybrid velocity model used in this study

<b>Depth (km)</b>	<b>V<sub>P</sub> (km/s)</b>	<b>V<sub>S</sub> (km/s)</b>
0	1.6	0.89
0.5	2.5	1.40
0.5	4.5	2.51
2.5	6.6	3.63
2.5	6.9	3.79
7.5	7.2	3.96
7.5	8.24	4.76
66.5	8.24	4.76
66.5	7.63	4.41
163.5	7.40	4.28
303.5	8.03	4.64

ID: 001 - Distance: 309.9 km - Mag: 0.9



ID: 002 - Distance: 309.6 km - Mag: 1.6

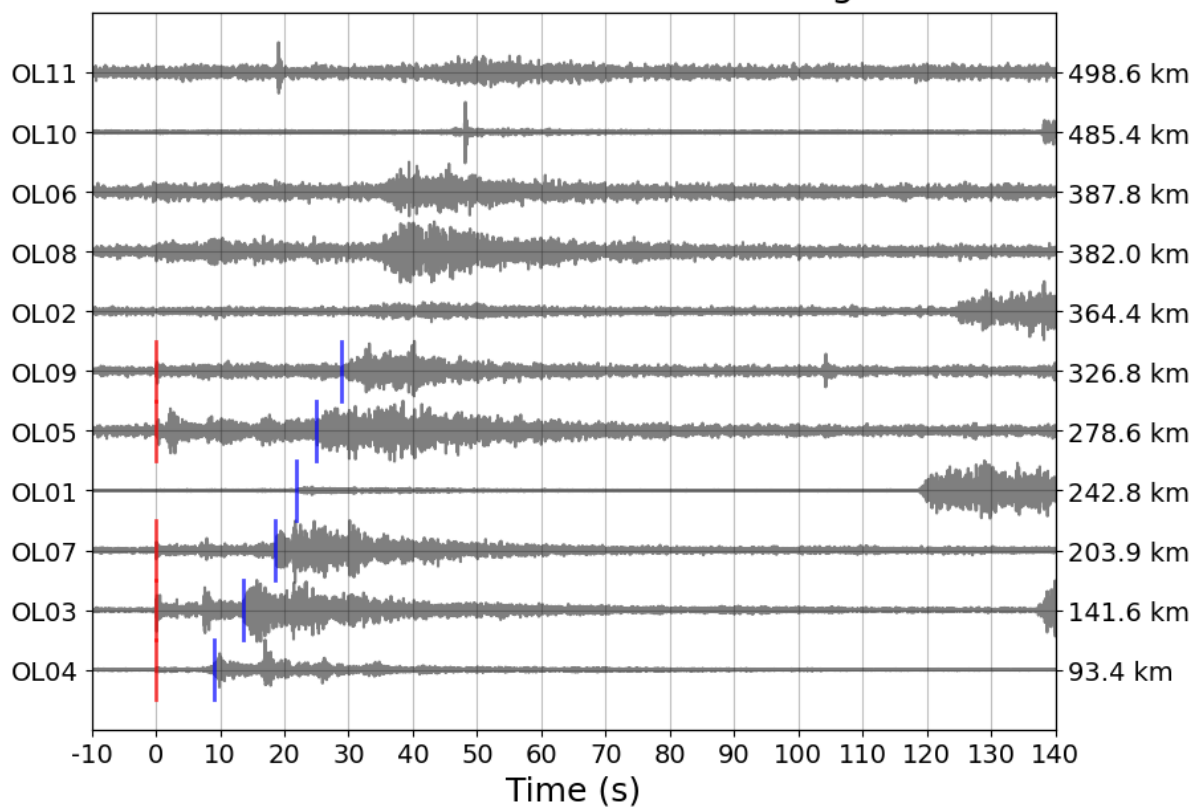


Figure S1. (continued)

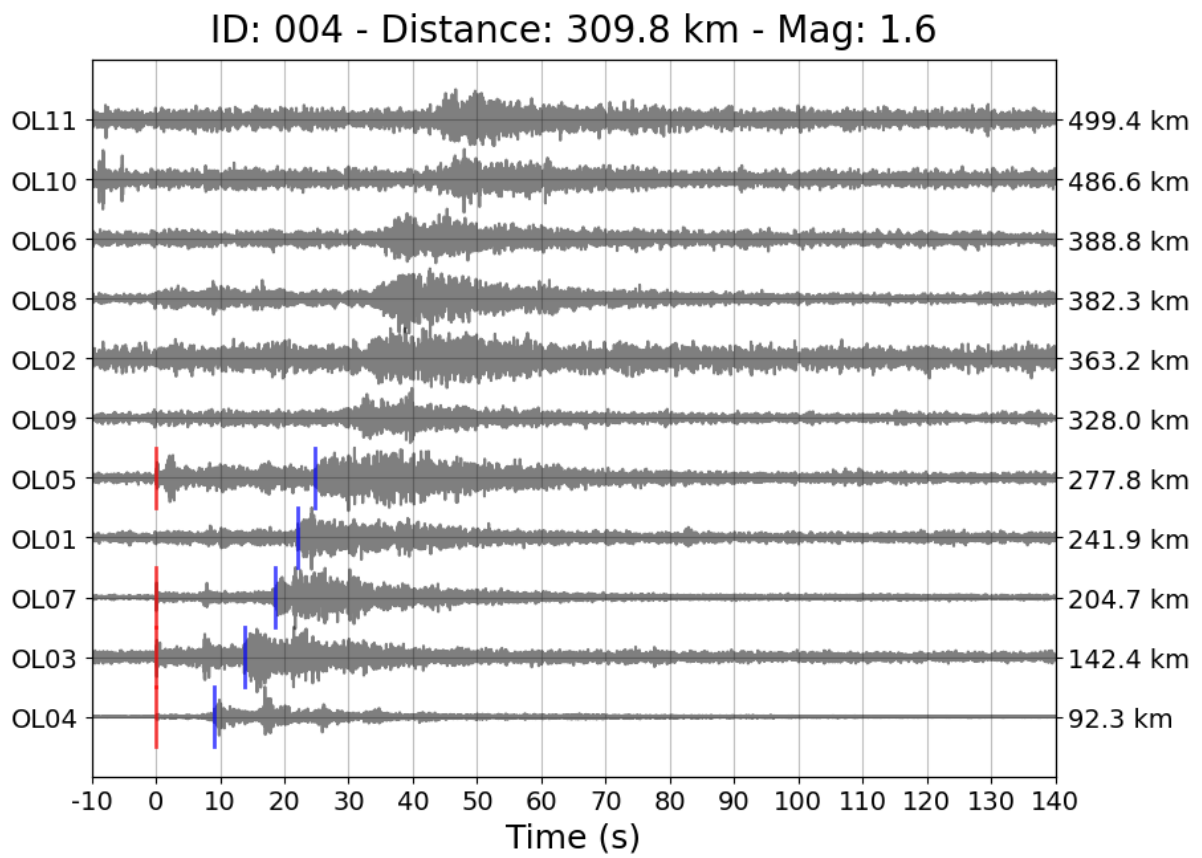
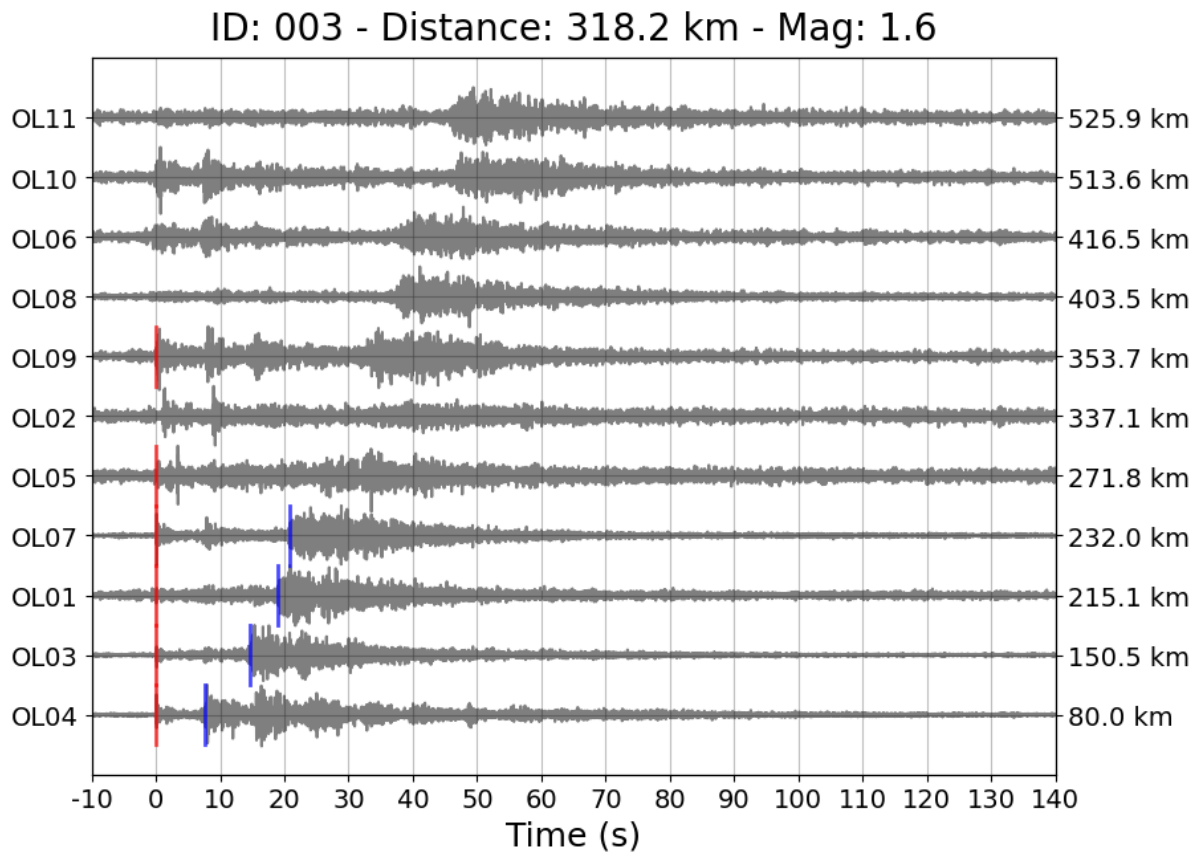
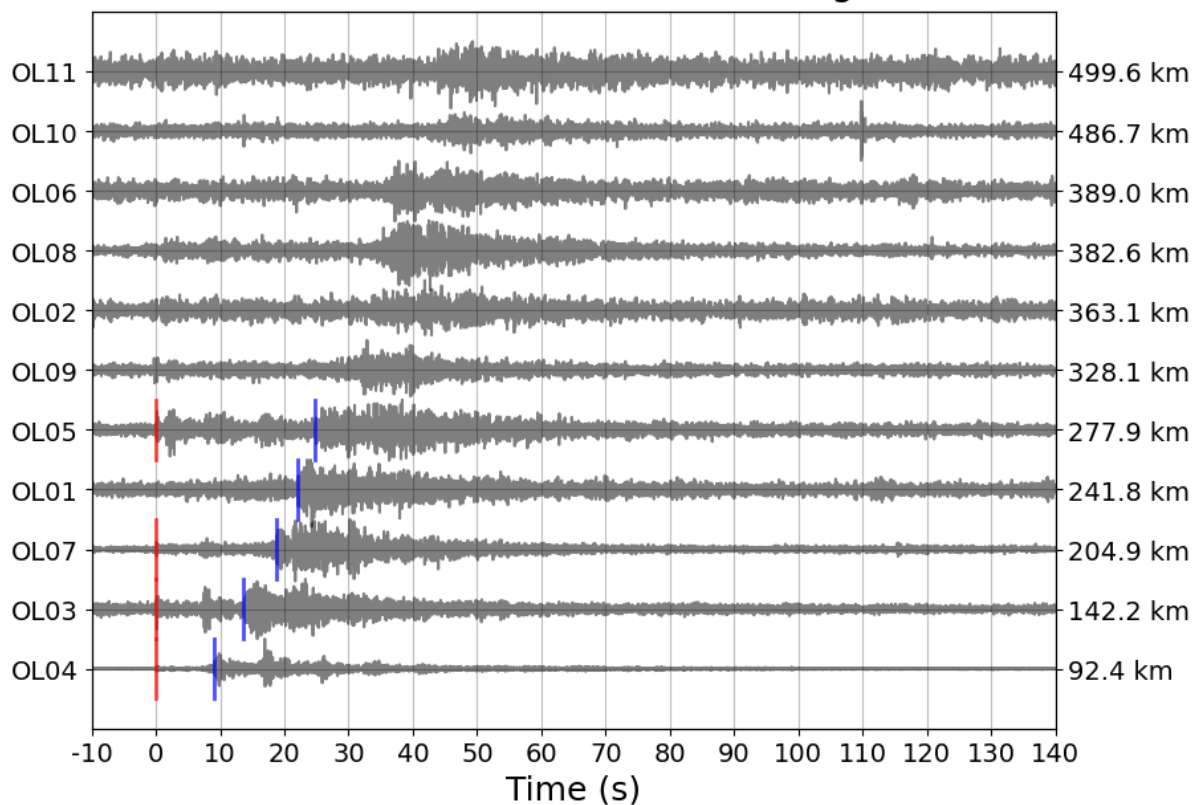


Figure S1. (continued)

ID: 005 - Distance: 309.8 km - Mag: 1.4



ID: 006 - Distance: 309.6 km - Mag: 1.1

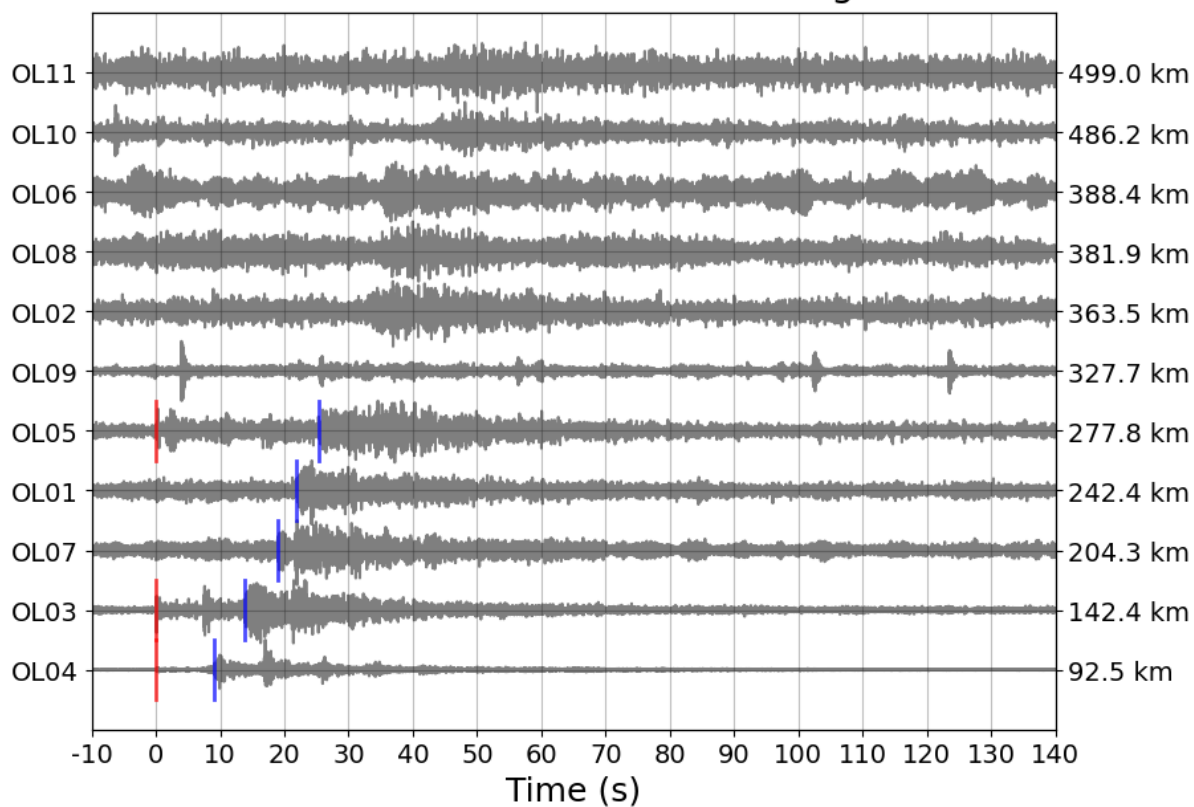
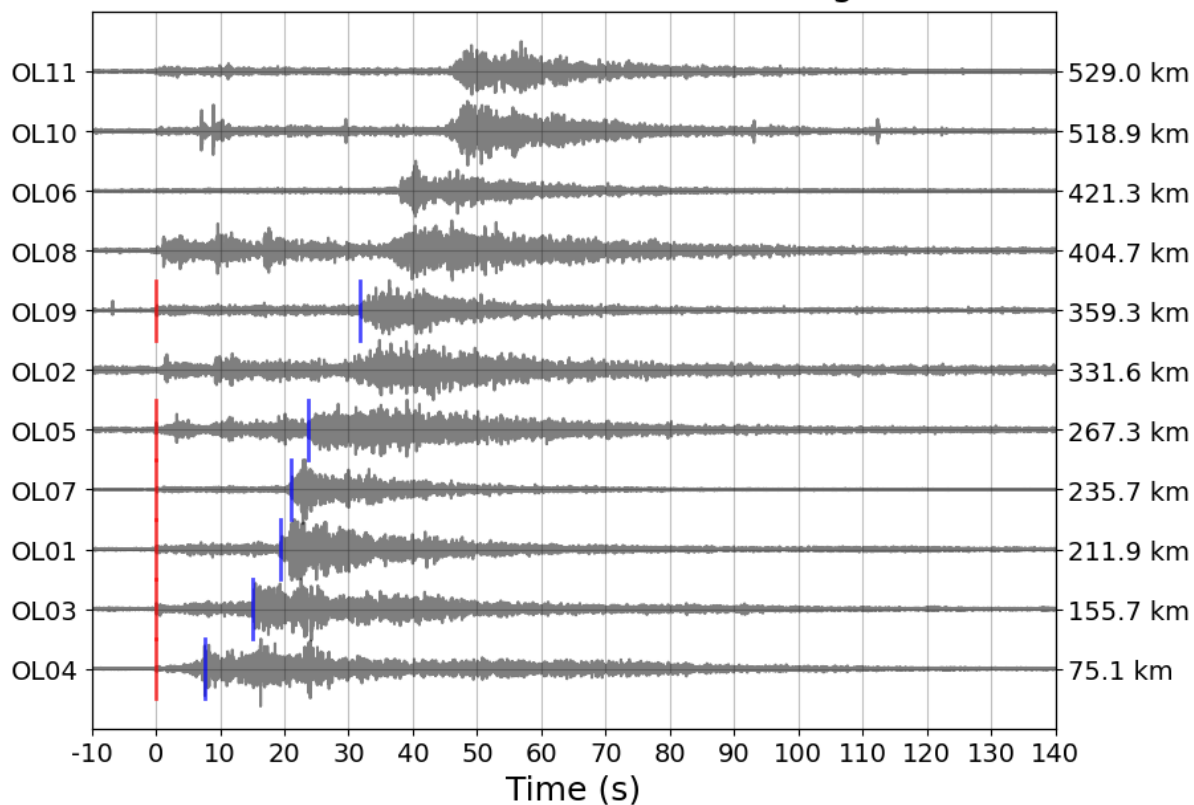


Figure S1. (continued)

ID: 007 - Distance: 319.1 km - Mag: 2.2



ID: 008 - Distance: 317.4 km - Mag: 1.3

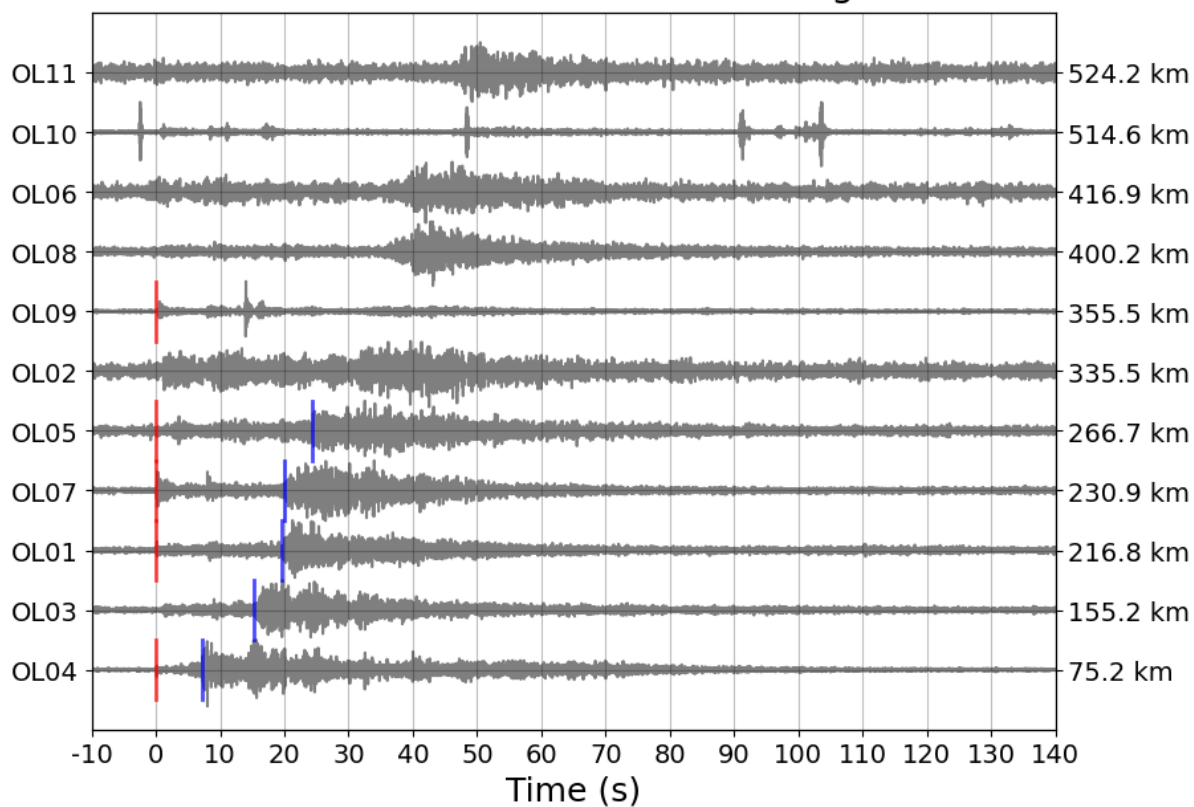


Figure S1. (continued)

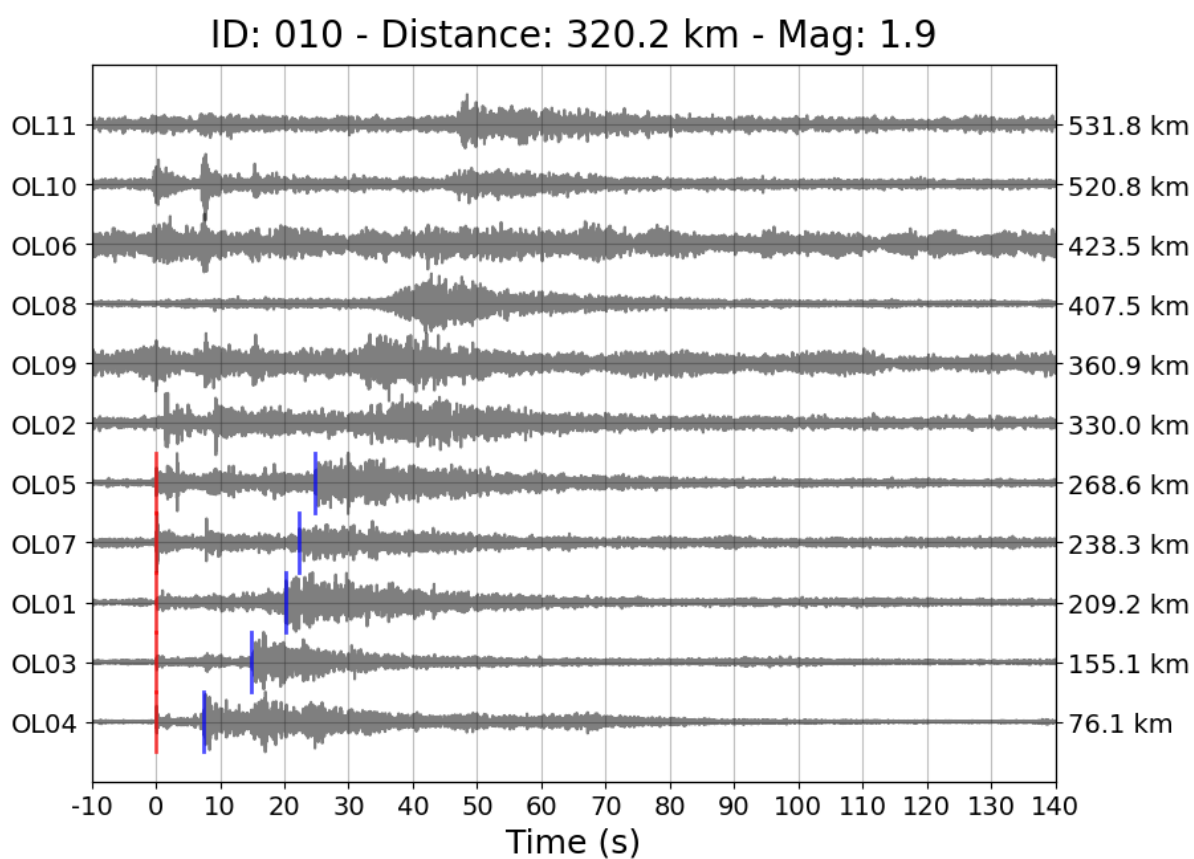
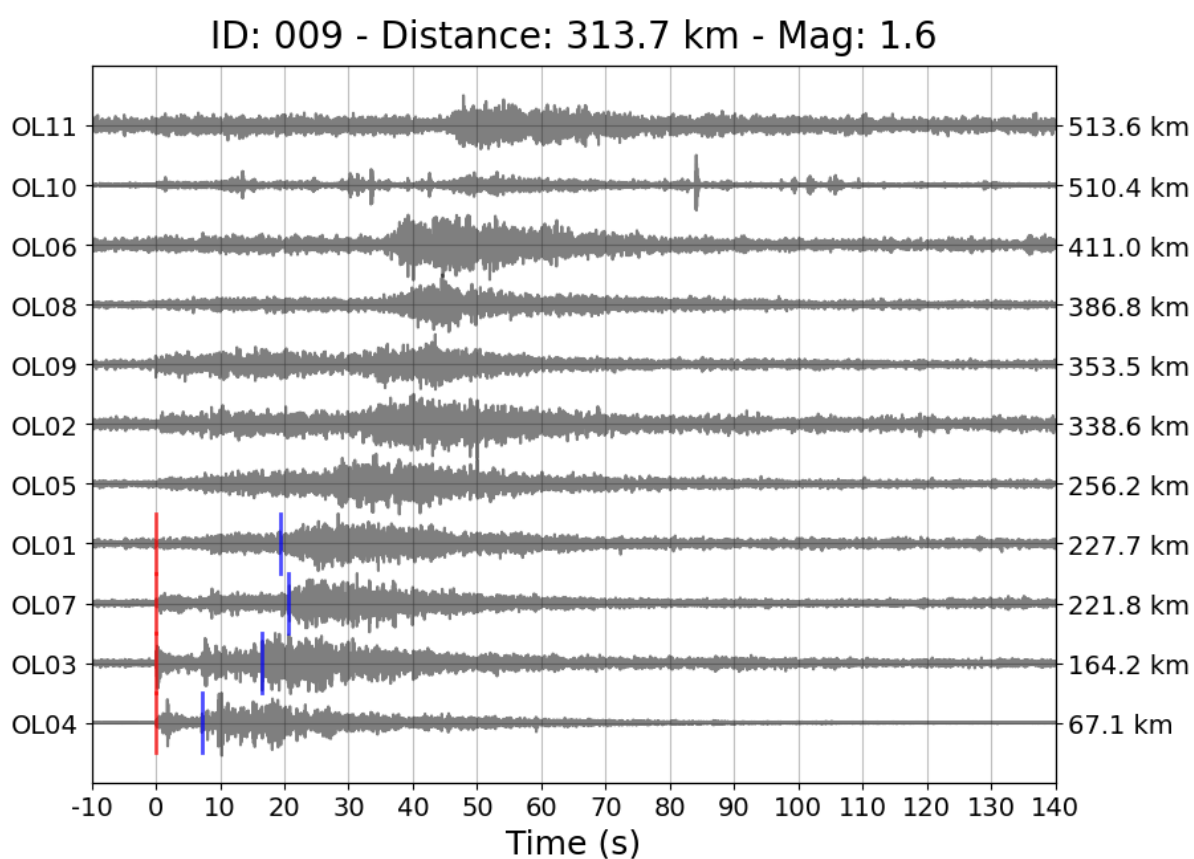
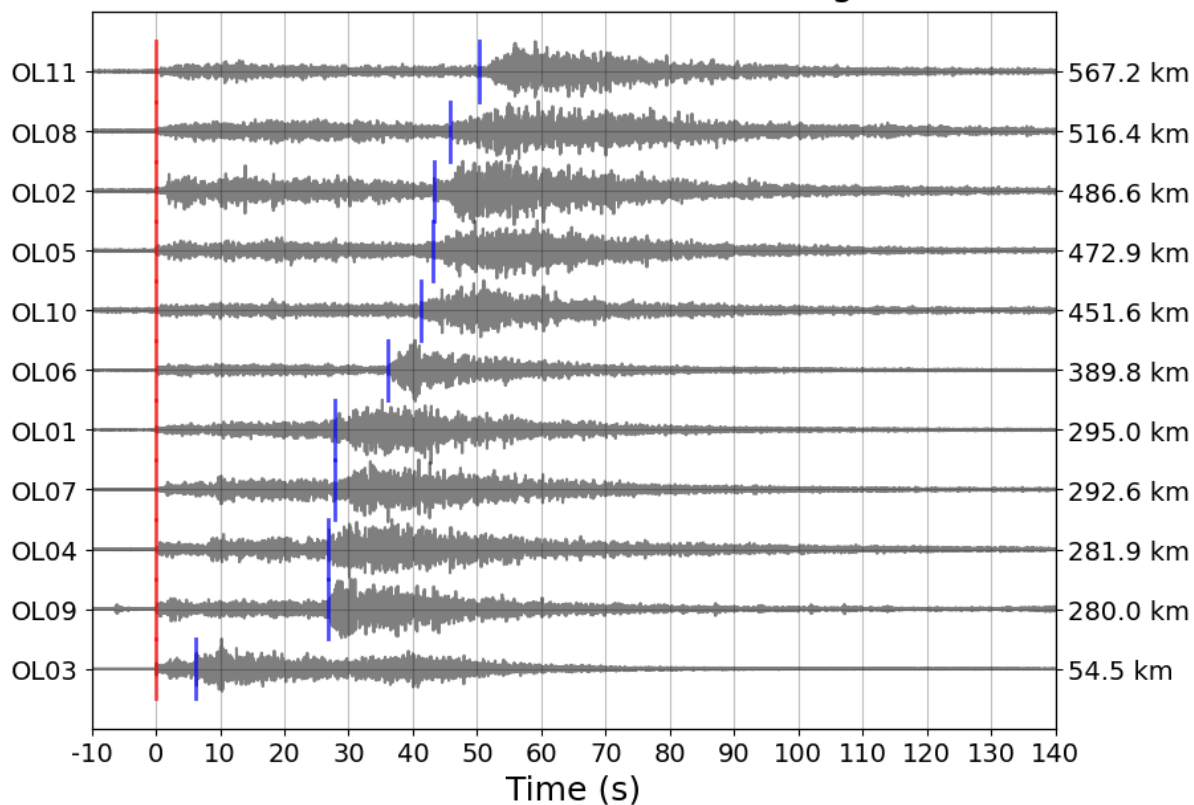


Figure S1. (continued)



ID: 101 - Distance: 371.7 km - Mag: 2.9



ID: 102 - Distance: 400.3 km - Mag: 1.9

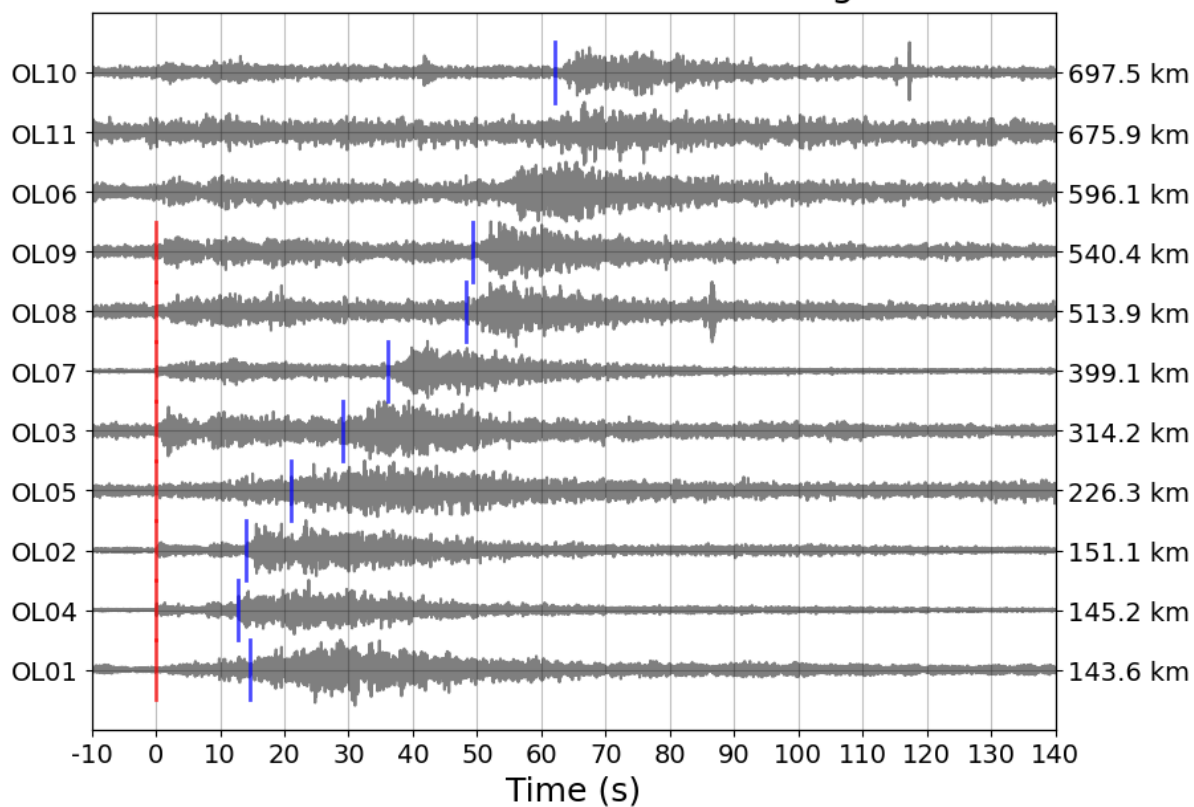


Figure S1. (continued)



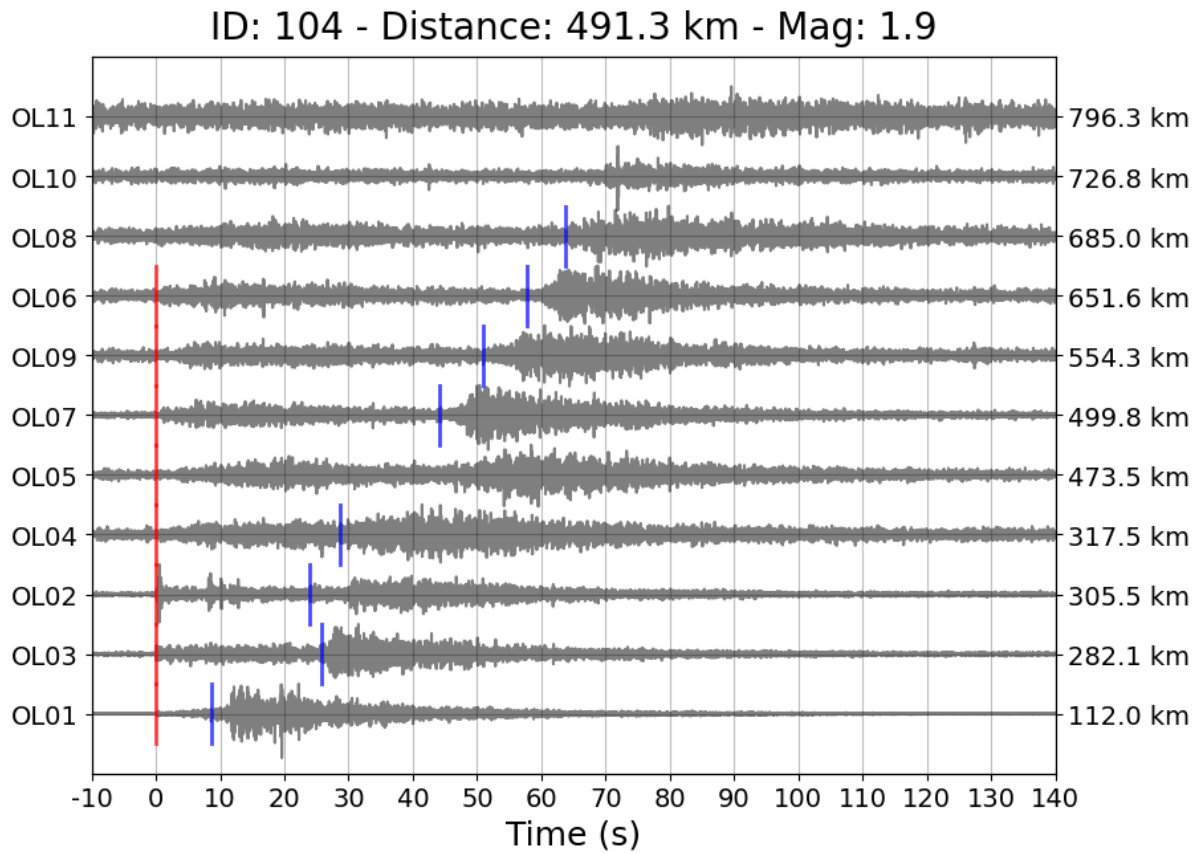
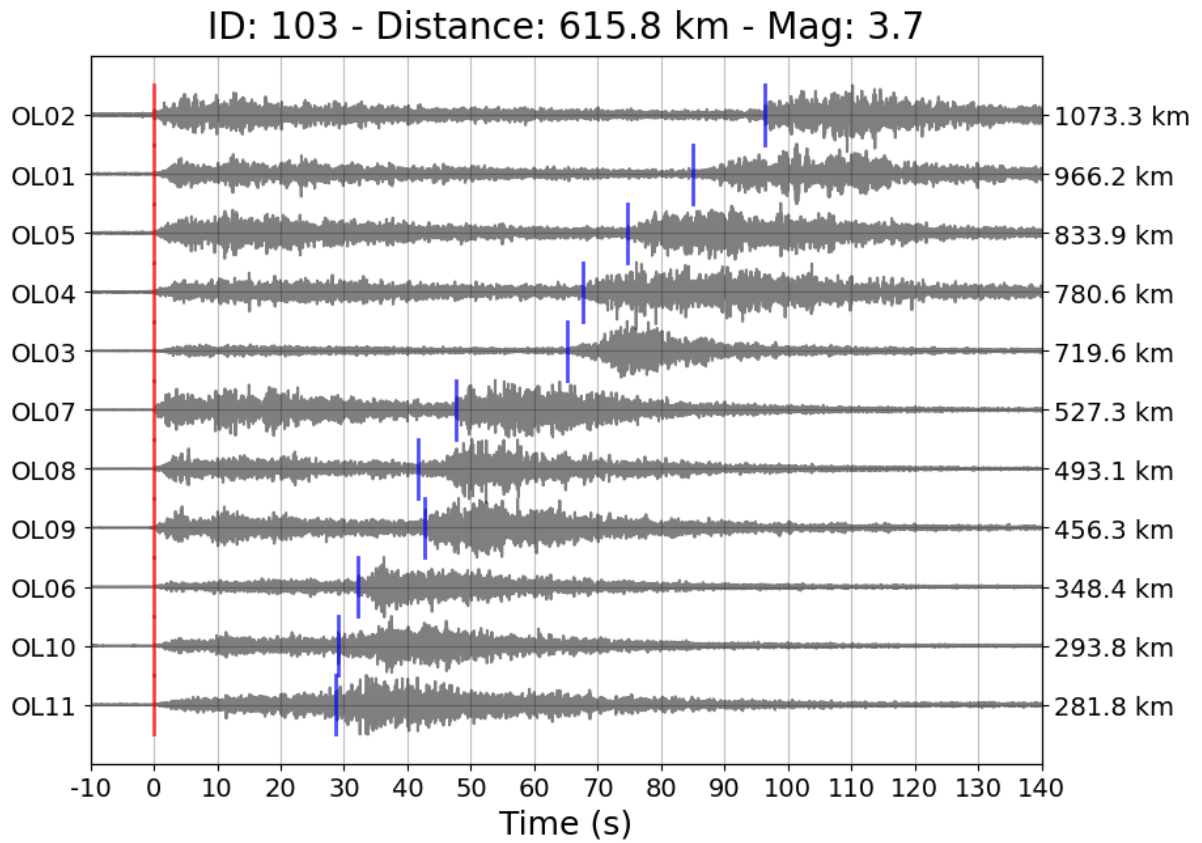


Figure S1. (continued)

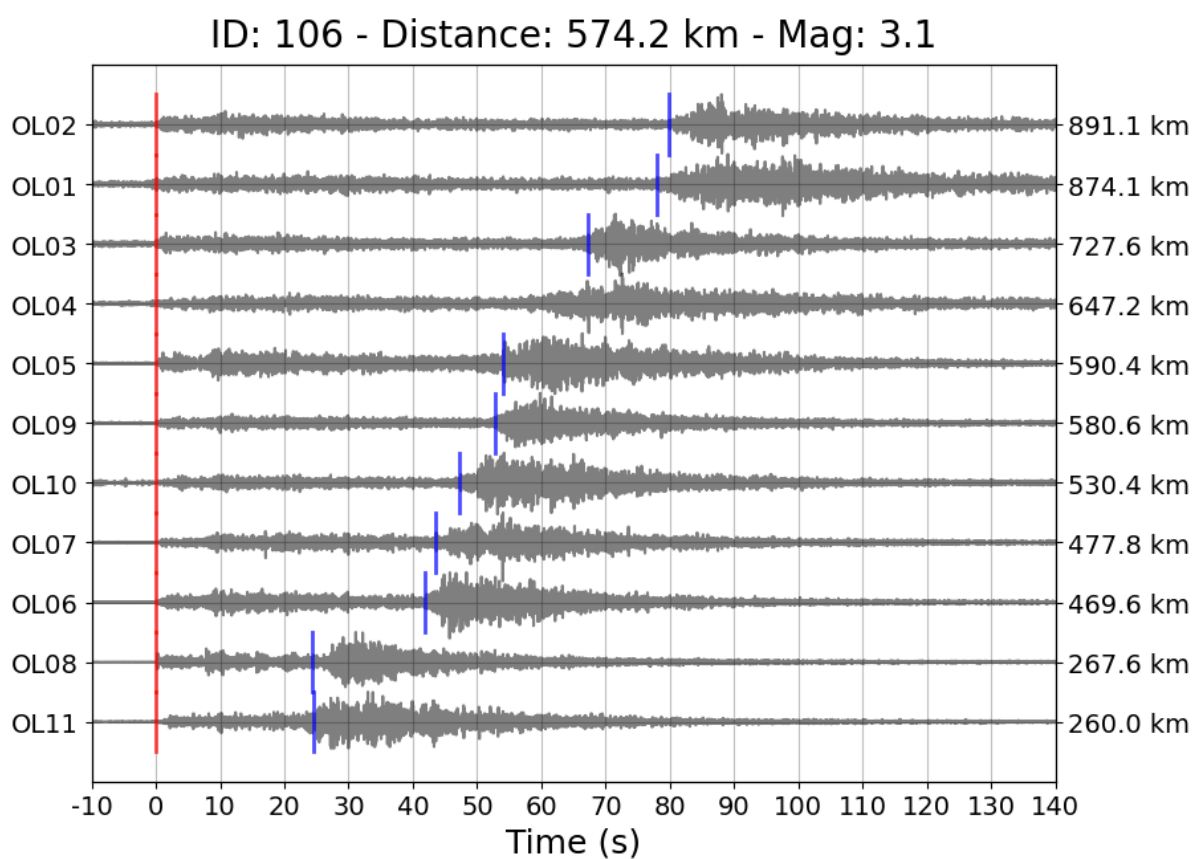
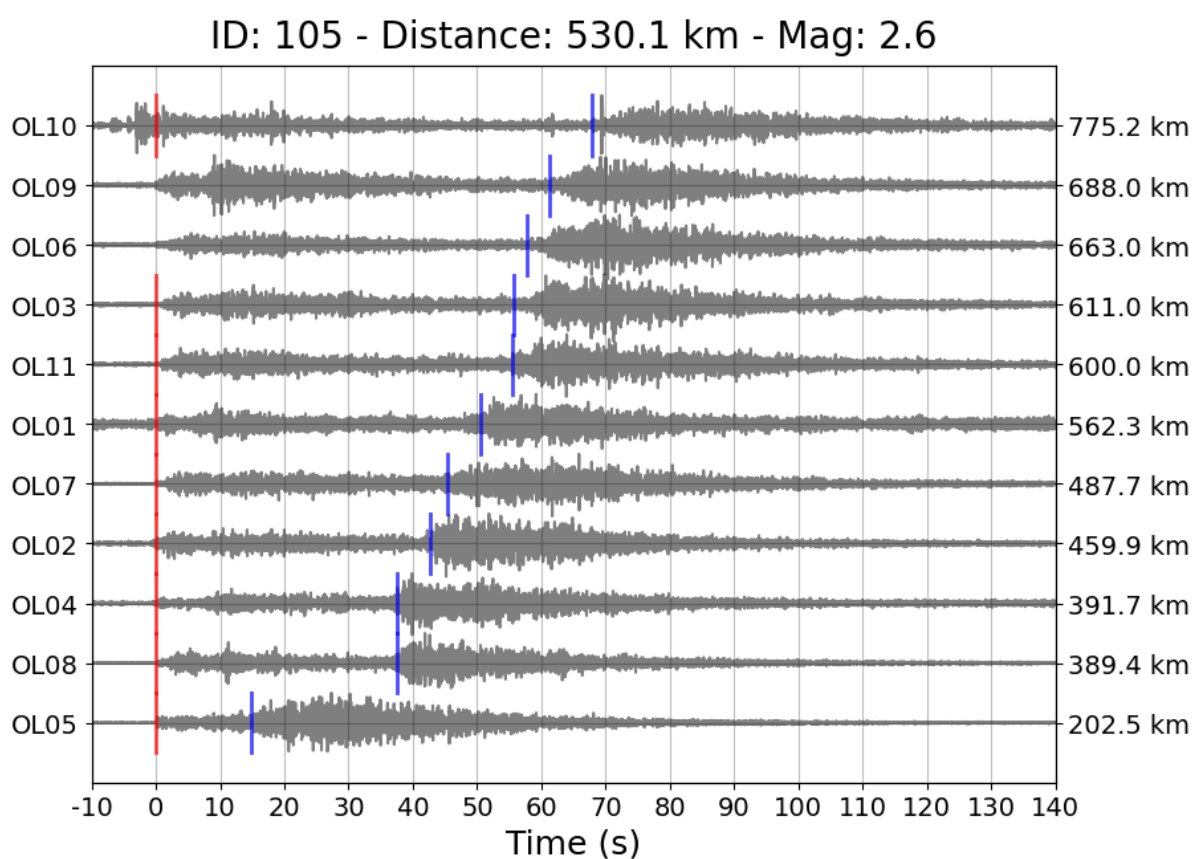
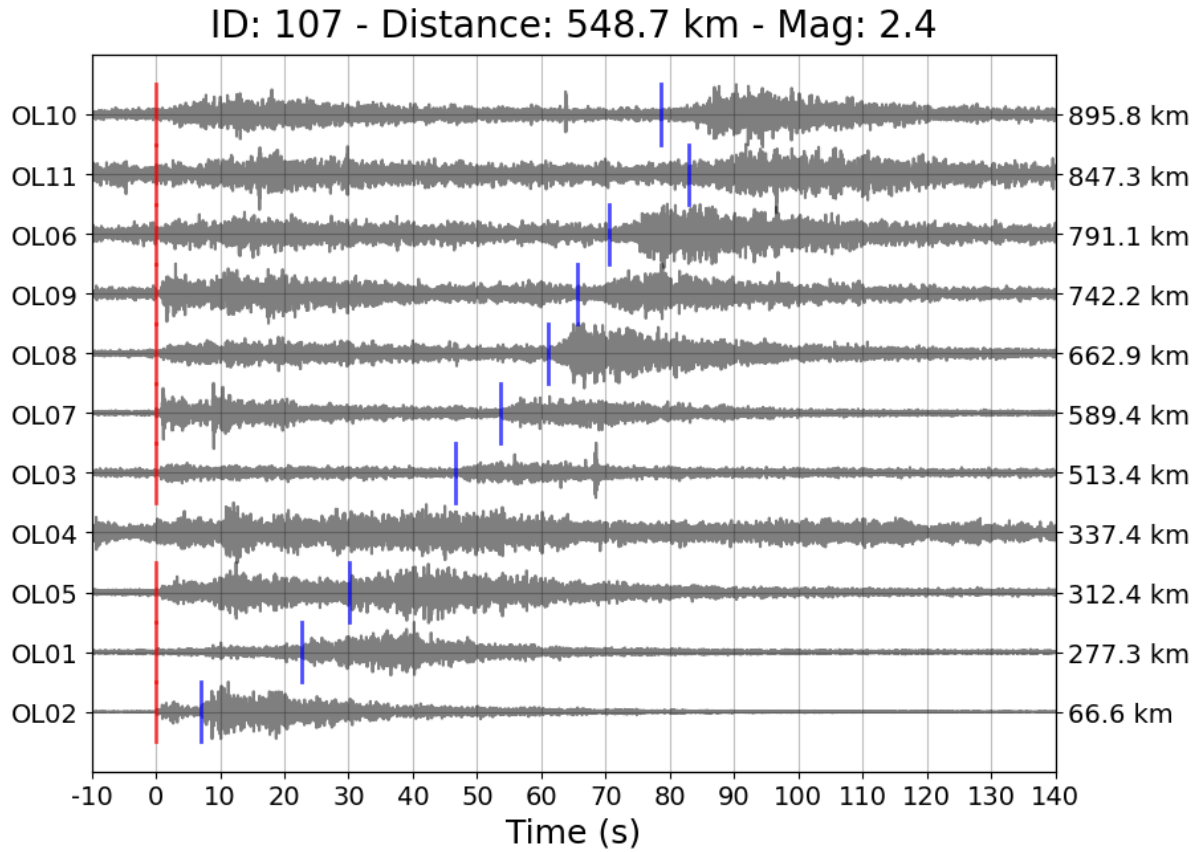
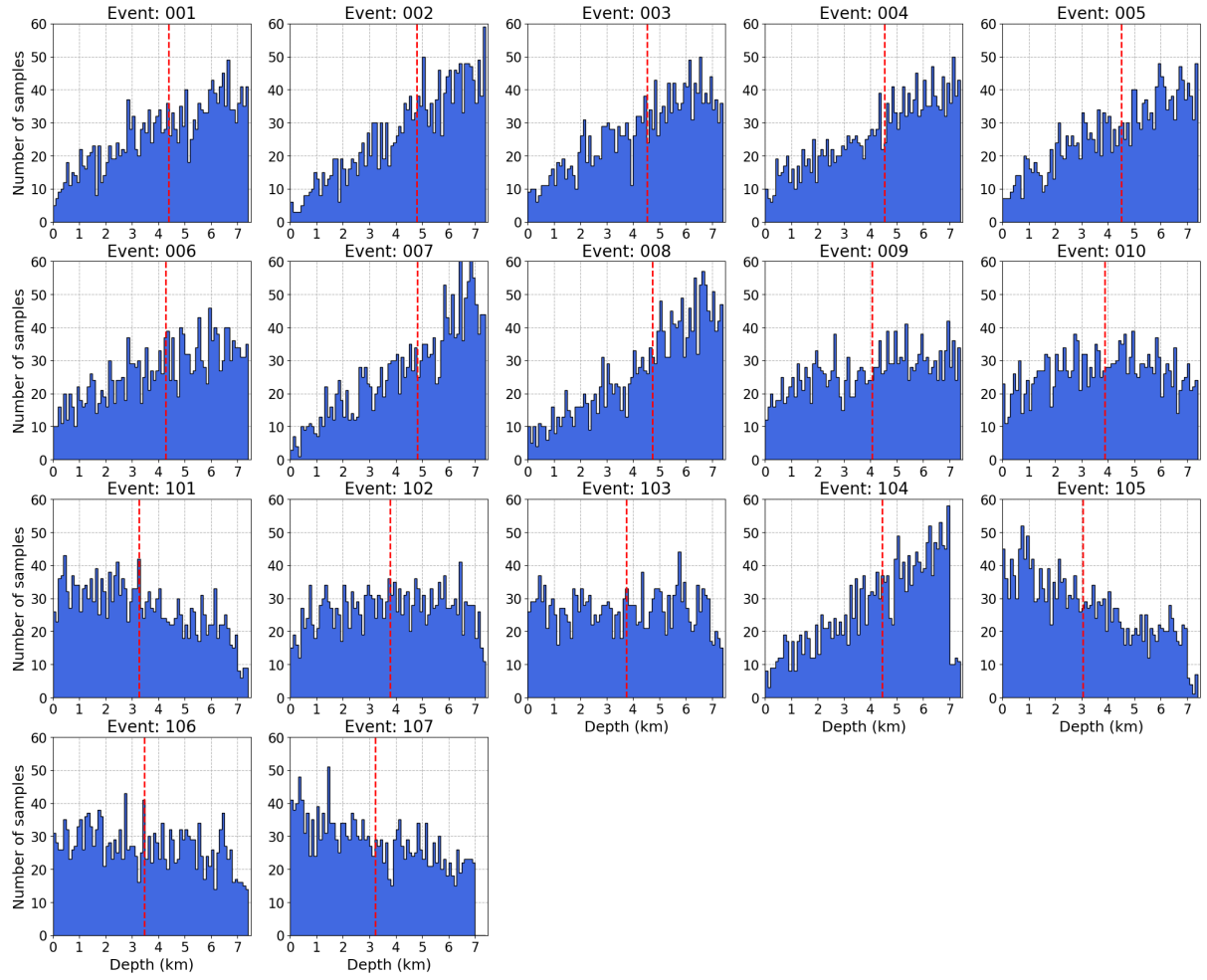


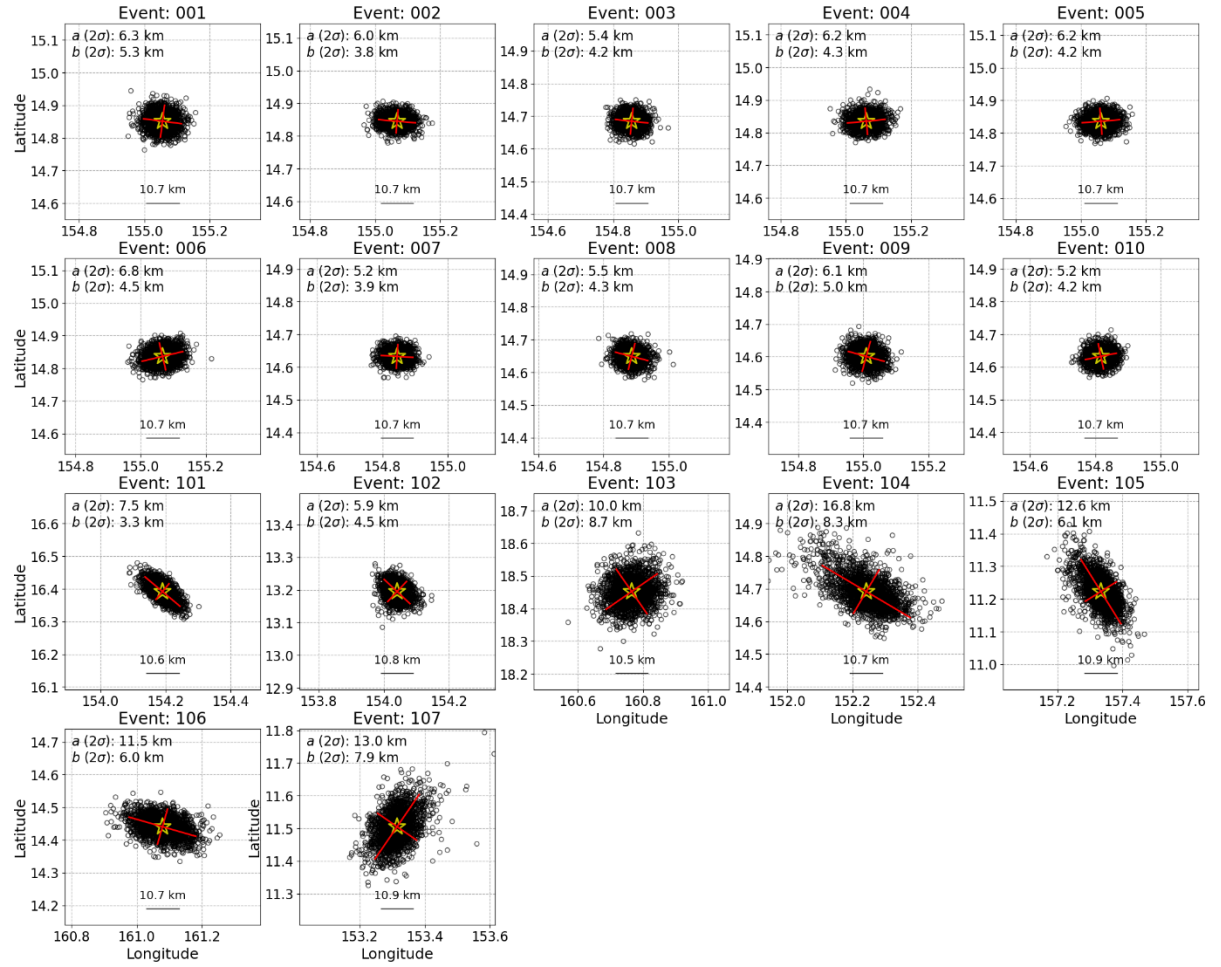
Figure S1. (continued)



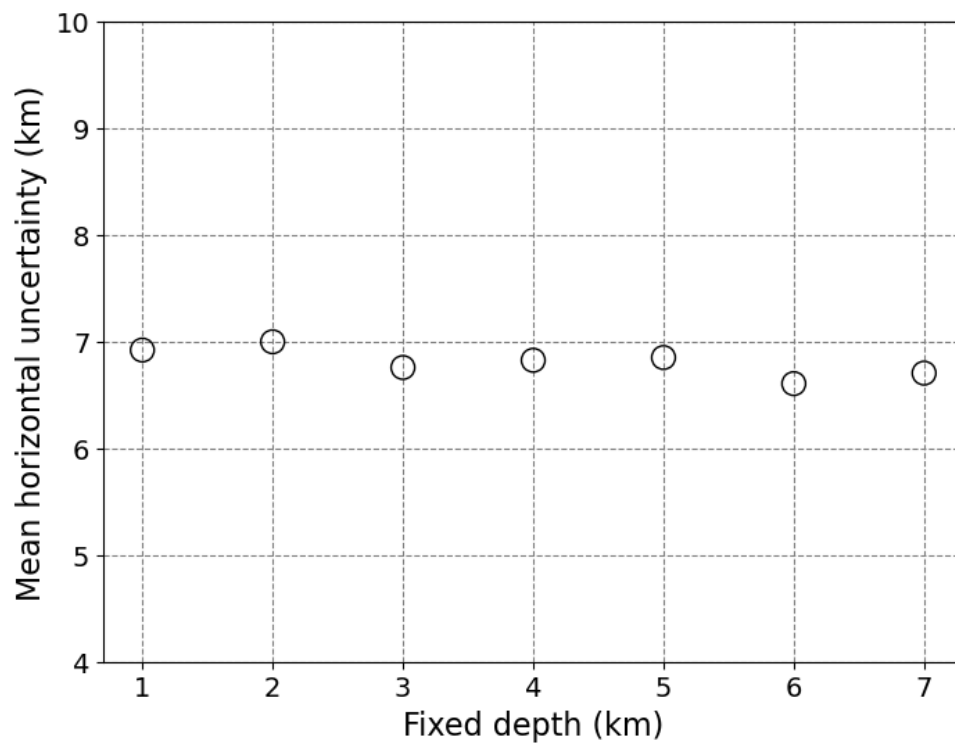
**Figure S1.** Waveforms of all events located in this study. All waveforms were filtered between 5 and 20 Hz. The waveforms were ordered by distance, and a time window was set to 10 s before and 140 s after the *P*-wave arrival time. The red and blue vertical bars represent picks of *P* and *S*, respectively, that were used in estimating their locations. Each event ID, an average distance between each station and the event, and  $m_b(Sn)$  magnitude are shown above each figure. The station name and distance from each event are indicated next to each waveform.



**Figure S2.** Histogram of 2,000 Bayesian realization event depth samples. Each panel represents an event. The red vertical dashed line represents the mean depth.



**Figure S3.** Realization of 2,000 location samples for each event in Bayesian scheme. Each yellow star represents the epicenter, while a red cross indicate horizontal uncertainties ( $2\sigma$ ). Values of the semi-major (a) and semi-minor (b) axes are shown in each plot.



**Figure S4.** Average horizontal uncertainties of all events assuming different fixed depth.