Supplementary Information for

Optimal Stacking of Noise Cross-Correlation Functions

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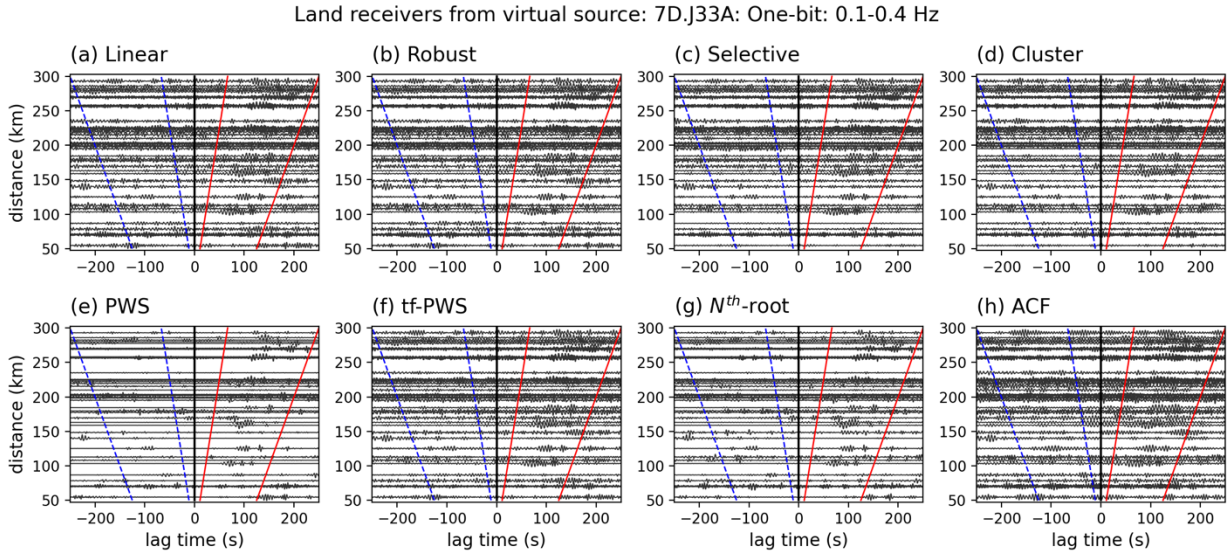

Figure S1. Stacked One-bit noise cross-correlation functions (NCFs) of the Cascadia amphibious array from 7D.J33A to other land receivers using different stacking methods, filtered at 0.1-0.4 Hz. (a-h) The results using Linear, Robust, Selective, Cluster, PWS, tf-PWS, N^{th}-root, and ACF stacking methods, respectively. The red solid lines and the blue dashed lines outline the positive-lag signal window and the negative-lag signal window, respectively, used to compute the signal-to-noise ratios in Fig. 7 in the main text. The signal and noise windows are determined with the same method as in Fig. 3a-b in the main text.

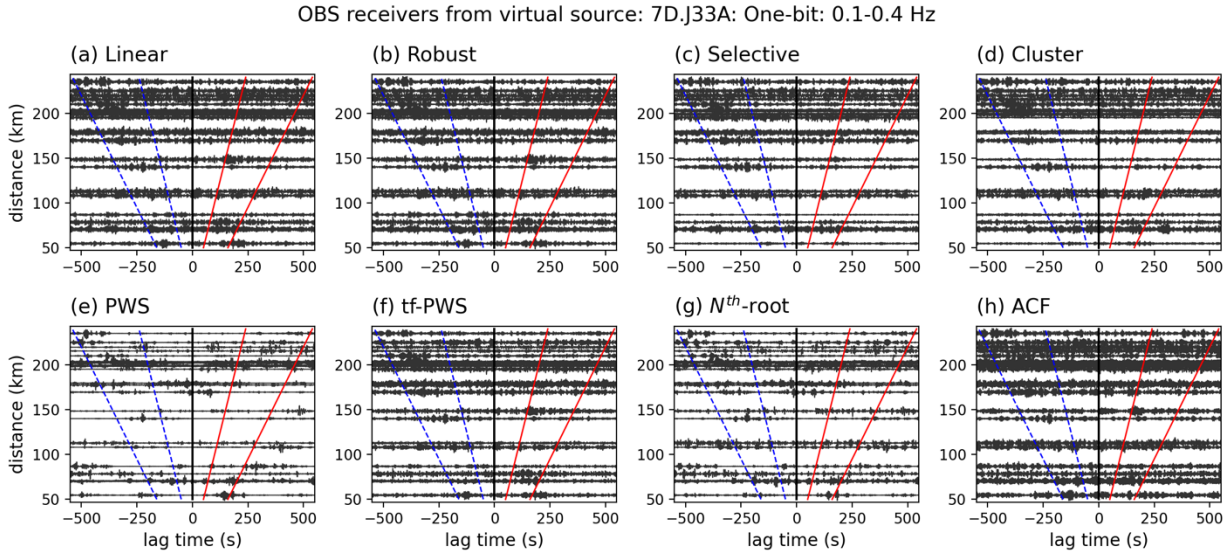

Figure S2. Same as Fig. S1 but for NCFs from 7D.J33A to other Ocean Bottom Seismograph (OBS) receivers. To contain the visually identified ballistic phases from these OBS station pairs, we use a different velocity range (0.5-1.0 km/s) here to predict the signal window of the weakly coherent signals. We extend the window for an additional 60 s after the latest predicted arrival. See Fig. 1 in the main text for locations of the OBS receivers.

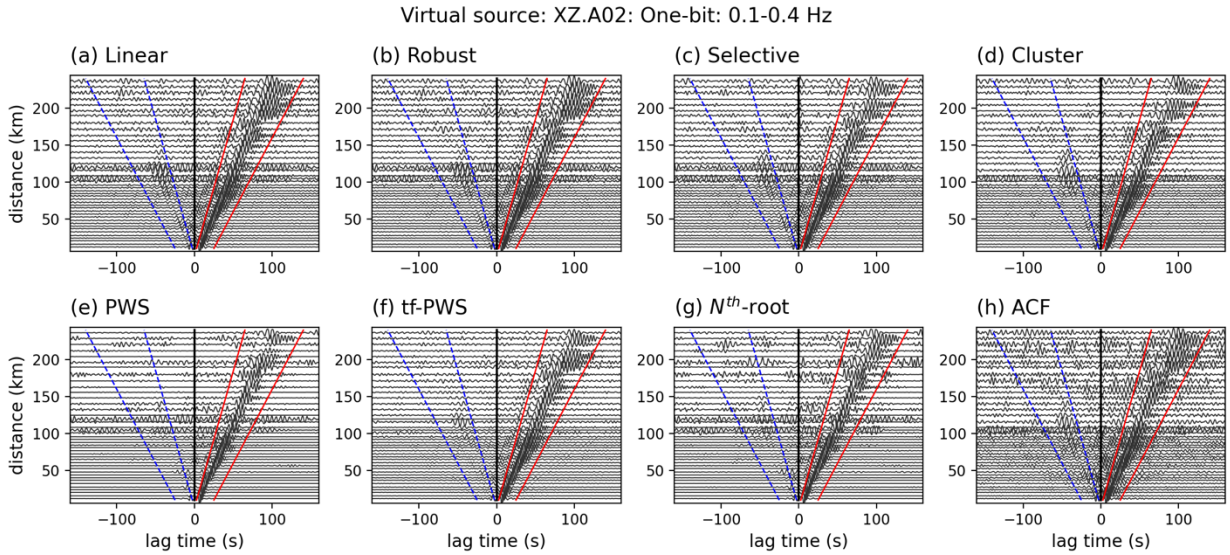

Figure S3. Stacked One-bit NCFs between the XZ linear array stations from XZ.A02 to other receivers, filtered at 0.1-0.4 Hz. (a-h) The results using Linear, Robust, Selective, Cluster, PWS, tf-PWS, N^{th}-root, and ACF stacking methods, respectively. The red solid lines and the blue dashed lines outline the positive signal window and the negative signal window, respectively, used to compute the signal-to-noise ratios in Fig. 7 in the main text. The signal and noise windows are determined with the same method as in Fig. 3c-d in the main text. See Fig. 1 in the main text for station locations.