

Supplementary Information

Control of slab tears and slab flat wedging on volcanism in the Alaska subduction zone

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Figures S1 to S4

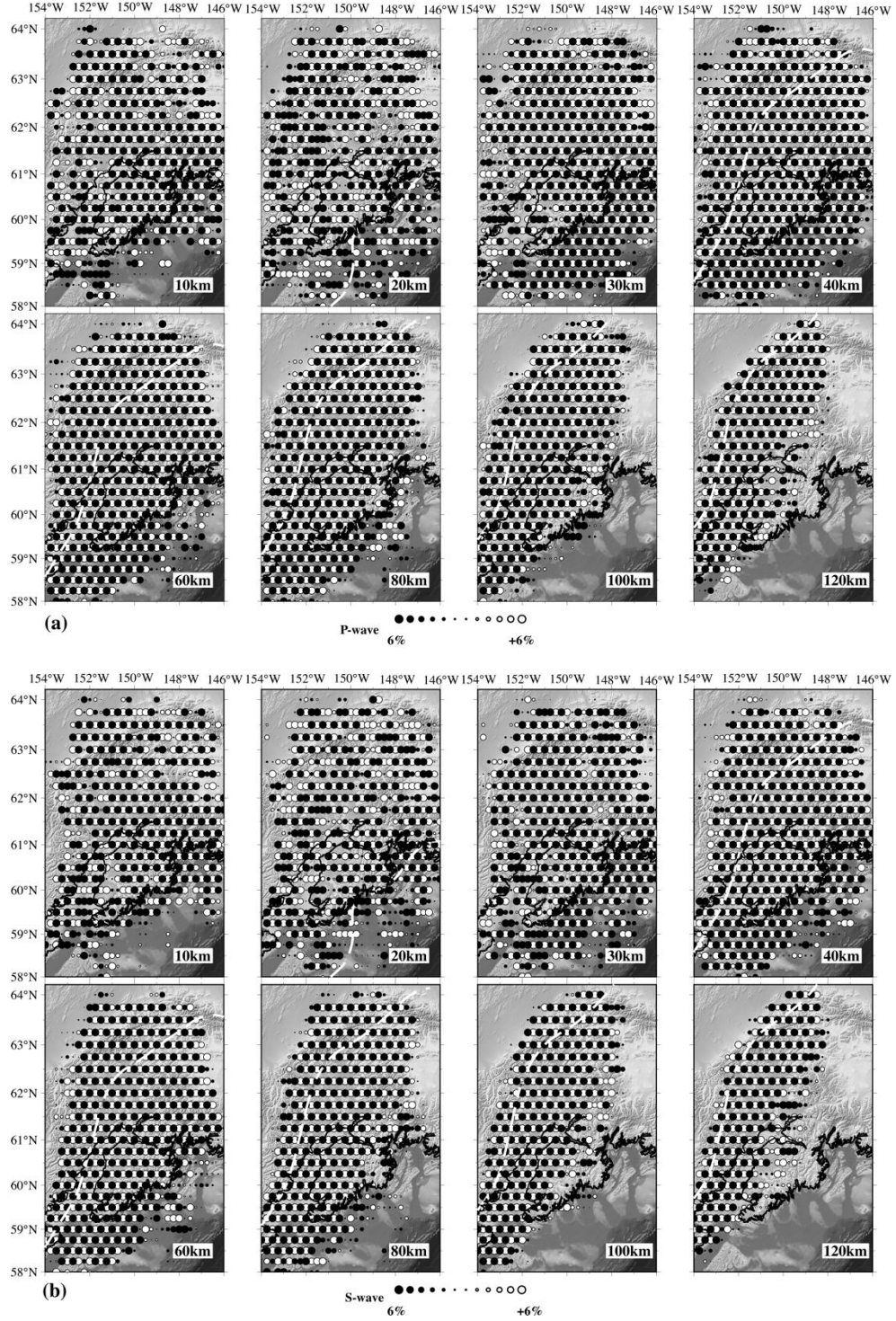


Figure S1. Results of the checkerboard resolution tests the P- (a) and S-wave (b) tomography. The input amplitudes of the velocity perturbations are $\pm 6\%$ at every grid node. The layer depth is shown at the lower-right corner of each map. The scale for the velocity perturbations (in percent) is shown on the bottom.

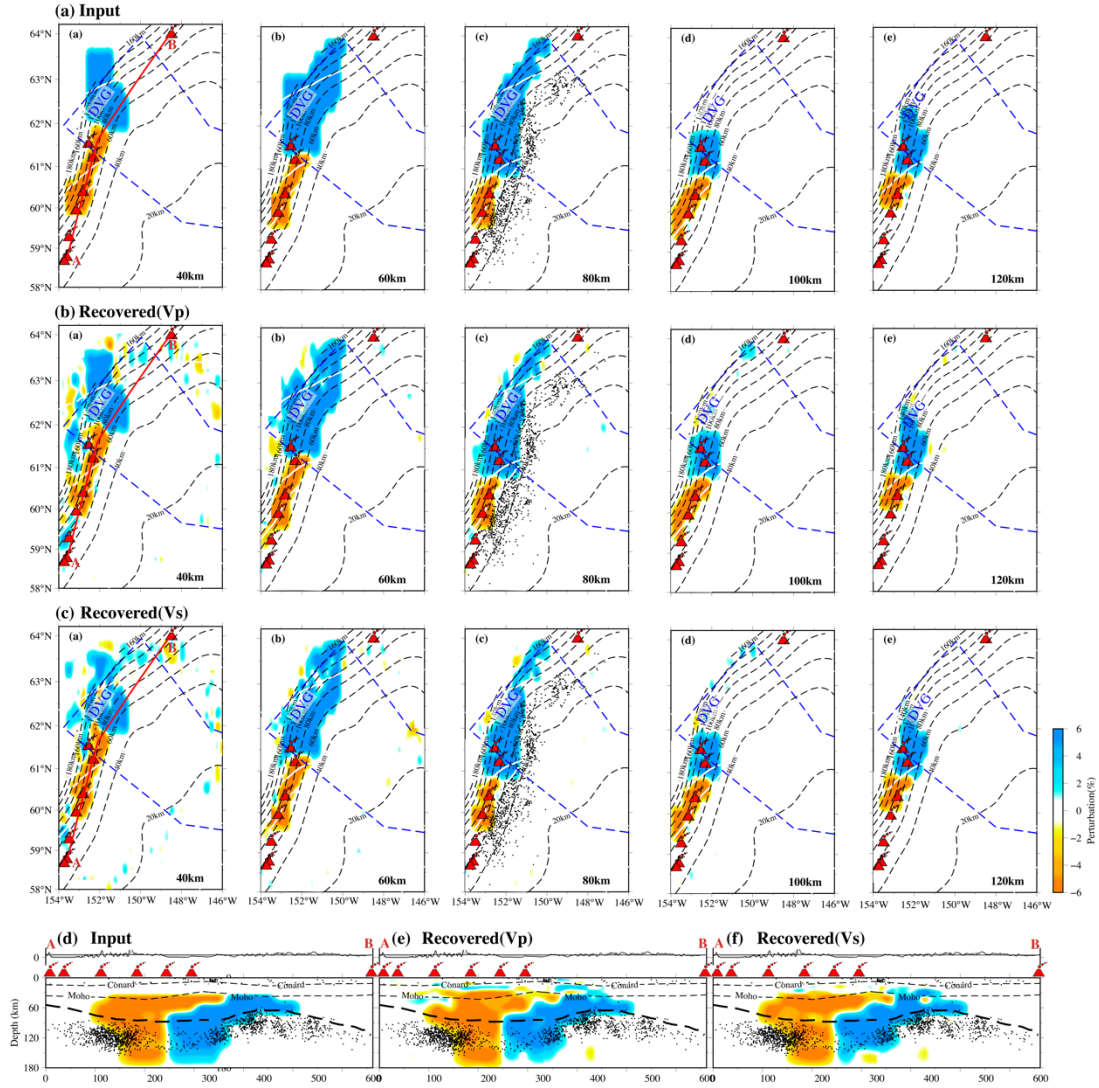


Figure S2. Model recovery tests of Low-V and High-V anomalies beneath the AASZ. (a) Input anomalies with velocity perturbations are $\pm 6\%$. Recovered velocity anomalies corresponding to the input model of P-wave and S-wave are (b) and (c), respectively. Model recovery tests of vertical cross-sections are presented in (d), (e) and (f).

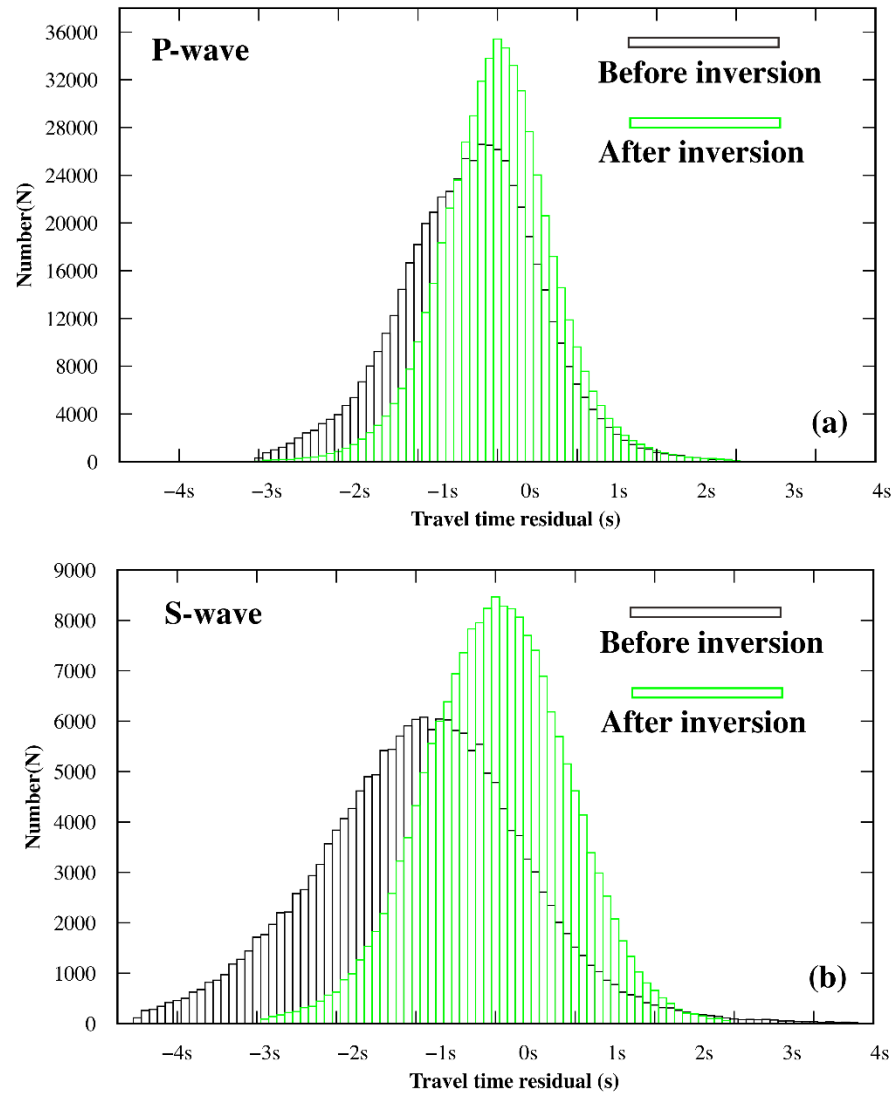


Figure S3. Statistic of the travel-time residuals before and after the tomographic inversion.

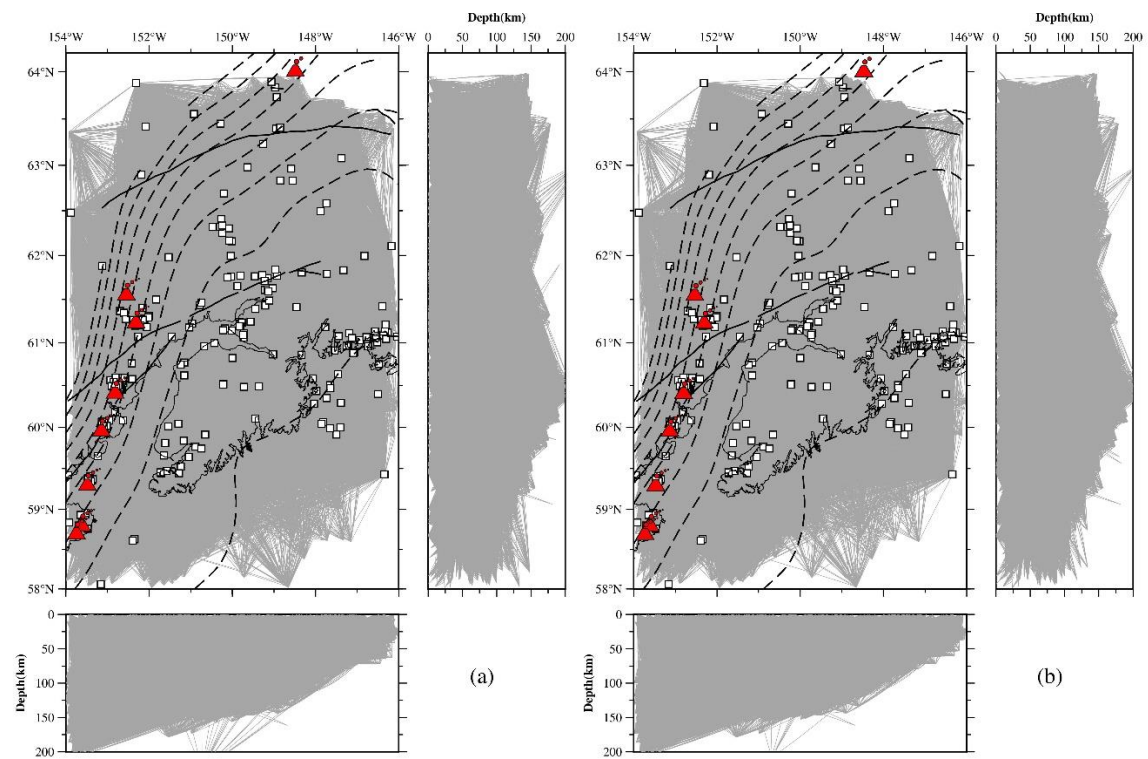


Figure S4. Distributions of ray paths of P- (a) and S- waves (b). White squares indicate seismic stations.