

Supplementary Material for "Fluids and Creeping Faults: Insights From Local Earthquake Tomography of the Creeping Section of the North Anatolian Fault"

Joel Szrek¹, Romain Jolivet^{1,2}, Bernd Schurr³, Dirk Becker⁴, Patricia Martínez-Garzón^{3,5}, Jorge Jara³, and Ziyadin Çakir⁶

¹Laboratoire de Géologie, Département de Géosciences, École Normale Supérieure, PSL Université, UMR CNRS 8538, 24 rue Lhomond, 75005 Paris, France

²Institut Universitaire de France, 1 rue Descartes, 75006 Paris, France

³GFZ Helmholtz Center for Geosciences, Telegrafenberg, 14473 Potsdam, Germany

⁴Department of Earth System Sciences, Universität Hamburg, Bundesstraße 55, 20146 Hamburg, Germany

⁵Faculty of Georesources and Materials Engineering, RWTH Aachen University, Intzestraße 1, 52072 Aachen, Germany

⁶Ayazaga Campus, Faculty of Mines, Istanbul Technical University, 34469 Maslak / Istanbul, Turkey

Correspondence: Joel Szrek (joel.szrek@ens.psl.eu)

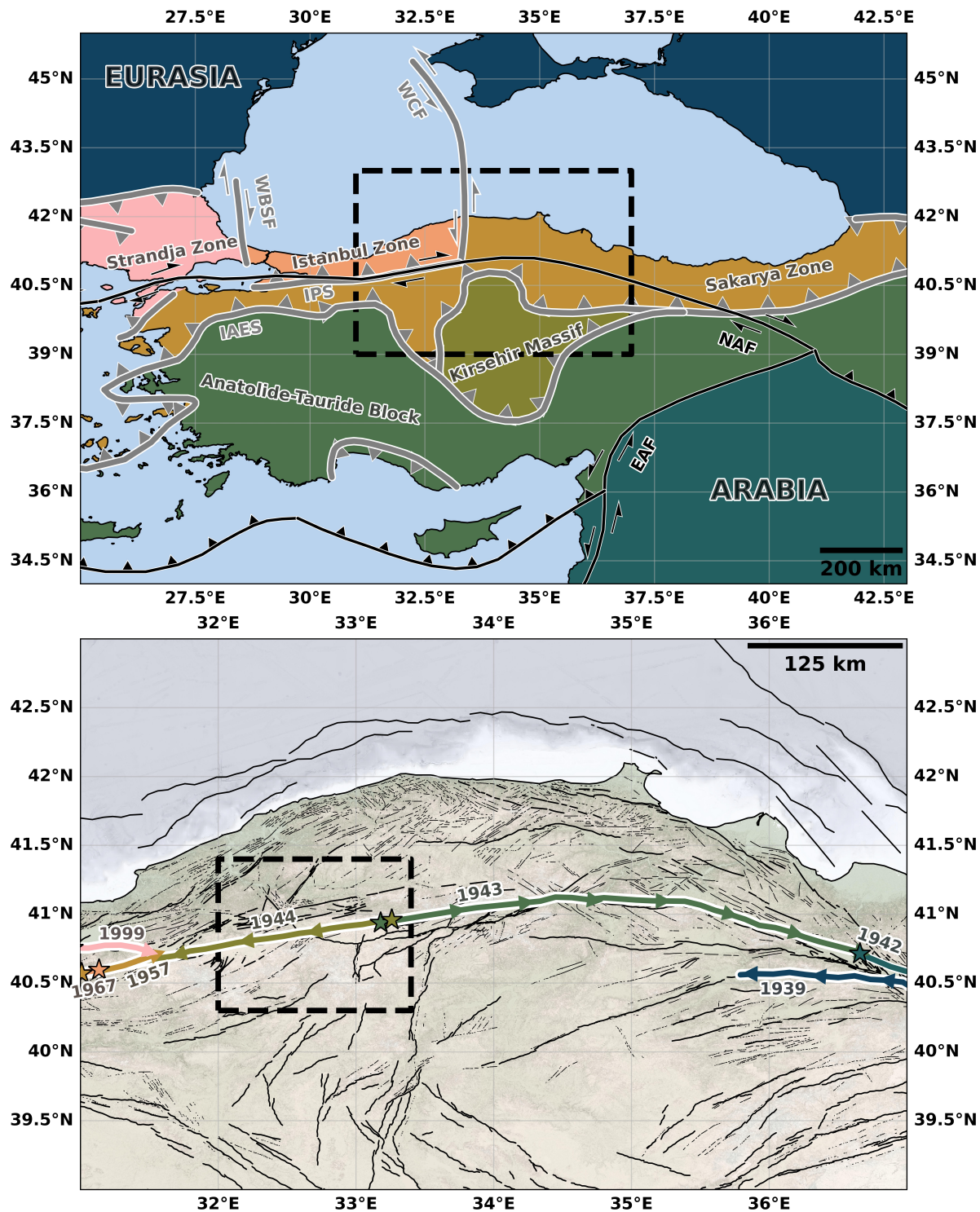


Figure 1. Tectonic map of the Anatolian region highlighting major terranes and their bounding sutures after Okay et al. (2006), and 20th-century earthquake rupture segments of the NAF after Stein et al. (1997), with stars showing nucleation sites and arrows indicating rupture directions

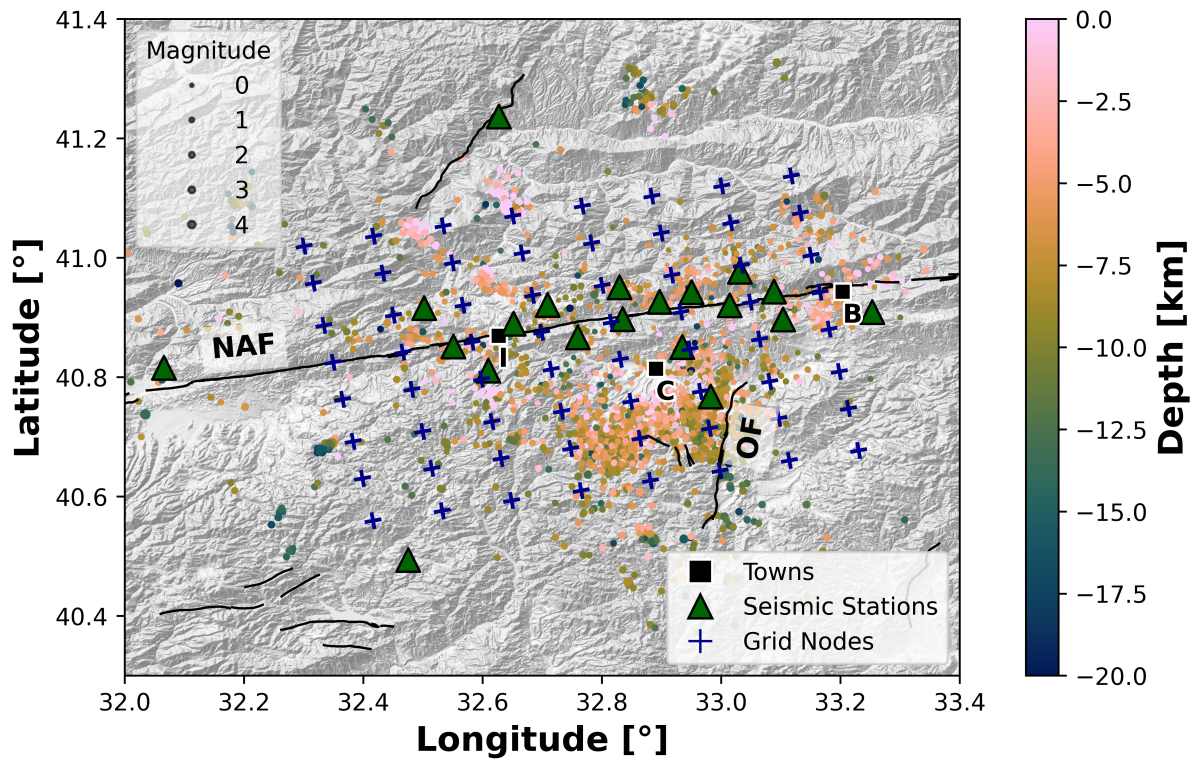


Figure 2. Refined seismicity catalog after Becker et al. (2023), with seismic stations used in the study marked with green triangles, the grid nodes with blue crosses and towns with black squares

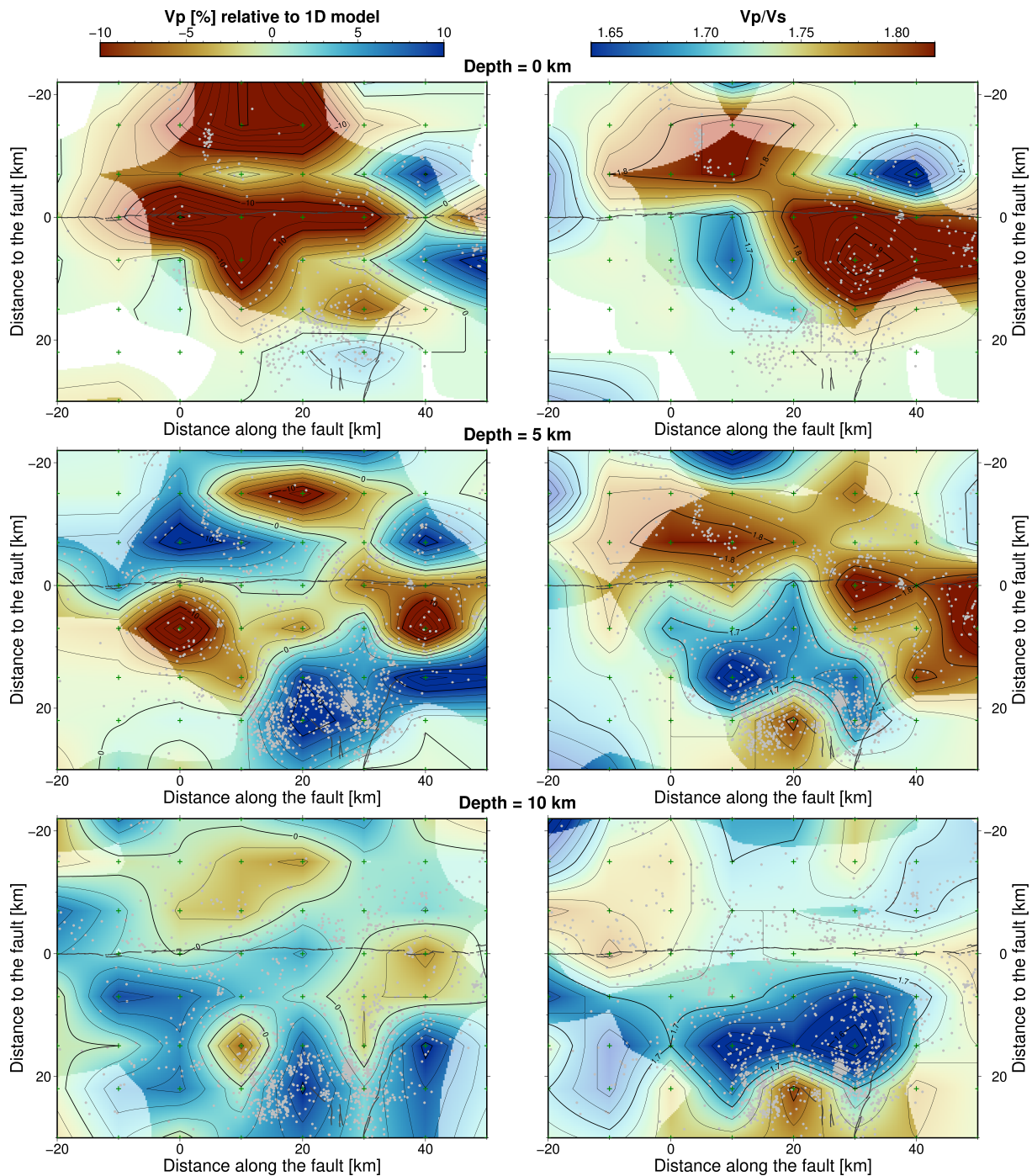


Figure 3. Depth maps through the 3D models of V_p and V_p/V_s , with earthquakes marked with gray points, grid nodes with green crosses, and areas with poor resolution faded

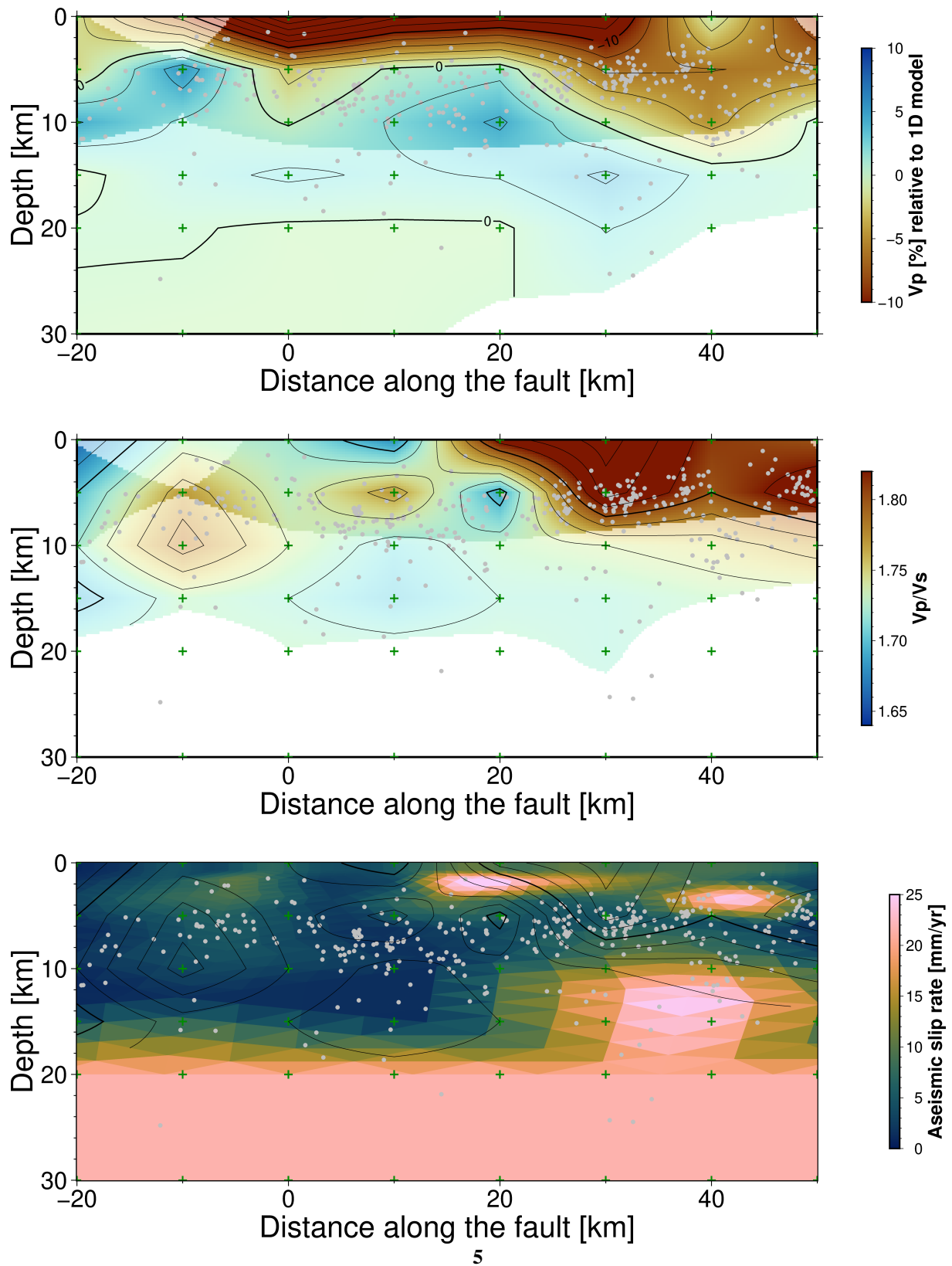


Figure 4. Cross-section along the fault through the 3D models of V_p and V_p/V_s as well as aseismic right-lateral slip rate after Jolivet et al. (2023), with earthquakes marked with gray points, grid nodes with green crosses, and areas with poor resolution faded

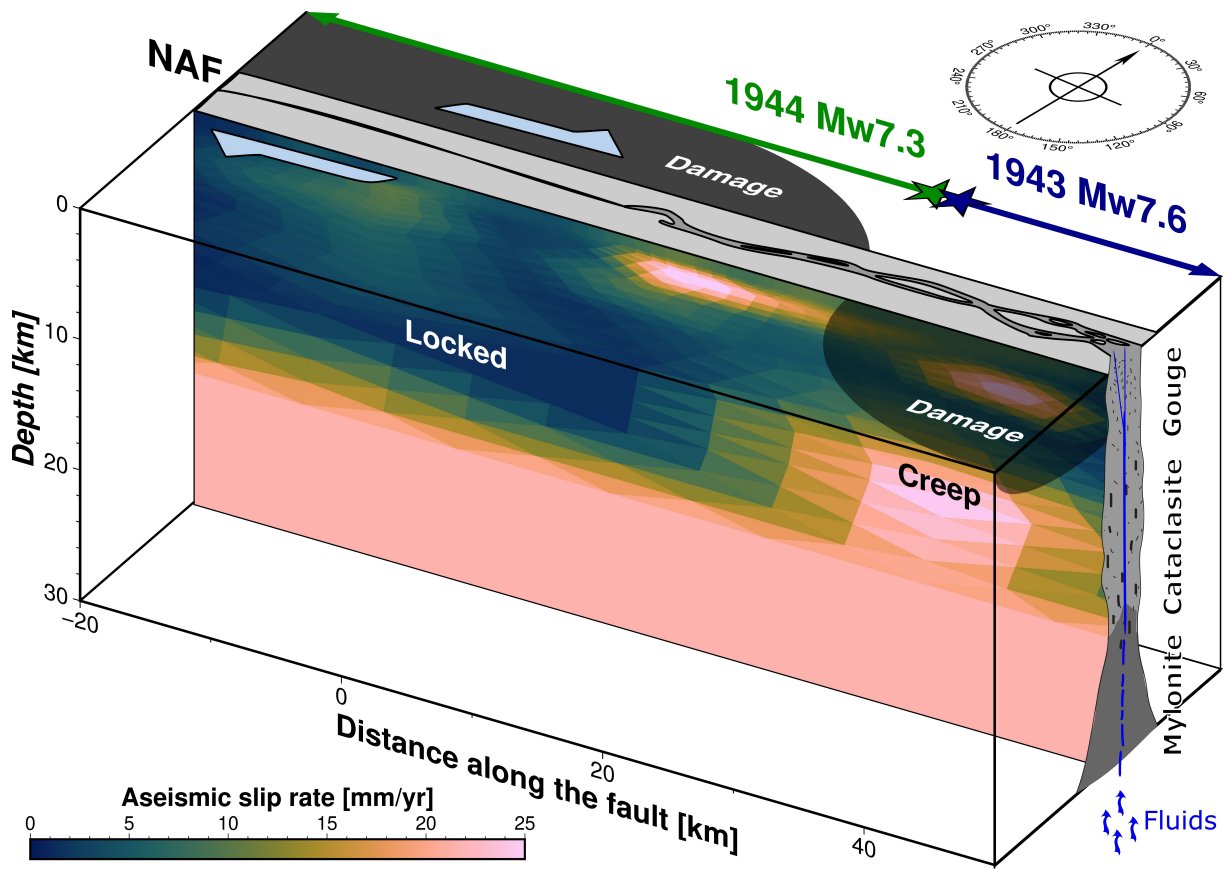


Figure 5. Conceptual sketch of the NAF after Jolivet et al. (2023); Bürgmann (2018); Kaduri et al. (2017); Dor et al. (2008) and our results

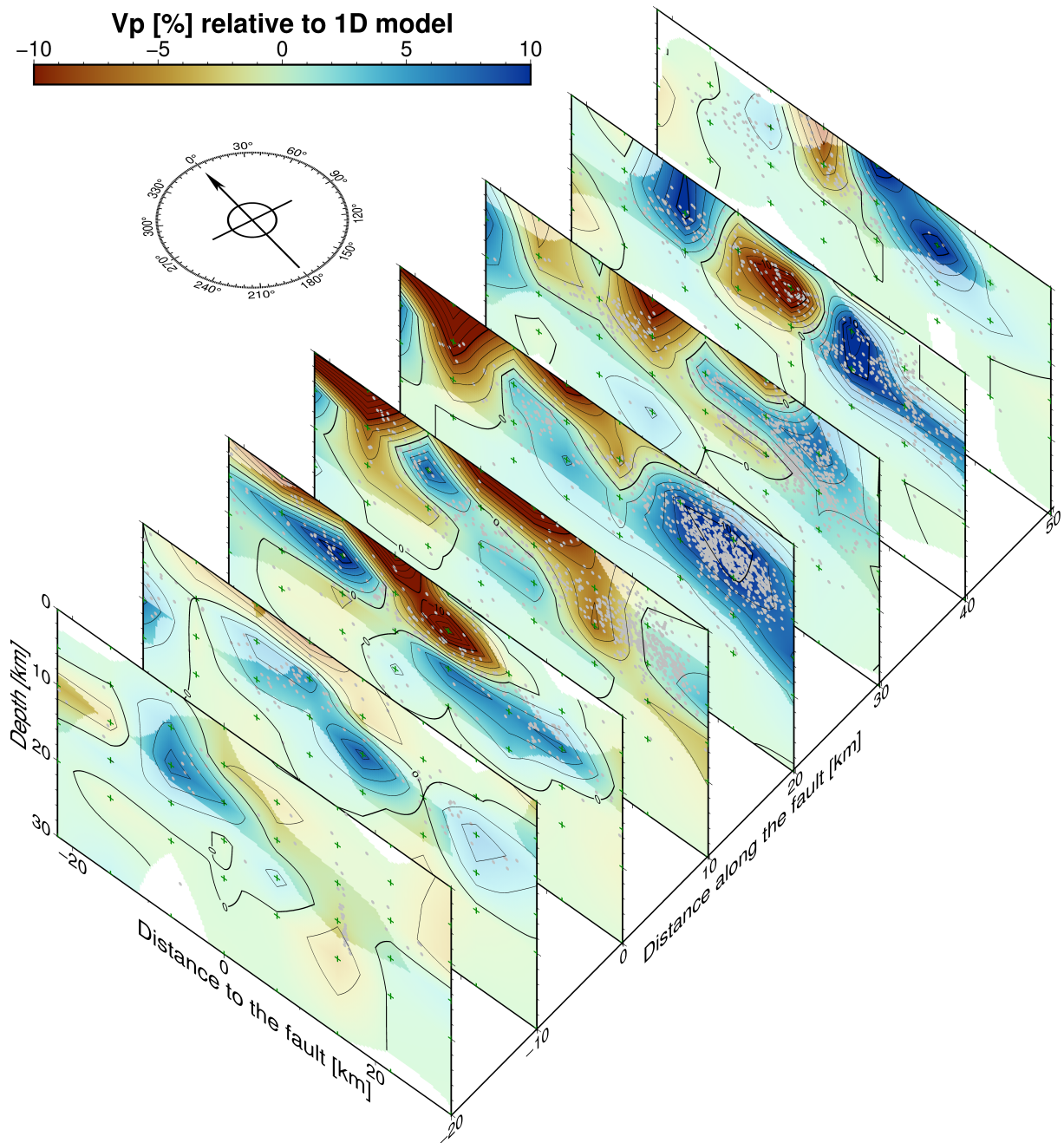


Figure 6. Profiles across the fault through the 3D model of Vp, with earthquakes marked with gray points, grid nodes with green crosses, and areas with poor resolution faded

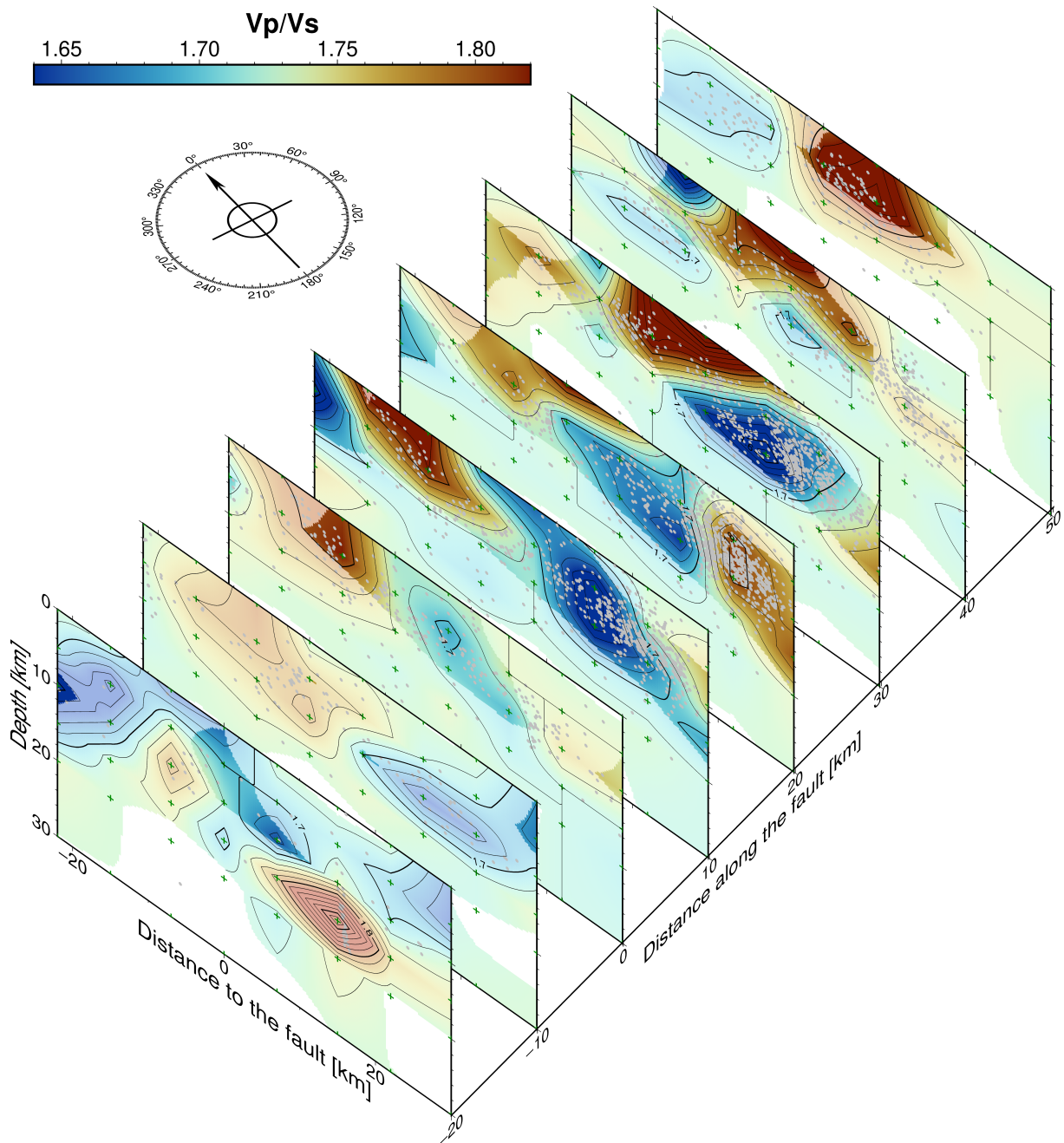


Figure 7. Profiles across the fault through the 3D model of V_p/V_s , with earthquakes marked with gray points, grid nodes with green crosses, and areas with poor resolution faded

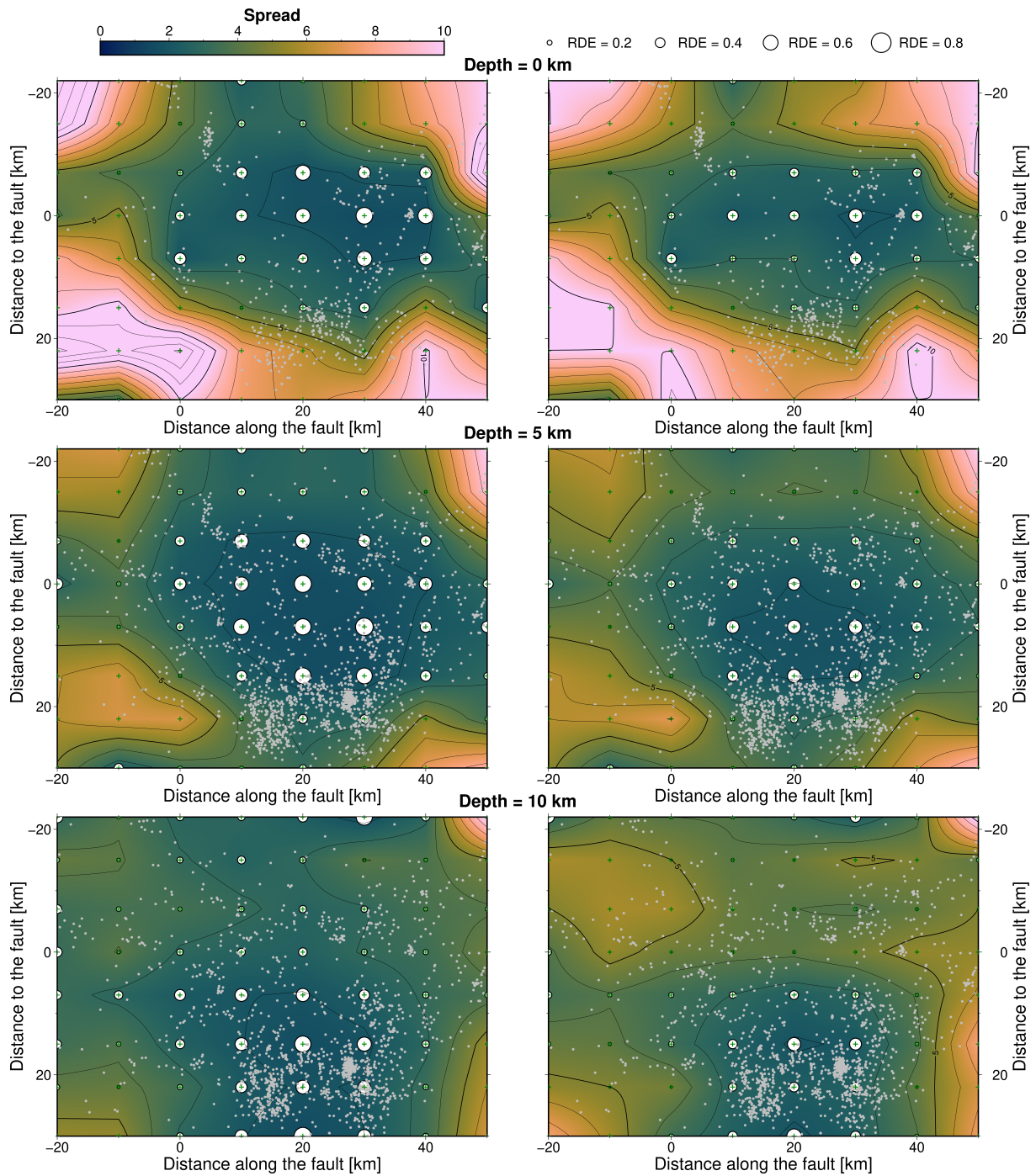


Figure 8. Resolution quality of the inversion results for V_p and V_p/V_s , with spread values represented by colors, resolution diagonal elements represented by white discs, earthquakes marked with gray points, and grid nodes with green crosses

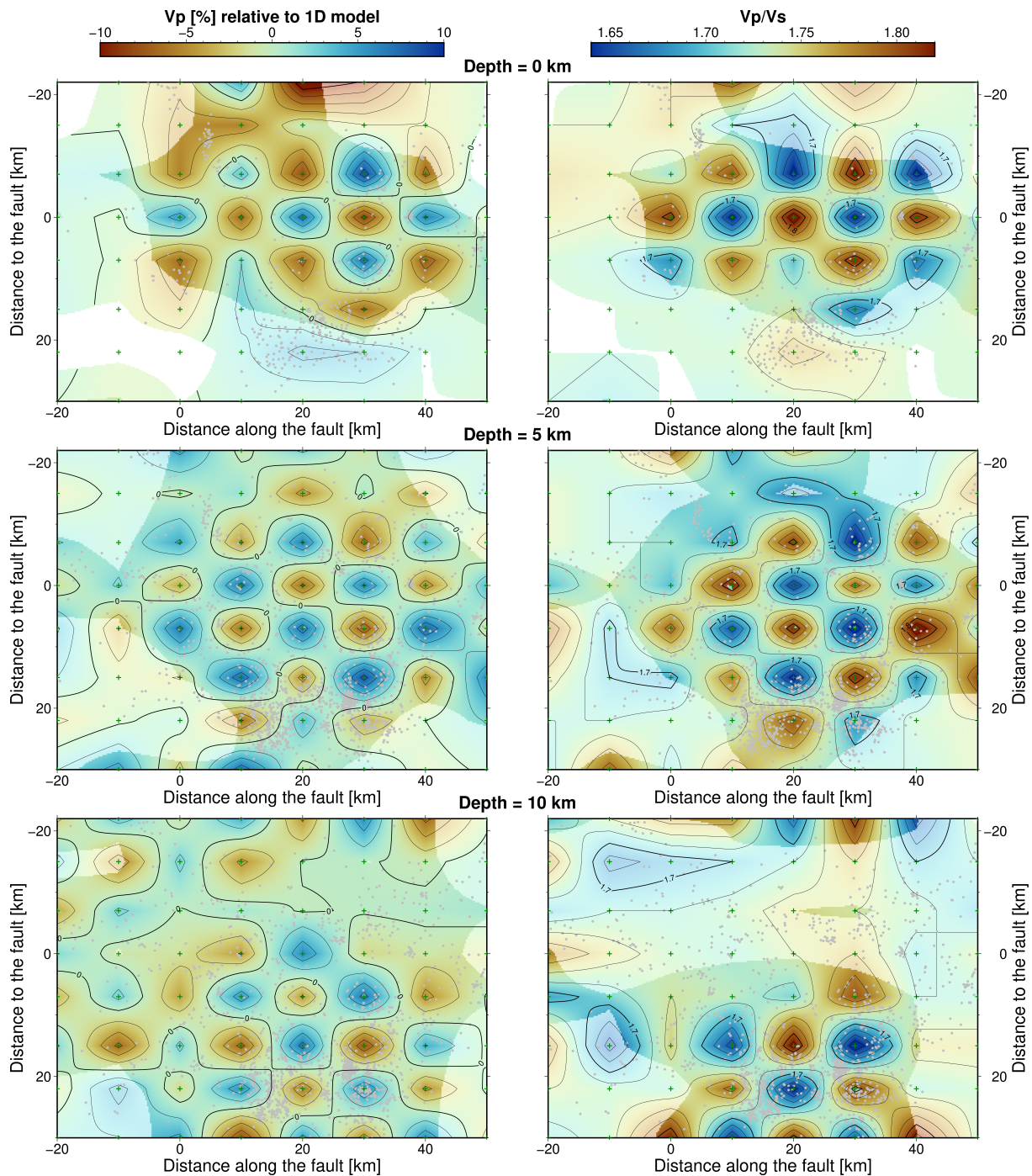


Figure 9. Reconstruction of synthetic checkerboard test for V_p and V_p/V_s , with earthquakes marked with gray points, grid nodes with green crosses, and areas with poor resolution faded

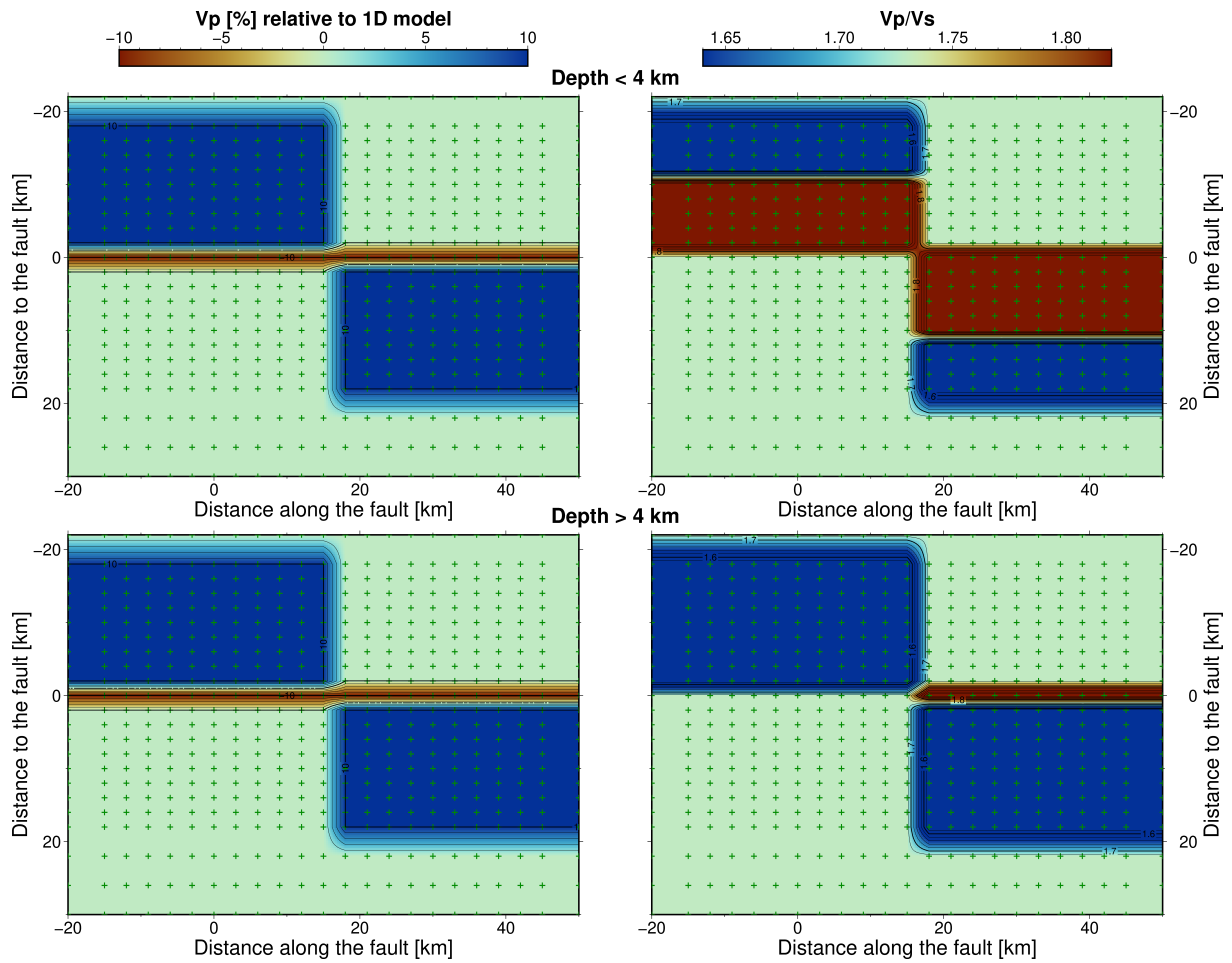


Figure 10. Depth maps of the idealized synthetic velocity model for V_p and V_p/V_s , with grid nodes marked with green crosses

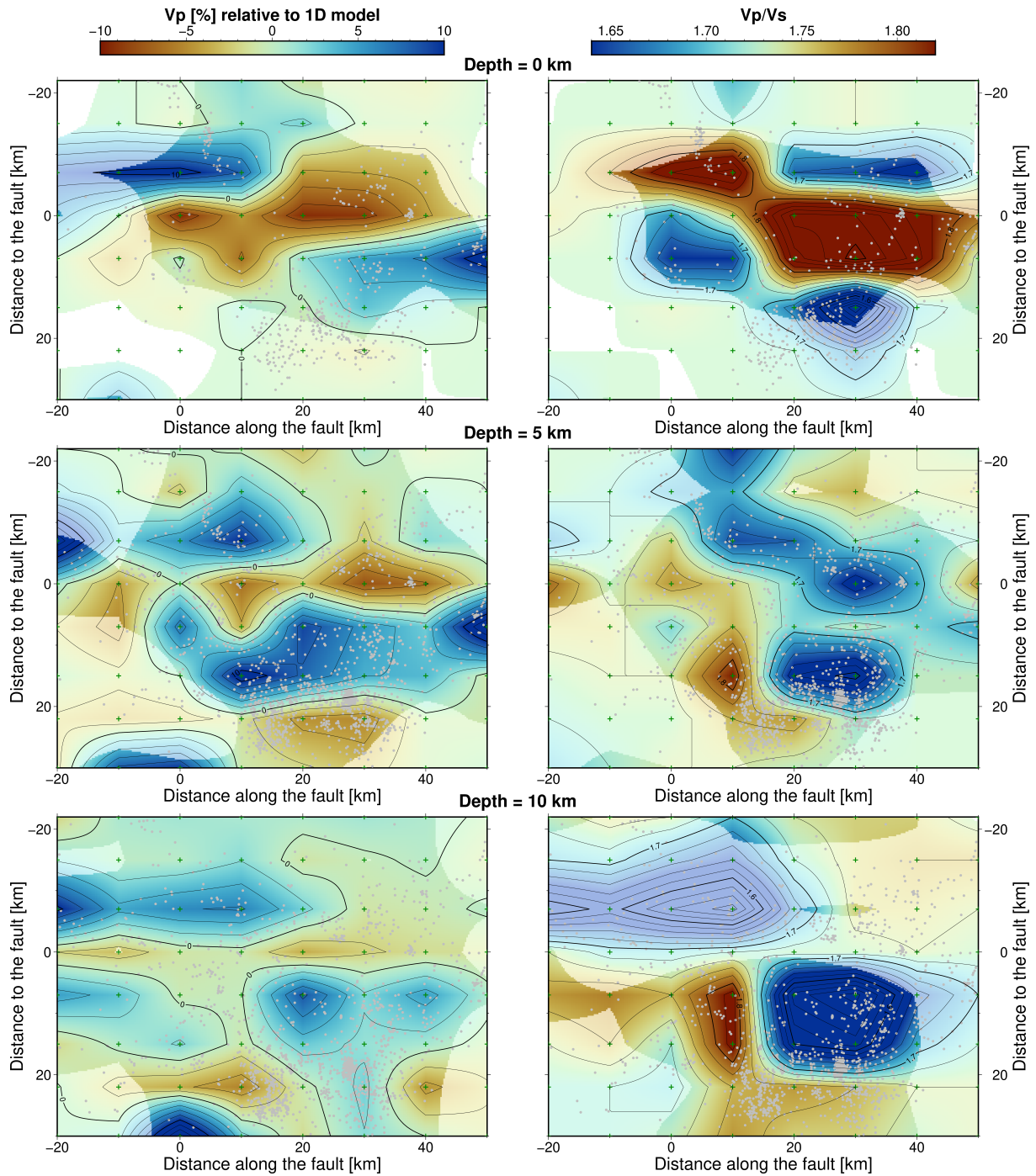


Figure 11. Reconstruction of idealized synthetic model for V_p and V_p/V_s , with spread values represented by colors, resolution diagonal elements represented by white discs, earthquakes marked with gray points, and grid nodes with green crosses

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