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Hints at topography and nature of crust-mantle and slab boundaries and evolution, from artificial source reflections, earthquake Pn, and sparse receiver-functions through Greece

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High-resolution Moho depth estimates under parts of Greece are summarized. They result from recent vertical and wide-angle reflection profiles recorded from marine artificial sources, and from Pn differential times from large regional earthquakes through the permanent and a temporary array. A comparison of the depth and nature of this top-side sampled Moho can be discussed with respect to the limited number of the bottom-side sampled Moho resulting from receiver-functions at the broad-band stations of the National Observatory of Athens. The Moho map shows the prolongation to north and south of the map of the large Moho depth under the Hellenides belt at the western Gulf of Corinth. It also highlights the shallower Moho domain towards the Aegean south and east of the Gulf. There, apparent discrepancy between some refraction and reflection results as well as receiver-functions indicate possibly a peculiar nature and evolution of the Moho. The Pn data reveals the limitation of the zone of shallow Moho along a NE-SW prolongation ahead of the North Anatolian Fault from the North Aegean Trough to the western tip of the Gulf of Corinth. Features of the Moho map, and their comparison with hints at slab structure suggest elements of the lithospheric evolution in the convergence-extension system of heterogeneous terranes.