

Recent Research Results: Jer-Ming Chiu

(4) Thin crust and eastward dipping low velocity zone beneath the Taupo volcanic zone in the North Island of New Zealand – (a few papers in preparation)

Summary: Results from a preliminary 3-D V_p and V_s tomography in the Taupo Volcanic Zone of the North Island of New Zealand reveal that (a) crust is about 15 km beneath the TVZ, (b) the isolated low velocity zones at shallow depth associated with a few known hot spring production regions are linked to each other at deeper depth, and (c) a significant east dipping low velocity zone extends beyond 15 km can be applied to the observed 2~4 seconds of P-wave travel time delay for seismic stations within the TVZ from a lone seismic profile across the region using airgun sources from the east.

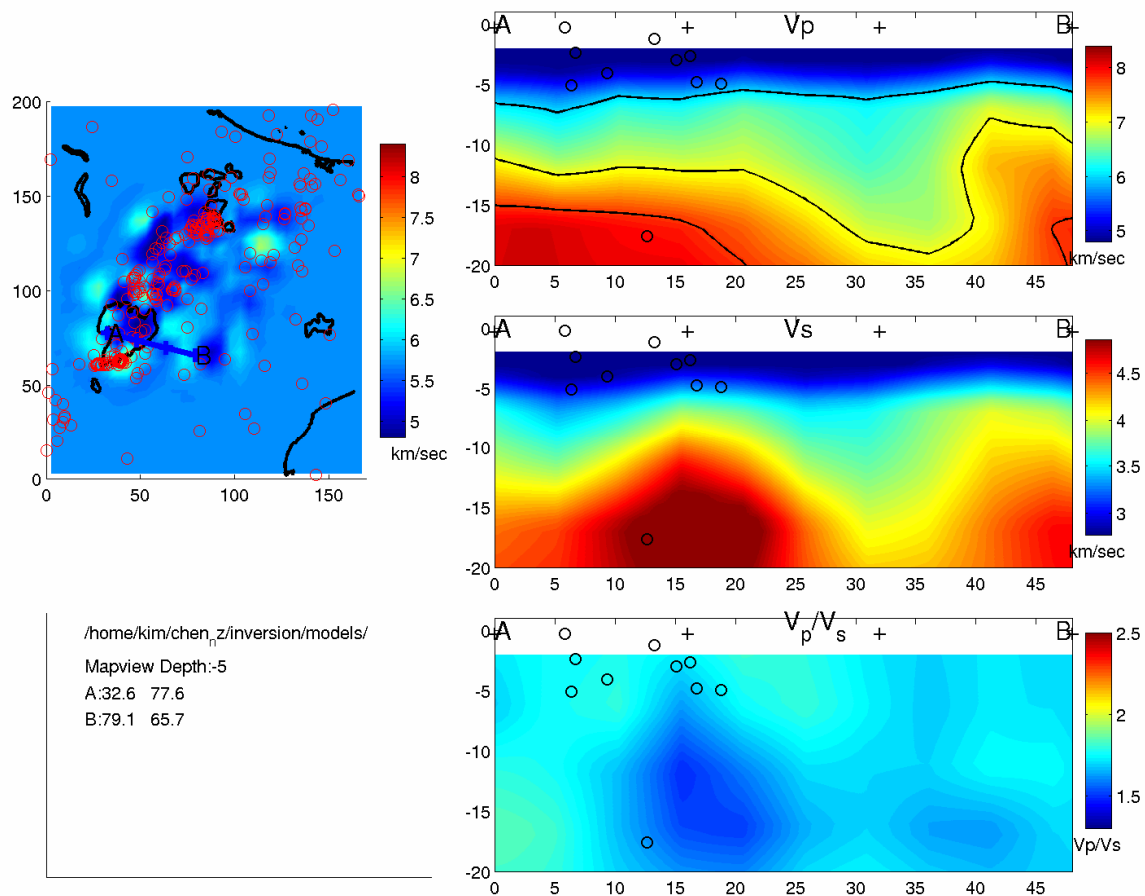


Figure. Map view of a horizontally thin-sliced shallow V_p section beneath the Taupo Volcanic Zone in the North Island of New Zealand (left) showing low velocity zones associated with known geothermal production regions. Cross-sectional views of V_p (top right), V_s (middle right), and V_p/V_s (bottom right) along AB line across the Taupo lake showing a thin crust (~15 km) and eastward dipping low velocity zone.