Deep resistivity structure of the Taupo volcanic zone, New Zealand (2)

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Taupo Volcanic Zone (TVZ) of North Island, New Zealand is a region of back-arc extension. We had 16 wide-band (0.01-1800s) sites and 8 long period (20s -13,000s) sites along a 150km profile. A deep resistivity model inferred from wide-band data showed the followings. (1) The surface conductors down to 5km depth correspond to known depressions. (2) A deeper conductor (at 15km) was found beneath the Taupo volcanic zone, but is not horizontally continuous beneath the Mangakino caldera. (3) Upper mantle beneath TVZ below 20km depth is relatively conductive. Consistency with a region of high seismic attenuation suggests a partial melting zone.

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