

Seismic velocity structure in the rupture zone of 1968 Tokachi-oki earthquake

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We determined seismic velocity structure in the rupture zone of 1968 Tokachi-oki earthquake using Air-gun, Ocean Bottom Seismometer and Multi-Channel streamer.

A travel time inversion using progressive model development method (Sato and Kennett, 2000 ; Sato, 2007) was applied to the observed data to determine the 2-D velocity structure.

In the one of survey line, Pn is detected and its velocity is approximately 7.8km/s. This value is higher than Pn velocity calculated by Hayakawa et al, (2002). This result suggests that upper mantle wedge is not hydrated, and plate boundary's coupling is not weak.

Thus, it is likely that this area can generate large interplate earthquake like 1968 Tokachi-oki earthquake.