Spatio-temporal distribution of earthquake families beneath the northeastern Japan arc (2)

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We investigated the nature of earthquake clusters by analyzing the similarity among the waveforms of the events. We used waveform data recorded by the microearthquake observation network of Tohoku University for the period from July 1984 to July 2000. As a result, many earthquake families were found in the clusters on the plate boundary. The inhomogeneity in the earthquake family distribution probably refrects the variation in the coupling strength on the plate boundary. We also estimated the slip rate at the plate boundary for each earthquake family. Almost all the slip rates are comparable to the descending speed of the Pacific plate. However, the slip rate is more than 20 cm/yr in the region east off Aomori prefecture, which is consistent with the slip rate estimated from GPS data.