

Geological study on tsunami deposits in the Pacific coast of Aomori, northern Japan

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We studied paleotsunami deposits in the Pacific coast of Aomori Prefecture. The study area is facing to northern edge of the Japan Trench, where the 2011 Tohoku earthquake raised concerns about future large earthquake (Simons et al., 2011). However, there are few historical and geological records to evaluate long-term earthquake history around north of the Japan Trench. We found unusual sand sheets interbedded with fluvial mud and peat, beneath coastal lowlands in Higashidori, Rokkasho and Misawa. Some sand sheets contain brackish-marine as well as freshwater diatoms, such as Fragilariaceae spp. (e.g. *Staurosira* spp. and *Staurosirella* spp.). The diatom assemblages of sand sheets indicate that they were transported from seashore.

In Higashidori site, five sand sheets were found between 1.5 and 3.5 m in elevation. Three of them are 3-10 cm thick, quartz-rich and wide-spread. They show normal grading and sharp contacts with underling peat. ¹⁴C date of plant microfossils just above and below the sand sheets show that they deposited after 1500 AD, ca. 4,500 cal BP, ca. 5,000, ca. 5,300 cal BP and ca. 5,800 cal BP.

Keywords: tsunami deposit, diatom, Aomori, Japan Trench, Kuril Trench