

Paleotsunami investigations in the Primorye region, Russia, for assessing tsunami hazards around the Sea of Japan

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Information from tsunami deposits is most important for assessing tsunami and earthquake hazards in areas where recurrence interval and size distribution of historical and pre-historical tsunamis are not known or poorly recorded. Northern coast of the Sea of Japan is one of these areas. Recent earthquakes such as the 1983 Nihonkai-chubu Earthquake and the 1993 Hokkaido Nansei-oki Earthquake provided severe damage along the coastal communities, where we have no knowledge about the past events. The 1983 and 1993 tsunami inundated not only in the Japanese coast but also in the Primorye region, Russia, along the other side of the Sea of Japan and caused some damage there. We carried out reconnaissance along the Primorye coast to find the historical and pre-historical tsunami evidences, as there are many natural lowlands facing sandy beach that are suitable for tsunami deposit reservation. The surveys were done in summer of 2010, 2011 and 2012 as a joint research project with Hokkaido University and the Russian Academy of Science. As a result, we could find candidate tsunami deposits in some sites. The deposits are continuous sandy layers buried in the peat. Some of them are probably correlated to be 1940, 1983 or 1993 tsunami. Tsunami heights of them are recorded to be more than 4 m. We also found possible pre-historical tsunami deposits beneath the B-Tm tephra (ca. 1000 AD) at Kit Bay.

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