

Sedimentary facies and their processes of large tsunami traces in the 17th century along the Kuril subduction zone

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Large earthquakes along the Kuril subduction zone have caused tsunami damage on the Pacific coast of eastern Hokkaido, between Nemuro and Tokachi. We have previously reported 15 layers of tsunami deposits in peat beds and 20 layers of tsunami deposits in lacustrine sediments between Nemuro and northern Tokachi. In this study, I correlate to 17th century tsunami deposit based on two key tephra layers named Ta-b (1667) and Us-b (1663). And I described these sedimentary structures and interpreted sedimentary processes on every environment. For example, the sedimentary structures of 17th century tsunami deposit on the terrace show inverse grading or homogeneous, however, these in the lake show normal grading with current laminae such as current ripples and dunes covered organic mud layers. I interpreted that these sediments were transported by traction currents such as a high-density turbidity current.