

Distribution of tephra and tsunami deposits in Shikotan Island: Outline of the Japan-Russia joint research in 2019

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Historical and prehistorical tsunami deposits in Shikotan Island, the Northern Territories, were studied as parts of visa-free exchange programs of Japan and Russia. The reconnaissance survey was conducted from July 5th to 15th in 2019 in Horobetsu, Anama, Matakotan, Chiboi, and Inemoshiri. And candidates of tsunami deposits and volcanic tephra were examined at 32 sites by using a handy geoslicer and a peat sampler. As a result, In Inemoshiri, 6 candidates of tsunami deposit and 4 tephtras were traced inland up to 530m from the coast. In Horobetsu, 1 candidate of tsunami deposit and 3 tephtras were traced inland up to 350m from the coast. In Shikotan Island, it is reported that tephra from volcanoes of Hokkaido, such as Ko-c1 (1856), Ta-a (1739), Ko-c2 (1694), Ta-b (1667), Ma-b (10th Century) and Ta-c (2,700 BP) are deposited (Razzhigaeva et al., 2016). With these volcanic deposits as the key layer, we can estimate the age of the candidates of tsunami deposits. Our study was mainly conducted in the peatland developed in a valley facing the sea, as there are no wide and flat wetlands on the island. We needed to distinguish sandy layers caused by slope collapse and river flood from tsunami deposits based on a detailed survey of their distribution and sedimentary facies at each site.

Keywords: Shikotan Island, tsunami deposit, volcanic tephra