

Geological and tephrochronological investigations on the central Kuril Islands during The Kuril Biocomplexity Project (KBP) 2007

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Two widespread tephra on the central Kuril Islands have been found during KBP 2007. One is recognized as a yellowish ash fall layer between Urup to Matua Islands. This consists of mainly pumiceous glass shards with lesser bubble-wall type and crystal fragments of plagioclase, clinopyroxene, and orthopyroxene. The thickness is 6 to 17 cm thick on Urup Island and 1 to 3 cm thick on Simushir, Ushishir, Rasshua, and Matua Islands. This tephra can be equivalent to that on Chirpoi Island erupted in 2,290 to 2,178 y.B.P.. Judging from the isopach map, the widespread tephra could be derived from the Medvezhiya Caldera on Iturup Island, southern Kuril.

Another widespread tephra was derived from Ushishir Volcano. We revealed that the eruption style of the volcano had gradually changed from submarine explosive to subaerial plinian eruptions based on the lithology of the proximal deposits. This change can be also recognized as tephra on Ryponkich and Russhua Islands. The tephra consists of pumiceous glass shards, lithic fragments and crystal fragments of plagioclase, hornblende, orthopyroxene, and quartz. Based on the tephro-stratigraphy, the catastrophic eruption age of the Ushishir Volcano might be estimated to be about 2,000 y.B.P..