

Geomorphological Evolution of Hashirikotan barrier spit controlled by Seismotectonics along the Southern Kuril Subduction Zone

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The Hashirikotan barrier spit is active in the northeastern part of Furenko lagoon facing the Nemuro Strait because five branches of spits (BS1~BS5) are clearly observed and dated by tephrochronology. The Hashirikotan barrier system has been established since 5.5 ka. The youngest BS1 has occurred after the 17th century and BS2 caused by the last seismic up rifting in the 17th century. BS3 rifted in the 12~13th century. BS4 caused by the seismic up rifting in the 9th century. BS5 has occurred at 4 ka. Since 2003, it was clearly that the great earthquakes (Mw8.5~9.1) have been occurred at an interval of 500 years along the southern Kuril subduction zone. Especially coastal area raised almost 1~2m just after the great earthquakes due to the post seismic displacements. But conversely land subsidence has been continuing at a rate 1.0 mm/year since the 17th century until now. We express that geomorphological evolution of the Hashirikotan barrier system has been controlled by the seismotectonics along the Kuril subduction zone.

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