

## Reexamination of the 17th century Kuril multi-segment earthquake

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The magnitude of the 17th century Kuril multi-segment earthquake was estimated to be Mw 8.4 to 8.5, assuming that the distributions of the tsunami deposits in East Hokkaido coasts roughly indicate tsunami inundation areas. However, the tsunami caused by the 2011 off the Pacific coast of Tohoku Earthquake (Mw 9.0) indicated that tsunami inundation areas are wider than distribution of tsunami deposits, suggesting that the Kuril multi-segment earthquake could be larger than Mw 8.5. If the Kuril multi-segment earthquake was larger than Mw 8.5, the tsunami is expected to have been recorded in documents along the Tohoku area. The 1611 Keicho-Sanriku-tsunami is the largest historical tsunami in 17th century along the Pacific Tohoku coast and there is a possibility that the tsunami came from the Kuril trench. Tsunami simulations indicate that the Kuril multi-segment earthquake needs to be as large as Mw 8.9 to generate the tsunami height comparable to those based on historical records of the 1611 Keicho-Sanriku-tsunami. Further studies of the Kuril multi-segment earthquake are necessary, but the earthquake could be larger than that inferred before.

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