

## Local correlation of sandy paleo-tsunami layers and estimation of inundation distance in eastern Hokkaido

NAKAMURA, Yugo<sup>1\*</sup> ; NISHIMURA, Yuichi<sup>1</sup>

<sup>1</sup>ISV, Hokkaido Univ.

We found multiple paleo-tsunami sand layers of the last 3000 years in seven marshes (Urahoru, Kinashibetsu, Onbetsu, Kushiro, Akkeshi, Nemuro, and Betsukai) on a 200-km-long coastline of eastern Hokkaido, Japan. In the previous studies, up to six paleo-tsunami layers were described in these regions, but inundation area of only few events were discussed. The purpose of the present study is to evaluate the inundation area of every paleo-tsunami events along each transect based on the local correlation of paleo-tsunami layers. Along the Urahoru transect (370 to 625 m from the sea), at most ten sand layers were observed and five layers of them were successfully correlated along the whole transect by comparing their particle sizes and mineral compositions. For the uppermost layer we correlated, the mean grain size smoothly decreases landward from 0.24 to 0.74 phi, and its heavy mineral ratio decreases from 40 to 34 %. The other four layers also show individual decreasing trends both in particle size and heavy mineral ratio. In other regions, there are two sand layers in Kinashibetsu, six in Onbetsu, two in Kushiro, two in Akkeshi, eight in Nemuro, and two in Betsukai. Four layers in Onbetsu can be correlated and traced to 590-670 m from sea, and four in Nemuro are traced to 260-300 m. These layers are presumed to be formed by relatively large events. Along the Betsukai transect, the far side of Nemuro peninsula, two fine-sand layers were observed and presumed to be evidences of large paleo-tsunami events which formed sand layers along the Pacific coast. Methods for wide correlation of paleo-tsunami layers, however, have not been developed and should be discussed by future works.