Late Holocene Tsunami deposits Investigation along the Pacific coast, Sanriku to Joban coast, NE Japan

Toshifumi Imaizumi[1]; Takahiro Miyauchi[2]; Tatsuya Ishiyama[3]; Tsuyoshi Haraguchi[4]; Hiroaki Suzuki[5]

[1] Geography Sci., Tohoku Univ.; [2] Earth Sci.,Chiba Univ.; [3] Tohoku University; [4] Geosci.,Osaka City Univ.; [5] Earth Sciences, Graduate student, Tohoku Univ.

Along the Sanriku rias coast line to the Joban coast line, facing the Japan Trench, many tsunami are repeatedly recorded through historical time; the AD 1896 Meiji Sanriku Tsunami, the AD 1793 Kanei Tsunami, the AD 1611 Keicho Tsunami and the AD 869 Jogan Tsunami.

We have investigated historical and pre-historical tsunami deposits to clarify the timing and the recurrence interval of great earthquakes beneath the Japan trench, by using the geoslicer and handy drilling machine under the back swamp of alluvial low-land and the backshore on the raised Holocene marine terraces. Major results are as follow:

(1) Along the Sanriku coast, the tsunami deposits in the last 2000 years are rarely distributed in local, because sediments beneath the surface have been artificially removed. Although in the Rikuzen-takada coastal plain three layers of tsunami deposit are recognized beneath the AD 1960 Chile tsunami deposit, the AD 869 Jogan Tsunami deposit can not be founded.

(2) Along the Joban coast during the past 1000-5000 years, many layers of tsunami deposits are recognized in Namie, Mat-sukawaura and Iwaki, respectively. In Namie, the timing of these events of tsunami deposits are as follows: 1180-1060 cal BP, younger than 2300yr.BP (estimated), 2730-2750 cal BP, 3350-3390 cal BP, 3700-3840 cal BP, after deposition of the Numazawa-Numazawako volcanic ash (Yamamoto, 2003). The last event deposit probably derived from the AD 869 Jogan Tsunami and the recurrence interval of these tsunami events is estimated to be 500 to 1000 years.