

Tsunami deposits along the Joban - Sanriku coast and historical earthquakes

Toshifumi Imaizumi[1]; Tatsuya Ishiyama[2]; Takahiro Miyauchi[3]; Tatsumaru Ohmachi[4]; Nobuto Morishita[1]; Kyoko Kagohara[5]; Akimichi Sasaki[6]; Haruka Yoshida[7]; Hiroaki Suzuki[7]; Yoshinori Tashiro[7]

[1] Geography Sci., Tohoku Univ.; [2] Tohoku University; [3] Earth Sci., Chiba Univ.; [4] Geo-Environmental Science, Undergraduate student, Tohoku Univ.; [5] Graduate School of Sci, Tohoku Univ.; [6] Inst. of Geography, Tohoku Univ.; [7] Earth Sciences, Graduate student, Tohoku Univ.

Along the Sanriku rias coast line to the Joban coast line, facing the Japan Trench, many tsunamis are repeatedly recorded through historical time; the AD1896 Meiji Sanriku Tsunami, the AD1793 Kanei Tsunami, the AD1611 Keicho Tsunami and the AD869 Jogan Tsunami.

We have investigated historical and pre-historical tsunami deposits to clarify the timing and the recurrence interval of great earthquakes, by using the handy type of geoslicer and drilling cores under the alluvial lowland including back swamp and back-shore, in Rikuzen-takada, Iwate prefecture and Namie, Fukushima prefecture. Major results are as follow:

1) During the past 1000-5000 years, five layers of tsunami deposits are recognized from the Namie alluvial lowland. The timing of these five events of tsunami deposits are as follow: 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 recurrence interval of these events is estimated between 500 to 1000 years.

2) The tsunami deposits in the last 2000 years are rarely distributed in local, because sediments beneath the surface have been artificially eroded. In the Rikuzen-takada coastal plain, three layers of estimated tsunami? deposits are recognized beneath the 1960 AD Chile tsunami deposit. We should investigate these deposits including the Jogan tsunami deposit or not.