

Drilling survey of the northern part of the Itoigawa-Shizuoka Tectonic Line active fault zone at Hakuba and Ikeda, central Japan

Nobuhiko Sugito[1]; Hiroshi Sawa[2]; Masayoshi Tajikara[3]; Nobuhisa Matsuta[4]; Kaoru Taniguchi[5]; Yasuhiro Suzuki Research Group for ISTL Tectonic Landforms[6]

[1] Environmental Studies, Nagoya Univ.; [2] Geography, Tsuruoka Nat. Col. Tec.; [3] Fukken Co. Ltd.; [4] NTU; [5] ERC, ADEP; [6] -

We conducted drilling surveys on the northern part of the Itoigawa-Shizuoka Tectonic Line active fault zone at Oide and Shinden, Hakuba Village, in order to reveal timing and displacement of recent faulting. At around the sites, east-side-up tectonic scarps have been preserved on fan terraces and alluvial fans formed by eastward-flowing rivers. These scarps have developed local swamps or flat lands just on the west of themselves. We made topographic profiles photogrammetrically using about 1:10,000 airphotos taken in 1940s and 2004-2005, and obtained 11 cores with lengths of about 1 to about 3 meters. We will determine ages of the bottom of the deposits which construct the local swamps or flat lands, as well as that of strongly swampy deposits. Those ages will nearly indicate timing of the recent faulting. Two tephra samples found in the Shinden cores will control the chronology, too. We also obtained a 25-m-long core on the down-thrown side at Aisome, Ikeda Town, to constrain deposition rates of the Matsumoto basin, which will be useful to accurately estimate the vertical slip rate of the faults around the site. The entire core consists of gravel, except for a tephra layer detected at the depth of 13.5 m. We identified two changes of facies in the core at depths of 8.6 m and 14.5 m, one of which probably occurred during 13000-15000 yBP. We are now analyzing the radiocarbon and tephra samples. We will have discussions by all the data obtained on the presentation, including the results of those analyses.