

Tsunami origin sediments observed from the Ohtsuchi bay, Iwate Pref., Japan.

SAKAMOTO, Izumi^{1*} ; NAMBA, Makoto¹ ; YOKOYAMA, Yuka¹ ; YAGI, Masatoshi¹ ; NEMOTO, Kenji¹ ; FUJIMAKI, Mikio²

¹School of Marine Science and Technology, Tokai Univ., ²COR

The recent 2011 Tohoku tsunami strongly affected the coastal area of the Pacific coast of Tohoku. Tokai University and JAMSTEC team investigated the Tohoku coastal area as a part of Tohoku Ecosystem-Associated Marine Sciences (TEAMS).

We researched using acoustic equipments (Multi narrow echo sounder : MNB and Sub bottom profiler : SBP), and bottom sampler.

SBP data was seen signature reflecting (20-50cm down from seabed), and able to estimate the reflecting surface to depth of approximately 20 m at Ohtsuchi bay. The most strong reflector (R1) near the sea-bottom (20-70cm in depth) have rich in unevenness characters and have large lateral change around the shallow area (5-15m). However, R1 changes flat and smooth reflector to the offing (over -30m in depth).

Characteristic of columnar core sample at Ohtsuchi bay consists by 2 (shallow area) to 3 (deep area) sedimentological units, such as upper sandy unit (30-110cm), middle reddish brown silt unit (60-130) and lower sandy unit. This coarse sand and gravel layer from Unit-1 eroded out the underlying reddish brown silt (Unit-2) zone. Geological facies (Unit-1) of the cores from the Ohtsuchi correspond with reflector from SBP such as R-1. It is estimated that the upper sandy sediment unit with grading structure above the erosion layer, which observed Ohtsuchi bay, is assumed to be a layer of sediment gravity flow caused by the tsunami activity.

Keywords: tsunami sediment, Ohtsuchi bay