

Beach deposits inferred as being formed by the 2011 Tohoku Tsunami at the Sendai Coast

SHIRAI, Masaaki^{1*}, HAYASHIZAKI, Ryo¹, UTSUGAWA, Takako¹, Yasutoki Mukaiyama¹, MURAGISHI, Jun¹

¹Tokyo Metropolitan University

Tsunami deposits are important evidence for analysis of paleo-earthquake and paleo-tsunami. Generally tsunami deposits are recognized as sand layers intercalated in muddy sediments in estuary, coastal swamp, and so on. Whereas, it is difficult to distinguish sandy tsunami deposit from sandy beach deposit. We carried out field survey of tsunami deposit on beach formed by the 2011 off the Pacific Coast of Tohoku Earthquake tsunami (2011 Tohoku Tsunami) on 3 May, 2011 nearby the Sendai Airport.

On the foreshore environment, 10 cm thick mafic minerals concentrated layer and water escape structures (pipes) above the layer were observed. Because these structures means continuous erosion and subsequent rapid accumulation of sand grains and water, which is not common on beach environment, the deposit may have been formed by 2011 Tohoku Tsunami. Water escape structures were formed also in surface sand on coastal dune. Because coastal dune sand is transported and deposited by wind, water escape structure exist in unusual conditions. These sand layers should have been formed by 2011 Tohoku Tsunami. Further analyses are planned for elucidate origin of these deposits.

Keywords: 2011 Tohoku Tsunami, tsunami deposit, beach, water-escape structure