

Probable submarine "tsunami" deposits by the 2011 off the Pacific Coast of Tohoku earthquake

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Large sediment transport was occurred by the 2011 off the Pacific Coast of Tohoku earthquake. At the shelf edge of the Sendai Bay, a turbidite bed with thick turbidite mud and deformed sediment was observed above normal hemipelagic sandy mud. ¹³⁴Cs and ¹³⁷Cs occurred not only the sediment surface but also in the turbidite mud. These facts indicate the following processes to make the sediment sequence; 1) sediment deformation by the strong ground motion by the earthquake, 2) resuspension of shelf sediments by the tsunami and formation of turbidity currents, 3) turbidite sand deposition from the turbidity currents and formation of small mud pond using a small submarine relief, 4) fall of radioactive elements from air through water column and piling up of the elements at the surface of highly turbid bottom water in the small relief, and 5) deposition of turbidite mud from the highly turbid bottom water.

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