

底生有孔虫からみた, 2011年東北地方太平洋沖地震の海底における地震性/津波堆積物の起源

Origin of submarine event deposits by the 2011 Tohoku earthquake and tsunami: from benthic foraminiferal assemblages

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Tsunami by the 2011 off the Pacific Coast of Tohoku Earthquake brought significant damage along the northeastern Japan coast. We conducted a marine survey cruise (KT-11-17) to clarify the influence of earthquake/tsunami to sea bottom environments, off Sanriku, northeastern Japan, July-August, 2011. As the results, we found the 2011 earthquake- and/or tsunami-induced turbidites at 13 sites from outer shelf to trench slope off Sanriku. At two sites from slope (893 m and 1446 m in water depth), the turbidites have sharp erosional bases, and upward-fining graded structures started from very fine sand-coarse silt.

The surface layer of the turbidite mud at the shallower site (893 m) includes the major foraminiferal species in the outer shelf (*Uvigerinella glabra* and *Elphidium clavatum*). The possibility of inflow from outer shelf to the site by earthquake- and/or tsunami-induced turbidity currents is inferred from the benthic foraminiferal assemblages. The Basal sands of the turbidite at the deeper site (1446 m) include abundant *Takayanagia delicata*; and the turbidite mud include abundant *Stainforthia apertura*. Both species are reported by previous studies on living benthic foraminifera off Sendai as dominant species in water depth 550 m - 900 m. It is suggested that the sediment was transported from several-hundred meters shallower water depth than the site.

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