

Generation process of earthquake-related turbidity currents along the mid slope terrace on the Japan Trench inner slope

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We conducted radiocarbon age determinations for bulk organic carbon of piston core sediment samples, recovered from the mid slope terrace on the Japan Trench inner slope, 36.6-40.8 N, 142.8-144.2 E, water depth 4203-6217 m, during the NT13-19 and YK14-E01 cruises. The obtained conventional radiocarbon ages are assumed to be almost 2000 years older than actual ages based on the ages of the core top samples and of the intercalated age-known tephra.

Many deep-sea turbidites were intercalated in the cores. They are considered to be seismo-turbidites regarding the sedimentary structures, grain compositions and surrounded topographic conditions. Age differences between hemipelagic and turbidite muds suggest that remobilization of surface sediments by the earthquake is the important process for turbidite deposition on the terrace.

Keywords: earthquake, Japan Trench, turbidite, tephra, 14C age