A seismogenic turbidite formed by the Ansei-Tokai Earthquake in Edo Era obtained from surface core sample in the Enshu Trough

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Tokai district, central Japan, has been attacked by earthquake repetitively. A 7 cm-thick distinct sand layer was intercalated in the surface hemipelagite obtained from the Enshu Trough at 1500m water depth. Mass accumulation rate (MAR) of hemipelagic component of the upper part of the core was estimated based on dry bulk density, grain size distribution, and depth of Cs-137 appearance horizon. On the assumptions of constant MAR of hemipelagic component, and so on, depositional age of the sand layer was estimated as 1830 to 1860's. It is most likely that the sand layer was seismo-turbidite triggered by Ansei-Tokai Earthquake taking into account of its magnitude (M = 8.4), closest position of epicenter (34.0 N, 137.8 E) to the coring site, and age (1854).