

Geological evidence of the tsunami inundation area during the historical Tokai earthquakes in the Otagawa lowland, Japan

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Tokai area's earthquake and tsunami history is inspected by using coastal geology of the Otagawa lowland, central Shizuoka Prefecture. Four historical tsunami deposits corresponding to AD 684, 887, 1096 and 1498 earthquakes occurred along the Nankai Trough have been reported from the excavation sites of the lowland (Fujiwara et al., 2012). Here we made a coring campaign to reveal the landward extent of these tsunami deposits and reconstruct the inundation distance of the paleo-tsunamis. We used orient-controlled sediment core sampler named as Long face, as well as conventional drilling machine and obtained a total of 53 continuous sediment cores along three transects in shore normal direction, the longest transect reaches about 3.8km inland. Cores are 90-100 mm diameter and 2 to 25 m long (deep).

Here we introduce a preliminary result along a survey transect. Some sand beds showing a fining landward trend were found in the transect. These sand beds suggest the deposition by inundated tsunamis. According to radiocarbon ages, these sand beds formed after the 7th century and probably originated from the historical Tokai earthquake.

Keywords: Tokai earthquake, Tsunami, Tsunami deposit, Historical earthquake, Shizuoka