

Coastal submergence events identified by fossil diatoms and plant macrofossils at Ukishima-ga-hara adjacent to the Suruga Trough (eastern Nankai Trough), central Japan

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We identified eight episodic submergence events based on paleontological analyses on peaty sediment samples at Ukishima-ga-hara lowland in Shizuoka Prefecture, central Japan. Lithostratigraphy of sediment samples from Ukishima-ga-hara has no clear changes in facies, but changes in compositions of diatom assemblages and plant macrofossils suggest episodic submergence events. For example, at about 2.3 m and 3.1 m below the ground surface, while aerophilic diatoms (such as *Diadesmis contenta*) dominate underlying peaty layer, freshwater and brackish planktonic taxa (*Aulacoseira* and *Thalassiosira*) abound in overlying layer. Radiocarbon ages of plant macrofossils taken from samples just above and below the event horizons were used to constrain event ages. As the results of applying Bayesian estimation, the youngest one may be correlated with either 1707 or 1498 earthquake. The second one was with either 1361 or 1498 earthquake. The third one covers ages of 1096 and 887 earthquakes. These submergence events may be generated with coastal deformation associated with subduction zone earthquake along Suruga Trough and/or active fault earthquake at Fujikawa-kako-fault zone.

Keywords: submergence event, diatom, plant macrofossil, radiocarbon dating, Fujikawa-kako fault zone