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Trace Of Tsunami Recorded In Tanabe Bay Sediment

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Tanabe Bay at Wakayama Prefecture in central Japan is receiving the damage of the tsunami many times by earthquake which has historically repeatedly occurred in the offshore Nankai Trough, because the Pacific Ocean is faced. The hinterland in Tanabe Bay is the prominent rainfall zone in Japan, and the influence of flood is also receiving. Tanabe Bay is an enclosed bay of 10 square km area, 28m maximum water depth, and 1.05 geographical enclosed index. Therefore, it seems to record the historical trace of tsunami and flood in the sediment of Tanabe Bay. In this study, the trace of tsunami and flood recorded in the sediment core collected from Uchinoura of Tanabe Bay was historically clarified by geochemical and stratiographical analysis of the core. The core samples were collected on the central sites in Uchinoura of Tanabe Bay in June, 2009. The core analyzed in this study is about 4 m length. The age of the core by the C14 method was 98B.C.±103yr at the layer of 393 cm depth, and by the Pb210 method was 1891A.D. at the 80-90 cm layer. Water content, major elements and minor elements of the core sample were determined. The trace of tsunami and flood was evaluated by the vertical distribution of the analytical results of the core. The abnormality of the temporal distributions of water content and chemical component in the core and the age recorded in archives which the events such as tsunami and flood occurred in a past agreed well. It seemed to record the trace of these natural events in the sediment by the deposit of the exogenous material carried by tsunami and flood. From the historical trend of the concentrations of calcium, strontium, and sulfur which are the major component of coral, the coral population gradually decreases in Tanabe Bay during past about 2000 years clarified. This work supported by Grant-in-Aid of Disaster Prevention Research Institute, Kyoto University. (Grant number 23G-06)