Transportation and sedimentary process of fine detrital particles in the Yangtze delta during the late Holocene based on ^{14}C ages of shell fossils, benthic foraminifera, and organic carbon and their paleo-climatological implication

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The Yangtze River is one of the largest river in the world and discharges large amounts of water and sediments into the East China Sea. Such an abundant sediment supply resulted in development of the Yangtze delta during the late Holocene. Initiation and evolution of the Yangtze delta have been discussed using inland and subaqueous sedimentary cores around it.
At present, more than 90 % of the sediments discharged from the Yangtze River are transported in the form of suspended particulate material (SPM). It is generally believed that a part of SPM (= fine detrital particles) shed from the river mouth deposited in the delta and the rest is carried southwestward along the coastline of Southeast China and eventually deposited to form the “Mud Belt”. However, less attention has been paid about how detrital particles discharged from Yangtze were transported and deposited within and around the Yangtze delta.
We drilled the Yangtze delta to reconstruct changes in SPM provenance and examine their relation with climate changes within the Yangtze drainage basin. We conducted ^{14}C dating of shell fossils, benthic foraminifera, and organic carbon to establish the age model. Contrary to our expectation, the result suggests complicated process and/or history of deposition of fine grained detrital particles within the Yangtze delta. We will discuss implications of the result to the sedimentation of fine detrital particles in the Yangtze delta and its possible linkage with the climate change within the Yangtze drainage basin during the late Holocene.

Keywords: Yangtze River, Sediment transportation, 14C dating, Late Holocene, Paleoclimatology

