Reconstruction of the Kuroshio and Continental Coastal Diluted Watersduring the last 20 kyrs in the Northern East China Sea

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The East China Sea (ECS) is one of the marginal sea in northwestern Pacific and its water mass is mainly composed of the Kuroshio current and the Continental coastal diluted waters. Continental coastal diluted waters is originated from Chinese continental fresh waters containing abundant suspended organic matter from Changing and Yellow Rivers, and occupies by the shell waters of the very large continental shelf. The Kuroshio and the Continental coastal diluted waters are quiet different each others: i.e. the Kuroshio is high-temperature, high-salinity and low-nutrient, the Continental coastal diluted water has low-temperature, low-salinity and high-nutrient. KY07-04 PC1 (14.1 m length) is composed of olive black silt and clay, and two ash layers, Kikai-Akahoya (K-Ah) and unidentified ash layer, and intercalated at 4.89-3.65 m and 9.20-9.12 m, respectively. The interval 13.1-10.8 m is characterzed by sediment lithology with f thin laminations. In the present study, we use the age assignment constructued by Yokoyama et al. They determined AMS 14C ages of 12 sequences based on planktonic foraminifers and made correlation of the ash layers. The calibration indicates ca. 18.9 cal. Ka at the core bottom. Sedimentation rate is 49.2-166 cm/kyr (average; ca. 72.0 cm/kyr in average). We will generated high-resolution analysis of radiolarian abundance on KY07-04 PC1 collected from the northern part of ECS in order to reconstruct the Kuroshio current and the- Contental coastal diluted waters and the oceanic front since LGM using radiolarian fossil.

Based on the relative abundance variation the radiolarian record through the core can be divided into three stages, Stages I, II and III. Stage I (18.9-14.7 cal. ka) is marked by increasing L. setosa which suggests cold and nutrient rich waters was very strong. Further abundance of the tropical dweller species is low and while the subarctic dweller species increase. Therefore there was cold event during this stage. Stage II (14.7-12.3 cal. ka) is characterized by abundant occurrence of the warm species Tetrapyle octacantha/Octopyle- stenozona group which suggests increased inflow of the Kuroshio current. Stage III (12.3 cal. Ka-present) is characterized by increased L. buetschilii and Tetrapyle octacantha/Octopyle stenozona group which suggests that the Kuroshio current has been strong like as today. Warm species of the tropical and subsurface dweller species increased and while cold species of the transitional and subarctic dweller species are slightly decrease. Moreover the result of TSR value is small since 12.3 cal. Ka and then surface layer is thick. Therefore there was warm event during this stage.

The result of Tr value which indicate relatively SST is interpreted as follows.Firstly Tr decrease during 18.9-14.6 cal.Ka, because it is during the last glacial and Tr increase during 14.6-14.0 cal.Ka because it is during Bolling-Allerod period. But during Yanger Dryas age. As a result, there was a warm event in the northern ECS, which coincided with Bolling-Allerod period, but there was not cold events which Yanger Dryas period. The absolute of Yanger Dryas period like-cooling events is a notable character in northern East China Sea.