

The temporal changes in productivity of the Japan Sea Proper Water during early Pleistocene

Akihisa Kitamura[1]

[1] Insti, Geo, Shizuoka Univ

On the basis of the stratigraphic distribution of warm-water molluscs and planktonic foraminifers in Plio-Pleistocene strata of the Sea of Japan coast of Japan, the warm Tsushima Current flowed at every interglacial highstand, except for MIS 25, 23 and 21.3, at 1.71 to 0.8Ma. It is worthy that the planktonic foraminifer *Globoconella inflata* appeared at MIS 57,47,45,43,41 and 29, because this species was recently found in surface sediment of the southwest Sea of Japan. From examination the recent distribution of planktonic foraminifers between the northern East China Sea and the southwest Sea of Japan, I conclude that the population of *G. inflata* was extirpated by exceptional low temperature caused by the cool-water mass of Japan Sea Proper Water (JSPW). If this interpretation is correct, the occurrences of the species imply that the productivity of the JSPW declined in marine isotope stages 57, 47, 45, 43, 41 and 29. This predicts that the low productivity of the JSPW causes warming of middle and deep layers of the Sea of Japan. Consequently warm-water organisms including *G. inflata* will be able to invade into the area.