

## Paleoceanographic change off Kashima during the last 140 ka

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A giant piston core (MD012421, length 45.82 m) was retrieved from a water depth of 2,224m off Kashima, central Japan, during the IMAGES IV cruise in 2001. This core consists of olive brown homogeneous silty clay and contains many volcanic ash layers. The rapid sedimentation rate (about 33cm/ka) was estimated from oxygen isotope curve of the core. Oxygen isotopic ratios of the planktonic and benthic foraminifera, CT scanning, paleomagnetic analysis, mineral composition and major elements analysis, SST estimates from alkenones (UK37) and microfossil assemblages of diatom, coccolith, radiolarian, planktonic foraminiferal and benthic foraminiferal were carried out at 60cm (about 2,000 years) intervals. The general pattern of the oxygen isotopic curve is similar to the standard open-ocean oxygen isotope curve until MIS 6. The alkenon SST (19 degree centigrade) at the core top is equal to the present annual SST in this area. The SST changes in the core are similar to the general pattern of the oxygen isotopic curve. That is, the lowest value (13 degree centigrade) is found at the last glacial maximum (LGM).

The changes in the microfossil assemblages of diatom, coccolith, radiolarian, planktonic foraminifera indicate that the southward movement of the Oyashio Current occurred during glacial periods. The general trends of the current movements which were estimated from these different methods are similar and reasonable to the global climatic change. However, there are minor discrepancies among the results of these methods. Further considerations are needed to explain the discrepancies.