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Paleoceanography of the Pacific off Kashima during the last 22,000 years : Radiolarian record from core MD01-2421

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In order to study mechanisms of Quaternary environmental changes affecting the climate of Japan and its adjacent area, core MD01-2421 was recovered from the Pacific Ocean off Kashima by the IMAGES project. Based on radiolarian assemblages from this core, I tried to analyze marine environmental change during the past 22,000 years. It is well known that the climatic changes for the past 22,000 years in the North Atlantic Ocean involve the very cold condition of the Last Glacial Maximum, the warming event of Bolling Allerod period, and abrupt cooling of theYounger Dryas event. However, it is not well understood whether these climatic changes extended to Japan affecting oceanic currents around Japan. Paleoceanography of the intermediate layer of the ocean has not been much studied so far. Radioraria that inhabits surface layer to the great depth of the ocean is suitable for the analysis of the vertical structure of the ocean. Cycladphora davisiana is here in nominated for an index of cold, highly-oxydized intermediate waters. The reconstructed surface water condition has largely followed the well known global climatic history since the LGM, but any cooling signals are not detected around the Younger Dryas period. However, intensified cold, highly-oxydized intermediate water in the Younger Dryas period is suggested by increased C. davisiana abundance.

Keywords: Last Glacial Maximum, Younger Dryas