

Changes of vertical water masses in the southwestern Okhotsk Sea during the Holocene

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Micro-assemblages, such as diatoms, radiolarians and benthic foraminifers, recorded in the cores from the southwestern Okhotsk Sea show clearly stratigraphic variations with environmental changes. Gravity core GH01-1011 (5 m long) was obtained from off Shiretoko Peninsula of the Hokkaido Island (44-16.5 N, 144-58.5 E, 800 m in water depth). AMS C-14 measurements performed on mollusks reveal that a detailed record of climatic changes during the last 3.2 kyr. Radiolarian species *Cycladophora davisiana*, which is an intermediate water indicator, abundantly occurred during the last 2 kyr, but is absent or sporadic before that period. The occurrence of benthic foraminiferal fauna as a bottom water indicator also changed at the same period. Three maxima of *C. davisiana* during last the 2 kyr indicate millennium oscillation of the intermediate water. Maxima of sea-ice related diatom species tend to increase in the same periods of *C. davisiana* maxima. On the other hand, two maxima of radiolarian species *Spongotrochus glacialis*, a low salinity surface water indicator, correspond to minima of *C. davisiana*. These observations suggest that the intermediate and deep conditions of the sea are closely related to the surface condition.