

Reconstructing a last deglacial history of surface condition in the subarctic North Pacific

Takuya Sagawa[1]; Ken Ikehara[2]

[1] CMCR Kochi Univ.; [2] IGG, AIST

We have conducted a paired analysis of Mg/Ca and oxygen isotope of benthic and planktonic foraminifera picked from a sediment core GH02-1030 (42 14N, 144 13E, 1212 m). GH02-1030 core locates the Oyashio Current region, which is a westernmost current of the North Pacific subarctic circulation. Several anomalous high element/Ca values were detected in glacial portion of core GH02-1030, and these high element/Ca peaks were accompanied by negative carbon isotopic anomalies. Previous studies in this region suggested that the foraminiferal negative carbon isotope anomaly was a evidence of methane release from seafloor. Therefore, these foraminiferal element/Ca anomalies in GH02-1030 were possibly caused by authigenic carbonate formation as a result of methane release in the sediment. Deglacial oxygen isotope variation of *G. bulloides* resembles records from the western subarctic gyre (WSAG), Okhotsk Sea, and Bering Sea. This result implies that the deglacial history off northern Japan was similar to those of WSAG and its adjacent marginal seas. The oxygen isotope of seawater changed at 15 kyr BP, coincident with oxygen and carbon isotope changes of benthic foraminifera and preservation of laminated layer. This implies that sea surface salinity change could affect the intermediate depth condition at that time.