

Changes of mid-depth circulation in the Northwest Pacific during the past 30,000 years based on foraminiferal radiocarbon ages

Naokazu Ahagon[1], Ken'ichi Ohkushi[2], Masao Uchida[3], Toshiaki Mishima[3]

[1] MIO, JAMSTEC, [2] Ibaraki Univ., [3] JAMSTEC

We attempt to reconstruct mid-depth circulation of the northwest Pacific during the past 30,000 years, especially around the Younger Dryas cooling episode which is thought to be attributed to collapse of the global thermohaline circulation. Although this cooling event might enhance the intermediate water formation in North Pacific as similar as glacial condition, the evidence is not well detected.

Rapidly accumulated sediment cores (MR01-K03 PC4/PC5; water depth:1366m) recovered at off the northern coast of Japan were used for reconstructing the paleoventilation of mid-water in the northwest Pacific. Foraminiferal AMS-14C results suggest that (1) sluggish mode of ventilation was occurred at the early deglaciation, (2) ventilation was increased at onset of the Younger Dryas event, but the strength of ventilation might be similar with today. However, the latter requires the another source of ventilated waters other than the high-latitude of North Atlantic for explanation.