

Radiolarian faunal changes in the northwestern Pacific off Shimokita Peninsula during the last 35 kyrs

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Two long piston cores recovered from the northwestern Pacific off Shimokita Peninsula contain a high-resolution record of paleoceanographic changes since the last glacial period. Radiolarian analysis was completed on samples spaced every 200 to 400 years. The radiolarian assemblages records revealed past conditions of mid-depth that were occupied by the intermediate waters as well as of surface and subsurface layers. According to the paleoceanographic reconstruction by the radiolarian faunal changes, the surface water conditions off Shimokita Peninsula after the Last Glacial Maximum have been affected to some degree by the outflow water from the Japan Sea. The mid-depth and bottom water conditions might be affected not only by the mid-depth ventilation of the northwestern Pacific but also by the outflow water from the Japan Sea that seemed to control the surface water productivity off Shimokita Peninsula, especially under the less oxic condition in the deglaciation. Furthermore, the radiolarian faunal changes suggested that the active outflow of the Tsushima Current might have started at 3 kyr BP. The less oxic condition occurred at the intermediate depth being related to the highly productive Oyashio water. The oceanographic conditions off Shimokita Peninsula, which are same as those of today, were formed after 3 kyr BP.