

A 20 000-year record of climatic and hydrological events from the Okhotsk Sea as evidenced by benthic foraminifers

¹Basov, I.A. and ²Khusid, T.A. ¹Institute of the Lithosphere of Marginal Seas, Russian Academy of Sciences, Moscow, Russia; ²Institute of Oceanology, Russian Academy of Sciences, Moscow, Russia

Benthic foraminifers in the radiocarbon-dated upper Pleistocene-Holocene sediments sampled in the Okhotsk Sea from the Akademii Nauk Rise (Core V34-90; coordinates: 48°49,9N, 150°27,6E; water depth 1590 m; core length 333 cm) and northern Kuril Basin (Core V34-98; coordinates: 50°06,6N, 153°12,0E; water depth 1175 m; core length 330 cm) show significant changes related to past climatic and hydrological events. It is shown that during the last 20000 years, the Okhotsk Sea bottom was populated by several assemblages, which successively replaced each other in response to changeable environments and corresponded to three main stages in the late Pleistocene-Holocene evolution of the basin, or three climatic-stratigraphic intervals: the last glacial stage (20-12.5 ka), deglaciation (12.5-8.5 ka), and current interglacial, or postdeglaciation period (the last 8.5 k. y.).

Despite the close spatial position of studied cores, foraminiferal assemblages from these two areas reveal noticeable differences in composition related to the different-scale influence of warm intermediate Pacific waters entering the basin via the Kruzenstern Strait in the northern part of the Kuril island chain.

Changes in the structure of foraminiferal assemblages are consistent with data on the O-isotope composition in their shells.

The work was supported by the Russian Foundation for Basic Research (projects 99-05-65604 and 97-05-64924).