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Late Holocene surface and deep water change in the southwestern Okhotsk Sea

takuya itaki[1], Ken Ikehara[2], Jiro Komori[3], Chieko Shimada[4]

[1] AIST, [2] MRE, AIST, [3] Graduate course of Geography, Tokyo Metropolitan Univ., [4] Dept. of Geology, National Science Museum

Five sediment cores were collected from the southwestern Okhotsk Sea. All of the cores were correlated using color profiles and tephrochronology each other. Radiocarbon ages of bulk organic carbon in three cores from offshore sites (probably belonging to the territory of East Sakhalin Current water) indicated the older ages than those from nearshore sites (belonging to the territory of Soya Warm Current water), suggesting higher contamination of older terrigenous carbon in the offshore cores. Laminated sediments with slightly high Sulfur content were found during 1-2 ky BP in a core collected from the eastern slope of Kitami-Yamato Bank. Major chemistry suggested the change of particle source between the laminated part and non-laminated parts. Radiocarbon ages in the laminated part showed remarkably older ages than those in non-laminated part. Warm-water diatom, Fragilariopsis doliolus only occurred in the non-laminated part. There facts indicated that material source might change during 1-2 ky BP according to southward expansion of the offshore water mass including the older organic matters due to weakening of the Soya Warm Current, and the bottom water circulation might change related to the surface water environments in the southwestern Okhotsk Sea. This marine environmental change might correlate to the colder land climatic event during 1-2 ky BP called Kofun Cold Episode.