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Thermohaline structure and water circulation in the contact area between the Norwegian Sea and the Barents Sea in summer 1988

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Abstract

Results of vertical STD soundings carried out in the testing ground located in the Norwegian and Barents Seas contact area served as the basis for analysis of thermohaline structure of this region. Water dynamics was evaluated at certain depths with the application of geostrophic flows calculated by the dynamic method (Zubov and Mamayev, 1956). Spatial distributions of temperature, salinity, enthalpy and salt content in the water column were analyzed and related with the geostrophic circulation field in the region of study. The magnitude of geostrophic heat and water transport through a cross-section along 17 degree E were evaluated. The scheme of Atlantic water transport in the testing ground is also presented.