

Hydrological regime and water volume transport in the Faeroe-Shetland Channel in summer of 1988 and 1989

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Abstract

This paper deals with the hydrological regime and the water volume transport in the Faeroe-Shetland Channel in early summer of 1988 and 1989. The oceanographic conditions in channel and in its vicinity are reviewed briefly. Then, some thermohaline and dynamical analyses are presented. The results are based on the vertical CTD soundings carried out during the cruises of R/V *Oceania* in the region of the channel in July 1988 and in July 1989. The upper part of the water column in the channel, down to the bottom of the main pycnocline, was warmer and more saline in 1988. However, the net transport of warm waters with $\Theta \geq 3^{\circ}\text{C}$ was oriented to the north, and was rather larger in 1989 (1.8 ± 2.0 Sv) than in 1988 (1.0 ± 1.0 Sv). The cold water ($\Theta < 3^{\circ}\text{C}$) net transport (0.65 ± 0.35 Sv) was directed into the Norwegian Sea in 1988, in contrast with 1989, when it (-0.65 ± 0.56 Sv) was directed into the Atlantic Ocean.