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Volume, heat and freshwater transport in the Irminger Current

Femke de Jong (1,2), Laura de Steur (1,3), and Stelios Kritsotalakis (4)

(1) Royal Netherlands Institute for Sea Research, Texel, Netherlands (femke.de.jong@nioz.nl), (2) Duke University, Durham, USA, (3) Norwegian Polar Institute, Tromso, Norway, (4) Alfred-Wegener-Institut, Bremerhaven, germany

The Irminger Current, on the western flank of the Reykjanes Ridge, is part of the cyclonic circulation around the Irminger Basin. In the upper water column the Irminger Current transports relatively warm and saline water originating from the North Atlantic Current. In the lower water column the flow along the ridge consists of North East Atlantic Deep Water. The total water column transport of the Irminger Current is measured by five moorings along the AR7E section. These moorings are part of the Overturning of the Subpolar North Atlantic Program, which measures the Atlantic Meridional Overturning Circulation transport between Newfoundland and the European continental shelf. Here we present the first two years (2014 to 2016) of volume, heat and freshwater transport estimates of the Irminger Current moorings. The mean volume transport is 5.7 +- 6.7 Sv. The transport shows high variability on time scales of 7 to 35 days, indicative of meso-scale variability. Large current structure changes correspond to changes in the basin-wide hydrography, such as winter convection in the center of the basin. Overall, the low pass transport time series shows a correlation with the cross current gradient in sea surface height, which is promising in terms of long-term sustained observations.