



## **Observed long-term transport variations at the inflow to the subpolar gyre at 47°N**

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In the western North Atlantic, warm and saline water is brought by the Gulf stream system and the North Atlantic Current (NAC) from the subtropics into the subpolar gyre, thereby forming the main upper branch of the AMOC. We present geostrophic velocity measurements from an array of inverted echo sounders at the inflow to the subpolar gyre at 47°N in the Newfoundland Basin between 2013 and 2016. The separation in the different segments allows to resolve the NAC, the Newfoundland Basin recirculation and the inner basin transport. We additionally exploit the correlation between the transports measured by the inverted echo sounders and the geostrophic velocities from altimetry data and extend the time series of NAC transport and recirculation back to 1993. We will discuss the transport and recirculation means and trends, resolve the variations from daily to inter-annual time scales, and investigate possible relations to the North Atlantic Oscillation and to our transport measurements at the Mid-Atlantic Ridge.