



## **Variability of the North Atlantic Current: high resolution model data versus in situ measurements**

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The North Atlantic Current (NAC) provides an important heat source for the relatively warm winters in Western Europe by bringing warm and salty tropical/subtropical water into the subpolar gyre of the North Atlantic. The NAC is the northward extension of the Gulfstream and its warm and salty water form the warm upper branch of the Atlantic Meridional Overturning Circulation (AMOC). The NAC crosses the Mid-Atlantic Ridge (MAR) via the Charlie-Gibbs, Faraday and Maxwell Fracture Zones between 47° and 53°N. Along that section an array of four inverted echo sounders with bottom pressure sensors (PIES) are deployed since 2006 and combined with altimetry to quantify the NAC transport and its variability. The observed transport time series is compared to the high resolution output of the VIKING20 model, a 1/20° North Atlantic model which is embedded in a global model of 1/4° resolution (ORCA25) via a two-way nesting. We compare the horizontal and vertical flow fields, the mean transport and the variability as well as the water mass characteristics.