



Observed weakening of the circulation in the western subpolar North Atlantic

Achim Roessler, Christian Mertens, and Monika Rhein

IUP-MARUM, Bremen University, IUP-MARUM, Oceanography, Bremen, Germany (mrhein@uni-bremen.de)

The large scale Atlantic circulation is important for the climate system and sea level, but most of the interior circulation is only known qualitatively. We use a combination of mooring and shipboard data as well as Argo and altimetry to quantify the mean, variability and long-term trends of the main AMOC components in the western Atlantic at 47°N in the time period 1993 - 2018. The topography plays a major role in the recirculation of of the northward flowing North Atlantic Current. The interior circulation declined significantly over the 25 year time period. most likely caused by the regionally different ocean warming.