

MOVE: Meridional Overturning Variability Experiment

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The objective of the MOVE project is to maintain an operational observing system to continuously sample the strength of the lower branch of the Atlantic Meridional Overturning Circulation (AMOC) at 16°N. The system extends from the western boundary to the mid-Atlantic ridge. The MOVE time series started in 2000, and has now returned almost 14 years of data.

The observing system consists of presently three moorings and two sets of two seafloor instruments each. The most recent field swap of instruments was in May 2013. In October 2013, MOVE carried out fieldwork to acoustically download data from all deployed assets, without physically recovering any of them. The resulting time series (Figure 1) demonstrates substantial interannual variability, with the more recent data looking similar to the earlier years, but substantially different flow strength and vertical structure in between. Analyses are ongoing, and results were presented at the 2014 US AMOC Science Team Meeting in September.

MOVE data have been used in the “State of the Climate in 2013” report, as well as the 5th IPCC assessment report (see bibliography). A paper by Köhler et al. (2014) uses early MOVE data to examine high-frequency variability, and the project continues to maintain its website at http://mooring.ucsd.edu/projects/move/move_intro.html.

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