

U.S. Atlantic Meridional Overturning Circulation (AMOC) Bi-monthly Update
August 2009

Under the guidance and support of relevant federal agencies (NASA [lead], NOAA, and NSF), the US ocean research community is focused on the 4th near-term priority of the Ocean Research Priorities Plan, the Atlantic Meridional Overturning Circulation (AMOC). Here we report significant events resulting from that effort during the previous two months:

US AMOC Activities

- Molly Baringer, Chris Meinen, and Silvia Gazoli attended the South Atlantic Meridional Overturning Circulation (SAMOC) second meeting in Paris, July 2 and 3 2009.

New Science Results

- Started in 2000 as a German CLIVAR project, MOVE (Meridional Overturning Variability Experiment), has integrated NADW flow over 1000km with “geostrophic” end-point moorings. The project has 9.5 years of continuous data, with a 97% data return on internal and boundary transport. The goal is to obtain decadal scale timeseries of the southward flow of the AMOC at 16°N. Uwe Send is evaluating coherence and connectivity of AMOC circulation and transports.
- Fiamma Straneo and Steve Lentz are working to quantify the freshwater export from Hudson Strait and identify the mechanisms which control its variability. They plan to estimate the fresh water export from Hudson Strait from four years of moored measurements and compare the export from the Hudson and Davis Straits to the freshwater content of the Labrador Current.
- A NASA-funded project by Xiao-Hai Yan and his colleagues is investigating what role, if any, satellite remote sensing could play in the study of deep ocean convection (DOC), and specifically to identify the existence of the surface signatures, before and after the formation of deep convection. They have already found that strong DOC events were developed by north-west wind driven by strong land-air-sea interactions, resulting in forming DOC and thus generating cyclonic flow fields.

Submitted by:

Susan Lozier, Duke University (AMOC Science Team chair)

Eric Lindstrom, NASA HQ