

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

Under the guidance and support of relevant federal agencies (NASA [lead], NOAA, and NSF), the US ocean research community has launched a focused effort to address 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:

Activities

- The first annual AMOC Science Meeting was held on May 4-6, 2009 in Annapolis, MD. Over 100 scientists attended the meeting. 37 oral presentations, including 6 invited talks, and 30 posters were presented. Feedback on the meeting content, format and logistics in the form of written evaluations was extremely positive. Digital copies of the presentations are available on the AMOC website (<http://www.atlanticmoc.org/>)
- The three US AMOC task teams (Impact of AMOC on Climate, AMOC Observations, and Synthesis and Mechanisms of AMOC) met in Annapolis to discuss current projects and priorities. These meetings were open to all participants at the Annapolis meeting.
- The US AMOC Science Team met at the conclusion of the Annapolis meeting to discuss 1) progress and plans for task teams and 2) US AMOC links to other national and international programs. A meeting summary will be submitted to *EOS* in early July. The Science Team is also considering a special volume for the publication of the science results from the Annapolis meeting.
- Molly Baringer, Chris Meinen, and Silvia Gazoli will attend the South Atlantic Meridional Overturning Circulation (SAMOC) second meeting in Paris, July 2 and 3 2009. As representatives of the US AMOC Science Team they will coordinate with international partners on plans for a South Atlantic observing system.

Science Results

- WHOI has completed its 2008 "Line W" cruises with the majority of intended moorings deployed. Cruise Oc452 - June 9-13, 2009 was successfully completed. During this cruise, the two remaining moorings in the array that we were unable to deploy in 2008 due to bad weather were installed. In addition, a sediment trap mooring associated with a companion biogeochemical program was recovered after a 2 year deployment. Next up - a hydrographic sampling trip along the mooring line and extending into the Sargasso Sea towards Bermuda on

R/V Endeavor Aug 31 - Sept 11. This NSF-funded 10-year effort to monitor the Deep Western Boundary Current will continue through 2013.

- Amy Bower, Susan Lozier and colleagues published a recent paper in *Nature*. Bower, A.S., M.S. Lozier, S.F. Gary, and C.W. Boning, 2009, Interior pathways of the North Atlantic meridional overturning circulation, *Nature*, 459, 243-247. Their work, supported by NSF, shows that the lower limb of the Atlantic Meridional Overturning Circulation is exported equatorward primarily via interior pathways. These results have implications for how climate signals are transmitted at depth.

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