

The SAMOC (South Atlantic Meridional Overturning Circulation) program: Science results and an update on the observational components

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Abstract:

Given the complex, multiple time-and-space-scale nature of the Atlantic meridional overturning circulation (AMOC) system, achieving a more complete understanding of its behavior requires a comprehensive observing system, one that spans the entire Atlantic basin. Recognition of the critical importance of the South Atlantic to the AMOC cell led to the creation of the international South Atlantic MOC (SAMOC) initiative, which seeks to both encourage and coordinate AMOC related science in the South Atlantic region.

This presentation will provide an update on the status of the observational components of SAMOC. One major observational component of SAMOC is the South Atlantic MOC Basin-wide Array (“SAMBA”) along 34.5°S, an international collaboration with researchers from Argentina, Brazil, and the United States supporting the western side of the array, and from France and South Africa supporting the eastern side of the array.

Early work with SAMBA has already demonstrated that the AMOC is equally as strong and variable at 34.5°S as it is at 26.5°N. This presentation will provide an overview of SAMOC related advancements with a particular focus on the growth of SAMBA on both boundaries, the science already being produced from the arrays, and the plans to further instrument the trans-basin mooring line on the boundaries and the interior along 34.5°S.