

Observed Meridional Overturning Circulation transport variability in the North and South Atlantic: Recent results on structure, time scale, and amplitude

Christopher S. Meinen¹

¹Atlantic Oceanographic and Meteorological Laboratory, Miami, USA

Abstract:

The Meridional Overturning Circulation (MOC) is a complex system, and historical studies of the MOC have documented significant differences at various latitudes throughout the Atlantic basin. Recent expansions and extensions of the MOC observing systems in the Atlantic, from the implementation of the OSNAP array in the high latitude North Atlantic to the augmentation of the SAMBA at the southern entrance to the South Atlantic, have greatly increased the breadth of *in situ* time series data available for MOC studies. Together with other long-term observations throughout the Atlantic basin, including the RAPID-MOCHA-WBTS time series array at 26.5°N, the MOVE array at 16°N, the MOC array at 11°S, the continuation of the repeat hydrography/XBT trans-basin sections at several latitudes, and the key long-term boundary current arrays throughout the basin, these enhanced observations provide us with an unprecedented wealth of data for studying the links between the MOC throughout the Atlantic sector. This review talk will present selected highlights of recent observational studies of the structure of the MOC throughout the basin, and on the amplitude and time scales of MOC variability that are being observed at different latitudes.