

Observing the Atlantic Meridional Overturning Circulation (AMOC) at 26°N: new perspectives after the first decade of observations

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The RAPID-MOCHA-WBTS observing system commenced in 2004 and has now completed the first decade of observations at 26°N. Here we present the ten-year time-series of the meridional overturning circulation in the subtropical Atlantic. One of the most striking features so far observed is the downturn in 2009-2010 when the AMOC at 26°N was approximately 30% less than the long-term average (McCarthy et al 2012). Subsequently Cunningham et al (2013) linked this downturn to a reduction in heat content of the subtropical north Atlantic. Maidens et al (2013) concluded that reduced ocean heat content and associated SST anomalies enabled model hindcasts to predict the anomalously cold European winter conditions in 2010-2011. This suggests that there may be value in obtaining more frequent updates to the RAPID time series than the current system of cruises every 18 months allows. Here we consider the value of a reduced array that could be used with telemetry technology to obtain more frequent updates to the AMOC time series.