



Sources of variability of the overturning circulation in the subtropical North Atlantic

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The variability of the AMOC observed by the RAPID-MOCHA-WBTS array at 26°N can be separated into contribution from different locations. The relative importance of these contributions is dependent upon the timescale of the variability. On multi-annual timescales density anomalies on the western boundary, east of the Bahamas, is the dominant source of AMOC variability. On seasonal timescales flow in the Florida Strait, at the eastern boundary and in the Ekman surface boundary layer are also important. But variability of properties either side of the mid-Atlantic Ridge has not so far had a significant impact on the observed AMOC. Analysis of the different contributions is used in conjunction with other hydrographic data to diagnose the mechanisms of variability.