

**Title: A multi-model study of the 2009/2010 minimum in AMOC at 26N and sub-tropical Atlantic ocean heat content.**

Abstract: In 2009/10, the annual mean AMOC observed at the RAPID-MOCHA 26N array was ~30% lower than in the previous five years. Following this transient reduction in overturning, there has been a substantial and sustained cooling of the upper 1000m of the sub-tropical Atlantic.

We have investigated this event in three different data-assimilating ocean reanalysis products based on the 1/4 degree NEMO ocean model. We evaluate simulated ocean transports and their component parts (Ekman, Gulf Stream, geostrophic interior) using observations of the strength and vertical structure of the AMOC at 26N. The ocean reanalyses are then used to help diagnose the cause of the minimum in sub-tropical ocean heat content and investigate whether it is driven by a reduction of the AMOC or is simply a passive response to the atmosphere.