



Drivers of recent interannual variability of the Atlantic meridional overturning circulation at 26.5°N

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The Atlantic meridional overturning circulation (AMOC) is responsible for the northward transport of 10^{15} W of heat into the North Atlantic and has been linked to climate variability on a wide range of time scales. During 2009/2010, there was a transient 30% weakening of the AMOC that contributed to widespread cooling of the North Atlantic subtropical gyre. This cooling has been linked to re-emergent SST anomalies and the strong negative NAO during winter 2010. Here, we use simulations from the Met Office Forecast Ocean Assimilation Model (FOAM) system to investigate the relative importance of atmospheric forcings and internal ocean dynamics in driving this AMOC event. Our model experiments suggest that the atmosphere was dominant in driving the AMOC variability during 2009/10 and the associated ocean heat loss, by inducing changes in ocean heat transports.