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# The Atlantic meridional overturning circulation at 35N from deep moorings, floats, and satellite altimeter

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From 2004 to 2014, the Line W moorings measured a 0.7 Sv/yr slowing of the Deep Western Boundary Current (DWBC) offshore of Cape Cod. Here, we combine these deep mooring observations with float and satellite altimeter data and find that this DWBC change corresponded to a slowing of the cross-basin Atlantic Meridional Overturning Circulation (AMOC) of about 0.3 Sv/yr. Our AMOC transport time series corresponds well with the ECCO state estimate, particularly when the Line W mooring data influences our volume closure. We compare our 35N time series with a similar time series at 41N as well as the 26N RAPID AMOC, and find AMOC declines across datasets from 2004 to 2014. However, when we extend our analysis to 2004-2019, there are no significant trends at any latitude. These observations suggest that AMOC decadal variability is meridionally coherent from 26N to 41N and that the DWBC may reflect this variability. In this presentation I will highlight the value of direct DWBC measurements as well as the value of comparing multiple datastreams.

## Topic

Observational priorities –what should we measure?

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