

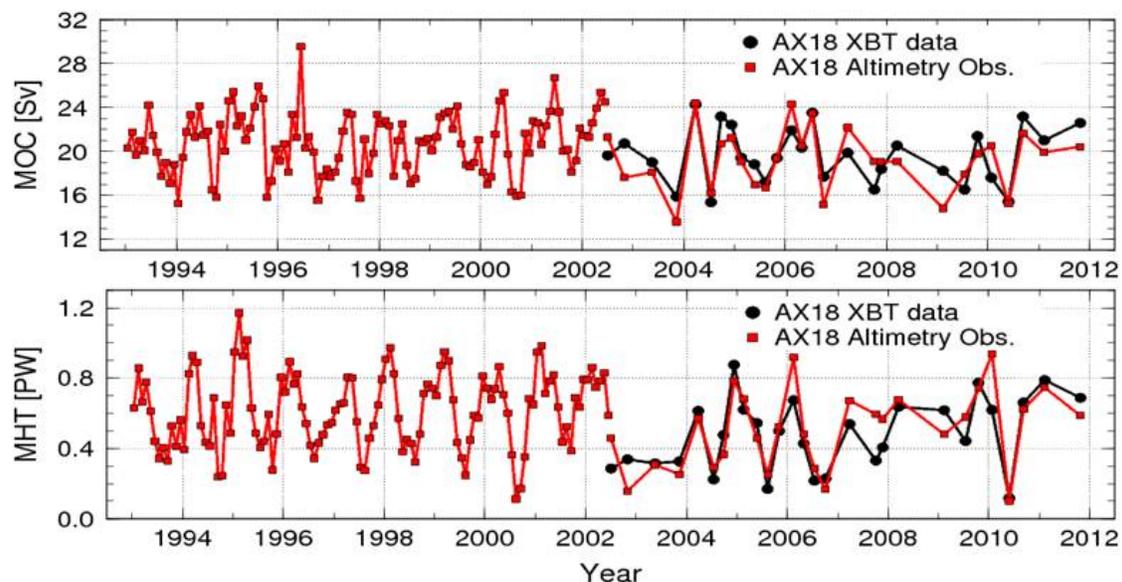
Assessment of the Meridional Overturning Circulation and Meridional Heat Transport and their Meridional Variability in the South Atlantic Ocean

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This project is geared towards making use of the 20+ years of continuous altimetry measurements combined with satellite-derived sea surface temperature (SST) and *in situ* data to estimate the MOC and MHT in the South Atlantic and to investigate their latitudinal and temporal changes in the South Atlantic.

To accomplish these goals, this work includes several well-defined components:

- Estimation of the temporal evolution of the MOC/MHT at every 5° of latitude from 20°S to 35°S since 1993;
- Assessment of the error of the above estimates through comparisons with XBT-derived estimates at 35°S and with CLIVAR A10 section estimates at 30°S;
- Assessment of the individual contributions of the geostrophic and Ekman components to the MOC/MHT at different latitudes;
- Investigation of year-to-year and inter-annual variability of the MOC/MHT and of their components (e.g., Ekman/geostrophic, gyre/overturning, boundary currents/interior, eddies/large-scale flow) and investigate potential links with wind forcing;
- development of South Atlantic 20-year proxies against which the performance of ocean general circulation models (e.g. HYCOM) and coupled climate models (e.g. CCSM4 and GFDL CM 2.1 and 2.4) can be evaluated;



MOC and MHT estimated from high-density XBT line (AX18, black line) and satellite altimeter measurements (red line).