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Atlantic Meridional Overturning Circulation Monitoring Using Contemporary Satellite Observations and in situ measurements

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Observations and climate model simulations suggest that the Atlantic Meridional Overturning Circulation (AMOC) may weaken resulting from anthropogenic climate forcing, which in turn might lead to significant cooling over the North Atlantic and its adjacent regions. In recent years, the availability of various satellites and in situ data allows the measurement of different components of the ocean circulation and its transport more accurately and provides potentially insights into the evolution of the AMOC. In this study we will focus on using the contemporary satellite measurements (multi-mission radar altimetry sea level and geostrophic current velocities, GRACE observed ocean bottom pressure and Alaska glacier and Greenland ice sheet melt water mass fluxes, and sea surface temperature GHRSST data products), and hydrographic data sets (tide gauges, MBT/XBT/Argo thermal sea level and Argo subsurface current velocities) to conduct a study on the possible monitoring of the present-day evolution of the AMOC.