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The recent AMOC variability in the Subpolar Gyre: results across the OVIDE section

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According to the subpolar AMOC index built from ARGO and altimetry, the AMOC amplitude across the OVIDE section (from Greenland to Portugal) was similar to that of the mid-1990s between 2014 and 2017, i.e. 4-5 Sv above the level of the 2000s. It then returned to average values in 2018. The same index computed independently from the biennial summer cruises over 2002-2018 confirms this statement. Interestingly, despite the concomitant cold and fresh anomaly in the subpolar Atlantic, the heat flux across OVIDE remains correlated with the AMOC amplitude. This can be explained by the paths taken by the North Atlantic Current and the transport anomalies in the subarctic front. In 2014, the OVIDE section was complemented by a section from Greenland to Newfoundland (GA01), showing how the water of the lower limb of the AMOC was densified by deep convection in the Labrador Sea. The spatial patterns of volume, heat, salt and oxygen transport anomalies after 2014 will be discussed at the light of the 2000s average.