

## Variability of currents and water masses in the southern subpolar North Atlantic - The NOAC observation system

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**ABSTRACT:** The "North Atlantic Changes" (NOAC) observation system is installed along key sections of the western subpolar North Atlantic. As part of NOAC, deep-sea moorings and inverted echosounders equipped with pressure sensors (PIES) are put into a ship-based framework consisting of repeated large-scale hydrographic surveys and tracer measurements. The overall goal is to determine and analyze variations in the main components of the upper and intermediate to deep oceanic circulation in the western subpolar North Atlantic. Focus is on the import and lateral distribution of subtropical waters carried across  $47^{\circ}\text{N}$  to higher latitudes by the North Atlantic Current (NAC) and on the formation and respective changes of different components of Labrador Sea Water (LSW) as seen in the hydrographic and tracer data. We furthermore study the high-latitude export of subpolar and subtropical waters across the Mid-Atlantic Ridge (MAR) into the eastern North Atlantic as well as the export of deep water components in the Newfoundland Basin across  $47^{\circ}\text{N}$  towards the south. Based on these efforts we present major findings and introduce present activities.

**ALL ARE WELCOME!**