



## **Multi-decadal variability of the eastern North Atlantic subpolar gyre**

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The Extended Ellett Line is a hydrographic section sampling the eastern North Atlantic subpolar gyre from Iceland to Scotland. The section samples the main warm-water path of the Atlantic meridional overturning circulation (AMOC) from the subtropics to the Nordic Seas and the cold-water return flow from the Faroe Bank Channel south of Iceland. Here we present property and circulation variability from 18 annual hydrographic sections since 1996. Uncertainties due to aliasing are examined using float-based products, model output and altimetry. Nearest to Scotland in the Rockall Trough we have 65-years of data showing multi-decadal variability of upper ocean heat and salt anomalies feeding into the Nordic Seas. The amplitude of temperature and salinity changes are 0.5°C and 0.08 (salinity), with highs in the mid-2000s. The anomalies are influenced by the strength of the circulation of the subpolar gyre and indicate large-scale changes. The causes of the observed variability of properties and circulation, the relationships between the basins, and the influence of the AMOC and atmosphere are discussed.