



Water mass transformation in the Lofoten Basin from 2 years of mooring data

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In the Nordic Seas, the Lofoten Basin is increasingly being recognized as an important component of the Atlantic Meridional Overturning Circulation. Large wintertime buoyancy loss and an energetic eddy field are hypothesized to contribute to densification of warm Atlantic waters as they flow toward the Greenland Sea. Despite this importance, details of the water mass transformation and transport within the region of closed topographic contours remains unclear. Here we present observations of hydrography and currents from a mooring deployed in the centre of the Lofoten Basin between June 2010 and September 2012. The data reveal the seasonal cycle of water column properties, with wintertime mixed layer depths to 600 m, highlighting the surface buoyancy loss. Eddies observed by the mooring are also shown to have a seasonal cycle, with a higher frequency of observation and eddy kinetic energy in the winter.