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Deep Western Boundary Current observations off Flemish Cap during 2009/2010

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Observations in the subpolar North Atlantic showed significant changes of watermass properties and decreasing Labrador Sea Water production rates throughout the last decades. At the same time altimetry data indicated a weakening of the subpolar gyre through the 1990s. Still, transport time series at the western boundary at 42° N and more recently at 53° N show little or no transport changes and are subject to strong interannual to decadal variability.

In summer 2010, a mooring array off Flemish Cap at 47° N was recovered from its first deployment. The array consisted of three moorings equipped with current meters and conductivity and temperature sensors and was located over steep topography. The array yielded observations of a very focused and narrow, southward Deep Western Boundary Current. Here we present and discuss the new time series of transport and watermass properties from the 2009/2010 deployment period.