



Atmospheric Forcing of Atlantic Water inflow to the Nordic Seas and Arctic Ocean

T. Furevik (1,2) and **A.B. Sandø** (3,2)

(1) Geophysical Institute, University of Bergen, Allegt 70, Bergen, 5007 Norway, (2) Bjerknes Centre for Climate Research, University of Bergen, Allegt 55, Bergen, 5007 Norway, (3) G.C. Rieber Climate Institute, Nansen Environmental and Remote Sensing Center, Thormøllensgt 47, Bergen, 5006 Norway

Here we combine model outputs, satellite altimetry, and coastal sea level data in a study of the mechanisms for, and history of, Atlantic Water inflow to the Nordic Seas. For the inflowing region the model captures both the seasonal and interannual variations found in the observational data sets (correlations between 0.7 to 0.8). Enhanced inflow through the Faeroe-Shetland Channel is to a large extent driven by wind stress and Ekman transports associated with atmospheric forcings resembling the positive phase of the North Atlantic Oscillation. Corresponding to increased inflow there are positive sea level anomalies in the subtropical gyre and on the shelves from the Bay of Biscay to the Barents Sea, and negative anomalies associated with the Icelandic Low and the extension of the storm tracks into the Nordic Seas.