Geophysical Research Abstracts
Vol. 15, EGU2013-4623, 2013
EGU General Assembly 2013

The densest overflow from the Nordic Seas has become warmer and more saline since 1995

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The overflow of cold and dense water from the Nordic Seas into the North Atlantic Ocean is the main source for the North Atlantic Deep Water that forms the lower limb of the North Atlantic thermohaline circulation, when including the waters that the overflow entrains on its way. The Faroe Bank Channel (FBC) is the deepest passage across the Greenland-Scotland Ridge and the overflow through this channel (FBC-overflow) carries about one third (2 Sv) of the total overflow. Since November 1995, currents have been measured in the FBC with moored Acoustic Doppler Current Profilers (ADCP) continuously except for short annual servicing periods and they show no significant trend in the volume transport of the FBC-overflow. Temperature measurements associated with the ADCP moorings represent the deepest and hence densest component of the overflow from the Nordic Seas. These measurements show interannual variations that may be linked to variations in the upstream depth from which the overflow water is drawn (Bernoulli aspiration) but, in addition, they show a clear warming trend. In parallel with the warming, the FBC-overflow has also become more saline, especially as regards the upper parts of the overflow column. In the presentation, these changes are related to changes in the upstream source waters and their effect on the density of the overflow is discussed.