Geophysical Research Abstracts,
Vol. 10, EGU2008-A-08882, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-08882
EGU General Assembly 2008

The passage of Canadian Basin Deep Water over the Lomonosov Ridge and through the Eurasian Basin of the Arctic Ocean: Results from the LOMROG-2007 ice breaker expedition.

G. Björk (1), P. Eriksson (2) and J. Nilsson (1)

(1) Department of Earth Sciences, Göteborg University, Sweden, (2) Finnish Institute of Marine Research, Helsinki, Finland (gobj@gvc.gu.se / Phone +46-317862858)

During the LOMROG-2007 ice breaker expedition to the area where the Lomonsov Ridge attaches to the Greenland shelf, we observed a well defined signal in water mass properties with clear CBDW origin. The major part of CBDW passes the Lomonosov Ridge at the 1870 m deep channel near the North Pole (pos) as was discovered during the Bringia/Hotrax 2005 exploration of the sill area. During the LOMROG expedition we observed the signal of CBDW along the Amundsen Basin side of the Lomonosov Ridge slope north of Greenland and further along the Greenland shelf towards east and south. The signal with Canadian Basin properties is clearly seen in the TS structure around 2000 m depth. The data shows that the flow is very much controlled by bathymetry in the depth range (600m-2000m) with Canadian Basin properties above shallower isobaths and Amundsen Basin properties above deeper isobaths.