Geophysical Research Abstracts, Vol. 7, 07252, 2005 SRef-ID: 1607-7962/gra/EGU05-A-07252 © European Geosciences Union 2005



## The influence of model resolution and local dynamics on the simulated overflow over the Greenland-Scotland Ridge.

S. Wilkenskjeld (1), D. Hainbucher (1), S.M. Olsen (2)

(1) Institute of Oceanography, University of Hamburg, (2) Danish Institute of Meteorology, (wilkensk@ifm.zmaw.de)

Simulations of the overflow region between Greenland and Scotland have been carried out with a fine scale regional model ( $\sim$ 4.5 km horizontal resolution). The model has been forced with oceanic data from a coarse scale global model and meteorological data from NCEP. The high resolution allows detailed studies of the overflow dynamics. Especially the high frequent variability over the Iceland-Faroe Ridge, often resulting in eddies, are considered. Comparing data from the regional and the global models reveals which parts of the variability are locally generated and which are carried into the area from outside. It is generally believed that hydraulic control determines the overflows through the major gaps in the ridge (Denmark Strait and Faroe-Bank Channel). This is captured in the fine scale model but probably not in the coarse scale model. Transport budgets and temperature and salinity distributions from the two models are presented and compared.