Geophysical Research Abstracts,
Vol. 11, EGU2009-7871-1, 2009
EGU General Assembly 2009

Historical examination of the winter convection in the Greenland Sea based on oxygen data

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Annual measurements of temperature and salinity have been made in the Greenland Sea during the last decades, particularly over the 75^0N section crossing the centre of the Greenland Sea. Temperature and salinity measurements can be used to examine the depth of the winter convection and in most years these parameters can give a good approximation of the convection depth, however, some years give inconclusive results.
Dissolved oxygen is another parameter that can be used for the examination of the convection depth. Sea water can only take up oxygen at the surface and an increased oxygen concentration at depth is therefore an indication of newly ventilated water. By looking at oxygen profiles over the whole water column and comparing successive years it is possible to give some statements on the convection depth.