



Forcing impacts on the convection variability in the Greenland Sea

A. Germe(1), M-N. Houssais (2) and C. Herbaut
LOCEAN

A unique historical data-set of high resolution conductivity-temperature-depth observations over the Greenland Sea region is used to assess the interannual variability of convection in the Greenland Sea gyre from 1990 to 2006. The influence of oceanic processes such as the input of Atlantic water (by baroclinic instability) and its hydrographic variability is estimated. By combining our data set and the ERA-40 reanalysis from ECMWF, we investigate the connection between the variability of the convection in the center of the gyre, and of the atmospheric forcing via surface heat flux, ice coverage and wind forcing. The relative importance of oceanic versus atmospheric effects will be quantified. Results obtained from the above observational data set will be compared and interpreted with the help of a numerical simulation of the Arctic-North Atlantic domain forced by the ECMWF ERA40 reanalysis.