Geophysical Research Abstracts, Vol. 7, 10481, 2005
SRef-ID: 1607-7962/gra/EGU05-A-10481

Greenland, the sea-ice and northerly windstorms in Iceland

H. Ólafsson (1) and T. Jónsson (2)

(1) University of Iceland, Icelandic Meteorological Office and Institute for Meteorological Research and (2) Icelandic Meteorological Office (haraldur@vedur.is)

Northerly windstorms over Iceland are studied in relation to orographic blocking east of N-Greenland and the extension of the sea ice. The northerly windstorms are shown to be relatively frequent during cold periods and in the spring, when the sea ice to the east of N-Greenland is at its maximum. The sea-ice contributes to cold low level airmasses that again contribute to increased blocking in easterly winds and also to a west-east low level temperature gradient north of Iceland. Both these factors give rise to increased northerly flow. The impact of the Greenland blocking and the sea ice on northerly winds over Iceland is illustrated with numerical studies of cases. A further study of the impact of the sea-ice and Greenland on meso- and synoptic scale strong winds and the wind climate is planned during the International Polar Year