Geophysical Research Abstracts
Vol. 14, EGU2012-12361, 2012
EGU General Assembly 2012

Numerical analysis of local acceleration and deceleration of atmospheric flow during a windstorm in the Bergen area

M.O. Jonassen (1), H. Ólafsson (1,2), J. Reuder (1), and J.A. Olseth (1)

(1) Bergen School of Meteorology, Geophysical Institute, University of Bergen, Norway, (2) University of Iceland and the Icelandic Meteorlogical Office

A storm that hit the southwest coast of Norway 10 January 2009 has been simulated at very high resolution. The coast of W-Norway is very windy, yet the city of Bergen is relatively calm. Numerical simulations removing stepwise the mountains surrounding the city have been carried out to shed a light on the Bergen shelter. The simulations indicate that the Bergen shelter is a combination of a blocking effect and a wake effect from the mountains to the south and to the north of the city. The blocking effect is somewhat stronger than the wake effect, while the combined blocking and wake effects are less pronounced than the sum of the two.