



On the persistency of mountain generated gravity waves in Iceland.

Marius Opsanger Jonassen (1), Hálfván Ágústsson (4,2), Haraldur Ólafsson (1,3), and Joachim Reuder (1)

(1) University of Bergen, Geophysical Institute, Bergen, Norway (marius.jonassen@gi.uib.no), (3) University of Iceland & Icelandic Meteorological Office, (2) University of Iceland, Reykjavík, Iceland, (4) Institute for Meteorological Research, Reykjavík, Iceland

Downscaling of the wind climate over Iceland along with observations from the FLOHOF field campaign, indicate a persistent downstream shift in the wind speed maximum over the main glaciers. This suggests that gravity waves are an integral part of the surface wind climate in Iceland, the probable cause being the reduced friction associated with Iceland's glaciated and sparsely vegetated mountains. A series of numerical sensitivity tests with the WRF model suggests indeed that surface friction plays an imperative role in determining the presence of the downstream wind maximum and thus the gravity waves.