



Reproducing mesoscale structures in flow over Hofsjökull during the FLOHOF campaign

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Hofsjökull glacier rises to about 1800 meters above sea level and some 1000 meters above its surroundings in the central part of Iceland. The glacier is fairly circular and symmetric.

During the summer of 2007, flow over and around Hofsjökull glacier in central Iceland was observed with a network of automatic weather stations, balloons and small unmanned aircrafts. The flow during the period has been simulated at high spatial resolution with the numerical model WRF, based on boundary conditions from the ECMWF.

In general, the airflow is well reproduced. This accounts both for thermally driven circulations as well as flow patterns that arise as a consequence of the synoptic-scale flow impinging the glacier. A major characteristic of the summertime windstorm is upstream deceleration and downstream acceleration. These features are reproduced, but the amplitude of both the acceleration and the deceleration tends to be somewhat underestimated by the numerical model.