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## The Greenland lee low and a forecast error of the 8 January 2005 Denmark windstorm

On 8 January 2005, a devastating windstorm hit southern Scandinavia. The 48 hours forecast of the deterministic model of the ECMWF gave much more realistic results than the 72 hours forecast of the same situation. By comparing these forecasts, the error in the 72 hour forecast is traced back to lack of outflow of cold air at low levels from Canada over the N-Atlantic. The lack of cold air outflow is associated with wrong representation of the Icelandic low (the Greenland lee low) which is about 20 hPa to shallow in a previous short range forecast of the same model. The comparison of the two forecasts brings the attention to the flow of airmasses in the vicinity of Greenland and Iceland and the importance of correct representation of these airmasses in NWP models. An ETKF (Ensamble Transform Kalman Filter) is run on this case to analyse regions where the forecasts are sensitive to observations and the results are compared to QG-based diagnostics.