Project 3: Comparing high resolution global model and local area model forecasts of wind speed at a windy location in Iceland.

Introduction: One of the long-standing discussions in operational meteorological modelling is whether it is better to run a global model at high resolution or to nest a very high resolution local area model within a global lower resolution model for local forecasting applications. In other words do the negative effects of lateral boundary conditions outweigh the advantages of the higher resolution which is possible with local area models. This project seeks to answer this question for a single location in Iceland, by comparing ECMWF global model forecasts with forecasts from Harmonie (French) and HIRLAM5.

Data: Forecasts of wind speed for Eyrarbakki, Iceland for one year (2014-2015), for forecast projections 3,6,9,12…48h. Forecasts are from the ECMWF model, run every 12h, Harmonie regional model, run every 6h, and HIRLAM5 also run every 6h. Data is organized chronologically by valid time; all forecasts which verify at each specific valid time (8 for the local area models and 4 for ECMWF) are grouped together.

Data setup: Since verification statistics will be generated separately for the different forecast projections, it would be best if the data were filtered according to that variable (4th column) to yield 16 datasets for projections 3,6,9,12….48h.