



Exploring the impact of neighbourhood size and height stratification in neighbourhood-based methods using single-site observation

Marion Mittermaier

Met Office, Weather Science, Exeter, United Kingdom (marion.mittermaier@metoffice.gov.uk)

One of the objectives of the MesoVICT project is to consider how well spatial verification methods work in complex terrain. The single-observation forecast neighbourhood (SO-NF) method described by Mittermaier (2014) considers model performance through using a forecast neighbourhood centred on an observing location. Comparisons are made in a relative sense, where the benefit of one model over another can be considered, but also relative to a skilful reference such as persistence. The method enables the comparison of ensembles and deterministic forecasts for a range of neighbourhood sizes and variables.

In this paper the impact of orographic height across a forecast neighbourhood is considered for precipitation and wind speed. A variety of height stratifications are tested and evaluated for the core case 1, for the period 20-22 June 2007. The impact of neighbourhood size in complex terrain is also explored.