



Comparing precipitation forecasts for the UK from high resolution operational NWP models

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The Met Office routinely runs two limited area versions of the Unified Model with horizontal resolution of 12km and 4km to provide detailed precipitation forecasts over the UK. In addition forecasts are available from the global model version with 40km horizontal resolution. Using data from the last 2 years an assessment of the benefits of the higher resolution models is made using both conventional and newer verification techniques.

The new objective verification methods include the intensity/scale technique and "fuzzy" approaches such as the fractions skill score. Composite radar estimates, provided by the Met Office Nimrod system for the UK, are used as observational "truth", as these provide much better spatial coverage and temporal frequency than conventional synoptic rain gauge networks. The impact of the uncertainty in the radar estimates on the verification is evaluated by comparison with precipitation analyses made from a high density climatological rain gauge network. These are only available and fully quality controlled a few months after the observing period and cannot be used for near real-time operational verification but the analyses provide an independent high quality benchmark for the radar composites. Greater knowledge of the characteristics of the radar and gauge data used as truth gives a better appreciation of verification results and leads to fairer conclusions being drawn in assessing how well the models perform. Demonstrating the value of the extra detail of the higher resolution models is a key objective.