



The sensitivity of verification to uncertainty in radar and gauge estimates of precipitation.

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Limited area numerical weather prediction models (LAMs) are now routinely run with high horizontal resolution of order 10km and less to provide detailed precipitation forecasts. Potentially the models can predict the likely severity of high impact weather such as flash floods and intense mesoscale convective storms. New objective verification methods such as the intensity/scale technique and "fuzzy" approaches like the fractions skill score are being used to evaluate the skill of these forecasts. Composite radar estimates, such as those 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. A study of the impact of the uncertainty in the radar estimates on verification of Met Office LAMs has been made using i) a priori estimates of radar accuracy, and ii) comparison with precipitation analyses made from a high density climatological rain gauge network. The latter observations are not available and quality controlled until a few months after the observing period and cannot be used for near real-time operational verification. However 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 will give a better appreciation of verification results and lead to fairer conclusions being drawn in assessing how well the models perform.