

Issues in Mesoscale Verification: Implications of the Verification of High-Resolution MM5 Forecasts over the Pacific Northwest

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During the past five years a real-time MM5 forecast system has been run twice a day at 36, 12, and 4 km grid spacing over the Pacific Northwest. These forecasts have been verified against a mesoscale observational database derived by collecting all available observations over the region. The verification approach has been based on interpolating model output to the observation location, in contrast to the grid box methods commonly used elsewhere.

This talk will provide a brief overview of the Northwest verification results and then turn to outstanding problems and issues regarding the verification of high-resolution model runs. It will be shown that although high-resolution simulations generally produce more realistic structures, timing and displacement errors in concert with traditional measures of forecast skill seriously penalize high-resolution forecasts. Furthermore, the effects of insufficient data density skew verification results to erroneously penalize high-resolution forecasts. If time permits, some suggestions for addressing these issues will be provided.

References:

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