

The RAL Seminar Series



NCAR

Statistical interpretation of NWP model output: A survey of methods

by

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Monday, June 16, 2008

Foothills Lab Building 2, Auditorium Room 1022

10:00 a.m.

Statistical interpretation methods for model output can be characterized both by the statistical technique used and by the nature of predictor data used for development of the statistical relationships. Model output statistics (MOS), perfect prog (PPM) or classical data processing approaches can be combined with statistical methods such as regression, discriminant analysis, or tree-based methods to generate a set of predictive equations.

Statistical interpretation methods may also be classified as "static", where equations are developed and applied to independent data without change, or "dynamic", where equations are redeveloped on a regular basis using updated training datasets. Dynamic methods arose because frequent changes to the driving NWP models required more frequent updating of the statistical relationships, and include methods such as Updateable MOS and the Kalman Filter.

These various statistical interpretation methods will be discussed in terms of their advantages and disadvantages for operational post-processing of NWP output, and examples will be shown. The survey will conclude with a discussion of new methods being developed for the post-processing of ensemble forecasts.