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Forecast Verification and the Closure of Forecasting Process

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This work deals with the verification of fourteen years of weather forecasts daily issued for tomorrow and the day after tomorrow over Friuli Venezia Giulia (Italy) by OSMER – ARPA FVG. The adopted operational verification scheme splits the weather forecasts in the sub-areas and variables which constitute the forecasts. For every variable, an observable is then defined using the available in-situ measurements (e.g., cloud-to-ground lightning occurrence, rain measurements, temperature measurements, ...).

The dichotomous foreseen variables (e.g., thunderstorm occurrence, rain occurrence, ...) are verified by way of the classical measurements derived from the contingency table (Murphy and Winkler, 1987). The measurements trend, analyzed through the "measurement decomposition" (Giaiotti et al, 2007), clearly demonstrates the positive influence of verification on forecasts quality. Some pernicious effects on the absolute value of quality, related to the definition of the observables, are shown as well.

The continuous foreseen variables (e.g., minimum and maximum temperature, rain amount, ...) are verified by way of classical measurements (RMS error, ...) and by way of categorical diagrams (Giaiotti et al, 2007), a generalized form of the attribute diagram. Categorical diagrams push the verification of continuous variables toward a more useful "distribution oriented" approach. Even in this case the positive feedbacks on forecasts quality and forecasts re-engineering (e.g., adoption of different scales for the continuous variables) are shown.

Currently, operational forecast verification is not carried out for Forecasters only, but

a resume of the forecast verification, realized for several sub-areas of Friuli Venezia Giulia and several variables, is made available (seasonly updated) on the web to increase People's awareness on forecasts' skill and to increase the cost/benefit use of these products

References

Giaiotti D. B., Steinacker R., Stel F. Atmospheric Convection: Research and Operational Forecasting Aspects. 2007. Springer Verlag, pp. 227.

Murphy, A.H. and R.L. Winkler, 1987: A general framework for forecast verification. *Mon. Wea. Rev.*, 115, 1330-1338.

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