

Value of forecast: forecast verification in user's perspective

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Recently, forecast verification and model validation have become popular topic in space weather research, especially, in operational space weather forecast. These verification studies focus on assessing a forecast skill in viewpoint of forecast providers. These are useful for forecasters or model developers to improve the forecast systems or models. On the other hand, the optimal forecast for a forecast provider is not always the optimal forecast for forecast users. Also, the forecast which is the optimal for certain user is not always the optimal for all users, that is, value of forecast depends on each user. Therefore, an assessment of value of forecast is important for forecast users.

In this study, we perform forecast verification in user's perspective. The decision-theoretic approach is employed to evaluate value of forecast. This method is not new, and already well-known in terrestrial weather forecasting community. However, it is not widely used in space weather forecasting community. We show some examples of value of forecast for a deterministic and probabilistic forecast. We will discuss the strength point of probabilistic forecast.

Keywords: Forecast verification, User's perspective, Deterministic forecast, Probabilistic forecast