EMS Annual Meeting Abstracts
Vol. 12, EMS2015-105, 2015
15th EMS / 12th ECAM

Challenge to Develop and Demonstrate New User-Oriented Forecast Verification Metrics

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The ability of stakeholders such as industry and emergency managers to effectively use forecasts of weather and its impacts can be greatly enhanced when the quality of the forecasts is measured in terms that are meaningful to the user. User-oriented verification has been identified as important to national meteorological and hydrological services, and is a key component of the WMO's THORPEX legacy projects - Polar Prediction (PPP), Sub-seasonal to Seasonal Prediction (S2S), and High Impact Weather (HIWeather), as well as the new WMO Aviation Research Demonstration Project.

Yet very few metrics exist to measure forecast quality in user-relevant terms. A good example, developed by the UK Met Office in consultation with the aviation industry, is the Flight Time Error which measures the difference between the actual flight time taken by an aircraft and the time estimated to "fly" the plane through the NWP model wind field. Errors in arrival time are meaningful to airlines, who can calculate the costs associated with reaching the gate early or late.

To encourage the development of user-oriented verification approaches, the Joint Working Group on Forecast Verification Research (JWGFVR) announces a challenge to develop and demonstrate new user-oriented forecast verification metrics. The challenge will consider all applications of meteorological and hydrological forecasts. The metrics can be quantitative scores or diagnostics (e.g., diagrams). Criteria for judging the best new metric will include originality, user relevance, intuitiveness, simplicity and ease of computing, robustness, and resistance to hedging. Metrics that have a clear statistical foundation and can be applied to a broader set of problems are especially encouraged. The winning entry will be awarded with an invited keynote talk at the 7th International Verification Methods Workshop in 2017.