

Communicating the value of probabilistic forecasts with weather roulette

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Abstract

In times of ever increasing financial constraints on public weather services it is of growing importance to communicate the value of their forecasts and products. While many diagnostic tools exist to evaluate forecast systems, intuitive diagnostics for communicating the skill of probabilistic forecasts are few.

When the goal is communication with a non-expert audience it can be helpful to compare performance in more everyday terms than 'bits of information'. Ideally, of course, the method of presentation will be directly related to specific skill scores with known strengths and weaknesses.

This paper introduces Weather Roulette, a conceptual framework for evaluating probabilistic predictions where skill is quantified using an effective daily interest rate it is straightforward to deploy, conies with a simple storyline and importantly is comprehensible and plausible for a non-expert audience. Two variants of Weather Roulette are presented, one of which directly reflects proper local skill scores. Weather Roulette contrasts the performance of two forecasting systems, one of which may be climatology. Several examples of its application to ECMWF forecasts are discussed illustrating this new tool as useful addition to the suite of available probabilistic scoring metrics.

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