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How to communicate uncertainty in severe weather forecasts?

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Abstract: Communicating uncertainty to lay audiences is as challenging as indispensable if people are to understand medical test results, gains from financial investments, or weather warnings.

Compared to risk communication in the medical domain, there is so far only limited evidence on how to best communicate uncertainty for continuous quantities, such as financial returns or wind speeds (Spiegelhalter et al., 2011).

The poster presents results from a longitudinal study investigating this question within a real-life setting. We implemented different representations communicating probabilistic weather forecasts within an online information system operated by the German National Weather Service. The system is used by fire brigade coordination centers throughout Germany to prepare for severe weather conditions.

By analyzing web usage and search behavior, we investigate which representations users rely upon under real operational constraints. We link the analysis to tests which representations are best understood and could thus aid emergency managers in their decisions.