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Forecasting extreme events with the crossing-point forecast

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The crossing-point forecast (CPF) is a new type of ensemble-based forecast developed at the European Centre for Medium-Range Weather Forecasts. The crossing point refers to the intersection between the cumulative probability distribution of a forecast and the cumulative probability distribution of a model climatology. Originally, the CPF has emerged as a consistent forecast with the diagonal score, a weighted version of the continuous ranked probability score targeting high-impact events. Ranging between 0 and 1, the CPF can serve as an index for high-impact weather and thus directly be compared with the well-established extreme forecast index. The CPF is also interpretable in terms of a return period and conveys a sense of a “probabilistic worst-case scenario”. Using a recent example of an extreme event affecting Europe, we illustrate and discuss the performance and specificities of this new type of forecast for extreme weather forecasting.

Ben Bouallegue, Z (2023). Seamless prediction of high-impact weather events: a comparison of actionable forecasts. [arXiv:2312.01673](https://arxiv.org/abs/2312.01673)