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A method to asses the extremity of an upcoming precipitation event

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The process of producing warnings of disastrous floods strongly depends on the quality of quantitative precipitation forecasting (QPF) which however, could be highly uncertain in the case of an extreme precipitation event. We suggest a method that could help in making a decision about the extremity of an upcoming precipitation event using only the numerical prediction of selected dynamic and thermodynamic quantities which is more reliable than the QPF.

The method consists of evaluation of the extremeness of several predictors which typically reach extreme values during extreme precipitation events in a particular area. A preliminary Large-Scale Flood (LSF) index was designed and tested using reanalysed data of ERA-40. Our contribution briefly presents the method, discusses the results of the testing, and concerns with current activities of improving the method.