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# Metastatistical vs Generalized Extreme Value Distribution for Modeling Extreme Rainfall in Austria

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The wrong estimation of daily rainfall extremes can have severe consequences in hydrological and engineering applications. Recent advances in the study of extreme rainfall have shown that the Metastatistical Extreme Value distribution (MEV) should be preferred over the Generalized Extreme Value distribution (GEV), whenever the number of years used for fitting is small compared to the quantile of interest. Here, a break-even analysis for a large number of sample years and return periods for Austrian daily rainfall data is presented. It shows that the MEV outperforms the GEV when the number of sample years is smaller than, and the estimated return period is larger than 30 years. Assuming that the MEV is justified for spatial modeling of daily precipitation extremes, this advantage almost vanishes when smooth spatial extreme value modeling is performed with the MEV instead of the GEV. However, the computational effort is drastically decreased when using an averaged version of the MEV.