



Supplement of

Considering rainfall events from a neighborhood improves local flood frequency analysis

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1 QSS of GEV_{all}

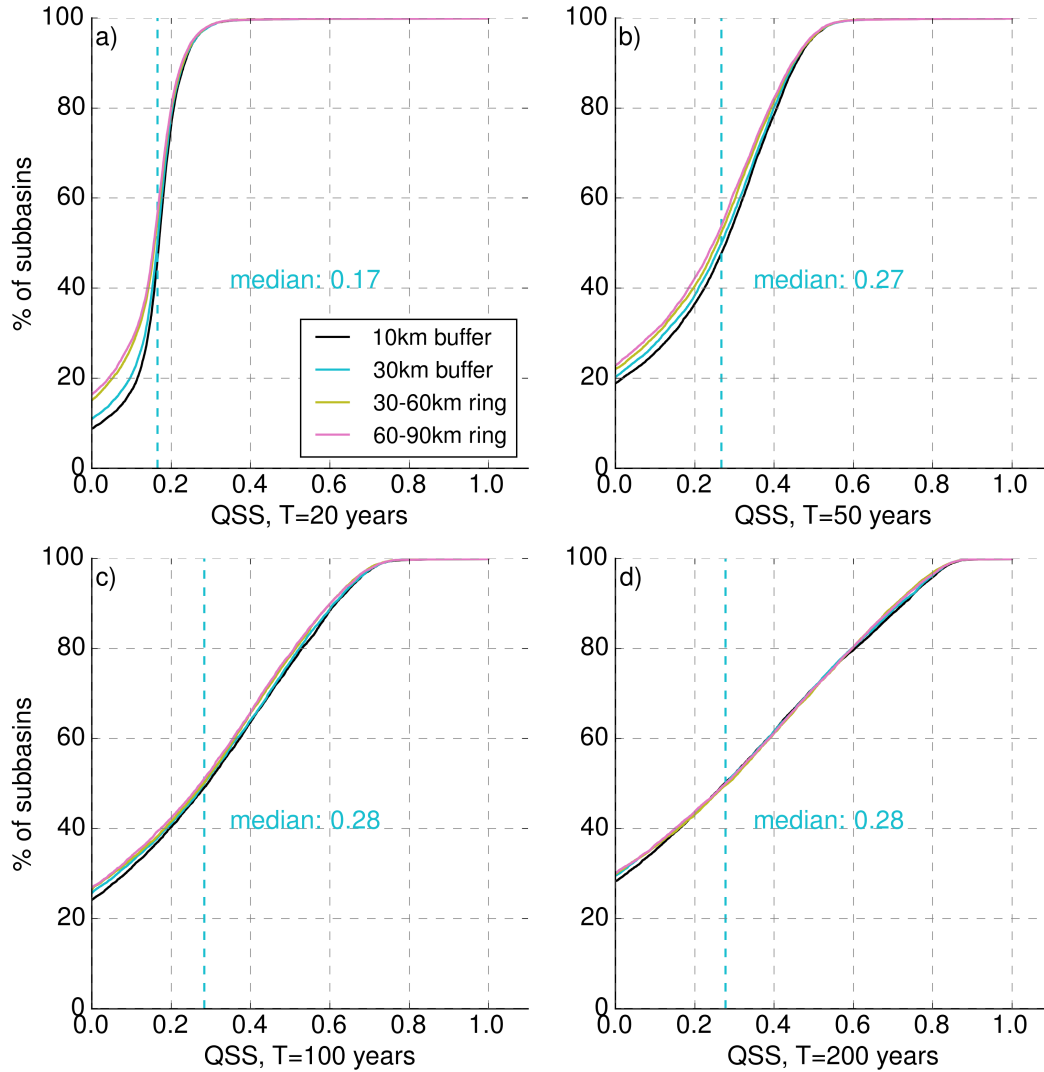


Figure S1. Cumulative distributions showing the quantile skill scores for GEV_{NCS} in reference to GEV_{all} , for all subbasins and for four different transposition domains (10-km buffer: black, 30-km buffer:blue, 30-60-km ring: yellow, 60-90-km ring: pink). Subplots a)-d) show different quantiles that relate to the a) 20-year, b) 50-year, c) 100-year and d) 200-year flood. A quantile score > 0 indicates the superiority of the GEV_{NCS} . The median QSS of the 30-km buffer is indicated with the vertical blue dashed line

Figure S1 shows the results for all TDs and for four different return periods (20, 50, 100 and 200 years). According to Fauer et al. (2021) negative values of the QSS cannot be easily interpreted which is why we show only $QSS \geq 0$. The inclusion of the data from the CoI improves the quantile estimation only marginally compared to GEV_{NCS} (Fig. 2).

5 References

Fauer, F. S., Ulrich, J., Jurado, O. E., and Rust, H. W.: Flexible and consistent quantile estimation for intensity–duration–frequency curves, *Hydrology and Earth System Sciences*, 25, 6479–6494, <https://doi.org/10.5194/hess-25-6479-2021>, publisher: Copernicus GmbH, 2021.