

Hydrol. Earth Syst. Sci. Discuss., referee comment RC3
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Comment on hess-2021-334

Anonymous Referee #3

Referee comment on "Flexible and consistent quantile estimation for intensity–duration–frequency curves" by Felix S. Fauer et al., Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2021-334-RC3>, 2021

The manuscript presents a very interesting and timely discussion on development of IDF curves using duration dependent GEV distribution. The authors have investigated various formulations of duration dependent GEV distribution by considering features like flattening, multiscaling and curvature observed in IDF curves. The discussion based on the comparison of the performance of different models is well presented.

Some minor points that need clarification are as follows:

- How was the value of z_n estimated (refer equation 13) for computing the Quantile Skill Index (QSI)? Did the authors perform any sensitivity analysis to evaluate the effect of plotting position used on QSI?
- The cross validation setting used needs a more clear explanation. How was the block for cross validation chosen?
- Section 2.6 on boot strapping and coverage is confusing and needs a more clear description.