

Hydrol. Earth Syst. Sci. Discuss., referee comment RC2
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Comment on hess-2021-580

Anonymous Referee #2

Referee comment on "Stochastic simulation of reference rainfall scenarios for hydrological applications using a universal multi-fractal approach" by Arun Ramanathan et al., Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2021-580-RC2>, 2022

Overall review comment:

This paper presents the use of universal multifractal to generate ensembles of rainfall time series that recreates the Intensity (I), Duration (D), and Frequency (F) of rainfall time series, commonly used in the design of storm-water infrastructure. This paper may become an essential contribution to the literature body of stochastic simulations of rainfall time series. However, I found two pitfalls in the paper: (1) There is no clear definition of the research gap (including connections to previous works), and (2) Even though the paper assesses their methodology, the discussion about the results is almost non-existent. I hope my comments provide a road map to improve the important contribution done by the authors. See the attached file for a detailed description of my concerns.

Please also note the supplement to this comment:

<https://hess.copernicus.org/preprints/hess-2021-580/hess-2021-580-RC2-supplement.pdf>