

Interactive comment on “The Probability Distribution of Daily Precipitation at the Point and Catchment Scales in the United States” by Lei Ye et al.

Anonymous Referee #2

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The topic is of interest for the HESS readership and the paper is overall reasonably well written. Unfortunately, the authors have not taken the opportunity to respond to the critique by the other reviewer. The critique seems legitimate and is serious as it suggests that all the full-record results and conclusions are invalid. In addition, the structure of the paper could use some work and the paper seems a bit unfinished as I will explain below.

It should probably be explained in the Introduction why “Establishing a probability distribution that provides a good fit to daily precipitation depths has long been a topic interest”.

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The research objectives are included in the subsection “Precipitation trends and changes”, which isn’t really logical. Consider restructuring the Introduction, for example, by adding a “Research objectives” subsection.

The Introduction is almost half of the paper. Considering shortening it or moving the less essential material to a background subsection.

Line 267: Regarding “less than “0.01” recordable precipitation,” what are the units of the 0.01? Isn’t this threshold too low given the detection limit of gauges (approximately 0.25 mm)?

Can you show some maps of the results to reveal what the spatial patterns in the results look like? Are there any striking differences between, for example, the temperate southeastern and arid southwestern US?

A Discussion section is missing from the paper. What is the broader significance of the results? Are the results representative of the rest of the world?

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2018-85>, 2018.

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