

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 #3

Received and published: 26 April 2018

General comments:

The topic of this paper is of interest to the HESS readers and has the potential to add to the large body of research on this important topic. However I, too, have some concerns that the authors have not yet responded to the thorough and thoughtful review from Referee 1. In addition to the comments from Referees 1 and 2, I have additional comments related to the methodology and the presentation quality of the paper. These additional comments are described below.

Specific/technical comments:

The ‘Introduction’ section describes in great detail the vast literature related to the top-
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ics of (1) stochastic precipitation modeling, (2) precipitation frequency analysis, and (3) precipitation trends and climate changes. In this thorough review it is apparent that the Pearson Type III (P3) distribution has not been considered as a candidate distribution to describe wet-day, AMS or PDS daily precipitation series. Yet the consideration of the P3 distribution is largely explored in this paper. Recommend the authors add why they believe the P3 is an appropriate distribution for the extreme values of rainfall.

Similar to Referee #2, I believe too much detail is presented in the ‘Introduction’ section. The lengthy discussion doesn’t add to the flow of the paper. Recommend reducing the literature review discussion, highlighting the important studies related to the topics in this paper and refer the reader to Table 1 for a more thorough review of previous studies.

Similar to Referee #2, a ‘Discussion’ section is missing in this paper and I recommend it be added.

234-239 is interpretive and describes the findings of this paper. This should be moved to the ‘Discussion’ and/or ‘Conclusions’ sections.

Similarly, the last sentence in the ‘Introduction’ section (lines 243-245) is interpretive and should be moved to the ‘Discussion’ and/or ‘Conclusions’ sections.

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