"The Probability Distribution of Daily Precipitation at the Point and Catchment Scales in the United States" by Lei Ye et al.

Response to Referee #2

We greatly appreciate you for your constructive comments and suggestions. Our responses to the comments are listed below.

Comment 1: 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".

Response:

We will explain why "Establishing a probability distribution that provides a good fit to daily precipitation depths has long been a topic interest".

Comment 2: 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.

Response:

Thank you. We will reorganize our introduction so that we state the research objectives explicitly at the end of Introduction section.

Comment 3: The Introduction is almost half of the paper. Considering shortening it or moving the less essential material to a background subsection.

Response:

Thank you. We will shorten the introduction section in the revised manuscript to focus attention on the distribution of wet-day precipitation.

Comment 4: 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)?

Response:

It is common practice in the U.S. to report daily precipitation amounts in inches and 0.01 inches is commonly considered the detection limit which is approximately equivalent to 0.25 mm. We will be sure to emphasize that units are in inches, or alternatively, we will transform all units to the metric system.

Comment 5: 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?

Response:

We will add maps to show the spatial pattern of the results.

Comment 6:   A Discussion section is missing from the paper.

Response:

We will add a 'Discussion' section before the 'Conclusions'.

Comment 7: What is the broader significance of the results? Are the results representative of the rest of the world?

Response:

We will add a discussion of the broader significance of the results to the manuscript. In short, with increased attention on the impact of climate change, an understanding of the distribution of daily wet-day precipitation is paramount for modeling such impacts. Importantly, the U.S. continent has extremely broad variations in climatic conditions so that the results of our study, which employ very large continental datasets, should be illustrative of most other regions of the globe, with the exception of extremely tropical and extremely frigid climates, of which there are none in the U.S.