

Overall, the authors have been responsive to reviewer suggestions, and the manuscript has improved relative to the first version. The authors have clarified several sections of the manuscript, particularly its framing, and have also moved material to the Appendix, which has streamlined the article favourably.

I maintain my opinion that the research is of high quality and is worthy of publication in HESS. In my opinion, the article is almost ready to be finalised. I have only a few suggestions of improvement, as below.

We thank the reviewer for their comments, both in this and the previous round of revisions. These have greatly improved the clarity of the paper, for which we are grateful. We address each individual comment below.

Firstly, in line 17 of the updated abstract (which is much improved!) I suggest to delete or alter the words "in a large-sample context". The danger is that the reader interprets this incorrectly to mean that the method is only applicable to multiple catchments. In practice, it is possible to apply it to one catchment only, if desired.

We have deleted the phrase as suggested.

Secondly, my earlier suggestion was left unanswered, namely I said:

"the authors ought to aim to clearly establish ... the need for the new method, couched in terms of the limitations of the existing method. [The manuscript] does not go into sufficient detail (saying only "abnormally high and low flows are associated with the greatest strain on hydrological systems"). Can we get a lot more detail here? Eg. for high flows, it could acknowledge/discuss that infrastructure is often designed according to estimates of flooding potential, so any changes to this potential are very important; likewise low flows are important eg. for riverine ecology among other things. Articulating these factors will help the reader understand why the new method is important, which will motivate them to keep reading."

I do feel it is always important to make the strongest possible statement of the relevance/importance of a manuscript to real-world outcomes. Thus, I would ask the authors to consider this again. I feel this would require only, say, three or four more sentences in the introduction. I note that the authors have added text clarifying the hydrology of low flows and high flows (a nice addition) but this is not the same as stating their importance to societal problems and/or to related fields of science such as aquatic ecology.

This is fair and we do wish for the broad relevance and applicability of this work to be clear. We have added the following to the introduction:

“Understanding the sensitivity of each of these components of the flow regime is important considering their unique roles in determining resilience and adaptability to climatic change. For instance, low flows are highly relevant for riverine ecology, water quality, and water availability for out-of-channel water uses like irrigation, power generation, and municipal water supply (Cooper et al., 2018; Smakhtin, 2001). High flows correspond to flooding, and understanding their distributions and probability is essential for flood frequency estimation and infrastructure planning, among other things (François et al., 2019). The typical approaches of estimating elasticity for a single point along the flow distribution are insufficient for the objective of characterizing flow response to precipitation change since the elasticity of the central summary of the distribution is unlikely to capture hydrologic behaviour in either low or high flow percentiles. “

Thirdly, I would just ask the authors to do a quick check to ensure all the edits they have described are in the final manuscript. For example, the extra words they suggest for the caption of Figure 1b, starting with the words "Note: In practice...", are not in the new version. I am confident this is merely an oversight, so a quick check should be sufficient to catch any similar omissions.

We have corrected this oversight and have validated that each of our other suggested changes were made with the previous revisions.

My compliments to the authors for this interesting and relevant research.

Thank you very much for the complimentary and constructive reviews!

Keirnan Fowler