

Hydrol. Earth Syst. Sci. Discuss., referee comment RC2  
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## **Comment on hess-2021-553**

Anonymous Referee #2

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Referee comment on "Advancing stream classification and hydrologic modeling of ungaged basins for environmental flow management in coastal southern California" by Stephen K. Adams et al., Hydrol. Earth Syst. Sci. Discuss.,  
<https://doi.org/10.5194/hess-2021-553-RC2>, 2022

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Dear Authors,

thank you very much for this work. I think the work is interesting but i have some suggestions that i hope help to improve the manuscript. My main concern is about the recent literature review in ungauged catchments. I miss some recent references. For example, the authors might want to have a look at the work from Almeida et al., Le Vine et al., Addor et al., Kratzert et al., Fenicia et al., Kavetski et al..

Also, there are some instances that requires clarification in the text and i provide a few more comments:

page 3: "singular streamflow metrics". Please, clarify/re-word

page 3: what about transferring hydrological index?

page 3: "network of models". Please, clarify/reword

page 3: "process-based". Just a suggestion, but you might want to specify conceptual instead of process based.

page 6: equations (1) and (2) and the remaining equations in the manuscript. Please, use

proper mathematical notation (eg matrices in bold, etc)

page 6: "1cfs". Could you please explain a bit why this specific number is chosen

page 6: "weighted classical (metric) multidimensional scaling" could you please provide some brief description, same for the c-index, Dunn, McClain and Silhouette.

page 7: "calibrated parameters inherently have greater uncertainty than directly calculated parameters". Please, explain a bit explicitly what you are trying to say.

page 7: "reciprocating model accuracy". Please, explain a bit explicitly what you are trying to say.

page 9: I think a flow chart with the specific steps would be helpful

page 13: "successful". I suggest you to elaborate this more, what do you mean by successful? why 1% was chosen and how?

references: please, check for the DOIs

In case that the editor asked for a revised manuscript, i will be happy to serve as reviewer of the revised manuscript

Best,

Reviewer