

Hydrol. Earth Syst. Sci. Discuss., author comment AC1
<https://doi.org/10.5194/hess-2021-553-AC1>, 2022
© Author(s) 2022. This work is distributed under
the Creative Commons Attribution 4.0 License.

Reply on RC1

Stephen K. Adams et al.

Author 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-AC1>, 2022

Thank you RC1 for the excellent feedback and opportunity to improve our manuscript. We have accepted and responded to all comments. In response to general feedback, we have bolstered the background with additional literature on hydrology and stream classification of flashy and ephemeral streams (revised revised lines 36-38; 100-101). We have also included additional language highlighting flashy and ephemeral streams (revised lines 16-17; 18; 45). We more clearly articulated differences between modeling general hydrology and modeling environmental flows (revised lines 81-83). We clarify "best current practices" (revised line 105). Additionally, we strengthened the background and discussion related to hydrologic model error and uncertainty (revised lines 196-198; 415-416).

For specific comments, we have corrected our interpretation of Lane et al. (2017) (revised lines 60-61). We changed "separate" to "separation" (revised line 65). We defined all acronyms prior to using (revised line 39, 45, 58, etc.). We substantially changed Figure 1 to eliminate county delineations, added the cities of Santa Barbara, Los Angeles, and San Diego, and changed the inset to show the western US. We specified "daily average streamflow" (revised line 161). We rewrote the final paragraph in Section 2.2.1 to provide more detail about methods and scripts for stream classification (revised lines 165-171). We also removed mention of specific R packages from the main text. The following paragraph in Section 2.2.2 was rewritten to provide further discussion of how highly correlated metrics were removed and to remove mention of specific R packages (revised lines 175-178). We removed mention of specific R packages from the following paragraph in Section 2.2.3 (revised line 183). Figure 2 was completely redeveloped into a more intuitive flowchart to provide a better visual tool for understanding this complex process. Finally, we reworded the reporting of our results to clarify model calibration was accurate, not "successful" (revised lines 336-337).