

Interactive comment on “Developing predictive insight into changing water systems: use-inspired hydrologic science for the Anthropocene” by S. E. Thompson et al.

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We report some additional feedback received by the author team outside of the HESSD online system, and our response to it. We received some detailed suggestions regarding the terminology used in Table 1 of the report. Because we do not know if the commenter is prepared to reveal their identity in the HESS system, we present only those parts of their comment below which do not contain identifying information.

"RE Table 1, while I appreciate your motivation to separate climate change into precipitation and warming, I suggest it would be better to suggest to term these "changing

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rainfall variability" (actually might be best to use precipitation instead of rainfall here and "changing evaporative variability" (instead of 'Warming climate'). That is, you are wishing to differentiate between the major input and output terms, and using term evaporative (as opposed to warming) allows for the fact that there are changes in variables in addition to temperature that are also governing atmospheric evaporative demand (AED) rates.... In summary, in my opinion it would be beneficial to mention evaporation, instead of warming, in this table. This is especially so as many studies reporting observed Epan trends are declining (i.e., $d(\text{Epan})/dt$ is negative), even though such measurements are made in period when dT_a/dt increase.

Also in Table 1, or elsewhere in a more relevant section of your manuscript, it might be worthwhile to mention the impact $e\text{CO}_2$ has had and will have on vegetation amounts and functioning; please see our recent paper. There are some challenging feedbacks between vegetation physiology and catchment hydrology, that we are current address / unravelling, using a limits framework."

We appreciated this suggestion, and will amend the framing of the hydrologically relevant components of global change in Table 1 as the reviewer suggests. We will mention $e\text{CO}_2$ changes in the context of a discussion of vegetation change early in the manuscript.

We thank the reviewer for their input.

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