

Interactive comment on “The importance of parameterization when simulating the hydrologic response of vegetative land-use change” by Jeremy White et al.

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Thanks for your comments - this is a great discussion!

Regarding the break from "common practice" for the process of parameterization before sensitivity analysis: at the stage of the modeling analysis where we were setting up the model for conditioning/calibration, we, the group of authors, could not agree which model inputs should be treated as parameters because we were uncertain as to which inputs were most influential for conditioning measures and QOIs, so we decided to investigate this issue with sensitivity analysis.

I would wager that at the parameterization stage in a given modeling analysis, most

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practitioners also struggle with deciding what model inputs to treat as parameters - parameterization is a subjective process, but one that can be very important to achieving reliable estimates of QOI uncertainty. To me, it is an intuitive approach to setup many inputs as parameters, then use sensitivity analysis to investigate which parameters are "important". In our study, we found a great number of inputs influenced conditioning measures and/or QOIs.

Regarding conditioning with ET: I agree that we could provide an important estimate related the value of the ET data to reduce QOI uncertainty. We will investigate this issue by including some measure of conditioning-period ET as an additional conditioning measure in the likelihood function; we will include this additional analysis in the final manuscript.

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