

Interactive comment on “Hydrologic-Land Surface Modelling of a Complex System under Precipitation Uncertainty: A Case Study of the Saskatchewan River Basin, Canada” by Fuad Yassin et al.

Anonymous Referee #2

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Yassin and his colleagues reported their research work conducted by the MESH model. When I first read it, I was quickly saturated with too many trivial details, which are probably very important, but I couldn't remember any of them. When I read the paper again, I found several new things which were hidden among the ocean of numbers: 1) the authors improved the MESH model, by involving irrigation and flow diversion modules; 2) the new MESH model without calibration seems work well not only in streamflow simulation, but also to reproduce ET and TWS. Surprisingly, I did not find any reflection of these innovations in the title, also not any highlight in the main text.

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More weird. I did not see the comparisons between the original MESH model and the new MESH model.

Generally, the authors did good research, and a lot of work. But the paper reads like an experimental report, rather than a research article. What can we learn from this paper? It is not necessary to show all the simulated data from the model. What messages did the authors want to deliver to readers? Did the authors want to report their finding something like: “CaPA is the best choice to conduct hydrological research in Saskatchewan River Basin”? If this is the main take-home message, I don’t think this paper deserves to be accepted by HESS. Therefore, I suggest that a substantial major revision is needed before further consideration.

Other comments:

1. The paper is too long to read (40 pages), and quite easy to drain readers’ energy and patience. It needs substantial shortening and condensing.
2. Figure 1 is not clear. Please make sure all the words in the figure can be read.
3. Many confusing points. For example, Page 16 line 31: “Such cases, could imply that the errors from the precipitation products were outweighed by other errors.” If other errors outweigh precipitation uncertainty, is it convincing to use precipitation as input of the MESH to evaluate the quality of precipitation data?

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