

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.

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Both reviewers were very critical about the form and the content of this manuscript, one recommended rejection, one major revisions. Besides the structure and the length of the paper, both reviewers critically assessed the lack of novelty and the validity of methods used in the paper.

With this respect, the answers of the authors in the public discussion are at times very limited, and not always sufficient to answer the significant concerns of the reviewers.

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An example is the concern expressed by reviewer 1 on the lack of evidence for having chosen the best precipitation product with the approach presented in the paper (comment 3). The answer to this critical comment simple states: "(..)we wanted to reiterate the fact that calibrating a process-based H-LSM for a large-scale heavily-managed river basin is very computational intensive. It is possible but not pragmatic to do so when accounting for the precipitation uncertainties. Secondly, calibrating the model with other precipitation products might have similar performance to the best performing precipitation product. However, such good performance would likely be a result of error compensation during calibration and, more importantly, not give the right answers for the right reasons." Rather than addressing the actual reviewer concern, the authors suggest here to change the title of the manuscript.

While in my view, the answers to the reviewers concerns are not sufficient at times, I agree with the authors that the content of the paper goes beyond a simple case study and certainly contains novel aspects in terms of modelling of a large complex catchment, especially in cold environments.

However, adapting the manuscript and convincingly explaining and demonstrating the developed modelling strategy will certainly result in a deep reorganisation before publication in HESS. Considering in addition, that the reviewers are not willing to re-review the revised version, I do not recommend the submission of a revised manuscript but recommend the submission of a new manuscript, to be handled by a new Editor.

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