

Dear editor, dear SM,

We are very happy to see that the community comment option is used so extensively with respect to our manuscript. We decided to answer the comments of SM in a summarizing fashion, since many comments either overlap or are too off-topic.

Regarding expertise and writing style: We mainly would like to address these points to avoid the wrong impression appearing to future readers. We are experts on the use of LSTMs in hydrology. Not only did members of the group introduce the LSTM framework to rainfall–runoff modeling, but our group is also uniquely positioned in this regard because our members have done research both in traditional hydrological modeling and in Machine Learning. Two of the authors on this manuscript hold PhDs in hydrology and one author was formerly a professor of hydrology at multiple universities in the United States. The authors have over 50 peer-reviewed publications on the topic of hydrological modeling published in major hydrology journals, including several papers about the history and philosophy of hydrological modeling.

Further, given the other reviewers' overall feedback, we are quite happy with the tone, writing and style of our manuscript. We argue that the word “basin” is well-understood by the community and that the title and structure are geared towards providing the primary message of the paper. We believe that the active discussion and the comments of the other reviewers reflect the clarity of our writing. We will therefore not adapt any of the demanded changes in the community comments of SM with respect to writing style. Similarly, all the citations that we provide are correct, and we will adapt none of the related changes proposed in the community comments of SM.

Regarding modeling setup: In the comments there seems to be a confusion about the modeling setup in that some of the comments presume that we have a (semi) distributed setting, where multiple river reaches or HRU-like entities are routed to a single outlet. This is not the case. All models under investigation have a lumped setup. For example, when we say we use 200 basins to compare the performance of a single LSTM with 200 individual models, then each of these 200 basins is conceptually a headwater catchment with an associated gauging station. We are not sure what brought this confusion, but we will make sure that the revised manuscript mentions this explicitly.

Regarding the scope of the literature research: We agree with the overall assessment in the comments. The reason that we restricted the literature review to 2021 was that at the time of writing that seemed to be adequate and we wanted to have a manageable number of papers, however as time has progressed during the writing process, the submission, and the current review, we also believe that this literature review needs to be updated. We plan to expand the literature survey significantly in the revision.