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Reply on CC1

Christoph Klingler et al.

Author comment on "LamaH-CE: LARge-SaMple DATA for Hydrology and Environmental Sciences for Central Europe" by Christoph Klingler et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2021-72-AC1>, 2021

Hello Daniel,

thanks for your suggestion. We also see the merits you describe. Adding simulation runs also allows to check the hydrometeorological input time series and catchment attributes for plausibility. The experience with the attached SAC-SMA results in the CAMELS-US dataset shows that they have been used as a benchmark in several application-papers and that they were useful to evaluate the investigations. We therefore agree that the attachment of results from a (conceptual) baseline model to LamaH would add substantial value for users.

LamaH covers 170 000 km² and includes over 860 discharge gauging stations. Setting up a model, including all of these catchments, calibrating, validating and analyzing the simulations is a considerable workload. We are not aware of such a detailed hydrological model covering the entire project area of LamaH. Nevertheless, setting up a model is basically feasible and we have the experience to do this. We propose to set up our in-house conceptual rainfall-runoff model COSERO for the study area. We expect to find – regionally distributed – several deficits in the simulations, stemming from problems in rainfall input, but also anthropogenic influences not reflected in the model (e.g. diversions from one catchment to the next due to hydropower plants) or other issues.

From our point of view, the scope and length of the manuscript is already quite extensive. Therefore, we can probably only briefly describe the hydrological modelling exercise in the paper and only discuss the results and deficits in a less detailed fashion. Discussing all (likely local) deficits would probably not be feasible.

Best,

Christoph in behalf of all authors