Hydrology and Earth System Sciences Discussions

Hydrol. Earth Syst. Sci. Discuss., referee comment RC1
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Comment on hess-2021-391

Anonymous Referee #1

Referee comment on "Choosing between post-processing precipitation forecasts or chaining several uncertainty quantification tools in hydrological forecasting systems" by Emixi Sthefany Valdez et al., Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2021-391-RC1, 2021

The authors analyzed the effect of precipitation post-processor (CSGD) for four different four hydro-meteorological forecasting systems. Those forecasting systems were differed by the degree of uncertainty considered: system A) forcing, system B) forcing and initial conditions, system C) forcing and model structure, and system D) forcing, initial conditions, and model structure. The results showed that precipitation post-processor worked better for less complex hydrological systems (system A/B/C). Quantifying all sources of uncertainty (forcing, initial conditions, and model structure) did not always lead to the best results in streamflow forecasting. The authors also compared the contribution of the post-processor for different catchment sizes.

The subject clearly fits into the scope of the journal and provides a useful guide for the choice of forecasting systems. The authors sufficiently draw upon the existing body of literature and the research is interesting. However, I have some concerns with the research method. For these reasons, I recommend a decision of Minor Revision for this manuscript. Please find my comments in the following. I hope you find them useful.

Please also note the supplement to this comment:
https://hess.copernicus.org/preprints/hess-2021-391/hess-2021-391-RC1-supplement.pdf