

1. The large-scale H08-CaMaFlood model used by the authors successfully ( $NSE > 0.6$ ) reproduced hydrographs of daily flow over a long-term period in almost all river basins under consideration. For me, this result is quite unexpected, since, as a rule, global hydrological models poorly reproduce the seasonal variation of river flow, even with flow averaging over larger time intervals than a day (Hattermann et al., 2017; Krysanova et al., 2018). Specifically, H08 model, as far as I can judge from publications, has not yet given such good results for river basins located in monsoon climates (see, for example, Yoshida et al., 2022). The result obtained by the authors is important because it can expand our understanding of the effectiveness of global hydrological models at the scale of river basins. Taking this into account, I would like to see a more detailed description of the methods for setting the model's parameters, its calibration and verification, and other important, from the authors' point of view, details that made it possible to achieve this result.

2. The presented results for reproducing high flow and flood inundation (Fig. 2, 3, S2-S4) do not convince one of the possibility of using them to answer the research question formulated in the article: "How does the flood risk vary at the sub-basin scale in India for the observed worst floods that occurred during the 1901-2020 period?". This is not surprising since flood risk assessments require the use of rainfall-runoff and hydrodynamics models of much greater spatial resolution, which are able to take into account local runoff formation mechanisms, local topography, etc. The authors are well aware of the limitations of the model used and clearly articulate this in the Discussion section. At the same time, the authors pay excessive, in my opinion, attention to the analysis of specific catastrophic floods and the comparison of their simulated and observed characteristics, including using satellite-based flood extent data. Given such high uncertainty in modeling results, their agreement with observed data may be coincidental. I recommend shifting the focus of the article to the analysis of characteristics averaged over a long-term period (such an analysis is illustrated in Figures 6-9) by changing the research question as: "How does the flood risk vary at the sub-basin scale in India during the 1901-2020 period?"

3. The article must be formatted in accordance with the requirements of the journal.

Hattermann, F.F., et al. (2017) Cross-scale intercomparison of climate change impacts simulated by regional and global hydrological models in eleven large scale river basins. *Climatic Change*, 141 (3), 561–576. doi:[10.1007/s10584-016-1829-4](https://doi.org/10.1007/s10584-016-1829-4)

- Krysanova, V., Donnelly, C., Gelfan, A., Gerten, D., Arheimer, B., Hattermann, F., Kundzewicz, Z.W. (2018) How the performance of hydrological models relates to credibility of projections under climate change. *Hydrological Sciences Journal*, 63(5), 696-720 DOI: 10.1080/02626667.2018.1446214
- Yoshida, T., Hanasaki, N., Nishina, K., Boulange, J., Okada, M., & Troch, P. A. (2022). Inference of parameters for a global hydrological model: Identifiability and predictive uncertainties of climatebased parameters. *Water Resources Research*, 58, e2021WR030660. <https://doi.org/10.1029/2021WR030660>