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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Modelling extreme discharge response to several geostatistically interpolated rainfall using very sparse raingage data" *by* S. Ly et al.

Anonymous Referee #2

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This manuscript presents a study in which the value of different rainfall interpolations was assessed by hydrological modeling. While this is an interesting topic and a valuable approach, I am afraid I have major concerns with the manuscript in its current form, mainly because so much remains unclear in the presentation. I find this a pity, because I really like the approach and it is rather unfortunate that the authors were not able to present their work in a better way.

Mainly, I had problems to fully understand what actually had been done. The hydrological model is a central part of the study, but very little information on this is given. Important questions to me include: How has the model been parameterized? Was there any calibration involved? If yes, how? What was the temporal resolution of the

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runoff model in this study? How well did the model perform for extreme events? How well were internal variables reproduced? With the central role the hydrological model plays in this study, the results cannot be fully understood and interpreted, it this information is missing!

Even after reading the manuscript several times, it remained unclear what exactly had been done in this study. This makes it basically impossible to assess the manuscript. As a reviewer you do not want to have to guess the methods. This also means that I was not able to really review the study.

Partly rather basic things are described in great detail (e.g. p 7 , plotting position), but then at other places important detail information is missing. The method section needs a major revision to allow understanding what actually has been done. I also found section 3 hard to follow, the mix between results and discussion is just confusing!

While the authors are right about the limitation of the model efficiency it is not too helpful to just compute the volume error (here called PBIAS) does not solve the issue. Rather one should use some combined measure (e.g., Lindström 1997)

The equations are poorly written (NSE is no suitable variable name!)

The text switches (randomly) between present and past tense (as example see section 2.4). Also in other aspects, the manuscript would largely benefit from improving the quality of the language.

Lindström, G., A simple automatic calibration routine for the HBV model. Nordic Hydrology, 28: 153-168, 1997.

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