

Interactive comment on “Towards the Development of a Pan-European Stochastic Precipitation Dataset” by Lisa-Ann Kautz et al.

Anonymous Referee #1

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This study presents the result of the dynamical downscaling of the reanalysis dataset and its validation based on the observed dataset.

First, I appreciated reading this article. In general, I think the focal point of the article is worthy of highlights in our society especially considering the huge efforts put into developing and getting the RCM running. However, I cannot recommend the publication of this article if it is viewed from the the novelty perspective and presentation quality. Therefore, I decided to give "reconsideration after major revision."

Here are the major comments:

1. This study applied the existing RCM and the bias-correction method for the downscaling. If this is true, the novelty should arise from the quality of the downscaling.

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However, I find a significant bias in the mountainous area and the areas with sparse in-situ gage network. At some locations, the annual bias exceeds 1 meters, which is enough to call a dry region in reality a wet region and vice versa. I appreciate that authors pointed out this issue in the paper, but this degree of bias over such a large region is unacceptable according to my standard. Authors should at least quantitatively compare their result with those of previous studies. If the comparison proves that your methods is superior, I would accept your methodology.

2. The authors validated their model in the watersheds with massive sizes (Figure 1). Isn't the purpose of downscaling to be able to obtain the rainfall at the watersheds with smaller sizes? At least the methodology should be proven at some selected small-size watersheds in Germany where precipitation data is accurate, precise, and abundant.

The minor comments are provided in the attached pdf file (Sorry for my poor handwriting).

My last minor comment is that I find too many verbose sentences. Please try using simpler structure. I am not a native English speaker, so I would be wrong to say this.

Thanks!

Please also note the supplement to this comment:

<https://www.hydrol-earth-syst-sci-discuss.net/hess-2019-77/hess-2019-77-RC1-supplement.pdf>

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2019-77>, 2019.

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