

Interactive comment on “Bias correction of multi-ensemble simulations from the HAPPI model intercomparison project” by Fahad Saeed et al.

Anonymous Referee #1

Received and published: 30 July 2018

After careful review of the paper “Bias correction of multi-ensemble simulations from the HAPPI mode inter-comparison project” by Saeed et al. (2018), I remain uncertain about the main focus and significance of its conclusions. As I understand it, in this study, the authors adopt a “...trend preserving statistical bias correction approach which adjusts the monthly mean and daily variability of simulated climate data to observations...”. This methodology was developed and extended in two previous studies (Hempel et al. 2013, Lange 2017) and applied here to the HAPPI project GCM ensemble which is also presented in a previous article (Mitchell et al. 2017).

That the ISIMIP2b-BC method performs well, i.e. it preserves trends and decreases biases to the satisfaction of the authors, has supposedly already been established. So how do the results presented here extend the state-of-the-art? The authors should

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take some time to explain this. Figures 1 to 7 all illustrate some form or other of performance measure of the ISIMIP2b-BC method and this could also be said of figure 8 which shows the effects of the method on impact models driven by the corrected data. The figures are all clear and, in their totality, exhaustive, especially if one includes the supplementary material. The article is written in a succinct and descriptive style and makes for an easy read. I found no typos or minor comments I wish to make.

I would suggest that the authors extend their analysis of the HAPPI GCM output and ISIMIP2b-BC method to include comparisons with other BC methods or GCM ensembles or impact models. Alternatively they could take some time to explain why this work is a significant extension of the state-of-the-art and not the basis for an internal technical report.

I would like to add that I may have missed or misunderstood something fundamental about this study and I urge the authors, and other reviewers, to correct me. I also urge the editor to weigh my views against those of my colleagues when making her final decision.

Interactive comment on Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2018-107>, 2018.

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