Review of "Bias correction of gauge-based gridded product to improve extreme precipitation analysis in the Yarlung Tsangpo-Brahmaputra River Basin"

Authors : Xian Luo, Xuemei Fan, Yungang Li, and Xuan Ji

Summary

The paper by Luo X. and al proposes to compare the performance of four bias correction methods (Linear Scaling, Local Intensity Scaling, Power transformation and Quantile Mapping) of daily precipitations during 1951-2015 over Yarlung Tsangpo-Brahmaputra River Bassin (YBRB). The data to correct comes from the gridded APHRODITE dataset, and the reference dataset are sparse observations from meteorological stations. The performance of bias correction methods is evaluated with a time cross validation method.

General comments

I am pleased to see that the authors have incorporated a time cross validation to asses the capacity of bias correction methods tested to reduce the bias. I think the paper contains the necessary scientific material, and I just have two suggestions.

First, the section 2.3.3 is a little too short, and would benefit from being better explained. You cut the dataset in half, use two-thirds of the first half to calculate the parameters of a bias correction method, and then correct the second half? Finally you calculate the RMSE between the corrected second half and the observations?

Second, I think that section 3.2.1 should be at the beginning of section 3. It seems more logical to me to first check the cross-validation and then discuss the corrections themselves.

Specific comments

Technical comments