Hydrology and Earth System Sciences

Discussions

HESSD

Interactive
comment

Interactive comment on "Selection of multi-model ensemble of GCMs for the simulation of precipitation based on spatial assessment metrics" *by* K. Ahmed et al.

Anonymous Referee #1

Received and published: 27 March 2019

This article propose an ensemble of GCM model for simulation of precipitation based on spatial assessment metrics. The article presents original research works and outputs. The work is relevant to the interests of the readership of HESS and is well-written. However, there are few issues that need to be addressed. Therefore, authors are encouraged to revise the manuscript accordingly.

1- In Section 3, authors introduce different GCM performance assessment metrics. For almost all parameters except Kling-Gupta, the range of the metric and the meaning of the extreme values are elaborated. To be consistent, it is recommended to revise section 3.1.6 accordingly.

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[Discussion paper]

2- In section 3.3, it is highlighted that the RM values for annual, mansoon, and winter precipitations are averaged to derive overall rank for each GCM. Does this approach flatten the effect of extreme cases? was it necessary to average them? How were the individual rankings? Authors need to explain the impact of this approach on their final conclusion.

3- It is needed to give some background knowledge about Random Forest method. Why is it selected? It is needed to give some reasoning for this selection. Also in the results and discussion, more explanation is needed for this method.

4- Section 4.1, it is suggested to present NRMSE formula.

5- To have a better understanding about the site, it would be good to add the location of stations on the map.

6- It is also recommended to highlight the limitations of the study in the discussion part.

7- For figures 4,5, and 7 a performance measure such as r-squared is needed for each scatter plot of observed vs simulated data points.