

Interactive comment on “Model study of the impacts of future climate change on the hydrology of Ganges–Brahmaputra–Meghna (GBM) basin” by M. Masood et al.

Anonymous Referee #2

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The case study area is important and not sufficiently studied before. Therefore, the manuscript has a potential to make a valuable contribution by studying potential climate change impacts for the GBM basin. However, there are several critical points, which have to be fixed before the manuscript could be accepted. They are listed shortly below, and more specific and technical comments are listed in the attached pdf file.

1. The model calibration and validation is not fully convincing. Please see specific comments 5, 6 and 7 in the attached file. The recommendation is: - to improve the calibration for the Ganges (maybe by including some intermediate hydrological stations in the study) or to explain where from the time lag could come; - to add more hydrological

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gauges in the calibration, if possible; and - to add PBIAS in the evaluation of results and to compare the simulated and observed long-term average daily (or monthly) discharges for the calibration and validation periods.

2. It is recommended to extend the length of time periods (reference and future) to the standard length of 30 years.
3. The correlation analysis should include estimation of statistical significance, which would help to analyse the results.
4. Presenting only the basin-averaged results for very large river basins is a serious weakness of the study, which does not correspond to the state-of-the-art level. An evaluation, at least partly, for the high mountainous and lowland areas would improve the quality of results.
5. And the language of the whole manuscript has to be necessarily checked by a native speaker, together with the authors. Please see listing of many (but not all) mistakes and poor formulations in the attached file.

A major revision of the manuscript is suggested. After that the manuscript has to be re-reviewed.

Please also note the supplement to this comment:
<http://www.hydrol-earth-syst-sci-discuss.net/11/C2100/2014/hessd-11-C2100-2014-supplement.pdf>

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