

Interactive comment on “Spatial Extent of Future Changes in the Hydrologic Cycle Components in Ganga Basin using Ranked CORDEX RCMs” by Jatin Anand et al.

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Received and published: 10 October 2017

Response to Comments of Reviewer #2

Comment: Why were the RCMs evaluated on the basis of streamflow and not precipitation?

Response: In our opinion, streamflow is a better indicator of overall response of the basin and thus should be used for comparing the performance of the model with respect to the observed flow, being a single point entity. Just analysing precipitation and temperature does not give us the complete picture of the inherent hydrology of the

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basin. As, just determining the increase or decrease in the precipitation and temperature doesn't provide any information whatsoever about the streamflow being generated or for that matter how much recharge that may happen or how much evapotranspiration occurred in the watershed. While, all the stakeholders and managers and policy makers are more likely to be interested on the availability of water for that matter. Moreover, other important hydrological components such as recharge and base flow can't be figured out just by analysing the precipitation. Also, ET can be an important factor when assessing the hydrological characteristic of the basin. Hence, it was necessary to rank the RCMs based on the end product, i.e. streamflow. Here, we tried to establish which RCM performed better in mimicking the hydrology of the basin (surface runoff in this case – the only observed variable). The comparison with respect to observed runoff, however, indirectly take into account the precipitation characteristics also, since all the other parameters used in the model are same.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2017-189>, 2017.

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