

General comments:

This paper provides a case study of rainfall evaluation in terms of both direct ground data comparison and rainfall-runoff simulation in the lower Mahanadi basin. The results can shed light on hydrological applications of TRMM rainfall data in this basin. The paper is written in relatively good English and thus can be easily understood. However, some questions indicated in the following specific comments need to be addressed before the paper is eligible for publication.

Specific comments:

1 Page 1174, Line 6-12. Why did you apply a bias-correction to 3B42RT data and use it for hydrological simulation? A very important purpose of carrying out rainfall evaluation study is to provide valuable sights to people about the suitability of satellite rainfall in the study area. Real-time 3B42RT data might be a good source for operational discharge prediction, so testing the rainfall prediction capability of original 3B42RT data seems to be more important than that of corrected 3B42RT. I suggest that you do hydrological simulations with the original 3B42RT data as forcing.

2 Page 1178, Line 4. 3.1.1 should be 3.1.3.

3 Page 1178, Line 6. How do you decide the parameters for inverse-distance interpolation? Do you do testing work to choose the best ones (e.g. cross validation) since the parameters can have effect on the results?

4 Page 1180, Line 3-5. 'The split-sample approach was found to be very sensitive to the choice of the particular time periods used for calibration and validation'. Is this because of the model itself or the rainfall inputs? If it is the former, the model may be not physically robust.

5 Table 6 and Table 7. The calibration results are only shown for three catchments. How do you deal with the two catchments in terms of calibration?

6 Is rainfall data from the whole time period (i.e. 2000-2010) used for calibration? For a specific catchment, what calibrated parameters (i.e. from which other catchment) are used to drive the hydrological model for validation? I think you need to give more words on the calibration and validation so that my understanding of the results can be more reasonable.

7 Page 1182, Line 10. 'bias is' may be 'bias was'.

8 Page 1182, Line 12. 'but it's' may be 'but its'.

9 Fig. 4. Why do NS indices show very large annual variations (even extending to below or near zero) in Salebhata and Kesinga catchment for hydrological modeling with TRMM rainfall as forcing?

10 TRMM rainfall-forced hydrological model outperforms in Tikarpara and Mundali than in the other three catchments in terms of NS indices (Fig. 4). Does the reservoir in the upstream play a role in this result because the other three ones are independent of reservoirs?