

We would like to thank the reviewer for the comments and suggestions, which have helped us to improve this paper significantly. Our detailed responses are provided point by point below.

Specific comments:

1) Page 3, Line 11: the full name of APHRODITE is “Asian Precipitationâ€”Highly Resolved Observational Data Integration Towards Evaluation of Water Resources” instead of “Ground rain gauge-based interpolation products”. It is more appropriate to cite Yatagai et al. 2012 on APHRODITE.

Yatagai, A., K. Kamiguchi, O. Arakawa, A. Hamada, N. Yasutomi and A. Kitoh (2012): APHRODITE: Constructing a Long-term Daily Gridded Precipitation Dataset for Asia based on a Dense Network of Rain Gauges, Bulletin of American Meteorological Society , doi:10.1175/BAMS-D-11-00122.1

Response:

Thanks for the suggestion. Changes have been made accordingly in the revised paper.

2) Page 6, Line 8: It is better to put “the average annual temperature is 10.6 C” right after “This basin is characterized by a temperate monsoon marine climate”

Response:

Thanks for the suggestion. Changes have been made accordingly in the revised paper.

3) Page 21, Line 6: Simulation is from 2000-2007, start date should be specified, since the first few month of 2000 is not available for some of precipitation products (for instance, TRMM3B42RT is available after 1 Mar 2000).

Response:

Thanks for the suggestion. Changes have been made in the first paragraph in section 4.2 in

the revised paper as below.

‘It should be noted that the start dates are different for precipitation products, and observed data were used when product data are not available: from 1 January 2000 to 29 February 2000 for TRMM3B42RT, GSMAP-MVK+ and PERSIANN; from 1 January 2000 to 23 February 2000 for GLDAS/Noah. These time periods were not considered for accuracy comparison.’

4) Page 15, Line 11: observations should be “gauge observations”.

Response:

Thanks for the suggestion. Change has been made accordingly in the revised paper.

5) Page 15, Line 16: “The number is the same, and therefore we used basin average rainfall amount in our evaluations.” There is no causal relationship between “The number is the same” and “we used basin average rainfall amount in our evaluations”. In addition, authors should describe how to get the basin-averaged rainfall for gauge observations and the gridded products.

Response:

Thanks for the suggestion. Changes have been made accordingly in the revised paper.

The sentence has been deleted.

The basin-averaged rainfall calculation for precipitation product is introduced in the first paragraph in section 2.5 as below.

‘the following procedures were carried out for basin averaged rainfall calculations: (1) resampling 0.25o or 0.1o precipitation product grids into 300 m × 300 m cells (the grid size used in WEB-DHM simulations); (2) calculating basin-averaged precipitation using 300 m precipitation product grids located within the basin boundary.’

The basin-averaged rainfall calculation for gauge observations is introduced in the second paragraph in section 2.4.1 as below.

‘Gauge rainfall data are also interpolated to 300 m × 300 m model cells and basin-averaged gauge rainfall data are calculated on the basis of interpolation results.’

6) Page 16, Line 9: “This improvement may be attributed to the assimilation with precipitation radar, gauge data and histogram matching.” The Buliu basin (39.54N-40.35N) is beyond the of TRMM TMI/PR coverage (38S-38N). The authors should investigate other causes for the improvement.

Response:

Thanks for the suggestion. Changes have been made accordingly in the revised paper as below.

‘This improvement may be attributed to the assimilation with gauge data and histogram matching.’

7) Page 35, Table 1, start data for APHRODITE should be 1 Jan 1961.

Response:

Thanks for the suggestion. Change has been made accordingly in the revised paper.

8) Page 41, Figure 3: the caption is too brief. It would be better to name each panel with a) – f), and describe what each panel represent.

Response:

Thanks for the suggestion. Changes have been made accordingly in the revised paper as below.

‘Fig. 9 Observed and simulated flows using WEB-DHM and TOPMODEL from 2000 to

2007: (a), (c) and (e) are daily, monthly and inter-annual simulations using WEB-DHM respectively; (b), (d) and (f) are daily, monthly and inter-annual simulations using TOPMODEL respectively.'

9) Page 46, Figure 8: "Same as Figure 7" in caption is not proper words, since Figure 8 is very different from Figure 7.

Response:

Thanks for the suggestion. Change has been made accordingly in the revised paper as below.

'Fig. 5 Time series plots of basin-averaged precipitation product values versus gauge observations at monthly scale.'

10) Page 47, Figure 9: y axis should be rain (or rainfall) in mm.

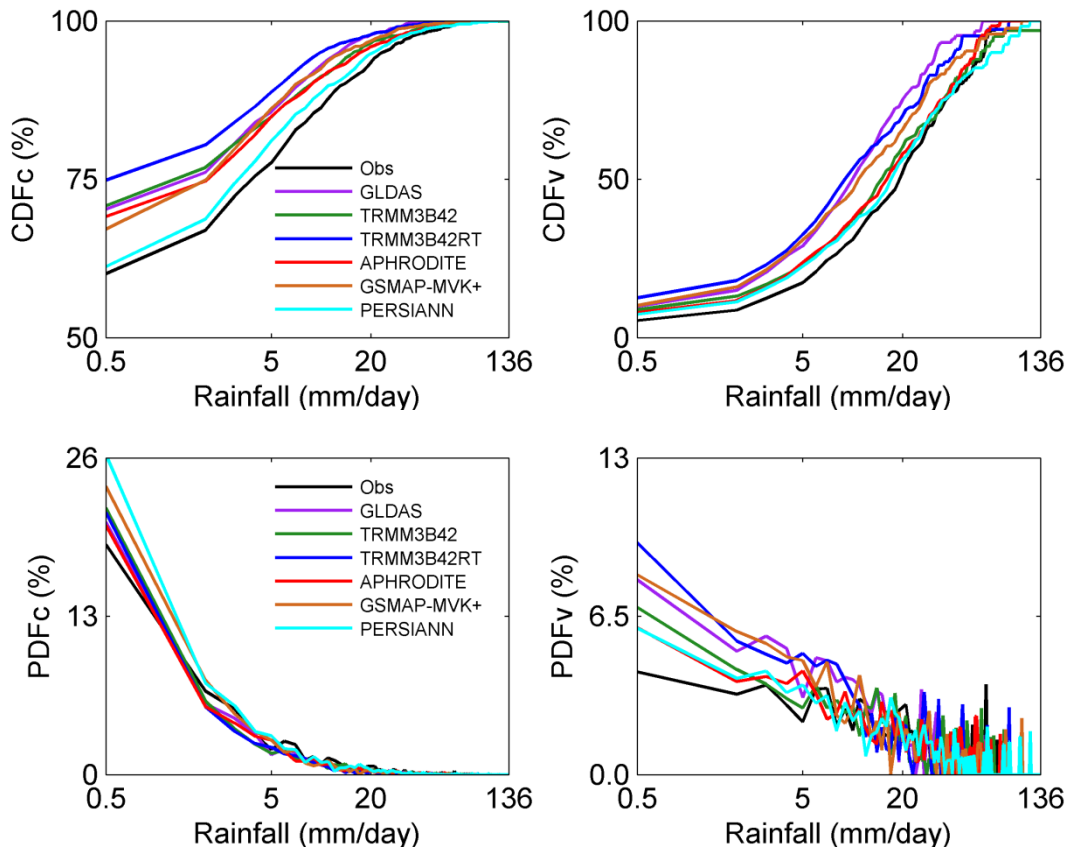
Response:

Thanks for the suggestion. Change has been made accordingly in the revised paper.

11) Page 48, Figure 10: it could be better to present PDF instead of CDF, and to include rainfall intensity less than 1mm/day.

Response:

Thanks for the suggestion. Changes have been made accordingly to include rainfall intensity less than 1mm/day. However, as shown below, the CDF figures are more clear than PDF figures. Thus, we still use the CDF figures in the revised paper.



12) Page 49, Figure 11: it could be more readable if the values on x axis are integers.

Response:

Thanks for the suggestion. Changes have been made accordingly.

13) Page 50, Figure 12: the texts overlap with circles.

Response:

Thanks for the suggestion. Changes have been made accordingly.