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Discussions

Interactive comment on "Evaluation of global fine-resolution precipitation products and their uncertainty quantification in ensemble discharge simulations" *by* W. Qi et al.

Anonymous Referee #3

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General comments

This manuscript evaluated the applicability of six precipitation products in simulating daily and monthly discharges of a river basin in northeast China, both statistical and hydrological evaluation methods were used to assess the accuracy and probability distribution of these precipitation products. A framework to quantify uncertainty contributions from different sources was also proposed.

Overall, the entire manuscript is well structured and suitable written. I believe the methods and results of this study have a good value in the application of precipitation products in discharge simulations, especially in ungauged regions. I think this manuscript

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Discussion Paper

can be accepted for publishing pending the clarification and correction of the following issues.

Major issues

1. The authors set up five experiments for the inter-comparison of the precipitation products, each experiment compared two products.However, in anywhere of the manuscript, the accuracy scores and probability distribution of all the six products were calculated and showed together, then, what's your purpose for setting up these independent experiments? I appreciate the amount of work from the authors on data processing analysis and efforts being made for an English journal paper, but the clarity of the manuscript should be further improved.
2. For the hydrology models WEB-DHM and TOPMODEL, precipitation data is not the only input. Other input data include temperature, downward solar radiation, long wave radiation, air pressure, wind speed and humidity. These input data can also bring non-negligible uncertainty to the discharge simulating, especially after heavily processing to meet the model demand. It's unreasonable for the authors didn't consider the uncertainty from other input in uncertainty quantification.

Minor issues

1. There are four precipitation products whose start dates were late than 1 Jan 2000, what's exact date the simulation and evaluation start from?
2. Figure 5 is really not that informative, and this figure should probably be removed from the manuscript.
3. Sections 3 and 4 has repetitions. Some of it can be edited out for brevity, i:e: it's useless to say "Observations are shown on the x axis and precipitation product data are shown on the y axis", but you mentioned it twice in section 3.1.
4. Page 9359, lines 19-20: Don't use "significant" if you didn't do the significance test.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 12, 9337, 2015.