

Interactive comment on “Evaluation of various daily precipitation products for large-scale hydro-climatic applications over Canada” by Jefferson S. Wong et al.

Anonymous Referee #2

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The study examines and compares 8 types of gridded precipitation sources (i.e., 22 precipitation products based on station, reanalysis, and GCM models) over 15 terrestrial ecozones in Canada. I think the results reported by this manuscript can be useful for hydrologists, meteorologists, and potential data users over Canada. In general, the paper is concise and well organized. The results are original and useful for both data developers and end-users, especially for large-scale hydrometeorological applications in Canada. The paper is thus worth to be published after the minor suggestions listed below.

1) The abstract seems too long and needs to be further condensed in the revision. Moreover, the spatiotemporal scales of evaluation (daily and 0.5 deg.) should be de-

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noted in the abstract.

2) P4 Line 10-14: In terms of retrieval errors in satellite precipitation, the impact of the snow cover on passive microwave sensors is rather serious over high mountainous regions or high latitude areas, e.g., the Tibetan Plateau (Yong et al., 2015). The authors should address this issue here. Additionally, the Global Precipitation Measurement (GPM; Hou et al. 2014) has been coming and the authors should mention the GPM mission in describing the satellite precipitation estimates. Hou, A. Y., and Coauthors, 2014: The global precipitation measurement mission. Bull. Amer. Meteor. Soc., 95, 701-722. Yong, B., and Coauthors, 2015: Global view of real-time TRMM multisatellite precipitation analysis: Implications for its successor global precipitation measurement mission. Bull. Amer. Meteor. Soc., 96, 283-296.

3) P 17 Line 4-14: Using the approach of Kolmogorov-Smirnov test to evaluate different precipitation products is an interesting way for readers. But here the equation (1) is not clear. I suggest that the authors may carefully re-modified the calculating equation and illustrate the meanings of parameters. If possible, an appendix that introduces the Kolmogorov-Smirnov test might be added at the end of the text. At least, the Eq. (1) should be revised again.

4) P 27 Line 12-14: In the conclusion, please clarify and explain the reasons of the poorest performance of station-based and reanalysis-based products in Atlantic and Pacific regions.

5) Some figures are not very clear and they should be modified or redrawn. For example, there is no whole Canada map (or North American map), no north arrow, no measuring scale in Fig. 1. Figure 2 is OK, but the plots in Fig. 3 and Fig. 4 are too small and not clear for reading. I really hope that these plots could be better displayed in the revised manuscript.