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Hydrology and Earth System Sciences
Discussions

Interactive comment on "The PERSIANN Family of Global Satellite Precipitation Data: A Review and Evaluation of Products" *by* Phu Nguyen et al.

Anonymous Referee #2

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General Comments

The paper addresses a satellite-based precipitation product called PERSIANN. This is one of many journal articles devoted to this product but the authors justify the need for this one on the basis of recent updates and upgrades. In fact, the article discusses three PERSIANN products: PERSIANN, PERSIANN-CCS, and PERSIANN-CDR. I think the authors should improve their description of the justification for the three families of products. Clearly, this could be confusing for users who would prefer to have one product for all their needs. Lower resolution products, if needed, could always be available by the upscaling of the higher resolution products. Perhaps a simple schematic with a time line could provide an easy to understand justification.

Specific Comments

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Discussion paper

A concern is the use of the CPC data set for the product evaluation. The authors should comment on the uncertainty of the product. Are there gridded uncertainty maps associated with the CPC product? If not, what are the obstacles to producing them? Any comparison with a ground-based reference is incomplete without characterizing the uncertainty of the reference. Also, just a cautionary note that the correlation coefficient for skewed random variables (like rainfall) tends to be overestimated. Is the bias additive or multiplicative?

Overall, it is disappointing to me that space-based products have little skill unless corrected with simple, old rain gauges. Not the authors' fault but something worth commenting on.

The paper says little, if anything, regarding hydrologic applications of the product. The journal is about hydrology, after all. . . . Is the skill adequate for hydrologic applications? Which applications? Should we be impressed with the skill? I'd like to see authors' perspective on the question. The authors warn against using the product for engineering design, and that's good but in many parts of the world this might still be the best option available.

The authors should improve the quality of the figures. Figure 1 is practically useless. Other figures showing the US are too small and not properly aligned. The continuous color scale obstructs the spatial features. Perhaps 6-8 color categories would show them better.

The entire paper should be carefully edited and use active voice throughout the paper.

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Discussion paper