Hydrology and
Earth System
Sciences
Discussions

Interactive comment on "Daily evaluation of 26 precipitation datasets using Stage-IV gauge-radar data for the CONUS" *by* H. E. Beck et al.

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This paper presents an evaluation of 26 (near-)global precipitation datasets, using as a reference the NCEP Stage-IV dataset derived from radar and rain gauge data. All datasets are ranked in terms of statistical fit (correlation, bias and variability) of daily accumulations at 0.1 degree resolution over the conterminous US for the period 2008-2017. Datasets are divided in two categories: those that have been explicitly corrected to gauge data and those that have not. They are further separated based on the main sources of data used. Two very useful tables list the main characteristics and primary reference for all datasets used in this study.

Results of the evaluation are usefully summarised in two figures. Discussion of re-

sults is framed in terms of 9 topics, and conclusions are presented as a list of short statements. The text is kept relatively short, relying on an extensive list of references covering related studies and reviews.

I really like the approach taken by the authors in summarising the datasets and evaluation results to ensure that this paper remains readable and focussed, yet does justice to the complexity of precipitation datasets and the evaluation of their quality and usefulness. One could argue that the list of 26 datasets is far from complete, however the selection covers the most-used datasets and also represents well the different methodologies and data sources available. The statistical evaluation is simple yet addresses the key measures that one would look at first in any study such as this. (Having said that, it would be very interesting to see correlations on the hourly timescale for those datasets with sufficient temporal resolution.) The topics for discussion are phrased as questions that follow naturally from the statistical evaluation. I think this also works very well.

Near the end of the paper the authors point out that their findings can be used to help users decide which dataset should be used for their particular application. I think this is a very important point, especially since data on precipitation (and several other climate parameters) are increasingly used by non-specialists to support planning and decision making, potentially with significant implications for society. It is very difficult to make a study such as this accessible to those users - in my opinion the authors have done this very well.