

Interactive comment on “Evapotranspiration in the Amazon: spatial patterns, seasonality and recent trends in observations, reanalysis and CMIP models” by Jessica C. A. Baker et al.

Anonymous Referee #2

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This work is generally well-written and addresses an important topic: hydrometeorology/hydroclimatology in the Amazon. The methodology is sound and very well explained. I particularly liked the discussion about errors estimated for the catchment-based ET estimates. The idea is to compare those estimates against a number of other sources including satellite-based products, reanalysis, and CMIP5/CMIP6 model outputs for the region. I believe this paper will be a good addition to HESS and I only have some minor comments to the authors (in no specific order of importance):

1. The abstract ends with a recommendation for the need for more ground based ET observations. If that is the case, I suggest the authors to expand more on that in the

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discussion including challenges, especially those associated with spatial scaling of ET flux tower estimates to catchment-/basin-wide estimates.

2. Note Barlow et al. 2020 reference is not provided

3. The addition of GRACE as the ds/dt term and propagation of error was very nicely included. Just a comment

4. Figure 2 (data analysis in general): Have the authors considered comparing the PDFs of those? Perhaps apply Kolmogorov-Smirnov test to check whether these series come (or not) from the same distribution? Assuming this can be done at highest common temporal resolution possible among different data sources (monthly???)

5. Figures 2 and 3 (and in general): Have the authors masked out the regions from the satellite and model products where P-R and catchment were not computed, to ensure direct comparison?

6. Figure 4 and 7: How much confidence on those statistics and ultimately interpretation of results with too fewer points? Can the authors expand this discussion and implications?

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2020-523>, 2020.

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