

Interactive comment on “Local tower-based merging of two land evaporation products” by Carlos Jiménez et al.

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We are adding some further comments to our previous response. As we hinted there, we were already working in the direction of (1) global extrapolation of the weights, (2) deriving global estimates, and (3) independently validating the new estimates. We have made sufficient progress in the last weeks that we feel now confident to include this work in a revised version of the paper, allowing us to expand the current work to tackle the main concerns of the reviewer.

In short, we summarize here the reviewer major concerns and our proposed actions to address them:

1. Why are these two products merged and not a large number of ET-products?

R. We will add the third model run globally during the WACMOS-ET project to the merged product to make the merging exercise more diverse in terms of models: The MODIS ET model. To our knowledge there are no other global, daily, publicly available satellite-based products covering the study period that could be added at this moment.

2. The energy balance closure error of the EC-data is an important issue not sufficiently addressed.

R. We will be comparing model performance at towers with and without energy balance closure, to assess the impact of this misbalance. This issue will be discussed in the revised manuscript. We will also perform a new evaluation of the FLUXNET2015 archive to assess whether new towers can be incorporated to the analyses.

3. Only estimates are provided at the tower locations, so the additional value of the product is also unclear.

R. We will be exploring the global extrapolation of the weights and deriving the globally merged estimates. This will be presented and discussed in the revised paper.

4. The merged ET-product is not independently validated. The towers ET-data also have considerable systematic and random errors. The fact that the merged ET-product fits the tower ET-data closer is by construction.

R. At ecosystem scale we will be applying bootstrapping techniques, stratifying the tower database to discuss the general validity of the weights. In addition, at basin scale, we will be comparing the original and merged estimates with inferred evaporation derived from precipitation and river runoff datasets. This analysis will be incorporated to the revised manuscript.

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Discussion paper

