

The authors would like to express their sincere gratitude to the Anonymous Referee #1 for his/her useful comments. The reactions to the comments are as follows.

Comment 1:

It is not necessary to compare estimated evaporation with four non-parametric Budyko equations since all of them are curve fittings of observations and the uncertainty may be large for some areas. It is fine to compare it with one (e.g., Budyko equation). However, if it is possible, the authors may consider comparing the evaporation estimations with parametric Budyko equations since the parameter of the Budyko equation can be linked to land surface properties such as LAI.

Reaction:

We will skip the Schreiber, Ol'dekop and Pike equations and only keep the original Budyko curve. Furthermore, we will try the parametric equation of F_u based on the empirical equation of $\omega = 2.36M + 1.16$ (with ω : F_u parameters, $M = \frac{NDVI - NDVI_{min}}{NDVI_{max} - NDVI_{min}}$) (Li et al., 2013).

Comment 2:

Since the Gerrits' model estimates both interception and transpiration, it is interesting to computing the ratio between interception and total evaporation, i.e., E_i/E . The parameter of the Budyko equation in Wang and Tang (2014, doi:10.1002/2014GL060509), ε , can be computed using precipitation, potential evaporation, and E . I am curious on the relation between E_i/E and ε . The authors may plot E_i/E versus ε . Is E_i equivalent to "initial evaporation" defined in the paper?

Reaction:

This comment is an interesting suggestion. We will provide the global maps of E_i/E and E_t/E in the manuscript and then we will make a rough link to ε to see if there is any relation between E_i/E and ε .

Comment 3:

It seems that the Gerrits' model is a conceptual model (with inputs and parameters even though assumed to be constant) for computing interception and transpiration, but is not a simple Budyko equation.

Reaction:

The Gerrits' model is indeed a conceptual model for computing interception and transpiration. The 'output' of this model is an equation, which provides similar output as other Budyko equations. We do agree that the Gerrits' model at the annual time scale is not a simple equation, since it uses complex mathematical functions. Therefore we decided to remove the word 'simple' from the title and call our model a "Budyko model"

Comment 4:

A thorough proof-reading is recommended since there are some typos. For example, a few typos are listed below.

Reaction

Thank you for finding these typos. We will correct all the typos and do a careful proofreading. Furthermore, " $b=0.2$ " gave the best global results for all land classes. We will mention this in the revised manuscript.

References

Li D, Pan M, Cong Z, Zhang L and Wood E (2013) Vegetation control on water and energy balance within the Budyko framework. *Water Resources Research* 49(2): 969–976