Hydrol. Earth Syst. Sci. Discuss., 7, C2824–C2825, 2010
www.hydrol-earth-syst-sci-discuss.net/7/C2824/2010/

Hydrology and Earth System Sciences Discussions

Interactive comment on "Evapotranspiration modelling at large scale using near-real time MSG SEVIRI derived data" *by* N. Ghilain et al.

Anonymous Referee #1

Received and published: 11 October 2010

Dear Author

Thank you very much for a very good manuscript. The article was clearly written on a topic of great importance. While reading i found somethings to be requiring more attention:

On page 7082 (25) you state that you do not use LST as input. however in the methodology section Tsk is still used. How this skin temperature is estimated is stated in the article and not clear to me. In addition is Tsk is estimated from a local energy balance, it should be possible use a a two-source energy balance approach. Have you looked into this? Similarly it is not clear to me how you estimate the emissivity. I know that there is a internal LandSAF emissivity product, but is it used in this study?

On page 7089 (15) you state correctly that the energy balance closure can leaf to 20% uncertainty in your E estimation. However after that you imply that using EC techniques solves this problem. This is not true, as EC techniques also suffer from EB closure problems. Please refraise and elaborate.

On page 7090 (13) you state the indices that you are going to you for your intercomparison I would prefer to have this in the methodology section. In addition you state that you use the Nash index. Although it is listed in the tables, in the main body of the article no further reference is made to it. In addition the formula of the index is not commonly known and therefore should be put in the article (if used at all).

On page 7094 (2) you start to explain the observed differences between the three models for a three variable sets. However the explanation on how these sets are chosen is not shown. A sensitivity analysis should be implemented here. Furthermore you state that the errors in ET are caused by the sensitivity in the Radiation. THis is not true: a high sensitivity to a specific variable set does not necessarily cause the error in the ET, unless the variable itself contains large uncertainties/errors. Finally it is obvious that the algorithm produces larger differences for arid conditions, however the impact of soil moisture is only discussed in the discussion and not in seciton 5.

on page 7094 line 25 you suddenly use \Delta%DSSF instead of the \Delta%S\arrow, please change this.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 7079, 2010.