

Many of your replies simply state “Go read my PhD thesis”. Nobody will bother reading a whole PhD thesis to find particular information. You need to provide these clarifications. It is not appropriate in a scientific paper to refer to a PhD thesis as much as you do.

Benoit Coudert asked for some further details on the properties of C3 Crops in ORCHIDEE, e.g., LAI, rooting depth, height etc. I think this information should be provided.

I don't understand your reply to the comment about the multiplicative factors. How can you have all parameters (albedo, emissivity etc) all equal to one? This does not make any sense to me. Were you referring to the multiplicative factor, rather than the actual parameter? If so, what's the point of having a multiplicative factor of one? I don't follow the logic here.

In reply to questions 1 (clarifications of what you mean by first guess and observations) and 2 (about starting dates and decrease in performance) and by Rihab Mechri, you also need to modify the manuscript as other reader may have similar queries. And stop referring to your PhD thesis, provide the information instead.

In response to Abdelaziz Kallel, about the “Gradient Algorithm”, “estimation of control parameters”, and the third one, clarifications need to be made within the manuscript.

Page 2, paragraph starting with “Variable data assimilation” – This is a rather long paragraph, I suggest breaking it into two.

Page 12, section 4.4, lines 8 to 10 should be one paragraph.

Your results section is very short. The paper does not have a discussion section at all??? You need to relate your work back to the rest of the literature. You have not done this at all in the paper, which I find very odd for a scientific paper.

You state that there is little difference in H and LE because there was no precipitation during the simulation period. You therefore must show results during periods where there is high precipitation. A simulation period of one week is much too short. This must be extended.

You state that your results can be explained by “The complexity of the model” – This is much too broad and general. I expect a discussion of the results to be much more in depth.

It is critical that model evaluation covers a long enough period to sample seasonality, and a range of sites covering a large number of PFTs. You only show results over a one-week period, at one site, and simply refer to your PhD thesis for the Kruger site. This is not appropriate. This paper needs a lot more work.