Biogeosciences
Discussions

Interactive comment on "Distinguishing between early and late covering crops in the land surface model Noah-MP: Impact on simulated surface energy fluxes and temperature" *by* Kristina Bohm et al.

Anonymous Referee #2

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This manuscript describes how incorporating leaf area index and green vegetation fraction for specific crop groups effects the output of land surface model. Results from Bohm et al. indicate that the partitioning land cover into early and late cover crops is important for regulation climate modeling simulations. These are results are intriguing and consistent and clearly communicated by the text and the figures of the paper. Overall, this is a nice and compelling story but I think the authors should significantly clarify section 2.3 (simulation runs) to avoid confusion. This would also strengthen the results section.

There are several things that need clarification in section 2.3

1. How long were the Noah-MP simulations run: for a single year or from 2012-2013? Are the results plotted in the figures results from Noah-MP 2012 and 2013 output or results from Noah-MP driven with the multi growing season mean?

2. In the second set of simulations there are two runs, the "generic crop" and run 2. Is the second run "crop specific", the weighted average of the Noah-MP driven separately with just LCC and just ECC LAI and GVF dynamics?

3. In the runs used as results in section 3.3 is the LCC share increasing over time or was this additional run driven with a "generic crop" equivalent that used a different share weight?

Specific Comments

1. Line 36: The acronym LE is used without being defined first

2. Line 57: What do you mean by simulation domain? Is that the Kraichgau region?

3. Line 202: What was the weighted average weighted by? The crop type area?

4. Line 425: The idea in this sentence seems incomplete, the GVF and LAI yields pronounced differences between what, the crop types or atmospheric flux from the crop types?

Interactive comment on Biogeosciences Discuss., https://doi.org/10.5194/bg-2019-453, 2019.