Biogeosciences

Discussions

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Interactive comment on "An observational constraint on stomatal function in forests: evaluating coupled carbon and water vapor exchange with carbon isotopes in the Community Land Model (CLM 4.5)" *by* Brett Raczka et al.

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Thank you for your comments. I am pleased that you found the paper informative. Land surface models such as CLM can be very detailed and complex, so it is always a challenge to know just how much of the detail to provide in the text and how much to leave to the citations. In this case, most of your concerns can be answered from the technical description of CLM 4.5 in Oleson et al. (2013), which we cite in the text.

Nevertheless, it is important to make manuscripts as transparent as possible, and agree that an overall diagram summarizing the key assimilation and allocation steps

would be helpful here (see attached figure as an example of what we intend to include in a revised version).

I am confident we can address your other line item concerns in the revised text as well.

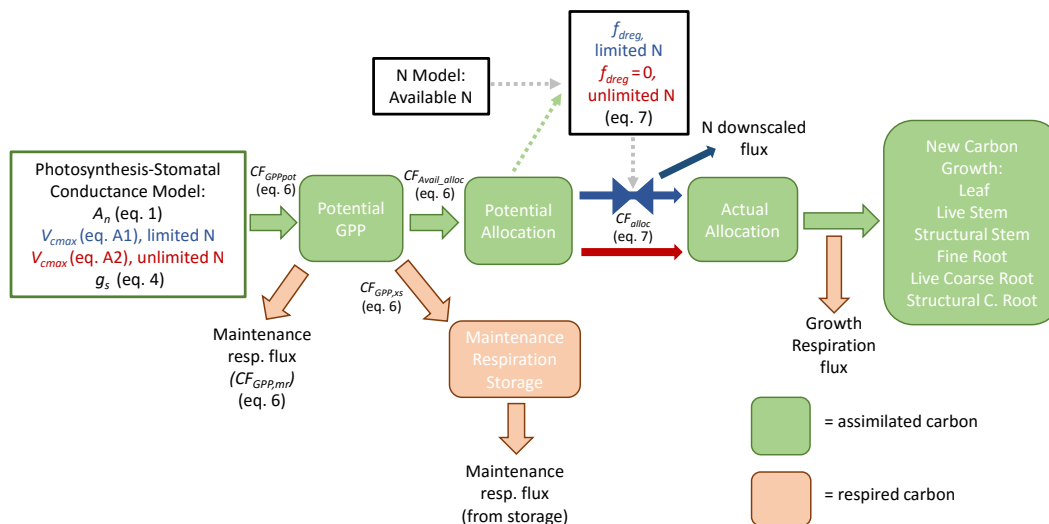Brett Raczka

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Figure 1: A simplified representation for CLM 4.5 of assimilation and allocation of carbon for conifer species. Colored boxes and arrows represent carbon pools and carbon fluxes respectively. Clear background boxes represent CLM sub-models. The N-limitation is determined by required N availability to meet demand from C:N ratio based on CF_{Avail_alloc}. The blue and red text and arrows represent the limited and unlimited nitrogen formulations respectively. The no-downregulation discrimination formulation is exactly the same as the limited N formulation.

Fig. 1. Overview of carbon assimilation and allocation