

## ***Interactive comment on “Evaluating the effect of alternative carbon allocation schemes in a land surface model (CLM4.5) on carbon fluxes, pools and turnover in temperate forests” by Francesc Montané et al.***

### **Anonymous Referee #2**

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I would only like to add to the comments of the other reviewer the following remarks:

Given that the concept "residence time" is ambiguous (see Sierra 2016 GlobChangBiol, doi: 10.1111/gcb.13556), it would add clarity to the paper if the authors shortly defined the concept.

Some sentences need revision because they are not clear, for example: P2L9-10: in "That could be done..." is not clear if "could" is pointing to events in the past or the future. P3L4-5 P4L12: I would suggest to remove "but not for all" P4L25-6 P8L6: I would suggest to remove "then" P6L17-21

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Other comments: The reference of figure 1 in P10L15 does not match the actual figure: (a) NEE (b) GPP (c) Respiration. Also, from the figure it indeed seems like an overestimation of NEE instead of an underestimation.

In P15L20-3, is it possible that the comparison of predictions of aboveground biomass increment (dynamic) with static observations = rings have caused the observed underestimation? Perhaps the comparison is not valid.

I agree with P16L29-30 in that it should be clear what the turnover rate actually comprises. However, in equation 4 it is clear that  $u_i$  is the rate at which material leaves  $B_i$ , so all C releases (respiration, litterfall, etc.) are necessarily lumped together in this parameter, unless they are independently specified.

Finally, for Scientific Reproducibility, consider publishing the code in a repository.

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Interactive comment on Geosci. Model Dev. Discuss., doi:10.5194/gmd-2017-74, 2017.

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