Biogeosciences

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Discussions

EGU

Interactive comment on "Land-use and land-cover change carbon emissions between 1901 and 2012 constrained by biomass observations" *by* Wei Li et al.

Anonymous Referee #1

Received and published: 3 July 2017

Li et al add to the growing number of manuscripts on emergent constraints. Here they arrive at constrained LULCC emissions estimates by combining TRENDYv2 output, observationally-inspired biomass datasets, and regressions. This paper is well written. I have only a few very very minor issues (a 30 minute time burden at most to fix). Otherwise, publish as is.

P4L1: Help the reader who is not steeped in the minutiae of LULCC terminology here by adding more detail on "lost sink capacity" and "the loss of additional sink capacity"

P5L23: Incomplete sentence starting with Liu et al. (2015) ...?

P9L8: I appreciate the understatement but unless I misread Table 3 all the estimates

are (by row) indistinguishable in a statistical sense. So you might want to focus on that and relative error to paint a slightly more optimistic picture of robustness.

P10L13: Remove "the" before "CO2 fertilization"

P10L15: The "Methods of defining" sentence. Not sure how to read the "to be associated". There is no future tense here? Just rewrite this to highlight the robustness of your findings.

P10L27: Your "that" clause is off. Perhaps start a new sentence with "This may..."? You use 1/3 of mean biomass later on (same para) and use the word large here. Can you quantify large so we have some sense of scale regarding the 1/3 number?

P16: Not sure what to make of the nonsense words here...

My final point (take it or leave it, it's more of a meta-point, as it were) is more of a "so what" question. Looking at Figure 6 (and excluding the Pan et al. bars) what has the gain in all this been? To put it another way, the "best estimate" from TRENDYv2 would be the 150 value. That was your "new and improved" value? I am not trying to belittle this effort or mindset. This is simply a question I've had whenever I read an emergent constraint paper. I'm also not sure there are enough papers out to form a critical mass to inspire a "best practices" or "lessons learned" paper. But it's thought to keep in mind.