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Comment

## ***Interactive comment on “Simulating boreal forest carbon dynamics after stand-replacing fire disturbance: insights from a global process-based vegetation model” by C. Yue et al.***

### **Anonymous Referee #4**

Received and published: 14 September 2013

I agree with the assessment of Referee #1 and offer a few related minor points intended to improve the manuscript by placing it in a broader context.

Extending results beyond the evaluation sites: for example the lodgepole pine forests in Yellowstone National Park often have extensive standing dead to this day 25 years after the 1988 fires. How generalizable are the results i.e. how unique are these forests?

I find that the modeling assumptions for the most part are well justified in the literature with a few important exceptions. On page 7306 line 24, is the age dependence of LAI entirely empirical? Is it a function of stand height (and thereby the space in which leaves can grow)? I worry that specifying a maximum LAI is not a robust approach for

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modeling the impacts of a changing atmosphere, climate, and biogeochemical cycles.

The paragraph on line 10 of page 7327 could try to address the ‘why’ questions for why some sites are overestimated and some sites underestimated. Otherwise the Discussion is somewhat long and could be made more succinct without losing meaning. One way to make the Discussion more succinct is to link subsections more strongly to the objectives listed in the Introduction so as only central points are expanded upon.

In figures 5 through 9, red and green should not be used in the same figure if at all possible. In this case, there is no discernable reason to be using both red and green. Figures 12 and 13 are better, but many figures have small font that is rather hard to read.

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Interactive comment on Biogeosciences Discuss., 10, 7299, 2013.

**BGD**

10, C5027–C5028, 2013

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