

## ***Interactive comment on “Quantifying legacies of clearcut on carbon fluxes and biomass carbon stock in northern temperate forests” by W. Wang et al.***

**Anonymous Referee #2**

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### **General comments:**

This paper aimed to quantify effects of clearcut on carbon fluxes and biomass carbon stock in northern temperate forests by PnET-CN. Authors found that PnET-cn performed well to simulate carbon cycling of temperate forests after clearing. Results indicated that ENF recoverd slower than DBF and harvest density only has effect in the early stage after clearing not on the late stage. This manuscript covers a very interesting topic in recent years and falls well in the scope of Biogeosciences.

Although the authors have done a good job in data collecting, study design, modelling, data analyses and writing, I still have some major concerns about the MS in

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your discussion section. The one thing is that authors did not compare their results comprehensively with other studies all over the world. E.g. the trajectory analyses of other disturbances such as fire, etc. And other case studies for rainforests or boreal forests. Moreover, for a MS to be submitted to a Special Issue “Impacts of extreme climate events and disturbances on carbon dynamics”, maybe authors should be focused more on extreme ones not only regularly anthropogenic disturbances(such as clearing, etc.), they should discuss about extreme climate or other events’ effect on carbon dynamics and their trajectory.

### **Specific comments:**

#### **Introduction section:**

You should add more references about extreme disturbance to make your MS fallen well in the scope of this special issue.

You should reorganize your objectives to be constant with your results and discussion. One is to evaluate PnET-CN’s performance for temperate forests and the other is to study the trajectory variation of carbon dynamics after clearing and their density.

#### **Discussion:**

I suggested that you added a subsection to compare your results with different disturbances as well as with different forest types.

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Interactive comment on Biogeosciences Discuss., 11, 8789, 2014.