

Interactive comment on “Quantifying the role of fire in the Earth system – Part 2: Impact on the net carbon balance of global terrestrial ecosystems for the 20th century” by F. Li et al.

Anonymous Referee #2

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The authors present a model study of the direct and indirect fire effects on the net carbon balance of global terrestrial ecosystems for the 20th century. The paper is interesting, very clearly written and within the scope of the journal. I have only minor comments.

1. I agree with referee #1 that the changing land-use/land cover imposed to the model is partly the result of historical fires, so that the model has some indirect effect of fires even in fire-off simulations. There is no good solution to that problem but the authors should mention it.
2. discussion of Fig 1. (a) and 4. (a). Both figures show 2 oscillations between 1900

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and 1970. I assume these are the result of the cycling of the 1948-1972 atmospheric forcing. Am I right ? This should be explained in discussing both figures. In Fig 4. (a) the trend after 1970 does not seem larger than the previous 2 cycles. It seems mainly the result of 2 years before the last. Is this trend significant ?

3. p 17321 l 25: I believe it should be “followed by” instead of “following”
4. The authors should replace “Fire-on - Fire-off” by “Fire-on minus Fire-off” or another name in the captions of all the figures and in the Tables. This was very confusing to me, especially in the figures.

Interactive comment on Biogeosciences Discuss., 10, 17309, 2013.