

Interactive comment on “Soil greenhouse gas fluxes from different tree species on Taihang Mountain, North China” by X. P. Liu et al.

X. P. Liu et al.

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We would like to thank Referee #1 for his constructive comments that helped to improve the manuscript substantially. Please see our detailed response to reviewer's comments below.

The authors investigated soil GHG fluxes (CO₂, CH₄ and N₂O) and their potential drivers among the six different tree species on Taihang Mountain of north China. After going through the whole paper, the MS reads like a scientific report. I did not give any detailed suggestions/modifications on the MS itself but presented several large concerns.

1. Firstly, the discussion part can be regarded as a review of previous work and is

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full of simple listing. I am afraid that the readers can not really get any new insights from this part. There should be many interesting things that could be discussed. For example, the authors selected a good study place where plantation and nature regenerated forests coexisted but the further discussions on the potential similarity/difference of GHGs between these two type of forests and the implications (this may become a eye-catching point for this MS) were absent.

We do agree your valuable comments. The discussion part has been rewritten, and most of trivial references have been deleted.

2. Secondly, I understood that the annual fluxes for CH₄ and N₂O can be calculated based on simple time interpolation because these fluxes showed poor correlations with the measured soil properties (e.g. soil temperature and soil moisture). But this method would greatly introduce the significant bias into annual CO₂ flux calculation because CO₂ fluxes were strongly correlated with the soil temperature (and also soil moisture) and their relationships should not be linear.

Many thanks for your suggestion. The calculation of seasonal amount of GHG fluxes has been rewritten, please check (page 9 line 23-24 and page 10 line 1-8).

3. Finally, there are numerous grammar and spelling errors. I strongly suggest that the MS should be carefully checked and revised by the native English speakers if it was resubmitted or submitted to other journals. Based on the above-mentioned issues, I suggest that the paper presented like this should not be published in Biogeosciences.

Professor Scott David Roberts in Mississippi State University helped to improve greatly the quality of this manuscript.

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