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Biogeosciences
Discussions

Interactive comment on "Modelled potential forest area in the forest-steppe of central Mongolia is about three times of actual forest area" *by* Michael Klinge et al.

Anonymous Referee #1

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This paper covers various of aspects, such as correlation between tree biomass and NDVI, tree biomass variation along slope, along edge and interior of forest, topographic, and modeled biomass and actual biomass comparison. However, the major issue of this paper is that the title cannot cover the content, and it's difficult to get the key point from the manuscript. Also there are a few questionable steps in the data processing, and most figures need changes as the letters are too small to see. Therefore, I suggest the author to rewrite this paper and resubmit this paper with a new title. The title, "Modelled potential forest area in the forest-steppe of central Mongolia is about three times of actual forest area" indicates the model used here is not doing a good job. This make reader wonders whether the author used the right methodology

here. A few things that is questionable in method part: 1. The author used supervised classification method to get the actual forest area, please indicate the accuracy of the classification. 2. The approach the author used to generate potential is unclear to me. 3. The plot of the field work is 20 m by 20 m, which is smaller than Landsat pixel, this could be a reason for the poor correlation between NDVI and biomass. 3. The author didn't mention whether the time of field work and satellite passing time is different. 4. The interpolation strategy for year 1986 is unclear. 5. The letter of the flowchart is too small, which doesn't help the readers to understand how the author processed the data. Other issues: 1. please indicate what the color means in figure 2. 2. Figure 6 needs to be changed, both NDVI and LAI should be on X axis to show their correlations with biomass. 3. This paper used too much unnecessary abbreviation. Such as HMA, FDA, MAP, MGST. 4. seven Sentinel 2 images of the growing seasons 2016-2018 to obtain more site-representative NDVI values (Figure 7), please provide exact date of these images, also mean NDVI does not mean site-representative NDVI values, the averaging process will bring in a lot uncertainties as well.

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