Comment on bg-2021-130

Anonymous Referee #2

Referee comment on "Sensitivity of biomass burning emissions estimates to land surface information" by Makoto Saito et al., Biogeosciences Discuss., https://doi.org/10.5194/bg-2021-130-RC2, 2021

In the manuscript entitled "Sensitivity of biomass burning emissions estimates to land surface information", authors explored the sensitivity of biomass burning emission estimates to land surface information under four scenarios, based on land use and aboveground biomass. This paper just provided the results of different scenarios. It seems not a sensitivity analysis. The quantification results of sensitivity indicators are not outstanding. The sensitivity of quantified single parameter could be considered. Specific comment is as following:

1ã□□How to explain the meaning of equation 2?

2ã□□Which variable of the formula can LCC and ACB provide data for? Please explain the relationship between LCC/ACB and emission estimation in detail.

3ã□□What is the difference between providing data by MCD12Q1 and MOD14A1?

4ã□□Please supplement the discussion of the proportion of various types of biomass emissions (e.g., crop, forest, etc.) under different scenario for different LCC and AGB, and compare them with other studies.

6ã□□In this paper, the different types of crops straws were not considered in the emission factors and activity data. There is comparable difference in emission factors of various crops straw, such as corn, rice, wheat, etc.

7ã In this paper, MNM is set as the background station, whether it is similar to other pollution sources of the other two stations.

8ã Line 105-106, why the concentration of CH_4 is fixed and what is the basis for setting it?

9ã Line 194-195, the data is not well expressed.

10ã Fig.4: Incomplete display of broken line chart.