

Comment on acp-2021-1086:

The paper has identified the irregularity of the biomass burning in the Amazon Forest for 2020 compared to the previous 6 years, which has involved the Pantanal biome. Evidence of the hotspot counts, AOD from MODIS and AERONET and retrieved solar irradiance have clearly shown the burning anomaly of the year. The statements are well discussed and proved but the contributing factors of the anomaly are not discussed in the paper.

Firstly, there is less specification on the main anomaly that is discussed whether it is a burning or emission or something else? Secondly, the factors that cause these anomalies should be understood, such as reason of burning (natural forest fire/human activities), source of burning (where and type of land cover burnt), weather condition (local or transported emission/conducive to sustain burning/conducive to fire spread). Since the year of 2020 is the COVID year, please do mention whether it played a role in the 2020 burning condition. A good background information would be helpful for the audience and further analysis.

In the result analysis (Section 3.2, 3.3), the analysis time frame of the data should be consistent. Hotspot, AOD and solar radiance data from 2003-2020 (Figure 6 – 8) were used for the chronological change of the burning events in Pantanal biome, but not for the spatial map (Figure 4 – 5) where the anomaly is identified. The inclusion of long-term dataset could assist on the understanding of spatial distribution of the burning condition more clearly. In the discussion section (Section 3.3) 2020 has been referred to the previous burning season in 2000s several times, in terms of the similarity of hotspot amount and AOD level. No detailed information is provided on the cause of the burning, even there are multiple similar occasions that have had happened in the past, which might not be so much of an anomaly but reoccurrence if longer period data (2003-2020) is considered.

Overall, the paper is not well structured, and information are clumped together in long paragraphs. Please split the lengthy paragraph or introduce sub-section for clarity. A major revision is required before the paper is deemed suitable for acceptance and publication.

Specific comments:

Line 56-60: Please provide the basic information on the size and the typical cause of burning in the different biomes. It would be helpful to elaborate the uniqueness of burning/emission condition in Pantanal.

Line 222-223: How about 2003?

Line 234-237: The role of weather anomaly is mentioned here but just for year of 2015-2016. How about the other year of extreme burning between 2003-2010 (Line 222-225)? More explanations need to be provided.