Biogeosciences Discuss.,
https://doi.org/10.5194/bg-2020-123-RC2, 2020
© Author(s) 2020. This work is distributed under
the Creative Commons Attribution 4.0 License.

Biogeosciences Discussions

Interactive comment on "Technical note: Low meteorological influence found in 2019 Amazonia fires" *by* Douglas I. Kelley et al.

Sönke Zaehle (Referee)

szaehle@bgc-jena.mpg.de

Received and published: 21 August 2020

Kelly et al. apply a simple numerical model to assess whether or not the 2019 fire season in the Amazonas region was cause by climatic anomalies or other causes. Based on an ensemble of simulations they suggest that the increase in areas of high deforestation was unlikely to be the consequence of climate anomalies and are more likely related to forestry activities. The manuscript is well written, clearly structured and the documentation guidelines for code are followed.

I agree with reviewer #1 that while this is a valid and interesting approach, some discussion should be devoted to the ability of the model to robustly capture the observed interannual variability and specifically the extremes.

Minor comments:

P1L16: Can you be specific here based on what type of information the model is optimised?

P1L18: This makes it sound as if the model redicted an increase in burnt area in these regions, whereas as far as I understand this is actually based on observations. Please clarify.

P3L74ff: Please see comment by reviewer #1.

P3L85: As far as I understand the set-up, the method tracks uncertainty in the parameter set of the model, but does not address alternative model structures or uncertainty in observations. Please be more precise here.

P4L132: Please provide a motivation for this change in approach, and clearify that you mean to say you included all data points in the assimilation procedure?

P5L144: Please used evaluated or similar in stead of validated. Please provide a succint description of the evaluation result here so ease of reading the paper.

P6L168: Hard to follow, please rephrase

P6L174: How is this different from 1. Please also check language of the sentence "Calculated as". What has been calculated?

P6L217: Visually, this isn't true for all the areas and years, can you please provide a quantitative assessment to back up this point?

P8L246: "Novel" makes this read is if the model had been developed in this paper, whereas indeed you have "simply" (correctly and usefully) applied a model published in 2019. Please rephrase and emphasise the novel aspects.

Fig. 2 In order to have the paper readible without the SI, would it be possible to add the regions A-F and ADD to the Figure 2?