Biogeosciences Discuss.,
https://doi.org/10.5194/bg-2020-80-RC2, 2020

Biogeosciences Discussions
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Interactive comment on "Vegetation modulates the impact of climate extremes on gross primary production" *by* Milan Flach et al.

Anonymous Referee #2

Received and published: 17 April 2020

The paper investigates the importance of land cover type in controlling the impacts of climate extremes relative to other factors using a global upscaled product of GPP. The results show that heat and drought events seem to reduce GPP in grasslands and agricultural areas and to increase GPP in forests. The work calls for considering different land cover types in the assessments of the impact of climate extremes on ecosystem functioning. Overall, the objectives of the paper are clear. However, some methodology and results still need further improvement, and some Figure needs to do some improved. I would recommend a major revision. Detailed comments are listed below: 1. Figure 1 is not intuitive enough; it needs some improvement. It should label the specific events name rather than region and year. 2. I suggest Figure 2 need to label the proportion value. 3. Figure 3a is too orderless. I suggest it needs not to label the

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Discussion paper

events. 4. The authors group land cover classes in forest and agricultural ecosystems, what about grasslands? Abstract illustrates GPP in grasslands is generally reduced during heat and drought events. And which year the land cover data is? 5. I am so fusing about the methodology; I suggest to introduce more detailed of the method about preprocessing and anomaly detection. 6. The results section needs further analysis, especially need quantitative analysis.

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