

Interactive comment on “Limited response of peatland CH₄ emissions to abrupt Atlantic Ocean circulation changes in glacial climates” by P. O. Hopcroft et al.

H. Fischer (Editor)

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Dear authors

Your draft on the "Limited response of peatland CH₄ emissions to abrupt Atlantic Ocean circulation changes in glacial climates" has now been seen by two reviewers and I am happy to say that the reviews are generally positive and I encourage submission of a revised version of the manuscript.

Thank you also for providing your author comments, which in most cases sufficiently meet the criticisms raised by the referees. Here a few wishes from an editors point of view, where I would like you to respond in more detail to the reviewer comments in the

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revised version of the manuscript:

1. In your response to review 2 on the topic of the (different) sensitivity of SDGVM on orbital or shorter time scales, I would like you to include a paragraph of discussion on this topic in the revised version. I agree that a final answer cannot be given at this point, but the specialized reader may be able to assess better the results in your and in the earlier paper by Singarayer et al., after this discussion.
2. In the next reply to review 2 you say that an in-depth discussion of the low-latitude sources is beyond the scope of this paper. I agree, but again you should explicitly repeat your argument given in the reviewer reply in the revised paper, in order to explain that you are interested in quantifying the peatland sources and that you assume that most of the rest must come from the low latitude sources.
3. In your response to review 2 on Fig 7. you address the question that the small number of peatland grid cells may not be representative. In this context it should be noted in the revised draft that a constant peatland grid cell distribution is misleading anyway and that in a next step a dynamical peatland evolution has to be implemented, as glacial peatland grid cells were most likely shifted southward compared to the recent distribution. This is a strong limitation on the representativeness of the results and should be mentioned explicitly.
4. Concerning your reply to review 1 p3530 please add these details to the revised manuscript.

I am looking forward receiving a revised version of this interesting manuscript.

Regards Hubertus Fischer (CP editor)

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