

Interactive comment on “Different responses of CO₂, CH₄, and N₂O fluxes to seasonally asymmetric warming in an alpine grassland of Tianshan Mountains” by Yanming Gong et al.

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Received and published: 1 December 2020

This manuscript describes the response of GHGs emissions to seasonally asymmetric warming in an alpine grassland of Tianshan Mountains. It is an interesting topic to understand carbon and nitrogen cycles with increasing temperature. The manuscript is well written and concise. The experiment is well designed and conducted. I suggest this manuscript could be accepted after some minor revisions. Introduction: the research advances of responses of CO₂, CH₄ and N₂O fluxes to seasonally asymmetric warming is very limited, more contents could be added especially in grassland ecosystem. Authors quoted many IPCC results about warming and its effect on GHGs

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fluxes, which need to be summarized. Materials and methods: air temperature and precipitation data of growing season and non-growing season could not be found, which are important to explain the effect of seasonally asymmetric warming on GHGs flux. Discussion: please delete figure 2 and $P < 0.05$ or $P > 0.05$. The manuscript do not research the response of GHGs to daytime, nighttime or short-season warming, please delete it. Conclusions: please add the responses of CH₄ and N₂O fluxes to warming in the study.

Interactive comment on Biogeosciences Discuss., <https://doi.org/10.5194/bg-2020-396>, 2020.

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