Comments to the Editor:

We have included all changes as mentioned in our reply to reviewer 1 and 2 and we don't repeat this here.

Comments to the author:
This is an intriguing dataset of CO2 and CH4 fluxes in a very remote part of the world. Both referees are supportive of publishing the work, but both have concerns. Please address those concerns as you have suggested in a revised version of the paper.

I share the concerns about extrapolating to the full year from a few months in summer - please remove that content and focus on the time period of measurements.

Answer: Done. Changes have been done in many places, please see the annotated version.

I agree that the NEE partitioning methods are well accepted. (Citing Wutzler et al (2018) is not enough because the REddyProc package includes both the nighttime (Reichstein et al. 2005) and daytime (Lasslop et al. 2010) partitioning methods. Presumably you are using the daytime method, be clear about this.). However, you are missing data from most of the month of August. Your new Fig 8 which shows the monthly diel patterns highlights that the missing month is actually during the transition from peak growing season to full respiration in September. Please add something to the August panel that clearly indicates on the figure that the pattern results from all/mostly gap-filled data, and some text that highlights the limitations.

Answer: Thanks for pointing this out. We are using the daytime method and we have added a reference to Lasslop et al in the text L225-226. A comment about the missing data is also made in the panel of Fig. 8 and we also made a remark in the text L415-420 following Fig. 8.

I am not concerned with presenting GPP as a negative number (Fig 7) as long as you are clear about the sign convention. I am however confused about the focus on temperature sensitivity of GPP in Figure 9. The application of the Lasslop method a priori assumes, and thus provides, an exponential response of ecosystem respiration to temperature. The GPP term is modeled strictly as a response to radiation (or also humidity as shown by Lasslop). Noise around the GPP light response fit line is caused by many factors, perhaps a temperature effect on GPP as you suggest, but also by changes in stationarity of turbulence, the low u* underestimation of fluxes, time-varying footprint changes, etc.

I do not agree that the residual of the GPP-light relationship can be interpreted as the temperature sensitivity of GPP. Your new Figure 8 highlights the very strong seasonal change in GPP during this short growing season. Plant photosynthesis is responding to seasonal change in temperature in a dramatic way in your dataset. I suggest that you evaluate the GPP-light response in successive 2-weekly periods. I suspect you will find a change in the light-saturated value of GPP during those different periods (analogous to seasonal change in leaf-level photosynthetic capacity). For example, Figure 5 in Bowling et al. (2018) illustrates these patterns during the spring transition from winter dormancy to active photosynthesis in a forest. That change in my opinion is a more appropriate way to examine how plant photosynthesis is changing as temperature changes across the season. I don't insist that you make these changes, but please consider them and modify the paper accordingly if you find this useful.

Answer: Referring to our mail conversation we have added some text about the analyses of which variables (Ta, time of season, vpd) that best explain the the variance of the normalized GPP (L 459-463). We did not include the reference below since we didi not use this method.

Bowling, D. R., Logan, B. A., Hufkens, K., Aubrecht, D. M., Richardson, A. D., Burns, S. P., Anderegg, W. R. L., Blanken, P. D., and Eiriksson, D. P.: Limitations to winter and spring photosynthesis of a Rocky Mountain subalpine forest, Agricultural and Forest Meteorology, 252, 241–255, https://doi.org/10.1016/j.agrformet.2018.01.025, 2018.