

Author response to interactive comment RC2 submitted by Gil Bohrer on Apr 22, 2019

In the document below, the comments by Gil Bohrer have been copied from the original review and are shown in black font, [while the author comments have been added in blue](#).

I reread the paper. Got stuck on the last section of the methods where you say "Mexican hat wavelet" was used to determine bursts. That made me realize that I do not actually have a sense of what you are doing and how.

I think it'll be of great advantage for science, and the readers of Biogeosciences that you will post the code that you used to conduct the wavelet analyses, both for determining the flux, and for identifying bursts (I assume these are similar codes, with different setups, but may be wrong). A clear, well commented code, with a data example from your own study will go a long way in terms of applicability and citation number for this paper.

Also (assuming your code is in R) consider making an R package and posting it in CRAN. But if that is too much of an effort, or if most of what you used is from other packages and all you did was set up and wrap up, please, at least, post the code with a working data example as appendix to this paper. Having a working example of how wavelet is used to determine fluxes from heterogeneous environments, and identify bursts would be great.

[It is our goal to make the wavelet software package, which has been programmed in R, publicly available in the near future. This may be either in form of a stand-alone R-package, or a code package in GitHub \(or both\). This goal, however, cannot be completed within the coming months, instead a publication of a 'cleaned up', self-explanatory code with all the necessary documentation is foreseen for fall 2019.](#)

[At the time of writing, a code version with reduced documentation is already available, but we do not want to provide this as an open-access package due to the above-mentioned plans to develop a better-documented version soon. The current version, however, is already sufficiently commented to allow the interested user to reproduce the results that have been presented in the manuscript, as well as in the companion papers by Schaller et al. \(2017; 2019\). The availability of this code by the authors upon request has been added as a note to the end of this manuscript.](#)

References

[Schaller, C., Göckede, M., and Foken, T.: Flux calculation of short turbulent events – comparison of three methods, Atmos. Meas. Tech., 10, 869-880, 2017.](#)

Schaller, C., Kittler, F., Foken, T., and Göckede, M.: Characterisation of short-term extreme methane fluxes related to non-turbulent mixing above an Arctic permafrost ecosystem, *Atmos. Chem. Phys.*, 19, 4041-4059, 2019.