Biogeosciences Discussions

Biogeosciences Discuss., referee comment RC1
https://doi.org/10.5194/bg-2021-109-RC1, 2021

Comment on bg-2021-109

Anonymous Referee #1

Referee comment on "Fluvial carbon dioxide emission from the Lena River basin during the spring flood" by Sergey N. Vorobyev et al., Biogeosciences Discuss., https://doi.org/10.5194/bg-2021-109-RC1, 2021

This study provides interesting and useful assessments of several key factors related to GHG emissions from the Lena river and its tributaries. The field work sampling and laboratory analysis seemed thorough and robust. However, I found some of the conclusions draw by the article to be lacking complete discussions and support by references and other supporting ideas. I believe that the conclusions suggested by the authors could be made more robust by delving deeper into some of the subjects discussed in the article and providing more context for the conclusions presented.

Some of the parameters discussed in the methods and results section are not discussed in the discussion section. Discussion of these parameters would strengthen the arguments made by the authors. PCA results are presented in the results sections with no description in the methods section. The PCA results should be revisited in the discussion section. On line 322, the authors suggest that in-stream processing of dissolved terrestrial organic C is not the main driver of CO_2 supersaturation in the river waters of the Lena River basin, but offer no alternative pathways for this phenomenon.

This article needs to be reviewed and edited by a native English speaker. Nearly every sentence has a typo or error which greatly disrupts the flow of the paper and weakens the arguments made by the authors. The errors are so numerous, that it was not possible to correct them all here in this format.

Line 331 POC is not defined

Line 344 FCo2 not defined

Line 344 Unites should be United