

Review of 'The water column of the Yamal tundra lakes as a microbial filter preventing methane emission'

By Alexander Savvichev, Igor Rusanov, Yury Dvornikov, Vitaly Kadnikov, Anna Kallistova, Elena Veslopolova, Antonina Chetverova, Marina Leibman, Pavel Sigalevich, Nikolay Pimenov, Nikolai Ravin, and Artem Khomutov

I totally agree with the authors that information on primary production, concentration of dissolved organic matter, microbial abundance and CO₂ assimilation is important to the characterization of the studied systems, particularly if these lakes have never been studied before, as pointed out by the authors. However, in my opinion, this information could be presented as supplementary information or even in a different manuscript. There is no doubt that these data bring valuable information, but I believe they are not crucial to the main conclusions of the ms. As an example, I pointed out that Fig. 9, which summarizes the main findings of the ms, does not show these data, suggesting that they are not critical to arrive to the conclusions. But I understand this may be an issue of style, as it is my preference to read and write more succinct papers that present only the necessary data that take the readers to the main messages that are being conveyed.

On a similar note, I also prefer introductions that are straighter to the point, but I understand that the authors may have a different writing style.

Please add the reference Pimenov et al. 2006 where applicable in the Methods so that the reader can refer to it for more detailed methodology.

Please add in the Methods section that single cells and aggregated cells were visually differentiated under the microscope.

Fig 2 and 4: what are the light brown horizontal bars? I believe the bar plots (as original) with legends indicating which bar corresponds to the values in $\mu\text{gC L}^{-1} \text{d}^{-1}$ and which bar corresponds to $\text{mgC m}^{-2} \text{d}^{-1}$ are more appropriated. There is no need for a secondary y axis if both have the same range and are identical. A secondary y axis could be useful here if you wanted to show the per litter PP in a narrower range axis than the axis of the depth weighted PP. See below two fictitious figures showing how I think you could present your figures to make them clearer (first with one y axis, second one with two y axes):

