

Interactive comment on “Phytoplankton community structure in the Lena Delta (Siberia, Russia) in relation to hydrography” by A. C. Kraberg et al.

Anonymous Referee #1

Received and published: 10 June 2013

The authors state that the Lena Delta in Northern Siberia has experienced and is experiencing great changes due to climate changes. This is likely changing the physical and chemical parameters in the waters. They suppose that these changes will also affect the composition of and interactions between phytoplankton and zooplankton communities. For that they describe the status of the diversity and linked foodweb interactions as part of the AWI Lena Delta Program with extensive measurements and statistical methods. The results of the analysis are reported in the manuscript. Structural changes were found between the outflow from the Lena River and the more stratified areas. They also found differences in community structure above and below the thermocline in the stratified areas.

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It is relevant and good that these programs such as the AWI Lena Delta Program exist. The data are new and interesting. Yet, to be published in BG the analysis of the new data need to be more than just descriptive and the general scientific achievements need to be pointed out. It is not clear if the study is a methodological study on statistical methods used to explore the community structure or a study on the impact of changes of the environment on the community structure. The manuscript could further be developed along those lines. I suggest totally rewriting the manuscript and clearly pointing out the major findings.

In the beginning of the abstract you mention that there have been substantial changes in the Lena delta possibly leading to changes in composition of and interactions between phytoplankton and zooplankton. I cannot see this relationship between your analysis and those aforementioned changes. It is mentioned only in the beginning, but during the rest it is only about actual community structure patterns.

In the introduction section paleoecological studies and studies of neighboring areas are included, but your results are again not put into the context of what was previously found.

The introduction section is full of speculations, eg. Page 4, L1-6 “. . . is also likely to lead to considerable increase in . . . as well as methane Changes in these parameters could also have profound consequences . . .” (just to mention one), but hardly proofed with the analysis in the manuscript.

Methane was pointed out in the introduction as a relevant parameter, but not considered further more in the analysis.

Method section: A statement about the accuracy of the nutrient samples (especially methane) would be useful and how it affects the analysis.

Discussion section: You express your results and their connections very cautious, eg. “might”, “seems to be”, “would”. but this lets your statements sound speculative and

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vague. Try to concentrate on the robust findings from your study and reflect this in the wording.

Most of the discussion in subsection 4.2 is about linked foodweb structures which do not come out of the analysis. The relationship to environmental changes is missing.

Point out the broader implications of your results.

Interactive comment on Biogeosciences Discuss., 10, 2305, 2013.