

Biogeosciences Discuss., author comment AC1
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Reply on RC1

Robin Havas et al.

Author comment on "Biogeochemical processes captured by carbon isotopes in redox-stratified water columns: a comparative study of four modern stratified lakes along an alkalinity gradient" by Robin Havas et al., Biogeosciences Discuss.,
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Dear reviewer,

First we would like to thank you for providing your useful comments. Besides, we appreciate that your evaluation supports the quality of our work and data, as well as the fact that it should be published.

Nonetheless, your review does bring up major concerns regarding the result and discussion sections and notably the overwhelming amount of information they contain, distracting the reader from the important conclusions of the study. To solve this issue, you suggest to reduce the length of the document and "cut out part of the discussion and put them into a separate manuscript".

Indeed, the current manuscript combines a large number of data, trying to connect several natural systems through multiple analytical techniques. Condensed in one document, this does result in probably too many pieces of information and conclusions. Therefore, we agree that the different messages of the paper could be better addressed in distinct manuscripts. More precisely, we think that our paper could be subdivided into DIC/POC interpretations on one side and DOC on the other side.

As written to the editor and the other reviewer, the two manuscripts could be submitted in parallel as "Part 1" – "Part 2" publications. We would take care that their respective messages clearly stand out and avoid repetition about geological settings, methods, etc. Overall, this combination would provide a comprehensive picture of the C cycle of these lakes and an easy comparison between the different datasets.

We believe such a reorganization will improve the stream line of each article and facilitate their understanding. It will also reduce their respective length. Each paper would include less methods to describe, which thus could be more detailed if required (such as ion chromatography for example).

You described the result section as excessively long with a number of superficial information. In the proposed outline, the first paper contains DIC/POC data and physico-chemical parameters only, while the second one would contain DOC and nutrient concentrations data only. Together with the fact that we do not need to describe each parameter in detail, this reorganization could greatly reduce the length of this section in each manuscript allowing to focus on the main results.

The respective discussion sections would also be more concise and consistent because each paper will focus on fewer points. Last, it will be possible to read the conclusions independently but they will be easy to connect between the two papers.

We think this reorganization should allow to retrieve the important messages from our dataset in a clearer and more direct way, and hope the reviewer will agree.

Thank you again,

Robin Havas, on behalf of all co-authors