

## ***Comments on the 1<sup>st</sup> revision of Santos-Garcia et al. nitrate isotope paper***

I am pleased that the authors have greatly improved the quality of the manuscript in the last round of revisions and that the new tables summarize the theme of the article well. Overall, the current version with some minor changes, I think, can be accepted by the journal. But there is still some issues remaining need to be solved which are listed below.

The sub-sectioning in the 'introduction' is still a bit odd and this disrupts my reading. The latter two subsections could be considered to be integrated into the preceding paragraphs in the introduction, the 2.1 section, and the appendix. A concise introduction would allow the reader to move more quickly to the core of the results.

Lines 89-93 All these sentences are about the purpose of the article, please combine them. ("aims to...", "The purpose of...")

Line 137 "...possibly nutrient limitation in Rjipfjorden" More complete nutrient consumption (as you summarize in table 2) in Kongsfjorden may contradict this sentence?

Line 142 Casciotti et al., 2002 about oxygen isotope measurement should be cited.

*Casciotti, K.L., D.M. Sigman, M.G. Hastings, J.K. Böhlke, and A. Hilkert. 2002. "Measurement of the Oxygen Isotopic Composition of Nitrate in Seawater and Freshwater Using the Denitrifier Method". Analytical Chemistry 74: 4905-12. doi:10.1021/ac020113w.*

Lines 187-188 "The denitrifier method for..." move this sentence into Line 194.

Lines 190-193 Move this paragraph after line 210.

Figures:

Fig. 1 There seems to be errors in the latitude and longitude of Fig. 1a, please confirm. Please double-check the latitude and longitude of the other figures as well. The y-axis of Fig. 1b is partially obscured

Fig. 3 Missing x-label in Fig. 3d (Distance (km)).

Fig. 7-8 Phosphate should be  $\text{PO}_4^{3-}$  instead of  $\text{PO}_4^{2-}$ .

Fig. 11-12 A space should be added before the brackets (e.g., in x-labels and y-labels).