

April 13, 2015

Dear Dr. Vincent,

We thank you for the positive review of our manuscript entitled, "Methane and carbon dioxide emissions from 40 lakes along a North-South latitudinal transect in Alaska." We revised the manuscript according to comments provided by the reviewer and the Associate Editor.

Specifically:

(1) We followed the reviewer's recommendation to use the term 'mixotrophy' instead of 'dystrophy' to classify lakes with high DOC and high nutrient concentrations based on Williamson et al. (1999). Although Wetzel (2001) did not make this distinction -he classified all high DOC lakes as 'dystrophic'-, we retained additional useful information that Wetzel (2001) provided about high DOC lakes often having higher chlorophyll-a concentrations in the photic zone since this is what we also observed in our high DOC lakes.

(2) In accordance with the reviewer's suggestions for minor changes, we provided the sampling time for greenhouse gases in the Methods section and we corrected the grammar in the sentence, "Further analyses are required to address the differences in Storage emissions between these lake types."

(3) In response to the Associate Editor's question, we clarified in Table 1 that concentration values reported for nitrate, phosphate and sulfate are based on the elements (i.e. N, P and S).

(4) The Associate Editor correctly pointed out that phosphate values should be reported as soluble reactive phosphorus (SRP) rather than orthophosphate. We revised the manuscript accordingly.

We thank the reviewer and Associate Editor for the constructive comments on our paper and hope that you will now find it suitable for publication.

Sincerely,

Katey Walter Anthony