

Interactive comment on “Source, composition, and environmental implication of neutral carbohydrates in sediment cores of subtropical reservoirs, South China” by Dandan Duan et al.

Anonymous Referee #1

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Reviewers' comments:

Duan et al., have collected sediment cores from three tropical reservoirs in South China and analyzed them for the neutral carbohydrates along with algal organic matter (AOM) content, carbon isotopic composition, and elemental C/N ratios. Based on these data, they investigate the source, composition and diagenesis of the neutral carbohydrates and their relationships with the history of algal productivity induced by climate change over the last 60 years. This manuscript presents interesting results and requires minor revision before it can be accepted for publication. The following comments might help authors in their revising:

1. First, the manuscript needs some cohesive discussion to emphasize more on the

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combination uses of carbon isotopic composition, pyrolytic organic parameters and carbohydrates composition.

2. Second, the correlation between air-temperature changes in South China over 60 years and the trend in organic parameters of the three studied lakes is interesting. This part might be worth exploring in the future. Thus, a research outlook could be given by the authors.

Specific comments/questions

Line 24: The “single neutral carbohydrate” should be replaced by “monosaccharide”, please correct it all throughout the text.

Line 47: The lowercase delta notation for isotopes should be italics. Please correct these all throughout the text.

Line 94: The isotopic values are reported relative to the V-PDB Belemnite Standard, not just PDB.

Line 108: Is the “AC 50W-X8” right? According to the Michael’s paper in 2015, the cation resin should be “AG 50W-X8”.

Line 243: “Fig. 3” should be “Fig. S3”.

Line 355: “Fig. S8” should be “Fig. S4”.

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