

Review of 2022-549: “Characterization of atmospheric methane release in the outer Mackenzie River Delta from biogenic and thermogenic sources.” by Wesley et al.

Wesley et al. have studied hotspot of methane from the Mackenzie Delta, measuring stable isotopes from atmospheric methane above know aquatic and terrestrial hotspot of methane. Their $\delta^{13}\text{C-CH}_4$ signatures indicate that both biogenic and thermogenic sources are found in the delta.

I find that study very interesting as methane hotspots are rarely characterized, especially I appreciate the effort of verifying data obtained by airborne eddy covariance. Although the airborne study has been realized in 2013 and the discrete sampling in 2019. In this study they characterized very few hotspots (8) and it would be worthwhile to continue this study and add more data to be able to derive a regional pattern. I recommend for publication with very minor correction.

General comments:

Lake 1 is also known under the name “Swiss Cheese lake”, it would be useful for the reader not familiar with this area to mention that in the supplement (for example in table S1).

Main text:

L168-170: The sentence starting with “Sampling transect locations...” is repeated

L231: There is a “-“ missing before “53”