

Interactive comment on “Comment on “The origin of methane in the East Siberian Arctic Shelf unraveled with triple isotope analysis”, by Sapart et al. (2017)” by Katy J. Sparrow and John D. Kessler

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Sparrow and Kessler raise some valid points regarding the potential for contamination in the Sapart et al. study of marine $^{14}\text{CH}_4$ in the ESAS.

To further demonstrate the vulnerability for $^{14}\text{CH}_4$ contamination (which I agree is not well addressed by Sapart et al.), I would refer the readers to Figure 3 in Dean et al. 2017 (doi:10.1016/j.watres.2017.03.009) - Figure 1 here - where we showed how important the correction for atmospheric $^{14}\text{CH}_4$ contamination is in natural abundance

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$^{14}\text{CH}_4$ samples. This demonstrates that very small inputs of extreme ^{14}C outliers can have a significant effect on bulk natural abundance ^{14}C samples, and therefore assessing blanks etc are crucial to a study of this nature (although having worked with this lab group myself I feel confident they can comfortably address these questions).

I look forward to the response from Sapart et al., as their study is an important contribution on the subject of methane emissions from the ESAS.

Interactive comment on Biogeosciences Discuss., https://doi.org/10.5194/bg-2018-144, 2018.

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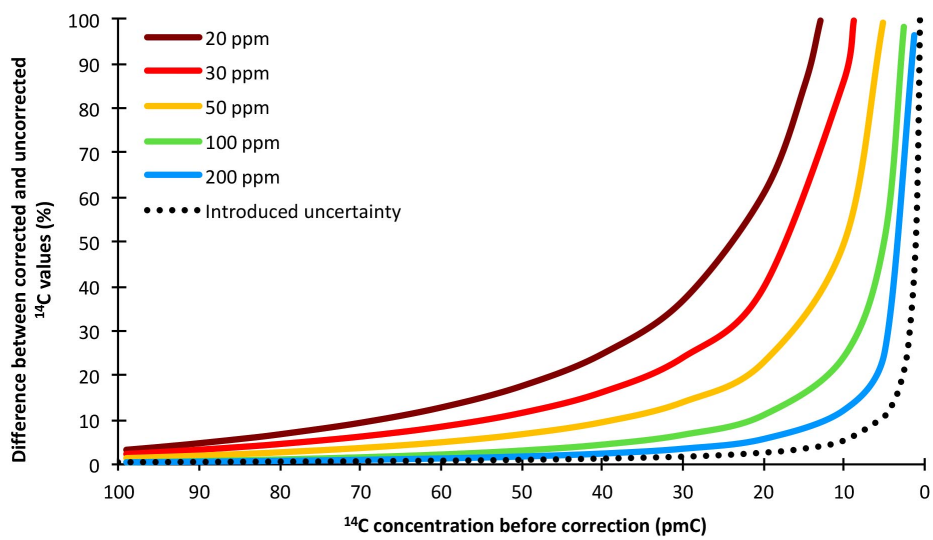


Fig. 1.