

Interactive comment on “Ideas and perspectives: why Holocene thermokarst sediments of the Yedoma region do not increase the northern peatland carbon pool” by G. Hugelius et al.

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Dear Reviewer 3

Thank you for this constructive review of our submitted manuscript.

Your suggestion for broadening the discussion on peat terminology across disciplines is helpful and it would help readers to get a perspective to the discussion. The different ways in which peatlands are formed (paludification vs terrestrialization) are pertinent to the discussion and we would be happy to elaborate on this. Your suggestions for including the potential lability of mineral vs organic soil material in the discussion is

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very good. This will also help to high-light that the distinction between different soil types is not only a semantic issue of language use, but something that affects the potential biogeochemical feedbacks to climate of these deposits.

Regarding the second issue of potential overlap in C stocks, as well as the different methodologies applied by Strauss et al. (2013) and Walter Anthony et al. (2014), the reviewer correctly states that one-to-one comparisons between estimates are not directly applicable. We mention this issue only briefly, referring the reader to the original studies and the references therein. We feel that it is outside the scope of this manuscript to go into the details of the calculations for the full Yedoma region carbon budget. Please note that a discussion comment associated with our current manuscript by Walter Anthony et al. provide more in depth discussion on their views of these overlaps and differences between estimates. An action group of the International Permafrost Association is currently updating and consolidating these numbers and we wish to defer in depth discussions of total yedoma region stocks to that group (see: http://ipa.arcticportal.org/images/stories/AG_reports/AG4_for_website.pdf).

On behalf of the co-authors, Gustaf Hugelius

Interactive comment on Biogeosciences Discuss., 12, 18085, 2015.

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