

Author Correction: Deglacial release of petrogenic and permafrost carbon from the Canadian Arctic impacting the carbon cycle

Correction to: *Nature Communications*
<https://doi.org/10.1038/s41467-022-34725-4>,
 published online 22 November 2022

<https://doi.org/10.1038/s41467-025-59905-w>

Published online: 27 May 2025

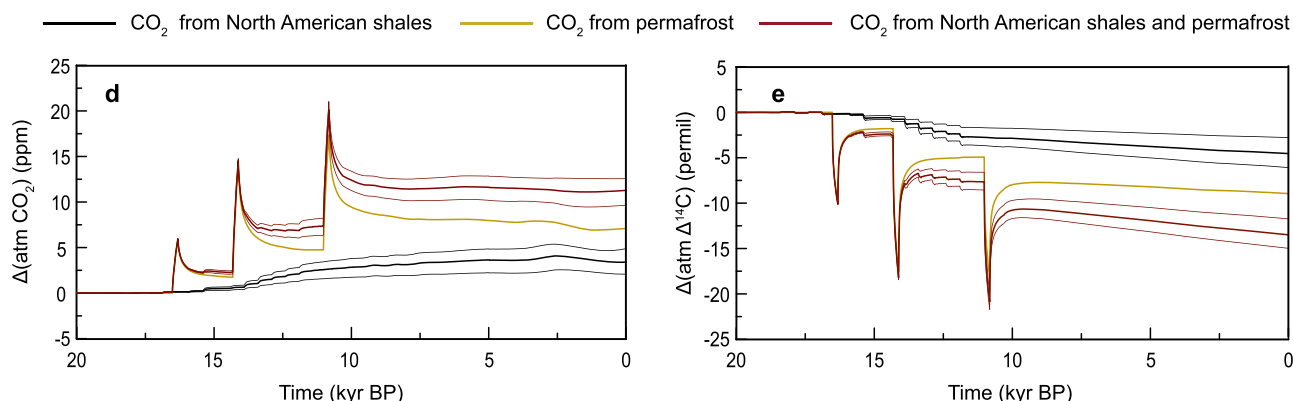


Junjie Wu , Gesine Mollenhauer , Ruediger Stein , Peter Köhler ,
 Jens Hefer , Kirsten Fahl , Hendrik Grotheer , Bingbing Wei &
 Seung-Il Nam

In the version of the article initially published, due to an error in source files, the model presented in Fig. 5d, e overestimated emissions. In the Abstract, in the sentence now reading “Assuming extensive petrogenic organic carbon oxidation during the glacial retreat, a model-based assessment suggests that the combined processes have contributed 8 ppm to the deglacial CO₂ rise,” 8 ppm replaces “12 ppm.” In the eleventh paragraph of the Discussion, values in the text have been updated to read “These events include a first CO₂ peak of 3 ppm at 16.5 cal. kyr BP and two more CO₂ peaks of ~6 ppm at 14.6 and 11.5 cal. kyr BP (Fig. 5d). These permafrost carbon release pulses lead in the model to a decrease in Δ14C of ~5 permil at 16.5 cal. kyr BP and of ~7–8 permil at 14.6 cal. kyr BP and 11.5 cal. kyr BP (Fig. 5e).... The simulated long-term effects over the last 20 kyrs when combining both processes are an increase in atmospheric CO₂ by 8 ppm and a decrease in atmospheric Δ14C by 9 permil (Figs. 5d, e), explaining 10% and 2%, respectively, of the reconstructed changes in both variables.” The paragraph previously read “These events include a first CO₂ peak of 6 ppm at 16.5 cal. kyr BP and two more CO₂ peaks of ~12 ppm at 14.6 and 11.5 cal. kyr BP (Fig. 5d). These permafrost carbon release pulses lead in the model to a decrease in Δ14C of ~10 permil at 16.5 cal. kyr BP and of ~13–15 permil at 14.6 cal. kyr BP and 11.5 cal. kyr BP (Fig. 5e).... The simulated long-term effects over the last 20 kyrs when combining both processes are an increase in atmospheric CO₂ by 12 ppm and a decrease in atmospheric Δ14C by 12 permil (Figs. 5d, e), explaining 13% and 3%, respectively, of the reconstructed changes in both variables.”

Panels in Fig. 5d, e have now been replaced; for comparison, the original Fig. 5d, e panels are shown as Fig. 1, below. The changes to figures and text are made in the HTML and PDF versions of the article.

Fig. 1 Original Fig. 5d, e.



Corrections & amendments

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

© The Author(s) 2025