

Anonymous Referee follow-up review of cp-2023-7  
Deglacial export of pre-aged terrigenous carbon to the Bay of Biscay

The authors have sufficiently responded to all of my comments on the first submitted version of their manuscript, and I thank them for considering my suggestions in their latest, revised version. The added descriptions of geochemical proxy interpretations, both in the text and figures, greatly improve the reader's ability to follow the strong arguments presented by the authors for enhanced European permafrost/peat mobilization during the last deglaciation. I recommend that this manuscript be accepted after addressing several, very minor changes listed below, at the discretion of the editor.

We are very grateful for the valuable input provided by the reviewer, which certainly contributed to the improvement of our manuscript. Below we address the reviewer's minor comments.

### **Suggested Corrections:**

Line 43: The authors should specify that permafrost development during the end of the LGM occurred around a large portion of the Channel River, as shown in Figure 1, to clearly introduce the key concept in this study that the Channel River was responsible for exporting large amounts of permafrost OC.

This information has been incorporated into the introduction (L42-45).

Line 83: The "n" in *n*-alkanes should be in italics.

This has been fixed.

Line 88: Specify that crenarcheol is an isoprenoid GDGT, as opposed to a branched GDGT as introduced earlier in this sentence.

This is now specified in the text (L88).

Line 255: Does this sentence also imply that the C31  $\alpha\beta$ R hopane is not abundant in LGM permafrost either? If so, this fact should be restated later in the discussion, such as Line 290, because it is a critical piece of evidence for distinguishing the OM sources listed in this study. Or if that is not the case, perhaps state around Line 290 that permafrost is more important as a storage mechanism of peatland OM than as a unique source of OM by itself in this study.

In order to clarify this, we have added the following sentence to section 4.2:

*At this point, it is crucial to emphasize that, in the context of this study, permafrost plays a more significant role as a storage mechanism for peatland OM rather than serving as a unique source of OM by itself.*

Line 260: The authors should include the pre-depositional ages of this study and the referenced publications to quantitatively compare them in this sentence.

This information has been added to the text.

Figures 2, S1, S3, S4, S5 (and elsewhere in the manuscript text): Change the x-axis label from “kcal BP” to “cal kyr BP”. Kcal is usually the abbreviation for kilocalories, not thousands of calibrated years.

This has been corrected throughout the text.