

Reply to the interactive comment of anonymous reviewer #2 on “The C₃₂ alkane-1,15-diol as a proxy of late Quaternary riverine input in coastal margins”

We thank the reviewer for his/her helpful comments on our manuscript. Below follows our reply to the main comments.

-The reviewer wish to have more information on LCDs (potential sources, history). We will expand paragraph 64-77 in the introduction with more details about the LCD discovery and potential producers in marine and freshwater environments.

-The reviewer would like to have the age control points indicated in figure 2 and 4 and a supplement with a summary of the age model. The control points will be added to the figures (black triangle) and a brief supplementary method describing the previously published age-models of both cores will be added.

-The reviewer wish to have a more synthetic discussion on the proxy, with more details about its advantages and disadvantages, as well as why, in the Mozambique core, the correlation between the C₃₂ 1,15-diol and BIT index is better than in the Nile core but also why the C₃₂ 1,15-diol works better than the BIT. The C₃₂ 1,15-diol is not working ‘better’ than the BIT index to trace riverine input, rather in our view it simply reflects a different pool of organic carbon being transported by rivers, i.e. river-born carbon versus soil and river born carbon in case of branched GDGTs. Like the BIT index, the F_{1,15-C32} may also be affected by marine productivity as we discussed at lines 336-339, 394-397 and 401-403.

-The reviewer asks for a clearer discussion on the source of the C₃₂ 1,15-diol and what does the synchronicity/asynchronicity of the variation between BIT index and C₃₂ 1,15-diol means in a broader sense. In our view, this question has been discussed already at lines 327-346 and 386-397 and we want to point out that for most of the records, BIT index and C₃₂ 1,15-diol actually agree quite well.

-The reviewer indicates that the hypothesis at lines 366-371 is more speculative than other part and that, if true, the low brGDGT concentration of the Northern rivers would be reflected in surface sediment at the offshore of these rivers. We agree with the reviewer that this is speculative and this is why, at lines 428-430, we recommend for future studies to analyze surface sediments offshore the Northern rivers to confirm this hypothesis.

- The reviewer would like, if possible, to have more general discussion on the paleoclimate during H1 and YD. We will give some more detail in discussion section on the climate for these periods, as noted in the rebuttal of reviewer 1.