

Dear Editor,

Please find below the list of corrections made in the revised version according to editor's comments (in italic)

*figure 1: no legend for bathymetry . add a color bar or labels on isobath. not clear what the 3 black arrows do represent : not sure they are useful. remove or clarify*

In Figure 1, we have inserted a color bar referring to bathymetry scale. The black arrows were suppressed.

*what are the colored circles associated with stations. if the color code refers to cluster of stations (Fig. 5) mention it clearly.*

We have clarified in figure 2 caption the meaning of the colored circles as follow: "Colored circles refer to the following clusters of stations showing similar characteristics: Control station R-2, North of the Polar Front station F-L, Plateau station A3, and PF meander stations E (see text for details)."

*it seems that there are double labeling of stations R-2 F-L why?*

The labels (R-2 and F-L) indicated in bold fonts refers to cluster of stations, and the labels in normal fonts refer to stations. We choose to keep the double labelling for clarity

*figure 2 : replace R with R-2, used superscript for 238 (238U)*

Figure 2 was modified as proposed.

*figure 4 : not clear what is linear interpolation. this not explain neither in the legend, nor in the main text (line 397). add a sentence to describe what it means.*

Methodology to estimate C:Th ratio at fixed depths was clarified in the caption of Figure 4 as follow: "Linear interpolation was obtained using a straight line fit between the upper and the lower data point relative to the target depth (i.e. 100 m, 150 m, and 200 m depth)."

*legend of appendix 1 : superscript for "-1" "234" and "238".*

The legend of Appendix 1 and 2 was modified

*udapte the references of the paper of the special issue looking at :  
[http://www.biogeosciences-discuss.net/special\\_issue133.html](http://www.biogeosciences-discuss.net/special_issue133.html)*

The references related to KEOPS2 special issue were updated