

***Interactive comment on “Late Pleistocene paleoproductivity patterns during the last climatic cycle in the Guyana Basin as revealed by calcareous nannoplankton” by G.-E. López-Otálvaro et al.***

**S. Spezzaferri (Editor)**

silvia.spezzaferri@unifr.ch

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The article is very interesting and with some minor revision it deserves publication.

1 -Only the fraction  $>150 \mu\text{m}$  has been analysed for foraminiferal assemblages. However, in my experience the fraction  $>63 \mu\text{m}$  should be studied as well. Especially in upwelling zones the size of planktonic foraminifera is reduced and some marker species may be missed e.g., *Pulleniatina obliquiloculata* which is used to establish a stratigraphical framework.

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2 -Beside stratigraphy and the stable isotopes on *Uvigerina*, foraminifera are not treated in the article, however, they may add some important information about upwelling conditions. Maybe the authors should add just a few sentences where and if planktonic foraminiferal assemblages agree or disagree with the interpretation based on calcareous nannoplankton.

3 -The discussion is difficult to follow. I suggest the authors to divide it according to MIS and discuss them step by step. In this way it would be easier and clearer.

4 -I think also that it would be necessary to give a clear explanation of the thermocline dynamic in general. Here, during MIS 5 (Interglacial) the thermocline is described as shallow (because of the upwelling) but in a "normal" situation the thermocline should be deep during the interglacial with a thick mixed layer. If the authors clearly state how different is the situation from a "normal" one, the article would have more impact. As it is now the peculiarity of the situation is lost in the text, even if there are some mention of it.

5 -The interesting part the calcareous nannoplankton distribution is that the abundances of *F. profunda* during MIS5 are consistent with the abundances observed on the Marion Plateau in Australia (Margreth et al., 2006, Abstract EGU.). In this case we had an increase in detrital phosphorus suggesting in detrital input from the continent. This input could have boosted productivity in surface waters and created optimal conditions for *F. profunda* in the lower photic zone.

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