Interactive comment on “Variable habitat depth of the planktonic foraminifera *Neogloboquadrina pachyderma* in the northern high latitudes explained by sea-ice and chlorophyll concentration” by Mattia Greco et al.

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General comments

The manuscript BG_2019_79 by Greco et al. study which factors that influence the depth habitat of the planktic foraminifera Neogloboquadrina pachyderma using both published and new data together with a suite of statistical methods. The scope of the study is very timely as the regions where this species dominates are subject to climate-ocean changes, hence in order to evaluate current changes and establish robust natural baseline values a better understanding of this species’ depth habitat is necessary. The manuscript is well-written and in an advanced state.

Specific comments

1. Figure 10: Introduce this information and figure early on?

2. It would be beneficial to define what is a good correlation/a correlation/a weak correlation, e.g. what is the difference between the r-values of -0.28; -0.38 and -0.60. I am not an expert on statistics but +/- 0.28 seems like a weak correlation? It would also be good to point out that it seems that the correlation improves with a smaller number of observations (e.g. 21 samples without sea-ice)?

3. The PLAFOM2.0 model is introduced somewhat superficially; more information would be useful.

Technical comments


2. Overall: There are many acronyms in the paper. Except for SST, SSS, DVM and DH they do not help reading the paper.

3. Page 5, lines 6-15 and lines 20-32 (“Materials and methods”): This seem more like a description of results, which it may benefit to move to the start of “Results”.