

Multiscale phytoplankton dynamics in a coastal system of the Eastern English Channel: the Boulogne-sur-Mer coastal area

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Reply to Referee' Comments (revised version)

Kévin Robache, Zéline Hubert et al.

In my opinion the authors made a great job addressing the comments from the previous version. The readability of the manuscript has improved significantly so overall I think the manuscript is ready to be published. I only have 2 small technical concerns that the editor may choose to include or not.

Thank you very much for your time and consideration.

First, in the methods subsection 2.3.2 (EMD-LSP) the authors should refer that details on how the analysis was performed are available in the code and data availability section. Since there is no warning, it is easy that these important details are unnoticed by many readers.

This has been done: “*The code used to apply the EMD-LSP method is provided in Sect. “Code and data availability”.*” (line 150).

Second, in the methods section the authors refer to their classifications of extreme events as "This method provides a robust site-specific context for interpreting “rare” events" and as they have acknowledged they are missing one third of the climatology necessary for studying extreme events (they have 19 years instead of 30). Therefore, my suggestions will be to keep the manuscript as it is but change the term extreme events for rare events thorough the text, so it is clear that extreme events were not defined using the conventional procedure. Having a shorter climatology for defining extreme events is not so trivial since they are defined as percentile

within a distribution and this can change significantly as you extend the baseline climatology by 50% from 20 to 30 yrs.

Thank you for this comment. We changed the text as requested.