

Dear Editor,

please find here the revision of our manuscript following the technical corrections suggested by Referee #2. Referee's points are in *BLACK ITALIC*, our responses in *BLUE* and the modifications to the manuscript in *GREEN ITALIC*, with page/line numbers of the revised version. All the points were positively acknowledged.

In the text here submitted, we also corrected a small inaccuracy in Section 2.2 concerning the frequency of the data for the river nutrient boundary conditions (P6 L5) and some typos/wording through the text, also updating few references. Acknowledgements to Reviewers and a colleague from CINECA super-computing center have been added in the related section.

For sake of clarity, we uploaded the .docx file in track-changes mode. The uploaded pdf file is with all the changes accepted.

*Corrections:*

*R2.1: I would just add the reference of the product in the paragraph 3 "Reference datasets for validation" (OCEANCOLOUR\_MED\_CHL\_L3\_NRT\_OBSERVATIONS\_009\_040) so as there is no ambiguity for the reader that it's the same product used for assimilation and validation.*

We added the reference product code at P7 L2 as already done in Section 2.2, where the same product is described for the first time. Please note that, for sake of readability, all the CMEMS product codes are added as footnotes in the text and the full acknowledgements are in the Reference section.

*R2.4: Maybe precise the year: 2016*

OK, now the sentence (at P5 L27) is:

*A spin-up period of 1 year (2016) repeated for 5 times in perpetual mode is carried out before the start of the simulation.*

*P3 L9: properties*

OK, corrected.

*P14 L11: I would have said product quality control procedure*

OK, corrected.

*P14 L12 : sensorS*

OK, corrected.

*P18 L27: in-depth*

OK, corrected.