

Interactive comment on “Influence of Rossby waves on primary production from a coupled physical-biogeochemical model in the North Atlantic Ocean” by G. Charria et al.

G. Charria et al.

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Other points:

[Introduction, p 935. This is still proposing to carry out an investigation. This is because 8217;the influence of Rossby waves has to be investigated8217;.](#)

The introduction was reworded to introduce our work as a study performed and not a proposal.

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P 941, L 13 and 18. Use 'calculated' not 'estimated'. For readers who do not know the model it may be worth saying that the physical model does not have a free surface so the effective sea surface has to be calculated from the pressure field.

We agree with Referee 1 and the text was modified:

L 13: "The SLA are analyzed to detect the westward propagating signals. The physical model does not have a free surface, so the effective SLA are calculated from the temperature and salinity fields and from the barotropic stream function computed with the pressure compensation relation (Mellor and Wang, 1996)." L 18: "The wavelengths of westward propagating signals in SLA are calculated using a 1D continuous wavelet analysis applied for each model latitude between 10°N and 40°N."

P 944, L 16: 'detailed'. Should this be 'calculated'?. Really the whole manuscript needs some good copy editing to ensure that the text is always clear and that all words have their normal meaning.

We agree with Referee 1, which suggests that 'calculated' could be used instead of 'detailed'.

To be more explicit, we slightly modified this sentence and replaced "For each area ... detailed." by "For each area, we explain in detail dissolved inorganic nitrogen and phytoplankton modelled source and sink terms, as well as associated advective and diffusive terms, calculated at each time step during the model integration."

p945, Section 6. The scheme used to describe the different sections needs to be improved. Just try reading "38.9 N-42 W/37.1 N-32.7 W/34.7 N-37 W/34.7 N-40 W/32.2N-31.3 W/31.9 N-41.7 W/29.9 N-32.7 W/29.6 N-47.3 W".

Strictly speaking this is also a list of points not lines. As a result on page 946, line

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27 the reader cannot be sure which is the most easternmost 'area' (sic) without first identifying the lines on figure 5, as some are longer than others.

Several schemes were tested to describe the different sections (as giving a number for each region) but the identification based on the easternmost position appears to be the most efficient because, even if the reading could be more difficult, the identification is more straightforward with information on the latitude that we are considering. As Referee 1 finds the list of regions difficult to read, we replaced "/" by ";".

As a result, we agree that page 946, line 27, the reader needs to refer to Figure 5 to identify the region considered. We added a reference to Figure 5 and replaced the word 'area' by 'region'.

[Figure 1. The different boxes need to be defined.](#)

We made the correction.

[Figure 2. The same colour bar scale should be used for each figure.](#)

We agree and made the correction.

[Figure 3. Why is the projection so distorted?](#)

The projection is equidistant and the figures were vertically stretched for the sake of clarity.

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Figure 6. It would be helpful to use the same shorthand CA+, CA- and CA0 as in the text.

The Figure 7 (old Figure 6) caption was improved to fit with the shorthand in the text.

Figures 7 to 9. Why not use the same scale in each of the figures?

We made the corrections on new figures 8, 10 and 13 (old figures 7 to 9).

Interactive comment on Ocean Sci. Discuss., 4, 933, 2007.

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