

Dear Authors

Thank-you for your revised manuscript. I am asking for “Technical corrections” according to the “Detailed comments” below. Then you should please upload your re-revised manuscript to the Copernicus/OS editorial system for publication in OS. I do not need to see it again but you should be aware that all the comments will be available with the published paper. You will be asked to read proofs but there will be no copy-editing (hence many of the “Detailed comments” here for clarification.)

Thank-you for publishing in Ocean Science.

Yours sincerely

John Huthnance, editor.

*Dear John Huthnance,*

*We thank you very much for your review and comments, which helped us finalise the paper. Thank you for your support on the publication of our study in Ocean Science.*

*Yours sincerely,*

*Perrine Bauchot*

Detailed comments.

Two prevalent matters of English usage. (i) Please only use “which” immediately following the item it refers to. Several alternatives are suggested in the following. (ii) Generally “in figure . .” not “on figure . .”

*Thank you for your remark. We have revised and rephrased the manuscript to reduce the use of “which” wherever possible. We have also replaced every “On Figure” by “In Figure”.*

Line 10. “reflection beams” not yet defined. Maybe “. . in-phase beams of the baroclinic flux propagating southward after reflection from the ridge. . .”?

*Thank you for your suggestion which has been taken into account.*

Lines 39-40. Better “. . instruments such as Acoustic Doppler Current Profilers . . .”?

*Thank you, we rephrased it following your advice.*

Figure 1 caption line 4. “on this scheme” – what scheme? Omit?

*We replaced “on this scheme” by “in this Figure” to clarify the caption.*

Line 94. “ such as” → “:” ?

*This has been updated.*

Line 117. “. . (see Fig. 2), we . . .”

*We rephrased this sentence following your suggestion.*

Lines 118-119. “We note that the phase discontinuities should not be interpreted as strong physical variability but rather result from the convention chosen for the phase range.” Move to figure 2 caption?

*Thank you for your suggestion. We moved this part to the caption of the figure directly.*

Lines 134-135. “resolves the internal tides signal by considering smaller time steps for computing the barotropic tides”. The logic implied by “by” is not clear. “by considering” → “and uses”?

*We rephrased this sentence for enhanced clarity.*

Line 136. Add “,” after “domain”.

*Thank you for pointing this out, we updated our sentence accordingly.*

Lines 145-146. “Their associated fluxes  $F_{bc}(1)$ ,” → “The baroclinic energy flux  $F_{bc}(1)$ ,”?

*We corrected this mistake in the new version of the paper.*

Line 150. “height” → “depth”?

*Indeed, we updated it.*

Line 152. One would hope for a closer comparison than “order of magnitude”. Values of (perhaps normalised) standard “error” would be better.

*We rephrased this sentence.*

Line 158. Refer again to figure 3?

*We added this reference in the new version of the manuscript.*

Line 165. “first” seems unnecessary unless there is no previous such overview in the literature.

*Indeed, we corrected it.*

Line 172. Omit “, as it could be expected”? It is not clear whether “not strictly negative” or “strictly negative” would be expected.

*Indeed, thank you for your remark which has been taken into account.*

Figure 4. Referee 1 commented on the total conversion being negative despite the apparent dominance of red in area 1. I can agree with your response to this comment, but visually the red

area is quite large and intense, suggesting that the small area of more intense blue may represent values larger in magnitude than the -0.01 limit on the colour scale. Perhaps the map might be enlarged along with reduced coverage (~40°W to 32°W only) and the colour range checked.

*We agree that the original figure could lead to some ambiguity. To improve clarity, we revised the figure by zooming into the region of interest. Box 1 is therefore no longer shown, as it is outside the main area discussed in this study.*

Line 175. “converging” → “converge” or “convergent”

*This has been corrected in the new version.*

Line 190. “, which” → “and”

*Thank you for your suggestion, we updated it.*

Line 192. “140 km” ?

*Thank you for pointing this out.*

Line 209. Better “. . until they dissipate (Wunsch,”

*We rephrased it accordingly.*

Line 215. “before” → “before reaching”?

*Thank you, we updated it for enhanced clarity.*

Line 216. “which corresponds” → “corresponding”

*Thank you for your suggestion, which was considered in the corrected version of the paper.*

Line 231. Can omit “which reflects on”

*We rephrased this sentence in the corrected version of the paper.*

Line 245. “. . each box. Apart from the . . . north of the ridge . .”

*Thank you for pointing these mistakes out, they have been corrected.*

Line 251. This sentence is unclear. “. . reflected into . .” → “. . was associated with . .”?

*Indeed, we rephrased it.*

Figure 9 caption line 2. “and” → “for”

*Thank you, we corrected this typo.*

Line 263. “gathering each winter” → “gathering the winter” ?

*Thank you, we rephrased this sentence in the new version of the paper.*

Line 265. Omit “which is”

*We rephrased this part thanks to your comment.*

Figure 11 might be more intuitive if (as conventional) larger values were to the right, i.e. reverse left and right.

*You are right, we updated the Figure accordingly.*

Line 283. Omit “on”

*Thank you, we deleted it.*

Lines 289-290. “Fig. 12”?

*No, we actually refer the reader to Figure 11 here as we link the location of a peak of dissipation in Figure 11 to the latitude of the eddy of Figure 12.*

Line 291. “. . deflected by about  $25^\circ$  . .”. Similarly line 295 “. . flux by about . .”

*Thank you for pointing this out, it has been corrected in the updated version of the paper.*

Line 299. “. . compared with the May to October period . .”

*Thank you, this has been updated.*

Line 301. “. . each month . .”

*Thank you for pointing this mistake, we corrected it.*

Lines 308-309. Fewer words needed: “. . performed on a complete year, 2009, almost 10 years apart . .”

*We updated it in the new version of the paper.*

Line 315. Better “higher” → “greater”

*Thank you, we corrected it.*

Line 317. Better “factor could be that strong stratification . .”?

*We updated it.*

Line 320. “which” → “as”

*Thank you for your suggestion, which has been taken into account.*

Line 321. “. . presence of a seamount . .”

*Thank you, we corrected it.*

Line 322. “towards” → “to”

*This has been updated.*

Line 340. “energetic” → “energy”

*We corrected it, thank you for noticing it.*

Line 387. Omit redundant “and”. “. . both of which . .”

*Thank you, we rephrased this sentence accordingly.*