

August 08, 2016

Dear Dr Schütte and co-authors,

Insightful comments and suggestions made by the two reviewers, together with your willingness to fully consider them, will lead to a much improved revised manuscript. I recommend that the manuscript be published after minor revisions along the lines described in the two author comment supplements.

In addition to the referee's comments and suggestions, I would also like to add a few other suggestions for improvement:

1. P. 8, lines 20-21 of original manuscript: The confidence interval for the CE oxygen trend includes zero ( $0.10 \pm 0.12$ ). Given this, you cannot say that oxygen is decreasing within the CE. I propose that this sentence might be rephrased as "On average the oxygen concentration decreases by about  $0.19 \pm 0.08 \mu\text{mol kg}^{-1} \text{d}^{-1}$  in the core of an isolated ACME, but has no significant trend in the core of an isolated CE ( $0.10 \pm 0.12 \mu\text{mol kg}^{-1} \text{d}^{-1}$ )."
2. Referee # 1's dislike of the term "dead-zone" is shared by many scientists because these low-oxygen waters are certainly not devoid of life. Given this, please make sure that double quotation marks always accompany the expression "dead-zone" in the final version of the manuscript, so that people understand this expression is a just a metaphor.
3. In your response to Referee # 1 (p.8, lines 24-26), you mention your rationale for picking a  $40 \mu\text{mol kg}^{-1}$  hypoxic threshold. Please include this rationale in the revised manuscript.
4. In your response to Referee # 1 (p.18, lines 10-11), I find this proposed new sentence confusing, especially this bit: "analog to the SLA".
5. In Figure 2 of the authors' reply to anonymous referee #1, please add text labels to the black isopycnal contour lines.
6. The new Figure 1 included in your response to Referee # 2 presents useful additional information relative to Figure 6 of your original manuscript. You might like to consider producing a figure that would present SLA, SST, SSS and Chl a composites for cyclones, anticyclones and ACMEs, thus combining the information found in both of these figures.
7. On page 6 of your response to Referee # 2, you wrote that you changed figure 5 of the original manuscript by substituting the temperature with salinity. I suggest that in the revised manuscript, this particular figure should present both temperature and salinity panels in addition to meridional velocity and oxygen. Also, I must say that I preferred seeing the oxygen contours of the original figure 5, as they present more information than only oxygen concentration at a nominal depth of 120 m that you presented in Figure 2 or your response to Referee # 2.

Best regards,

Denis Gilbert