

Second review of *Oceanographic Processes Driving Low Oxygen Conditions Inside Patagonian Fjords* by Linford et al.

The authors have done a nice job of tightening up and clarifying the manuscript. It is an important manuscript that brings together many different types of data. I sometimes struggled with the storyline because it attempts to bring together many data types that have been collected in different space and time to tell the story of oxygen in the Patagonian fjord system. Because of this, the manuscript sometimes seems too speculative and I have documented my concerns below. I recommend this manuscript for publication after moderate revisions.

- Line 54 – Is this correct? There are many natural mechanisms that can lead to hypoxia (e.g. remineralization, weak circulation, age of water, etc.)
- Lines 82 to 83 – I find this sentence confusing; where exactly does the OMZ decrease in size and strength?
- Lines 85 to 87 – Here the ESSW and OMZ are discussed separately. But isn't ESSW one of the reasons that the OMZ is there?
- Lines 102 to 104 – I think there are some typos here.
- Figure 1 – Much better. Though I notice that the moorings aren't on this map.
- Line 131 – Is 2000 profiles correct? Line 37 says that 1507 stations were sampled. Does this mean that there were 1507 separate stations sampled and only some of these stations were sampled more than once?
- Line 158 – add 'salinity' after EW,
- Section 2.2 – I don't see a mention of the 2009 data in this section
- Section 2.4 – Figure 10 shows the concentration of suspended particulate matter from satellites. Yet the authors interpret these figures in section 3.3 as the colour of the water. I'm confused here – how can the authors tell the colour of the water from SPM data?
- Section 2.5 – I don't see the location of the moorings on any map. Also, there is no description of how the currents were rotated.
- Lines 367 to 379 – This is a repeated paragraph
- Line 387 – This is the first mention of ice melt. What kind of ice are the authors suggesting – sea ice or glacial melt? What proof do they have of the ice melt?
- Lines 392 to 395 – How was this quantified?
- Figures 2 – Please make the fonts on the place names bigger. Also, please remind the readers in the caption what positive and negative AOU values mean.
- Figure 3 – I can't see the symbols. Please make them bigger.
- Figure 4 – Please make the fonts of the place names bigger
- Figure 4 – Please make the fonts of the place names bigger. Also, I suggest adding isohalines on this figure so the authors can see whether the stratification is linked to salinity.
- Figure 6 – Why were these specific dates chosen to display?
- Figure 7 – I can't see the labels on the map. Also, why were these specific dates chosen to display?
- Lines 528 to 532 – Are there in situ data to back this up?
- Line 530 – I don't think that SPM will tell you whether a diatom bloom was present

- Line 538 – I don't think that SPM will tell you whether the sediments are carbonate-rich
- Line 539 – I don't think that SPM will tell you about the concentration of organic matter
- Lines 580 to 589 – How did CDOM and SPM relate to the satellite images?
- Section 3.5 – I struggled with this section because I wasn't sure what the key points are that the authors are trying to make. I was left wondering whether this section is necessary?
- Figure 12 – What do positive and negative current values mean? How were the currents rotated? Where are these moorings – there are no maps that show this
- Line 610 – I'm not sure that this current is strong?
- Lines 663 to 665 – I don't think that this study scrutinized all processes contributing to hypoxic water. For example, the anthropogenic impact wasn't discussed.
- Lines 729 to 731 – I don't see any proof to back this statement up.
- Lines 805 to 812 – these manuscripts might be of interest in this section:
 - Jackson et al., 2023
<https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2023GL104549>
 - Thomson et al., 2017
<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2016JC012512>
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