

Earth Syst. Sci. Data Discuss., author comment AC3
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Reply on RC3

Maria Osińska et al.

Author comment on "Annual hydrographic variability in Antarctic coastal waters infused with glacial inflow" by Maria Osińska et al., Earth Syst. Sci. Data Discuss.,
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We are very grateful to Referee #3 for her/his comments, and we appreciate overall support of publication of this article. It is also valuable for us that this comment supports previous conclusions of Referee #2, with which we are also in agreement with.

Here are our direct responses to Referee's #3 comments:

Referee #3: In addition to the thorough General comments of reviewer #2 with which I entirely agree I would recommend the author to attempt an a posteriori calibration of optical measured properties in order to resolve the issue of negative values thus increasing the usability of the presented dataset in comparison with future datasets that may be collected in the same area.

Thank you for that suggestion and we would very much like to do a a posteriori calibration but unfortunately at this time it is impossible for us. One of the sondes used for this project (Exo1) unfortunately has broken down beyond repair. The Exo2 sonde is right now still in the Arctowski Antarctic station, but the process of calibration requires purchasing and shipment of specialized standards from the manufacturer in the USA to the Antarctic which can only be done by ship couple of times a year. Since our project is finishing now, we do not have resources to fund this transport and more importantly we do not have anyone from our team at the Arctowski Antarctic Station to perform this task. So, an uncomplicated endeavor in any other place in the world becomes unachievable due to remoteness of our study area. We do hope that nevertheless these optical measurements can be used by other scientists, however we acknowledge that possible future direct comparisons with other datasets would be problematic.

Referee #3: I do suggest publication of the manuscript after revisions.

Thank you for these words of support.

Referee #3: L 21 suggested text "Fjords and bays where waters mix with glacial outflow..."

Thank you for this suggestion, we will use it.

Referee #3: L 23 replace "alter" with "alters"

Of course, we will alter this.

Referee #3: L95-L96 It is not entirely clear if bottom was reached.

The bottom was reached only at the sites in which depth was smaller than 100 meters since this was the length of the cable used for lowering down the sonde. The information on which sites are shallower and which are deeper than 100 m can be found in Table 1, but we can see how the phrasing in these sentences could be clearer so we will change it in the revised manuscript to state this information plainly. Thank you for that comment.

Referee #3: Fig. 6 The background color for years 2020 and 2021 are too similar. I different choice would be preferable.

Ok, we will surely change our color scheme here.