

I'd like to thank the authors for incorporating my suggestions into the manuscript. They have sufficiently addressed the points that I raised. The figures are also much improved! Clear and big. Same applies to the captions, much clearer. Thank you.

One point that I think the authors should add to their conclusion, is that the only addresses short term interannual variability (3 years). Gloege et al. (2021; <https://doi.org/10.1029/2020GB006788>) used different ML methods and model simulation output to show that long term variability may not be captured, even if short-term interannual variability is well captured. Just a sentence to point out this limitation is enough.

Further, I picked up on some minor issues that need to be corrected:

L41: *on board of volunteering observing ships*

L42: *sampled in space and ~~also in~~ time*

L49: *prevent a year around sampling* → *prevent year-round sampling*

L51-L54: thank you for adding these studies. However, I feel that the outcome of these studies also needs to be included, *e.g.*, how many floats can capture variability

L60: *This study*. I find the reference to *this* a bit ambiguous. I suggest the following:

*Here, we extended the scope...*

and later: *We explored design options...*

This makes it very explicit that you are referring to your study and not one previously mentioned.

L83: *observing systems* may be a little ambiguous. Perhaps *observing platforms* is better, but the authors can choose to stick with the original if they feel that it is clear enough. This would have to be changed in section 2.1 also.

L178: *As previously (Denvil-Sommer et al. 2019)* → *As in Denvil-Sommer et al. (2019),*

Fig4: would it be possible to maintain the aspect ratio of the figure, so that the contours maintain their circular shape?