Editor comment:

Dear Dr Frenger,

I am happy to inform you that the revised version of your manuscript is accepted for publication in Biogeosciences. In the annotated document please find some minor suggestions that might benefit the overall presentation of the manuscript.

Thank you for supporting Open Access journals like Biogeosciences.

Christine Klaas

Author response:

Dear Dr Klaas,

We much appreciate that our manuscript has been accepted for publication in Biogeosciences.

Thank you for the careful read of our manuscript and suggestions to further clarify the manuscript. We have adjusted the manuscript accordingly. Further, we have removed a few more typos and unclear phrasings, all of which do not affect the content of the manuscript. Finally, we have added an additional sentence in the Method Section to further simplify a potential reproduction of our Method (p7L12):

"We then assign a sign to $\hat{\delta}Chl_{stir}$ according to the sign of the meridional Chl gradient and the cyclonicity of the eddy, given the intrinsic westward propagation of eddies: We anticipate that, e.g., a southern hemispheric counterclockwise-rotating, i.e. anticyclonic eddy under conditions of northward increasing Chl will be associated with positive δChl in its core (Fig. 1a, left column). In contrast, under the same ambient Chl conditions we anticipate negative δChl for cyclones."

Best regards,
Ivy Frenger