

Point by Point Response to Reviewers

Thank you for your comments and suggestions. We believe this manuscript has improved significantly with your suggestions and we sincerely appreciate your valuable contributions. We have addressed your comments below marked with [Author Response].

Dear Authors,

Thanks for this revised version with successfully deals with all the reviewers' remarks. I have only one concern about the new and relevant sea ice extent analysis.

- Section 2.4 (lines 141-149) At which time step have you performed the correlation ? Mean summer sea ice extent vs mean summer foehn occurrence ? It not clear. Moreover, the considered area should be plotted on Fig5c. What is the sea area considered here for the 3 Larsen? Finally, as the aim here is to show the correlation between foehn and sea ice, why did you limit your statistics to 1979-2002? Why do not consider here also the more recent summers?

[Author Response] Thank you for bringing this to our attention. We have clarified the manuscript to say we correlate summer foehn occurrence to summer sea ice concentration. We have also added boxes to Figure 5c to show the location of the sea ice study regions per ice shelf. As far as the correlation analysis of foehn to sea ice, we mis-typed the date range in the manuscript. We already did the correlation analysis for 1979-2018.

- line 213 I think it is rather "föhn wind occurrence THAN air temperature".

[Author Response] Thank you, we have fixed the manuscript.

- Fig 5: The period considered (1979-2002) as well as how are taken the sea ice contraction are missing in the legend. Idem on which area is taken the summer RACMO based air temperature? On the sea ice pixels only? Moreover, in this figure as well as in Figs 2 and 6, the dashed contours of lat/lon are missing while they are there in Fig 3 for example. Finally, in Fig 5a/b, I suggest to add a regression line for the 3 Larsen areas.

[Author Response] We have clarified the manuscript to identify the study region more clearly. We have added lat/lon lined to figure 6, however we felt that the lat/lon lines on Figure 2 would detract from the figure so we did not include them. We also added regression lines to Figure 5a/b to better show the correlation.