

REPLIES TO REFEREE #2 COMMENTS

Thank you very much for your time, review and positive comments on the MS. Please find answers to specific comments below. We do hope that the referee will find the revised version more interesting and recommend a publication very soon.

This paper gives an overview of Antarctic polar vortex ozone loss and meteorological characteristics for a recent eight-year period. Most of these Antarctic winters have been analyzed in previous papers but the period as a whole and the use of model output to diagnose chemical ozone loss is unique. This work doesn't necessarily advance our knowledge of Antarctic ozone hole chemistry or evolution but rather gives an update on the status in recent years. The most interesting result is the model derived ozone loss in Figures 4 and 5, especially in 2020. It would be nice to see how the recent ozone loss compares to earlier years but that may be beyond the scope of the paper. Although the paper doesn't break new ground, I would recommend publication with consideration of the few comments below. There are a number of grammatical errors that should be addressed and I don't have time to list them all. Should include reference to Manney et al., 2020 paper that looked in detail at the 2020 winter compared to several previous winters in the time period shown in this paper.

Done. Please note that Manney et al. (2020) discuss the ozone loss in the Arctic winters. There is no mention for the Antarctic winters discussed here. However, we have cited the work in the Introduction in lines 54. Thank you for understudying.

Also, Ansmann et al., 2022 discuss the 2020 and 2021 Antarctic ozone holes and how they were affected by forest fire smoke.

Done. We have included these studies in discussion in lines 185–186.

Why not use the same reanalysis product for the meteorology analysis as was used to drive the REPROBUS model? Or just use the model meteorology. I'm sure there are differences in the meteorology of MERRA-2 and ECMWF during these years.

Done. In fact, we have taken the PSC area calculated from MERRA as available from <https://ozonewatch.gsfc.nasa.gov/>. We apologize for the confusion. This is mentioned in lines 64–68.

Line 21: should be 2020, not 2000

Done. This is corrected in line 19.

Line 70: Need to include the Klekociuk et al., 2021 paper in your list of references

Done. We cited and discussed this in lines 54, 121–122.

Line 167: I would remove 'in 2013-2019' from this header. Or at least change 2019 to 2020 since that is the correct end year of the analysis.

Done. Removed, as suggested.