

## **Response To Editor's Comments on Manuscript-Egusphere-2023-426 - Opinion: Establishing a Science-into-Policy Process for Tropospheric Ozone Assessment**

In the following, the editor's individual comments are reproduced, and each is followed by text in *blue italics* giving our response. Each also describes any additions/revisions to the manuscript relevant to that comment.

Please make it clear in the Acknowledgement that the colleagues listed there do not necessarily agree with the content of the article, but have only contributed to the discussions that led to the writing of the article.

*The relevant sentence in the Acknowledgement has been changed to read:*

*“Discussions with Keding Lu, Alex Archibald, David Stevenson, Daniel Jacob, Tao Wang, Ken Carslaw, Paul Monks, Jim Crawford and Martin Schultz are kindly acknowledged; they contributed to the discussions that led to the writing of the article, although they do not necessarily agree with the content.”*

There is a controversial debate about the shape of the northern mid-latitude baseline ozone over the last half century that is mentioned in the TOAR's community comment and which you have now explicitly addressed in the revised manuscript on page 14 (lines 301 – 305). However, the temporal trend you advocate (increase in the 20th century until the early 2000s and a decrease thereafter) is introduced and shown earlier in the paper (page 6, Figure 2; page 9, lines 203 - 205), yet without indication that the ozone baseline is interpreted differently by other researchers. The open scientific question of the ozone baseline should already be mentioned at Figure 2.

*The following sentence has been added immediately preceding Figure 2:*

*“Importantly, the interpretation of baseline ozone and its long-term changes remains an open scientific question.”*

Furthermore, references should be provided for the data points and trend lines shown in the figure.

*The following sentences have been added to the caption of Figure 2 (note that this duplicates some of the Data availability section):*

*“Data sources: Ispra, Italy and the European alpine sites (the latter described in detail by Parrish, et al., 2020) from the TOAR database (<https://join.fz-juelich.de>); Mace Head from Derwent et al. (2023); US data sets from the US EPA AQS data archive (<https://www.epa.gov/aqs>); South Korea from Kim et al. (2022). The trend lines are quadratic polynomial fits to the baseline ozone data sets, a linear fit to the South Korean data, and an exponential decrease above a baseline trend for the Los Angeles data (Parrish et al., 2022).*