

Atmos. Chem. Phys. Discuss., referee comment RC2
<https://doi.org/10.5194/acp-2022-424-RC2>, 2022
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Reply on AC1

Anonymous Referee #1

Referee comment on "Technical note: Northern midlatitude baseline ozone – long-term changes and the COVID-19 impact" by David D. Parrish et al., Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2022-424-RC2>, 2022

I thank the author for his reply to my review. Unfortunately, I still disagree with the claim that the manuscript provides significant new scientific information, and advances our knowledge.

Correctly, the author states "*we consider only published data and analysis results*". So there are no new data and there is no significant new information over what is already published in Parrish et al. (2020).

Using old data and information, the authors come to the conclusion "*that the COVID-19 restrictions had a much smaller impact on background tropospheric ozone in 2020 than previously reported*". Based on old data and information only, this conclusion is in clear contradiction to a large number of more recent scientific publications, which show that

- the COVID-19 related lockdowns resulted in very significant emission reductions worldwide
- these emission reductions resulted in significant reductions of ozone in the free troposphere, as evidenced by studies based on observations, and by studies based on model simulations.
- A contribution from the 2020 Arctic ozone hole is also not new - this is mentioned already, e.g. in Steinbrecht et al. (2021), or Bouarar et al. (2021).

Given this, I can only repeat my previous opinion that the manuscript "*does not report substantial new results and conclusions, and does not provide the substantial advances and general implications for the scientific understanding*", which would be required for an ACP research article.