

Summary review of *Newton et al. (revised 2018)*
"Observations of ozone-poor air in the Tropical Tropopause Layer"

I recommended that the first version of this paper be accepted subject to major revisions. I had four major concerns:

- There needed to be a more thorough analysis of the UCATS ozone data and uncertainties in the average values presented in the paper
- The possible impact of inter-aircraft ozone biases and their effects on the presentation of the WAS data in (the original) Fig. 17
- The paper needed a more detailed background section, and
- It needed a clearer presentation of a connection between the science questions raised in the introduction to the datasets brought into the analysis.

The revised manuscript more than successfully addresses all of these concerns, and I am very happy to recommend it for publication. I have rated it Excellent in each of the three categories of scientific significance, scientific quality, and presentation quality.