Interactive comment on "A novel tropopause-related climatology of ozone profiles" by Sofieva et al.

General:

This paper presents a new ozone climatology that is derived with consideration of variations in the tropopause height in different latitudes and months. The authors developed a new methodology which merges the ozonesonde and SAGE data with an existing ozone climatology. This new climatology offers a few advances described in the paper, especially over the UTLS region. The benefits of this dataset are briefly illustrated in the ozone retrievals for the satellite instrument OMI.

Overall, the paper is well written and the analyses are clear and in depth. I recommend the paper to be published after some minor modifications as suggested below.

Specific:

P21350, L1: Move "(" before 2010.

P21350, L18: Move "(" before 2008.

P21353, L15: Give the reference for this equation. The coefficient is altitude dependent as a function of temperature and coefficient "16" is only applicable for a certain layer of atmosphere with an assumption of temperature being constant in that layer.

P21360, L25: How is the precision of ozone profiles determined?

Figure 9: What are the relative difference between this climatology and LLM in different months and latitude zones? Plots showing the relative difference would be helpful, as Figure 10 showed the relative difference for the annual mean ozone.

Figure 13: The unit for y-axis should be "hPa" on the right panel.

Data Availability and Figure 15: It would be helpful if the number of profiles for the mean at each altitude is also included in the data. This section may be included as an Appendix.