

Interactive comment on “Assessment of upper tropospheric and stratospheric water vapour and ozone in reanalyses as part of S-RIP” by Sean M. Davis et al.

Anonymous Referee #1

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Review of Davis et al.

This paper is comprehensive and well written. It provides a lot of information on the ozone and water vapour fields in various state-of-the-art reanalyses, including quantification of their accuracy, usefulness of the datasets, and possible improvements. As such, I expect this paper to be useful to the atmospheric sciences community, and likely to be highly cited. I recommend publication in ACP subject to the authors paying attention to the specific comments below.

Specific comments

P. 3

C1

L. 7: I suggest you indicate here what you will discuss in each section.

P. 4

L. 16: Do you need “notable”?

L. 27: It would be helpful to the reader to identify the old and updated forecast model and data assimilation system.

P. 10

L. 71: was -> were.

P. 27

L. 17: Maybe I am wrong, but I understood that there was a debate on the sign of trends in stratospheric water vapour during the late 1990s and early 2000s, with discrepancies between balloon and satellite measurements. Perhaps this has been resolved. Maybe the authors could mention this when they mention the work of Randel et al. (2006).

P. 41

Table 1: If you are using US spelling, it should be “analyzed”. Same elsewhere.

P. 43

Fig. 1: What do the colours represent? Same for Fig. 2.

P. 45

Fig. 3: It would be helpful if the authors could identify in the caption what the red/blue colours indicate, e.g., positive/negative values. Same for other figures.

P. 47

Fig. 5: It would be helpful if the authors identified in the caption the colours referring to the reanalyses. Same for Fig. 6, 13, 14.

C2

