

Interactive comment on “A vertically resolved, global, gap-free ozone database for assessing or constraining global climate model simulations” by G. E. Bodeker et al.

Anonymous Referee #1

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I found this paper well written and clear with a definite application/target audience for the end product of the analysis. I have a few minor comments below. In general, I do wonder sometimes if the expectation that things with annual cycles should be fit with a sine wave or such isn't a simplification of much more complex processes. Its not like I have an actual solution for that but I wonder if some residuals in the fits are the result of fitting complex and complexly varying processes with quite simple functions and whether there is more information hiding in the data than these sorts of fits usually yield. I don't expect a response to this more just thinking with my fingers...

Page 5, line 9-15

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Some screening of the source data was performed before the monthly means were calculated, specifically SAGE data below 18 km, SAGE II data below 10 km, and LIMS data below 25 km were excluded since they were found to include occasional anomalous values which biased the monthly means. For data from ozonesonde flights, only data from flights with normalization factors (integrated ozonesonde profile divided by independent total column ozone measurement) between 0.9 and 1.1 were used.

1. Did the nature of the anomalies require completely excluding this data? The current wording suggests that some filtering process may have allowed more data to be used. Some additional information would be helpful. 2. Were the normalization factors used in the analysis or were factors used only for filtering purposes (but not applied)? I am not a sonde expert but I don't think that the usual practice (currently) is to apply the normalization factors.

Page 6, line 4-5

For each month and 5_ latitude zone, at least 6 measurements were required to calculate a valid monthly mean,

1. Any concerns regarding the timing of events in a month (all early or late in a month rather than evening spaced)?

Page 9, line 1-2

This transformation also prevents the regression model from producing negative values when applied globally, which can occur otherwise.

1. Not wishing to sound snide or anything but positive values are not necessarily better than negative ones even if esthetically more pleasing.

Interactive comment on Earth Syst. Sci. Data Discuss., 5, 999, 2012.

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