

## ***Interactive comment on “The US Dobson Station Network Data Record Prior to 2015, Re-evaluation of NDACC and WOUDC archived records with WinDobson processing software” by Robert D. Evans et al.***

**Anonymous Referee #1**

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This reviewer has several issues with this paper but all are easily remedied. The primary issue is that the data are not publically available so the reviewer(s) are not able to check any claims made by the authors. The policies of ACPD are a bit vague but many publications will not allow submission of papers citing proprietary data. I suggest putting the new data somewhere where it can be accessed before the release of this paper.

The second issue is concerning the conclusion section. This section is extremely underwhelming. The reader really wants to know WHY this work was done and to how

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the Dobson data has changed in a scientific sense. There are large differences in the data at high latitudes (+/- 10 percent!) which should be very easily studied. A couple of paragraphs statistically comparing the new & old datasets to the satellite overpasses for those Dobson stations would be highly useful as would a plot or two and that added work would make this paper much stronger and more complete. Can you quantify how much better the new data are? Less noise? Fewer step functions? Less bias? This is the payoff for all that hard work analyzing and revising the old data.

Issue 3: When a new calibration or instrument repair was done how were the new calibration values applied? Were they put in as a step function or gradually introduced over time (linearly?) between known calibrations/changes?? Please explain.

Specific little changes recommended: Line 16: remove “for possible changes” Line 25: remove comma I recommend putting lines 36-8 after line 59 Line 57 & 80: you may want to define what the optical wedge is. Figure 3 is referenced before Figure 2. Please fix Line 149 is not a sentence Line 157 selected value of what? Line 182&235: Change was to were Line 207: And ‘the’ before Bismarck Line 236: use “There are data in the archive prior to 1966 but are not connected. . . . Line 237: change is to are Line 242: remove commas Line 247: remove comma Line 293: “station” appears twice.

All plots are daily averaged Dobson values or individual measurements? Please put units on plots!

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