

## 590 years of data – the US Dobson Station Network Reevaluated

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The United States government has operated Dobson Ozone Spectrophotometers at various sites, starting during the International Geophysical Year (July 1, 1957 to December 31, 1958). An effort for long-term monitoring of the total column content (thickness of the ozone layer) of the atmosphere was started in the early 1960s at several sites, creating a network that eventually grew to 16 stations, 15 of which are still operational. Recently, the need to update the software used for data reduction required an evaluation of the possible changes in the ozone record that will be introduced by the new software. To evaluate the change, the entire data records of the long term observations for each station were recalculated in the new software, and compared to the original data record archived in the World Ozone and UV Data Center (WOUDC) in Toronto, Canada. The history of the individual stations, the instruments used, the method of reduction of observations on the zenith sky to total ozone and the calibration procedures were re-evaluated using data quality control tools built into the new software. At the completion of the evaluation, the new data sets will be archived in the WOUDC, and the entire data will be available to the scientific community.

The procedure of the Dobson data reprocessing and results of the re-analysis on the archived record will be presented in this paper. Summary of changes will be presented for 15 station records. A validation of the updates to the record is performed by referencing the new Dobson ozone station record to several satellite total ozone records reporting total column for the same geographical location as the Dobson station.