

Homogenization of the Boulder, Colorado Ozonesonde Record: 1986-2014

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Weekly ozonesonde profiles have been measured from the Marshall balloon launch site near Boulder, Colorado since 1986. A thorough reanalysis and editing of the long-term record was completed as part of the Stratospheric Processes And their Role in Climate/International Ozone Commission/International Global Atmospheric Chemistry Observations - Ozone/Network for the Detection of Atmospheric Composition Change (SPARC/IO₃C/IGACO-O3/NDACC [SI²N]) initiative to resolve inhomogeneities in the global long-term ozone sounding record due to changes in instrument and ozonesonde operating procedures. Nearly 1,500 Boulder ozonesonde profiles were individually reviewed and corrections applied using new editing software developed at NOAA. Total column ozone comparisons with the Boulder Dobson spectrophotometer record showed better agreement and elimination of slight step changes in the sonde time series. New ozonesonde profile climatology for Boulder will be shown including long term trends and an update on the ozone decreases observed in the lower to middle stratosphere after the Mount Pinatubo eruption in June, 1991.

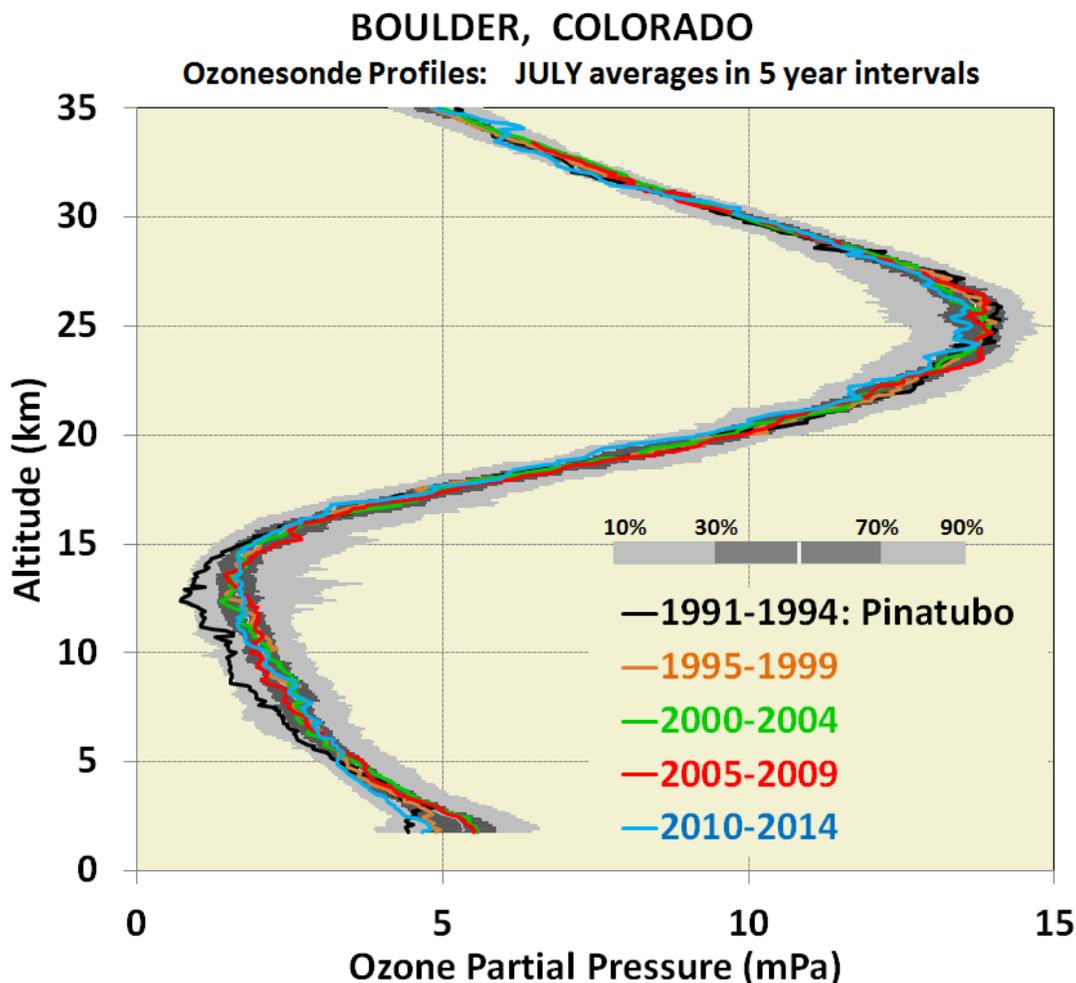


Figure 1. Five-year average bins of Boulder, CO ozonesonde profiles for the month of July. The long-term July median and percentiles for 30-70%, and 10-90% are shaded in dark and light gray.