A Long-Term Merged Global Ozone Data Set

R. McPeters, R. Stolarski, and S. Frith

Abstract - Using data from a series of space-based ozone measurement systems we are producing a consistent, calibrated ozone time series that can be used for trend analyses and other studies. To produce the total column ozone time series we use data from Total Ozone Mapping Spectrometer (TOMS) instruments on Nimbus 7 and Earth Probe, and data from the Ozone Monitoring Instrument (OMI) flying on the Aura spacecraft. Both total column ozone and the ozone vertical profile data are produced from the Solar Backscatter Ultraviolet (SBUV) instruments on Nimbus 7 and SBUV/2 instruments on a series of NOAA spacecraft. A global zonal mean merged ozone data time series covering the period from 1970-1972 and 1978-2010 has been produced for total column ozone. A similar profile data set has been constructed, but is still in preliminary form due to uncertainty in calibration adjustments as a function of latitude and altitude.