

Geophysical Research Abstracts,
Vol. 10, EGU2008-A-04849, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-04849
EGU General Assembly 2008
© Author(s) 2008



SHADOZ (Southern Hemisphere Additional Ozonesondes) at ten years: Scientific highlights

A. Thompson (1), J Witte (2), S J Oltmans (3), B Johnson (3), F Schmidlin (4) H Smit (5) and SHADOZ Members

(1) Penn State University, Dept of Meteorology, 503 Walker Bldg, Univ Park, Pennsylvania, 16802, USA, (2) SSAI at NASA/Goddard Space Flight Center, USA, (3) NOAA/Earth Systems Research Laboratory, Boulder, CO, 80305, USA, (4) NASA/Goddard, Wallops Flight Facility, Wallops Island, VA 23337, USA (5) ICG-II at Forschungszentrum-Juelich, Germany, (anne@meteo.psu.edu / Fax: 01-814-865-0479 / Phone: 01-814-8653663)

Strategically designed ozonesonde networks (e.g. SHADOZ, Match, IONS) have revolutionized ozone sampling in the troposphere and stratosphere, providing information not accessible by other measurement methods. The SHADOZ network (<http://croc.gsfc.nasa.gov/shadoz>) has collected more than 3500 ozone and P-T-U profiles at 15 tropical and subtropical stations spanning the equatorial zone since 1998 [Thompson et al., 2003a,b; 2007]. SHADOZ has added greatly to our knowledge about variability and trends at individual stations, providing new views of the zonal wave-one in tropospheric ozone, Brewer-Dobson circulation, the quasi-biennial oscillation in temperature and ozone, convective impacts on ozone and processes within the Tropical Tropopause Layer (TTL). SHADOZ is invaluable for evaluation of satellite data and ozone distributions computed from chemical-transport and assimilation models. An important contribution of SHADOZ to global observations and trends is improved accuracy and precision of the ozonesonde measurement derived from participation of SHADOZ in intercomparisons of the World Meteorological Organization. Selected SHADOZ highlights will be presented.