Southern Hemisphere Additional Ozonesondes (SHADOZ): Recent Accomplishments and Upcoming Activities with NOAA/GMD

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Initiated as a short-term network for satellite validation, Southern Hemisphere Additional Ozonesondes ((SHADOZ); http://croc.gsfc.nasa.gov/shadoz) has evolved as an indispensable set of tropical and subtropical ozone profiles (> 6000 sets with radiosondes, from ~15 stations) over the past 15 years. NOAA's Global Monitoring Division has been a major player in SHADOZ through management of 5 stations (American Samoa, Hilo, Fiji, San Cristobal, San Jose [Costa Rica, after 2005]) and supplying expendables and data-processing support at 3 additional sites (Watukosek, Reunion, Hanoi [latter since 2009]). SHADOZ data are a reference for multiple satellites (U.S., Canadian, European, Japanese) and dozens of chemistry-climate models; they have been used to investigate interannual ozone variability and trends in the troposphere and lower stratosphere. Examples of recent SHADOZ analyses and validation will be shown. In the framework of collaboration with the World Meteorological Organization (WMO)/Global Atmosphere Watch, Network for the Detection of Atmosphere Composition Change and the 2013-2014 SI2N and United Nations Environment Programme/WMO ozone profile assessments, we will outline SHADOZ participation in a major re-processing of global ozonesonde data by the scientific community.

Figure 1. SHADOZ stations that operated during the period 2005-20122 (adapted from Thompson et al., JGR, 117, D23301, doi: 10.1029/2010JD016911, 2012).