

SHADOZ Ozone Variability: Investigating long term ozone profile changes at two SHADOZ sites; American Samoa and Hilo, HawaiiSamuel Oltmans[†];[†] CIRES Univ of Colorado, USALeading author: Samuel.J.Oltmans@noaa.gov

Two of the SHADOZ sites, American Samoa and Hilo, Hawaii, have ozonesonde records that began in the 1980s before SHADOZ was established as a formal network. In addition both of these locations have long term surface and total column ozone measurements. Over the course of the approximately 30 year period that the ozonesondes have been flown there have been several changes in measurement protocol that have had an impact on the data record. These include such things as different ozonesonde suppliers, changes in sensing solution recipe, anomalous background current measurements, and changes in radiosonde type. Several of these changes also apply to a number of other ozonesonde sites operated by NOAA, including the SHADOZ sites at Fiji and the Galapagos. Information from laboratory tests, chamber studies (JOSIE), a balloon campaign (BESOS), and dual soundings has been used to develop correction procedures that are applied to the longer term records. The revised, consistently processed records from Hilo and Samoa are compared with surface data in the troposphere. The ozonesonde integrated profiles are also compared with the independently measured column amount. Finally, changes in ozone mixing ratio with altitude for Hilo and Samoa are presented.