

Biography for Samuel J. Oltmans

Samuel Oltmans is currently a Research Associate with the Cooperative Institute for Research in the Environmental Sciences (CIRES) at the University of Colorado at Boulder. CIRES is a joint institute of the University of Colorado and the NOAA Earth System Research Laboratory (ESRL). Prior to his retirement in 2011, Mr. Oltmans conducted atmospheric and environmental research for NOAA/ESRL and its predecessors for nearly 40 years. Prior to joining NOAA Mr. Oltmans pursued graduate studies in Astro-Geophysics at the University of Colorado, where he worked with Prof. Julius London. His graduate research focussed on stratospheric ozone and understanding its distribution and variation. His thesis work was on the Quasi Biennial Oscillation (QBO) in atmospheric ozone.

Mr. Oltmans served as an officer in the U.S. Air Force for 4 years as a meteorologist. During his Air Force tenure, he served as a weather detachment forecaster, chief forecaster, and acting detachment commander. At the time he left the Air Force with the rank of captain to enter graduate school, he was a weather-briefing officer for the command staff of the Strategic Air Command and the National Reconnaissance Center at Offutt Air Force Base, Nebraska.

After completing his graduate studies, Mr. Oltmans joined the newly formed Geophysical Monitoring for Climatic Change (GMCC) unit of the NOAA Air Resources Laboratory where he had worked part time as graduate student. His initial research effort at GMCC was to establish a surface ozone monitoring program at several baseline observatories including Mauna Loa, Hawaii; Barrow, Alaska; South Pole, Antarctica; and American Samoa. These were among the first ozone observations in what is now termed the “background” atmosphere, remote from traditional locations that were nearly exclusively focussed on polluted urban conditions. These early measurements along with more recently established observations by Mr. Oltmans and others have provided the backbone for a number of his research efforts on longer-term changes in background ozone and the contribution of background ozone to pollution-impacted conditions.

In addition to his work on tropospheric ozone, Mr. Oltmans has done extensive research on the stratospheric ozone layer. He has made key contributions in understanding stratospheric ozone depletion associated with human produced ozone destroying chemicals. His work includes responsibility for unique observations of the ozone layer in Antarctica and understanding the development of the dramatic “ozone hole”. Mr. Oltmans also was responsible for establishing a continuing 35-year record of upper atmosphere water vapor profiles obtained from balloon-borne instrumentation that he helped develop.

Mr. Oltmans has collaborated widely with fellow observationalists and modelers and has authored or co-authored over 240 peer-reviewed publications. A number of these are highly cited publications. He has also received several NOAA Research outstanding research paper awards. Mr. Oltmans has received a Department of Commerce Silver Medal and Bronze Medals for his research contributions. He is a Fellow of the American Geophysical Union and a member of the American Meteorological Society. He recently received the American Geophysical Union Yorum J. Kaufman Unselfish Cooperation in Research Award given for broad influence in atmospheric science through exceptional creativity, inspiration of younger scientists, mentoring, international collaborations, and unselfish cooperation in research.