



## **Global upper tropospheric/lower stratospheric water vapor from satellites**

Gabriele P. Stiller (1), Stefan Lossow (1), William G. Read (2), Karen H. Rosenlof (3), Maya Garcia-Comas (4), Mark E. Hervig (5), Karl Hoppel (6), Ellis E. Remsberg (7), James M. Russell III (8), Larry W. Thomason (7), Joachim Urban (9), Kaley A. Walker (10), Mark Weber (11), and Joseph M. Zawodny (7)

(1) Karlsruhe Institute of Technology, Institut für Meteorologie und Klimaforschung (IMK-ASF), Karlsruhe, Germany (gabriele.stiller@kit.edu, +49-(0)721-608-24742), (2) JPL, Pasadena, California, United States, (3) ESRL Chemical Science Division, NOAA, Boulder, Colorado, United States, (4) Instituto de Astrofísica de Andalucía, CSIC, Granada, Spain, (5) GATS Inc., Driggs, ID, United States, (6) Remote Sensing Physics Branch, NRL, Washington, DC, United States, (7) NASA Langley Research Center, Hampton, VA, United States, (8) Atmospheric and Planetary Sciences Faculty, Hampton University, Hampton, VA, United States, (9) Department of Earth and Space Sciences, Chalmers University of Technology, Gothenburg, Sweden, (10) Department of Physics, University of Toronto, Toronto, ON, Canada, (11) Institute for Environmental Physics, University of Bremen, Bremen, Germany

The past decade has been a "golden age" for observations of middle atmospheric trace gas distributions from space since numerous satellite instruments have been in orbit. One of the most important trace species with respect to its impact on global climate and stratospheric chemistry is water vapor. The presentation will provide an overview on the currently available data base, and on climatologies derived from the satellite data sets covering the altitude range from the upper troposphere to the lower mesosphere. The current and planned efforts within the SPARC Water Vapor Assessment II (WAVAS II) to intercompare the available satellite data sets and perform a quality assessment will be presented, with some focus on the difficulties which we are facing on the way to a consistent multi-instrument long-term data set covering the last 30 years. Finally, future perspectives for the continuation of middle atmosphere water vapor observations from space will be discussed.