

THE TROPICAL COMPOSITION AND CLIMATE COUPLING EXPERIMENT

R. Salawitch (1), J. Holton (2), J. Logan (3), D. Waugh (4), P. Wennberg (5)
(1) Jet Propulsion Laboratory, California Institute of Technology, (2) University of
Washington, (3) Harvard University, (4) Johns Hopkins University, (5) California
Institute of Technology; Ross.Salawitch@jpl.nasa.gov/ Fax: 818-354-5148

Many of the chemical, dynamical, and physical processes in the tropical upper troposphere are not well understood. Processes occurring in this region are critical for understanding the couplings between changes in climate and variations in atmospheric composition. Future satellite observations will provide essential information on the spatial and temporal variability of key constituents and processes. We will review the science questions and measurement strategy of a proposed tropical aircraft mission, which is designed to enhance the scientific return from future satellite observations. Topics to be addressed include transport processes within the tropical tropopause layer, stratospheric dehydration, the chemical boundary condition of the stratosphere, and controls on upper tropospheric ozone.