

# **Clouds and pollutants in the upper troposphere: highlights of Aura MLS observations**

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This paper will present new upper tropospheric observations from the Microwave Limb Sounder (MLS) on board NASA's Aura satellite, including vertical profiles of cloud ice water content (IWC), humidity (H<sub>2</sub>O), carbon monoxide (CO), and ozone (O<sub>3</sub>). MLS's cloud IWC measurements are made simultaneously with the temperature and H<sub>2</sub>O measurements. Such data offer new information to better understand cloud physics, connections to large-scale dynamics, and to improve/evaluate parameterization of cloud processes in global climate models (GCMs). MLS's carbon monoxide (CO) and ozone (O<sub>3</sub>) observations are being compared with global chemistry transport models (CTMs) for study long-range transport of pollutants in the upper troposphere. These new observations are providing unprecedented prospects for characterizing physical, chemical and dynamical processes in the upper troposphere.