The NEW MLS Web User Interface

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MLS — *Microwave Limb Sounder*

Navigation menu:
- HOME
- WHAT'S NEW
- EOS MLS
- UARS MLS
- PUBLICATIONS
- PERSONNEL
- CONCEPTS

Homepage

Upgrade of site at:
http://mls.jpl.nasa.gov

Site will re-launch late September

➢ **Improved information accessibility for researchers using MLS data**
➢ **New data user tools**
➢ **New consistent look**
➢ **New Google Search box**

Statistics:
- **522,409** unique visits
- **17.7** visits/hour
- **93.7%** of visits come from outside JPL
- World-wide visitors from **Albania** to **Zimbabwe**

EOS MLS Area

Describes the EOS MLS mission

Gateway links to:
➢ Aura Homepage
➢ Instrument Information
➢ Science and Research
➢ Data Products
➢ Plots and Animations
➢ User Registration

Links to MLS Product Pages

Data Page

Provides users with an overview of EOS MLS data products

Provides access links to:
➢ GES-DISC (formerly known as the Goddard DAAC)
➢ Documentation
➢ Ops Calendar
➢ Data Gallery
➢ Data User Registration
➢ Data FAQ

Lists contact information for each data product

Ops Calendar

Operations and data calendar shows:
➢ Daily Instrument Status *(background color)*
➢ Daily data status *(font color)*
➢ Major MLS events during the year

Covers mission life to date

Page automatically updated daily
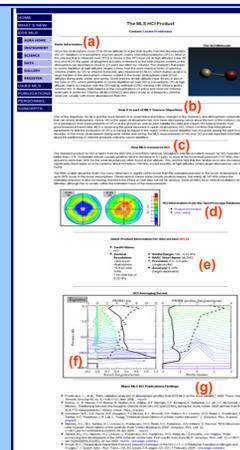

Product Pages

- These pages are meant to meet two needs:
  1. Provide general information to the public about what MLS measures and why
  2. Give research scientists a snapshot of what MLS products offer and where to get additional information on them

- Page describes (see HCl page on right):

  a) **Basic Product Data**
  b) **How it meets science goals**
  c) **How MLS measures it**
  d) **Spectroscopy database links**
  e) **Quick v1.5 overview**
  f) **Averaging kernel information**
  g) **Related MLS publications**

Validation Studies

Early Validation Analyses of Atmospheric Profiles from EOS MLS on the Aura Satellite

Date: May 2006

Validation of Aura MLS HNO3 measurements with remote-sensing balloon instruments

Date: 07 July 2005

Visit the Aura Validation Data Center
http://avdc.gsfc.nasa.gov

Derived Meteorological Products now Available

Focus Areas

"Focus Areas" are research topics of specific interest to the EOS MLS team.

Topics include:
- **Polar Ozone Loss**
- **Meteorology**
- **Upper Troposphere**
- **Validation**
- **Algorithms**
- **Flight/Data Operations**

All pages contain news, publications, and other information (see the Validation page on left)

May also include links to plots, Derived Meteorological Products (DMPs), or external websites

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User Registration

- There are currently **117** registered users

- This system allows data users better access to the MLS science team and encourages collaborations

- When registering, users receive an e-mail (from **data@mls.jpl.nasa.gov**) with contact information and details on how to use and retrieve MLS data products

- MLS team can send updates and news releases to registered data users by e-mail

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Now Released

- **Access to Derived Meteorological Products (DMPs)** on the MLS FTP Server (see Poster session 2, Manney et al, "Derived meteorological products for solar occultation satellite datasets and applications to Aura validation")
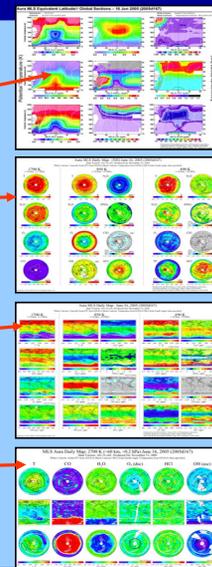- **Animations of NH and SH conditions** as measured by MLS

Other Features

Coming Soon

- **Data problem reporting** to be released with MLS Level 2 Version 2 data

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Data Gallery

Daily MLS Data Plots

➢ **Stratospheric EqL/θ plots:**
Daily MLS H_2O, O_3, CO, N_2O, HNO_3, ClO, HCl, OH, and HCN equivalent latitude (EqL) zonal means plotted as a function of potential temperature (θ), with overlaid contours of scaled potential vorticity.

➢ **Stratospheric Polar projection plots for NH and SH:**
a) temperature, N_2O, H_2O, HNO_3, O_3, ClO, tropopause pressure and HCl at θ = 490K (~18 km, 56 hPa)
b) temperature, N_2O, H_2O, HNO_3, O_3, ClO, OH and HCl at θ = 850K (~32 km, 10 hPa)
c) temperature, H_2O, O_3 and CO at θ = 1700K (~50 km, 10 hPa)

➢ **Stratospheric Cylindrical projection plots:**
a) temperature, N_2O, H_2O, HNO_3, O_3, ClO, tropopause pressure and HCl at θ = 490K (~18 km, 56 hPa)
b) temperature, N_2O, H_2O, HNO_3, O_3, ClO, OH and HCl at θ = 850K (~32 km, 10 hPa)
c) temperature, H_2O, O_3 and CO at θ = 1700K (~50 km, 10 hPa)

➢ **Mesospheric plots:**
Daily plots of temperature, CO, H_2O, O3, HCl, and OH at θ = 2700K (~60 km, 0.2 hPa). Includes cylindrical projection plots and polar plots for NH and SH.

Weekly MLS UT Plots
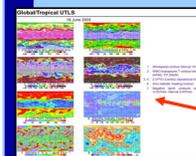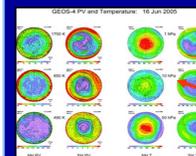
➢ These are global maps of weekly-average MLS measurements of upper tropospheric cloud ice, relative humidity with respect to ice, water vapor, CO, O_3 and temperature.

➢ Included for comparison are maps for the same period of GEOS-CHEM model (driven by GMAO GEOS-4 meteorological data) near-real-time output for CO and O_3, and GMAO GEOS-4 first look output for water vapor. Maps are currently available for **MLS v01.51 and v01.52 data at 100, 147, and 215 hPa pressure surfaces.**

➢ The MLS data have been screened to exclude situations where clouds impact the results. The v1.5 CO values at 215 hPa are known to be ~2x large relative to correlative data.

Daily Meteorological Plots

➢ **Stratospheric potential vorticity (PV) and temperature plots**, separately from:
a) NASA's Global Modeling and Assimilation Office (GMAO), Goddard Earth Observatory System (GEOS)
b) UK Met Office Stratosphere Troposphere Assimilation System distributed by the British Atmospheric Data System

➢ **Upper Troposphere / Lower Stratosphere daily maps** of GPH, windspeed, tropopause, PV, cold point temperature, diabatic heating rates, 200 hPa divergence, and 200 hPa velocity potential