



# GES DISC Status and Data Preservation

Aura Data Systems Working Group

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August 30, 2016



# Outline

- OMI Status
- MLS Status
- GES DISC Status
- Earthdata Login
- New GES DISC Website
- Data Preservation



# OMI Status

Please provide GES DISC two weeks notice before delivery of new or reprocessed data products

- Continue to support forward stream of OMI v3 L1B, L2, L2G, L3 data
- Received updated OMUVB, OMUVBG, OMUVGd data in Aug 2016
- Received updated OMNO2, OMNO2G, OMNO2d data in Aug 2016
- Reviewed new product OMMYDAGEO (joint OMI – MODIS aerosol geolocation), awaiting deliver



# MLS Status

Please provide GES DISC two weeks notice before delivery of new or reprocessed data products

- Received delivery of new MLS v4 data products in Feb 2015
- Received new MLS L3zm v4 BrO and HO2 products in Aug 2016
- DOIs assigned and registered for all new MLS v4 products
- Continue to support forward stream of MLS L1, L2, L3 and NRT products
- Supporting both v4 and v3 MLS data in the s4pa archive



# GES DISC Status

- Implemented Earthdata Login in July 2016.
- All metadata, both data product/collection and file/granule level, migrated to new Common Metadata Repository (CMR) in July 2016  
replaces ECHO (granule) and GCMD (collection)
- GES DISC website is being overhauled with a Google-like simplified Unified User Interface (UUI)
- Giovanni visualization and data exploration service was upgraded to version 4 with improved and faster user experience
- New OMI L2 Data Quality and Visualization DQVIS service  
please try at <http://disc1.sci.gsfc.nasa.gov/dqviz/index.htm>
- Aura L2 and L3 data available through OPeNDAP servers
- OMI L2 & L3 data available from OGC (Open Geospatial Consortium) servers  
wcs and wms
- Working on new integrated Level-2 subsetter and aggregator service
- Published OMI L3 standard products to BEDI/GIBS for inclusion in Worldview
- Aura hosts migrated to E0 network: <host>.gesdisc.eosdis.nasa.gov
- Regular maintenance upgrades to S4PA archive system



# Earthdata Login

- Earthdata Login provides a single mechanism for user registration and profile management for all EOSDIS system components (DAACs, Tools, Services).
- This is being implemented across all EOSDIS data centers!
- Required for all EOSDIS services such as NASA Worldview, not just data center access.
- Data are still free of charge to the public!
- Uses the https protocol for secure access
- Allows EOSDIS to better track data usage and understand its users needs.



# Earthdata Login (cont.)

- GES DISC has implemented Earthdata Login as of July 2016
- Step 1: Register with Earthdata Login and setup username and password

<https://urs.earthdata.nasa.gov>

- Step 2: Authorize access to **NASA GESDISC DATA ARCHIVE**
- **IMPORTANT:** Anonymous FTP access will end on Monday October 3, 2016. Must use http access from now on!



# New GES DISC Website

- The GES DISC is overhauling its web site with a new Unified User Interface or UUI.  
<http://disc.gsfc.nasa.gov/uui/>
- Combine data products, documentation and services into a single location (reduce confusion for users on which subsetter, visualizer or other service to choose from)
- Allow users to search/find/navigate to **ANY RESOURCE**
  - a) Data Granule Downloads (bulk and individual)
  - b) Data Subsetting
  - c) Data Visualization Services
  - d) Data Documentation
  - e) Data Landing Pages



# New GES DISC Website

The screenshot shows the GES DISC website interface. The browser address bar displays `http://disc.gsfc.nasa.gov/uu/`. The page header includes the NASA logo, "EARTHDATA", and navigation links for "Data Discovery", "DAACs", "Community", and "Science Disciplines". The main heading is "GES DISC" with the subtitle "Atmospheric Composition, Water and Energy Cycle, and Climate Variability Data". A search bar is active with the text "ML203" entered, and a dropdown menu lists the following data collections: ml2o3, ML203\_003, ML203\_004, ml2o3\_nrt, ML203\_NRT\_003, ml2o3\_nrt\_v003, ML203\_NRT\_V003, ML203\_V003, ml2o3\_v003, ml2o3\_v004, and ML203\_V004. The page layout includes sections for "Science Disciplines", "Tools", "Resources", and "About GES DISC". The "Science Disciplines" section lists "Atmospheric Composition", "Water and Energy Cycle", and "Climate Reanalysis". The "Tools" section lists "Giovanni", "Simple Subset Wizard (SSW)", "MERRA Subsetter", "Data Rods for Hydrology", "Drought Monitor", "OGC Web Map Service", and "OPeNDAP". The "Resources" section lists "Data Cookbook (How-To's)", "Converting HDF to NetCDF", "FAQ", "News", "Publications", "Gallery", and "Alerts". The "About GES DISC" section lists "Who We Are", "Citing Our Data", and "Contact Us". The bottom right corner shows a "History" button with "0:0" next to it.



# New GES DISC Website

The screenshot shows the GES DISC website interface. The browser address bar displays the URL: <http://disc.gsfc.nasa.gov/ui/datasets?keywords=mls&>. The page header includes the NASA logo, the text "EARTHDATA", and navigation links for "Data Discovery", "DAACs", "Community", and "Science Disciplines". The main header features the "GES DISC" logo, a search bar containing "mls", and utility links for "Alerts", "Feedback", "Help", and "Login". Below the header, there are tabs for "Data Collections" and "Related Documentation".

The main content area displays search results for "mls". A summary line states: "Showing all (80) datasets associated with mls for date range 1919-12-31 to 2016-08-26 within -180, -90, 180, 90...".

On the left side, there are filter sections:

- Refine By**
- SubjectsSort**
  - Aerosols (1)
  - Altitude (4)
  - Atmospheric Chemistry (49)
  - Atmospheric Radiation (1)
  - Atmospheric Temperature (5)
  - [More...](#)
- Measurement**
  - Sort
  - Aerosol Backscatter (1)
  - Aerosol Extinction (1)
  - Aerosol Optical Depth/Thickness (1)
  - Aerosol Particle Properties (1)
  - Aerosol Radiance (1)
  - [More...](#)
- SourceSort**
  - AEM-2 SAGE I (2)
  - Aqua MODIS (8)
  - Aura HIRDLS (1)
  - Aura MLS (72)

The search results are presented in a table with the following columns: Image, Dataset, Source, Temporal Resolution, Spatial Resolution, Process Level, Begin Date, and End Date.

Image	Dataset	Source	Temporal Resolution	Spatial Resolution	Process Level	Begin Date	End Date
No Sample Image	<a href="#">HIRDLS-MLS/Aura Level 3 Monthly 10 x 20 deg Ice Water Content V002 (HIRMLS3IWC.002) - Clouds</a>	Aura HIRDLS, Aura MLS	1 month	10 ° x 20 °	3	2005-02-01	2007-12-31
No Sample Image	<a href="#">GOZCARDS Merged Water Vapor 1 month L3 10 degree Zonal Means on a Vertical Pressure Grid V1 (GozMmlpH2O.1) - Atmospheric Water Vapor</a>	UARS HALOE, UARS MLS, Aura MLS	1 month		3	1991-09-01	2013-01-01
No Sample Image	<a href="#">GOZCARDS Merged Hydrogen Chloride 1 month L3 10 degree Zonal Means on a Vertical Pressure Grid V1 (GozMmlpHCl.1) - Atmospheric Chemistry</a>	UARS HALOE, UARS MLS, Aura MLS	1 month		3	1991-10-01	2013-01-01



# New GES DISC Website

The screenshot shows the GES DISC website interface. The browser address bar displays the URL: <http://dev.gesdisc.eosdis.nasa.gov/ui/datasets?measur>. The page title is "GES DISC" with a search bar containing "mls". Below the title, it says "Atmospheric Composition, Water and Energy Cycle, and Climate Variability Data".

The main content area shows search results for "mls". It includes a "Refine By" sidebar on the left and a table of datasets on the right. The table has columns for Image, Dataset, Source, Temporal Resolution, Spatial Resolution, Process Level, Begin Date, and End Date.

**Refine By**

- SubjectsSort**
  - Atmospheric Chemistry (6)
  - Atmospheric Water Vapor (1)
  - Clouds (1)
  - Microwave (1)
- Measurement**
  - Sort
  - Ozone (6)
  - Attitude Characteristics (2)
  - Bromine Monoxide (5)
  - Carbon Monoxide (5)
  - Carbon and Hydrocarbon Compounds (9)
- SourceSort**
  - Aura MLS (6)
  - AEM-2 SAGE I (2)
  - Aqua MODIS (1)
  - ERBS SAGE II (2)
  - Meteor-3M SAGE III (2)

**Showing all (6) datasets associated with mls for date range 1919-12-31 to 2016-08-26 within -180, -90, 180, 90...**

Image	Dataset	Source	Temporal Resolution	Spatial Resolution	Process Level	Begin Date	End Date
	<a href="#">MLS/Aura Near-Real-Time L2 Ozone (O3) Mixing Ratio V003 (ML2O3_NRT.003) - Atmospheric Chemistry</a>	Aura MLS	15 minutes	165 km x 3 km	2	2016-08-19	present
No Sample Image	<a href="#">MLS/Aura Level 2 Ozone (O3) Mixing Ratio V004 (ML2O3.004) - Atmospheric Chemistry</a>	Aura MLS	1 day	165 km x 3 km	2	2004-08-02	present
No Sample Image	<a href="#">MLS/Aura Level 2 Ozone (O3) Mixing Ratio V003 (ML2O3.003) - Atmospheric Chemistry</a>	Aura MLS	1 day	165 km x 3 km	2	2004-08-08	2015-06-30
No Sample Image	<a href="#">MLS/Aura Level 2 Diagnostics</a>	Aura MLS	1 day	165 km x 3 km	2	2004-08-02	present



# New GES DISC Website

The screenshot shows a web browser window displaying the GES DISC website. The address bar shows the URL: <http://dev.gesdisc.eosdis.nasa.gov/ui/datasets/ML203>. The page title is "GES DISC" and the subtitle is "Atmospheric Composition, Water and Energy Cycle, and Climate Variability Data". The search bar contains the text "mls". The main content area displays the dataset "ML203: MLS/Aura Level 2 Ozone (O3) Mixing Ratio V004" with a warning icon. Below the title is a detailed description of the dataset, including its origin (EOS Aura Microwave Limb Sounder), version (4.2), spatial coverage (near-global), and data format (HDF-EOS5). To the right of the description is a "Data Access" panel with buttons for "Online Archive", "Search", and "OPENDAP (DODS)". Below the description are tabs for "Product Summary", "Data Citation", and "Documentation". The "Product Summary" tab is active, showing a list of metadata fields and their values.

ML203: MLS/Aura Level 2 Ozone (O3) Mixing Ratio V004 ⚠

ML203 is the EOS Aura Microwave Limb Sounder (MLS) standard product for ozone derived from radiances measured by the 240 GHz radiometer. The current version is 4.2. Spatial coverage is near-global (-82 deg. to +82 deg. latitude), with each profile spaced 1.5 deg. or ~165 km along the orbit track (roughly 15 orbits per day). The recommended useful vertical range is from 261 to 0.0215 hPa, and the vertical resolution is between 2.5 and 6 km. Users of the ML203 data product should read section 3.18 of the EOS MLS Level 2 Version 4 Quality Document for more information. The data are stored in the version 5 EOS Hierarchical Data Format (HDF-EOS5), which is based on the version 5 Hierarchical Data Format, or HDF-5. Each file contains two swath objects (profile and column data), each with a set of data and geolocation fields, swath attributes, and [More ...](#)

**Data Access**

- Online Archive
- Search ▾
- OPENDAP (DODS)

**Product Summary** | [Data Citation](#) | [Documentation](#)

**Shortname:** ML203  
**Longname:** MLS/Aura Level 2 Ozone (O3) Mixing Ratio V004  
**DOI:** 10.5067/AURA/MLS/DATA2017  
**Version:** 004  
**Format:** HDF-EOS5  
**Spatial Coverage:** (-82.0 to 82.0; -180.0 to 180.0)  
**Temporal Coverage:** 2004-08-02 to Present  
**File Size:** 1.33 MB per file

**Data Resolution**

- Spatial:** 165 km at limb tangent point (along-track) x 3 km at limb tangent point (cross-track)
- Vertical:** 3 - 6 km
- Temporal:** 1 day

History



# Data Preservation

- HIRDLS Project Data Preservation documents completed and in Fedora Commons system. Public documents available from the GES DISC web site. Restricted ITAR transferred to NTSC.
- MLS Project Data Preservation documents in progress. Two deliveries made in 2015. Public documents available from the GES DISC web site.
- OMI Project Data Preservation documents waiting for decision on delivery schedule.
- Items should fit into categories specified in NASA Earth Science Data Preservation Content Specification (423-SPEC-001)
  1. Preflight/Pre-Operations Calibration
  2. Science Data Products
  3. Science Data Product Documentation
  4. Mission Data Calibration
  5. Science Data Product Software
  6. Science Data Product Algorithm Inputs
  7. Science Data Product Validation
  8. Science Data Software and Tools
  9. Deliverables Checklist



# End

- Jennifer Wei will be giving a talk Thursday Morning at 9:45 titled “What’s NEW at the GES DISC: Evolution of Data Management and Services for Aura and Beyond.”
- I have a poster on “Aura Data Preservation” in tomorrow’s Poster Session.
- Questions?