



NASA Goddard Giovanni Support For YOTC

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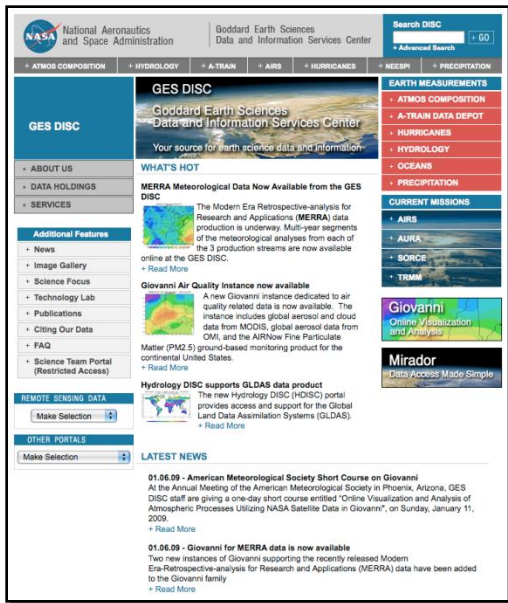


Introduction

• What is YOTC?

Year Of Tropical Convection (YOTC), a joint activity of the *World Climate Research Programme (WCRP)* and *World Weather Research Programme (WWRP)/THORPEX*, is a 2-year period of coordinated observing, modeling, and forecasting with a focus on organized tropical convection, its prediction, and predictability.

• What is GES DISC?



The Goddard Earth Sciences Data and Information Services Center (GES DISC) supports archive and distribution of hundreds of datasets for multiple satellite sensors, ground measurements, and models. These include Aqua AIRS, Aura HIRDLS/MLS/OMI, SORCE, TOMS, TOVS, TRMM, UARS, GLDAS and MERRA.

Through various available services and tools, the GES DISC provides users with multi-sensor and model visual comparisons and data access via a number of projects crossing several disciplines.



Goal – Dissemination of YOTC Satellite Products

Our goal is to facilitate data usage as much as possible by providing a way the community can easily visualize and access the data.

We provide:

- A user friendly, interactive interface to efficiently visualize and analyze the data.
- Multiple output data formats to the user can use desired post-analysis software.
- Easy to use efficient data download methods.

Visualization and access Methods:

Giovanni On-line Data Visualization and Analysis Tool

Mirador Search and Download Mechanism

OPeNDAP Open-source Project for a Network

FTP Data Access Protocol
Direct anonymous FTP access



What is Giovanni?

Giovanni is a Web-based application developed by the GES DISC that provides a simple and easy way to visualize, analyze, and access vast amounts of Earth science remote sensing and model data.

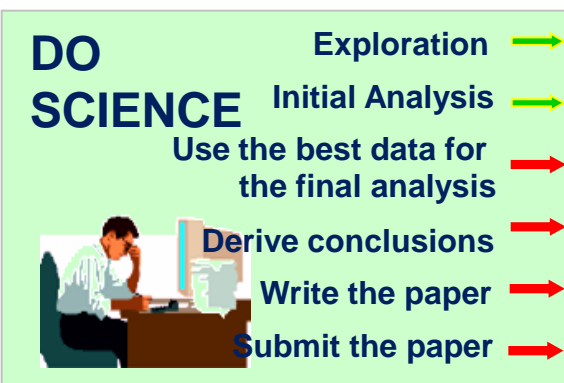
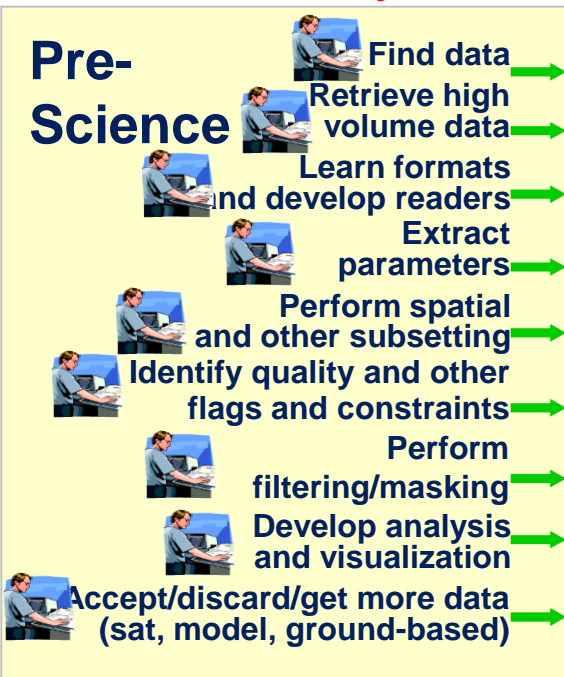
Only a Web browser is needed. There is no need to learn data formats, programming, or download large amounts of data.

Visualizations and analysis services include latitude-longitude maps, **time series diagrams**, latitude-time and longitude-time Hovmöller diagrams, and animations. New visualizations will be introduced over time.

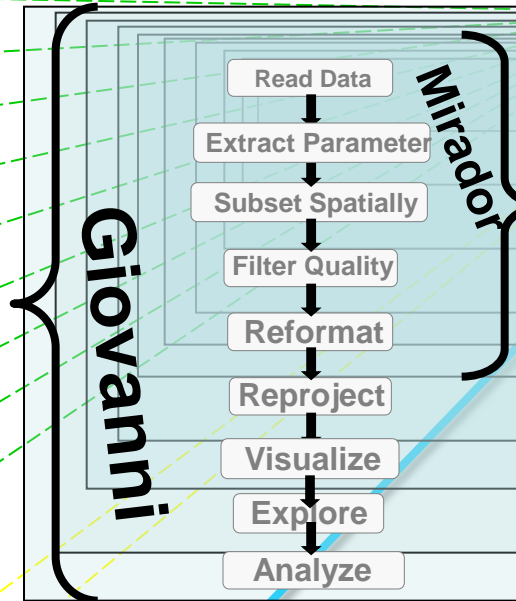


Giovanni Allows Scientists to Concentrate on the *Science*

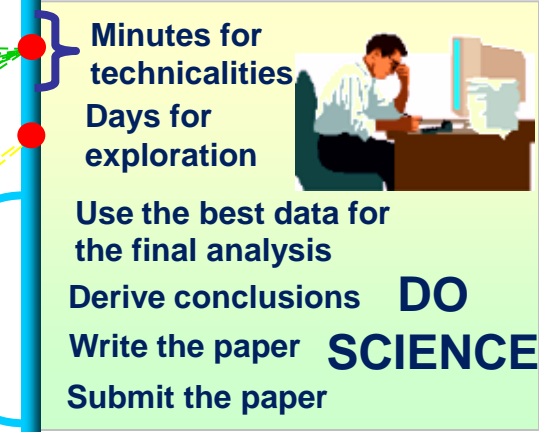
The Old Way:



Web-based Services:



The Giovanni Way:



GES DISC tools allow scientists to **compress** the time needed for pre-science preliminary tasks: *data discovery, access, manipulation, visualization, and basic statistical analysis.*

Scientists have **more time to do science!**



What is currently in Giovanni?

Almost 40 customized Giovanni portals

Thousands of geophysical parameters

Data from:

- ~ 20 space-based instruments

- ~ 50 models

- EPA and Aeronet stations

Multiple visualization and statistical analysis functionalities including data intercomparison

Data lineage

Subsetted data downloads in multiple formats



YOTC-GS Portal

The YOTC Portal is a web-based information portal that provides the user community with information on the YOTC program satellite data sets.

Information Includes:

Documentation

Data Visualization

Data Access

Dataset Information

Applications

Science Focus

L3 data

L2 data

The screenshot shows the NASA Goddard Earth Sciences Data and Information Services Center (GES DISC) YOTC-GS Portal. At the top, there is a search bar and navigation tabs for various data categories: ATMOS COMPOSITION, HYDROLOGY, A-TRAIN, AIRS, MODELING, MAIRS, and PRECIPITATION. The main content area features a 'YOTC Year Of Tropical Convection' header with a satellite image of a tropical storm. Below this is an 'Overview' section with a note that the site is a prototype. The 'Additional Features' sidebar lists News, Tools, Science Focus, Applications, Links, and FAQ. The main text describes the YOTC Giovanni System, which provides access to Level 2 and Level 3 satellite data. Two callout boxes highlight 'YOTC-GS L3' and 'YOTC-GS L2' as web-based graphics and analysis tools. A 'What's to Come' section lists upcoming features like direct access to input data and multiple profile output. A 'Latest News' section mentions the integration of the data navigation and search interface into the Mirador system.

<http://disc.sci.gsfc.nasa.gov/yotc>



YOTC-GS Level 3 Beta Prototype

YOTC-GS L3 contains daily mosaics of ~88 parameters ranging from cloud top temperature to aerosol optical depth, providing environmental conditions of both global and regional scales in 2 and 3 dimensions. 7 functions are available for data analysis and visualization.

Users make selections:

Spatial Area

Parameters

Time Range

Visualization

Vertical Levels for 3D

Year of Tropical Convection
Alpha prototype

Home Remove All

Giovanni for Year of Tropical Convection

Select:

Spatial
Coordinates: 162.77344, 87.53806

Area of Interest: West: 180 North: 50 South: -50 East: 180 Update Map

Vertical Profile
Select a 3D parameter. 3D parameters have at least three dimensions and are labeled with a (3D) in the Parameters section.
NOTE: Selected 3D parameters must have the same vertical (1-D) dimension units in order to enable the vertical level menu.

Upper Level
Lower Level

Parameters
Display: Data Product Info Parameters with > 2 Dimensions

Atmosphere

| Parameter | Data Product Info |
|---|---|
| <input type="checkbox"/> Cloud Reflectance (QA-w) | MOD08_D3.005 MODIS-Terra Ver. 5 2000/02/24 - 2009/07/08 |
| <input type="checkbox"/> Cloud Effective Emissivity | MOD08_D3.005 MODIS-Terra Ver. 5 2000/02/24 - 2009/07/08 |
| <input type="checkbox"/> Cloud Effective Emissivity Day | MOD08_D3.005 MODIS-Terra Ver. 5 2000/02/24 - 2009/07/08 |
| <input type="checkbox"/> Cloud Effective Emissivity Night | MOD08_D3.005 MODIS-Terra Ver. 5 2000/02/24 - 2009/07/08 |
| <input type="checkbox"/> Cloud fraction ascending (CloudFrc_A) | AIRV3STD.005 Aqua - AIRS standard 2002/08/31 - 2009/07/07 |
| <input type="checkbox"/> Cloud Fraction Descending (CloudFrc_D) | MOD08_D3.005 MODIS-Terra Ver. 5 2000/02/24 - 2009/07/08 |
| <input type="checkbox"/> Aerosols(1978.11.01 - 2009.07.08) | |
| <input type="checkbox"/> Absorbing Aerosol Optical Thickness | OMAEROe.003 Aura OMI 2004/10/01 - 2009/07/08 |
| <input type="checkbox"/> Aerosol Optical Depth at 550 nm | MOD08_D3.005 MODIS-Terra Ver. 5 2000/02/24 - 2009/07/08 |
| <input type="checkbox"/> Aerosol Optical Thickness | OMAEROe.003 Aura OMI 2004/10/01 - 2009/07/08 |
| <input type="checkbox"/> Aerosol R_eff - Ocean (QA-w) | MOD08_D3.005 MODIS-Terra Ver. 5 2000/02/24 - 2009/07/08 |
| <input type="checkbox"/> Aerosol Single Scattering Albedo | OMAEROe.003 Aura OMI 2004/10/01 - 2009/07/08 |

Ocean

| Parameter | Data Product Info |
|--|---|
| <input type="checkbox"/> Clear-sky outgoing long-wave radiation ascending (CIOLR_A) | AIRV3STD.005 Aqua - AIRS standard 2002/08/31 - 2009/07/07 |
| <input type="checkbox"/> Clear-sky outgoing long-wave radiation flux ascending (CIOLR_D) | AIRV3STD.005 Aqua - AIRS standard 2002/08/31 - 2009/07/07 |
| <input type="checkbox"/> Cloud Top Pressure (Day and Night) | MOD08_D3.005 MODIS-Terra Ver. 5 2000/02/24 - 2009/07/08 |
| <input type="checkbox"/> Cloud Top Pressure (Day only) | MOD08_D3.005 MODIS-Terra Ver. 5 2000/02/24 - 2009/07/08 |

Temperature

| Parameter | Data Product Info |
|--|---|
| <input type="checkbox"/> Clear-sky outgoing long-wave radiation ascending (CIOLR_A) | AIRV3STD.005 Aqua - AIRS standard 2002/08/31 - 2009/07/07 |
| <input type="checkbox"/> Clear-sky outgoing long-wave radiation flux ascending (CIOLR_D) | AIRV3STD.005 Aqua - AIRS standard 2002/08/31 - 2009/07/07 |
| <input type="checkbox"/> Cloud Top Pressure (Day and Night) | MOD08_D3.005 MODIS-Terra Ver. 5 2000/02/24 - 2009/07/08 |
| <input type="checkbox"/> Cloud Top Pressure (Day only) | MOD08_D3.005 MODIS-Terra Ver. 5 2000/02/24 - 2009/07/08 |

Time Range

Begin Date Year 2009 Month Jul Day 8 (Date Begin 01 Nov 1978)
End Date Year 2009 Month Jul Day 8 (Date End 08 Jul 2009)

Visualization: Lat-Lon map, Time-average Data Download Visualization

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Web Curator: Anthony Drake: web-contact-disc@listserv.gsfc.nasa.gov
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Spatial Selection

Panning and Zoom

Click and drag

Click to select a map layer

The screenshot shows a software interface titled "Spatial". At the top left, it displays "Cursor Coordinates: 162.77344, 87.53906". The main area is a world map with a purple rectangular selection box over the Atlantic Ocean. On the left side, there is a vertical toolbar with icons for panning (a hand), zooming (a magnifying glass with a plus sign), and other navigation tools. On the right side, there is a vertical list of map layers, each with a small thumbnail image. At the bottom of the interface, there are input fields for "Area of Interest" with labels "West: -180", "North: 50", "South: -50", and "East: 180". To the right of these fields is a yellow "Update Map" button. Red arrows point from the text boxes above to these specific elements: from "Panning and Zoom" to the left toolbar, from "Click and drag" to the purple selection box on the map, from "Click to select a map layer" to the layer list on the right, from "Type latitude and longitude coordinates" to the "North" and "South" input fields, and from "click Update button" to the "Update Map" button.

Type latitude and longitude coordinates and click Update button



Parameter Selection

Select to display more product information

Parameters

Display: Data Product Info Units Parameters with > 2 Dimen:

Atmosphere

Clouds(2000/02/24 - 2009/07/08)

| Parameter | Data | Product Info | |
|--|--------------|----------------------|-------------------------|
| <input type="checkbox"/> Cirrus Reflectance (QA-w) | MOD08_D3.005 | MODIS-Terra Ver. 5 | 2000/02/24 - 2009/07/08 |
| <input type="checkbox"/> Cloud Effective Emissivity | MOD08_D3.005 | MODIS-Terra Ver. 5 | 2000/02/24 - 2009/07/08 |
| <input type="checkbox"/> Cloud Effective Emissivity Day | MOD08_D3.005 | MODIS-Terra Ver. 5 | 2000/02/24 - 2009/07/08 |
| <input type="checkbox"/> Cloud Effective Emissivity Night | MOD08_D3.005 | MODIS-Terra Ver. 5 | 2000/02/24 - 2009/07/08 |
| <input type="checkbox"/> Cloud fraction ascending (CloudFrc_A) | AIR3STD.005 | Aqua - AIRS standard | 2002/08/31 - 2009/07/07 |
| <input type="checkbox"/> Cloud Fraction (Day and Night) | MOD08_D3.005 | MODIS-Terra Ver. 5 | 2000/02/24 - 2009/07/08 |

Aerosols(1978/11/01 - 2009/07/08)

| Parameter | Data | Product Info | |
|---|--------------|--------------------|-------------------------|
| <input type="checkbox"/> Absorbing Aerosol Optical Thickness | OMAEROe.003 | Aura OMI | 2004/10/01 - 2009/07/08 |
| <input checked="" type="checkbox"/> Aerosol Optical Depth at 550 nm | MOD08_D3.005 | MODIS-Terra Ver. 5 | 2000/02/24 - 2009/07/08 |
| <input type="checkbox"/> Aerosol Optical Thickness | OMAEROe.003 | Aura OMI | 2004/10/01 - 2009/07/08 |
| <input type="checkbox"/> Aerosol R_eff - Ocean (QA-w) | MOD08_D3.005 | MODIS-Terra Ver. 5 | 2000/02/24 - 2009/07/08 |
| <input type="checkbox"/> Aerosol Single Scattering Albedo | OMAEROe.003 | Aura OMI | 2004/10/01 - 2009/07/08 |
| <input type="checkbox"/> Aerosol Small Mode Fraction Ocean | MOD08_D3.005 | MODIS-Terra Ver. 5 | 2000/02/24 - 2009/07/08 |

Temperature(1978/11/01 - 2009/07/08)

| Parameter | Data | Product Info | |
|--|--------------|----------------------|-------------------------|
| <input type="checkbox"/> Clear-sky outgoing long-wave radiation flux_ascending (ClrOLR_A) | AIR3STD.005 | Aqua - AIRS standard | 2002/08/31 - 2009/07/07 |
| <input type="checkbox"/> Clear-sky outgoing long-wave radiation flux_descending (ClrOLR_D) | AIR3STD.005 | Aqua - AIRS standard | 2002/08/31 - 2009/07/07 |
| <input type="checkbox"/> Cloud Top Pressure (Day and Night) | MOD08_D3.005 | MODIS-Terra Ver. 5 | 2000/02/24 - 2009/07/08 |
| <input type="checkbox"/> Cloud Top Pressure (Day only) | MOD08_D3.005 | MODIS-Terra Ver. 5 | 2000/02/24 - 2009/07/08 |

Check to select a group of parameters

Check to select a parameter

Click to show parameter description

Click to hide the parameter group



Vertical Selection

Vertical Profile

Select a vertical profile range. The range selection is disabled unless a qualifying parameter is selected. In order to enable this option (and populate the list with values), select a 3D parameter. 3D parameters have at least three dimensions and are labeled with a '(3D)' in the 'Parameters' section.

NOTE: Selected 3D parameters **must** have the same **vertical** (i.e., 3rd dimension) units in order to enable the vertical level menu.

Upper Level hPa

Lower Level hPa

Temporal

Begin Date Year Month (Date Begin: Aug 2002)

End Date Year Month (Date End: Dec 2008)

Select Visualization

[Visualization Help](#)

Generate Visualiz...

Resp...
Web...
NASA Official: Steven.J.Kempler@nasa.gov
[Stephen W Berrick <web-contact-disc@listserv.gsfc.nasa.gov>](mailto:Stephen.W.Berrick@listserv.gsfc.nasa.gov) [+ Contact Us](#)

Vertical Level List (from top to bottom):

1000
925
850
700
600
500
400
300
250
200
150
100
70
50
30
20
15

Click to select a vertical level



Temporal and Visualization Selection

Temporal

| | | | | | | | |
|------------|------|------|-------|-----|-----|---|---------------------------|
| Begin Date | Year | 2009 | Month | Jul | Day | 8 | (Date Begin: 01 Nov 1978) |
| End Date | Year | 2009 | Month | Jul | Day | 8 | (Date End: 08 Jul 2009) |

Dropdown menus for Date and Time selections.

Animation
Cross Map, Latitude-Pressure
Cross Map, Longitude-Pressure
Cross Map, Time-Pressure
Latitude-Time Hovmoller Diagram
Longitude-Time Hovmoller Diagram
Lat-Lon map, Time-averaged
Correlation map
Lat-Lon map of time-averaged differences
Scatter plot
Scatter plot, Time-averaged
Time series
Time series, Area-averaged differences
Vertical Profile

Month Feb (Date Beginning: 2008)
Month Feb (Date End: Dec 2008)

Lat-Lon map, Time-averaged Visualization Help

Generate Visualization Reset

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Web Curator: Stephen.W.Berrick@nasa.gov

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Click to select a Visualization (also referred to as Analytical Function). "Lat-Lon Map, Time-averaged" is the common default option.

Click to display the description of the selected Visualization (Analytical Function).



Results Page – Visualization Result (example total column Cloud liquid water and total column water vapor)

Results Navigation Tabs

Year of Tropical Convection
Alpha prototype

Home

Results #1

Remove All

Visualization Results

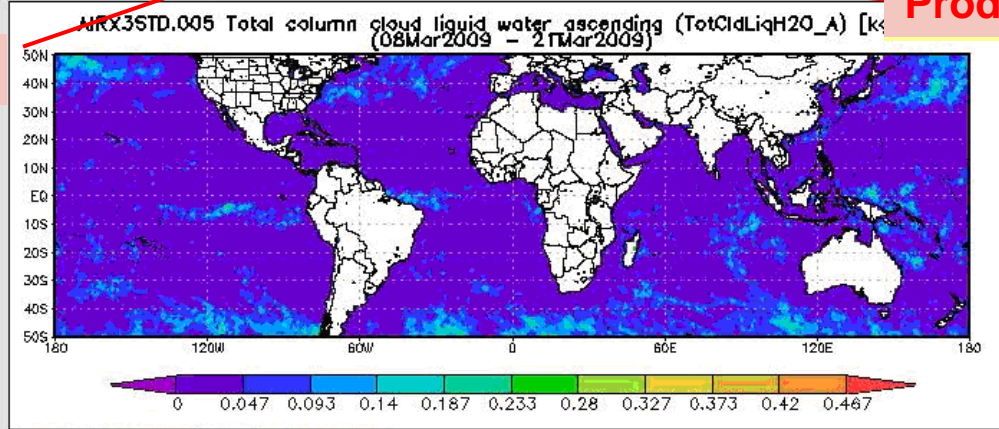
Download Data

Product Lineage

Acknowledgment Policy

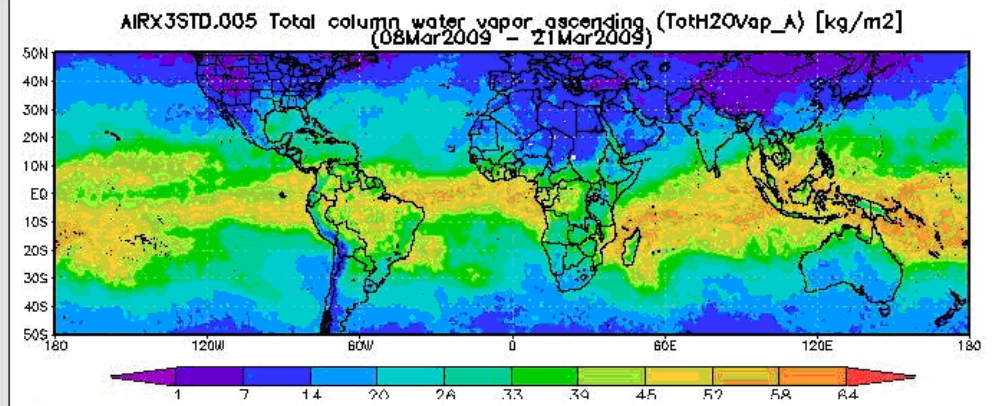
Product Lineage

Download Data



Edit Plot Preferences

Refine Constraints*



Edit Plot Preferences

Refine Constraints*



Results Page – Download Data

The screenshot shows a web interface for downloading data. It features a navigation bar with tabs for 'Visualization Results', 'Download Data', 'Product Lineage', and 'Acknowledgment Policy'. Below the navigation bar, there is a 'Download in Batch' button and a 'Download Files' section with radio buttons for 'HDF', 'NCD', and 'ASC'. The main content area is divided into two sections: 'Initial Data Retrieval' and 'Two Dimensional Map Plot'. Each section contains a table with columns for 'Data Product', 'Start Time', and 'File Size (b)'. The 'Initial Data Retrieval' table has three columns, while the 'Two Dimensional Map Plot' table has four columns, including 'Input Files' and 'Output Files'. Red callout boxes with arrows point to various elements: 'Download multiple files' points to the 'Download in Batch' button; 'Download Giovanni input data' points to the 'Initial Data Retrieval' section; 'Group check boxes' points to the 'Download Files' section; 'Image icons for single file download' points to the file format icons (HDF, NCD, ASC) in the 'Initial Data Retrieval' table; 'Results data' points to the 'Two Dimensional Map Plot' section; and 'KMZ files for Google Earth' points to the 'KMZ' icon in the 'Output Files' section.

Download multiple files

Download Giovanni input data

Group check boxes

Image icons for single file download

Results data

KMZ files for Google Earth

| Data Product | Start Time | File Size (b) | HDF | NCD | ASC |
|---|----------------------|---------------|--------------------------|-------------------------------------|--------------------------|
| MOD08_M3.005 (Optical_Depth_Land_And_Ocean_Mean_Mean) | 2008-06-01T00:00:00Z | 149396 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| MOD08_M3.005 (Optical_Depth_Land_And_Ocean_Mean_Mean) | 2008-07-01T00:00:00Z | 157053 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| MOD08_M3.005 (Optical_Depth_Land_And_Ocean_Mean_Mean) | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| MYD08_M3.005 (Optical_Depth_Land_And_Ocean_Mean_Mean) | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| MYD08_M3.005 (Optical_Depth_Land_And_Ocean_Mean_Mean) | 2008-07-01T00:00:00Z | 156693 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| Input Files | Start Time | File Size (b) | HDF | NCD | ASC |
|---|----------------------|---------------|--------------------------|--------------------------|--------------------------|
| MOD08_M3.005 (Optical_Depth_Land_And_Ocean_Mean_Mean) | 2008-06-01T00:00:00Z | 264016 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| MYD08_M3.005 (Optical_Depth_Land_And_Ocean_Mean_Mean) | 2008-06-01T00:00:00Z | 264016 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| Output Files | File Size (b) | KMZ |
|---|---------------|--------------------------|
| Optical_Depth_Land_And_Ocean_Mean_Mean.MOD08_M3.005.AreaMap.2008-06.gif | 73733 | <input type="checkbox"/> |
| Optical_Depth_Land_And_Ocean_Mean_Mean.MYD08_M3.005.AreaMap.2008-06.gif | 72660 | <input type="checkbox"/> |

Output data format: hdf, netCDF, ascii

Output image format: gif, png, KMZ



Results Page – Product Lineage

Home Result #1 Results #2

Visualization Results Download Data **Product Lineage** Acknowledgment Policy

Browse the processing details of the *Lat-Lon map, Time-averaged* visualization service.

Data Fetching
Fetched data file(s) using and temporal constraints of 2008-11-01T00:00:00Z to 2008-11-30T00:00:00Z , then extracted parameter(s): Aerosol Opti

Parameter Masking
No masking was performed, as specified by the inputs.

Grid Subsetter
Extracted spatial subset of each parameter in previous step using spatial constraint of South: -90 North: 90 East: 180 West: -180

Time Averaging
Averaged all parameters at each grid point over a time period of 2008-11-01T00:00:00Z to 2008-11-30T00:00:00Z

Dimension Averaging
Averaged parameter(s) over the selected spstial area of South: -90 North: 90 East: 180 West: -180 for collapse with area averaging method: Area V

Two Dimensional Map Plot
Generated image(s) with options:
Map Projection = latlon
Smooth Type = 3

Lineage page shows product information and describes data processing steps.

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Web Curator: Stephen W Berrick <web-contact-disc@listserv.gsfc.nasa.gov>

+ [Privacy Policy and Important Notices](#)



YOTC-GS Level 2 Beta Prototype

YOTC-GS L2 provides an easy access to Level-2 satellite orbital data, also known as swath data. Currently there are ~14 parameters for profile and 60 parameters for swath.

Select a service

Select a parameter from available products

Select search type, single point or entire grip for profiles; or Pressure levels for 3D parameters

Select resolution for lat/lon maps

Select a date

Select a single point or spatial region. Guide maps available for location of atmospheric features

NASA National Aeronautics and Space Administration
Goddard Earth Sciences Data and Information Services Center

Search DISC
Advanced Search GO

ATMOS COMPOSITION HYDROLOGY A-TRAIN AIRS MODELING MAIRS MEASURES PRECIPITATION

YOTC
Year Of Tropical Convection

You are here: [GES DISC Home](#) > [YOTC](#) > YOTC - Giovanni System (Beta Version 0.5)

YOTC - Giovanni System (Beta Version 0.5)

The YOTC-Giovanni System provides visualization and data for parameters relevant to the research and investigation of tropical convection. This is a tool that is in progress and will be advancing over time. For more information on how to use this tool please view the [YOTC-GS Guide](#). All known problems and features to come are available in the [Release Notes](#).

- To view Level 3 parameters: YOTC - Giovanni System Level 3 interface. This interface includes AIRS, MODIS, AMSR-E, TRMM and OMI Level 3 products.
- Access to MLS parameters: [MLS interface](#)

Criteria Results

To see plots of YOTC data, choose from the criteria below and click [Get Plot\(s\)](#)

Select Service
 Profile Lat-Lon Map

Select Parameter
To select a parameter, make a single selection from each list below (beginning with the left-most list)

| Instrument | Dataset | Parameter |
|------------------|--------------|---------------------|
| AIRS-Aqua | MYD05.051 | Cloud Mask |
| AMSR-E-Aqua | MYD06.051 | Height Tropopause |
| Global-Merged IR | MYD07.051 | Surface Pressure |
| MODIS-Aqua | MYDATML2.051 | Surface Temperature |
| MODIS-Terra | | Water Vapor |

Ascending Descending

Select Search Type
No searchType choices available

Select Map Resolution
10 km

Select Date
5/22/2008

Select Location
West(Lon): -70.0 North(Lat): 10.0 Max Map Pixels: 1000000
East(Lon): -10.0 South(Lat): -10.0 Selected Pixels: 120000

Guide Map: Cloud Top Pressure: Mean
Cursor Coordinates: 116.01563, 80.85938

To see plots of YOTC data, choose from the criteria above and click [Get Plot\(s\)](#)

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Website Curator: M Hegde

Contact Us
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Last updated: Dec 03, 2010 01:01 PM ET



YOTC-GS Level 2 Beta Prototype Results

Download the subsetted data file used to generate the output.

View the lineage to know the subsetter call

Reload and revise input criteria

View and download the output image

Current single parameter output generation

YOTC - Giovanni System (Beta Version 0.5)
by rchowdhury — last modified Dec 03, 2010 01:01 PM

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- To view Level 3 parameters: [YOTC - Giovanni System Level 3 interface](#). This interface includes AIRS, MODIS, AMSR-E, TRMM and OMI Level 3 products.
- Access to MLS parameters: [MLS interface](#)

Criteria Results

Current Result: Result 1 - YOTC MAP Load

View Lineage View Lineage Download Data

Result 1 - YOTC_MAP: View Criteria Problem? Send a report...

Ocean surface wind U component (m/s) m/s

30N
20N
10N

80W 60W 40W

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

20
Reference Vector

Publish History

NASA Official: Steve Kempler
Website Curator: M Hegde

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Last updated: Dec 03, 2010 01:01 PM ET



YOTC-GS Prototype – Future Goals

This project has currently completed funding and is working on limited support.

We are currently working on a NASA ACCESS proposal to obtain funding to enhance the application, in the following ways:

1. Add YOTC model data such as MERRA, ECMWF, NCEP, etc
2. Add additional service methods such as parameter based search with multiple output from all relevant satellites to that parameter.



YOTC-GS Prototype – What’s to Come

The following are currently in prototype testing or application development:

1. Parameters from the following products will be added to the interface:

| | |
|-----------------|--|
| Calipso | Profiles of cloud presence, emissivity, and particle size, and associated radiative and geophysical properties (height, optical depth, extinction) |
| CERES | Cloud properties, TOA and surface fluxes. |
| CloudSat | Profiles of liquid and ice water, cloud classification, cloud optical depth, surface precipitation flags/estimates, and profiles of radiative fluxes and heating rates |
| ISCCP | Cloud parameters |
| CMORPH | High resolution precipitation |

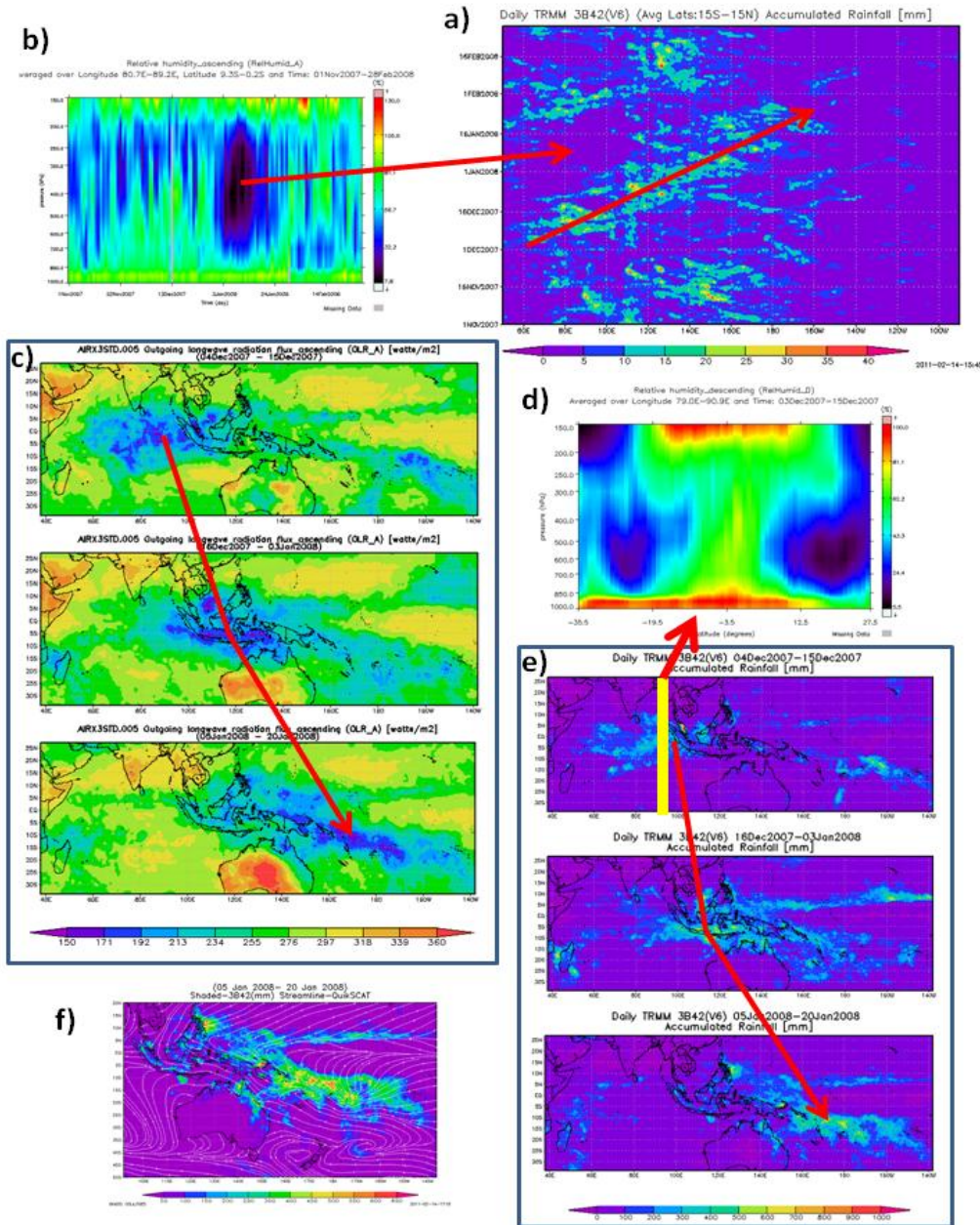
2. A Single seamless interface integrating the services for all the parameters.



Example 1

Example 1 of a MJO event analysis using YOTC-GS and other Giovanni tools at the DISC.

a) Hovemoller diagram shows an eastward propagation of precipitation; b) Relative humidity time-pressure cross section map showing a dry period after the rain event; c) Averaging OLR maps shows the eastward propagation of convective clouds; d) Relative humidity latitude-pressure cross section map averaged during the rain event, shows high concentration of moisture near the surface in the south of the raining area and dry areas centered at 600 mb in both north and south of the raining area; e) Accumulated rainfall maps shows the eastward propagation of Precipitation and f) Overlay of the TRMM daily rainfall and the QuikSCAT streamlines shows cyclonic flows near the southern edge of the rainband.

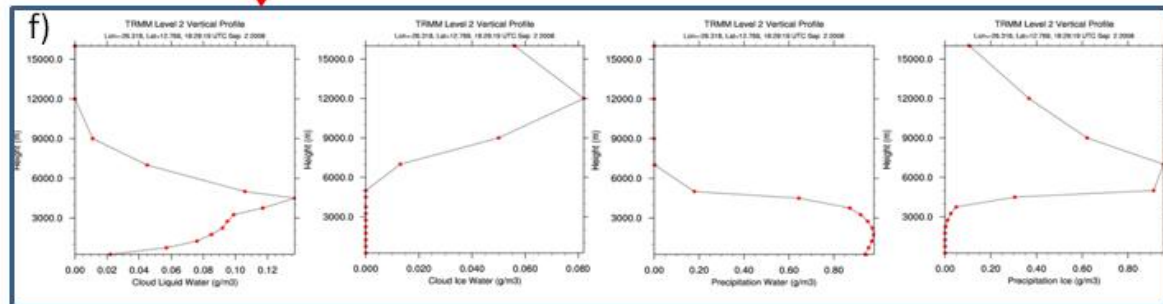
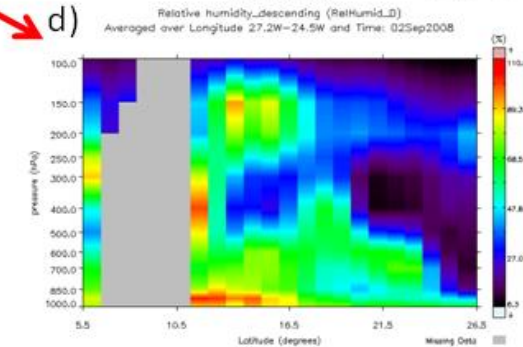
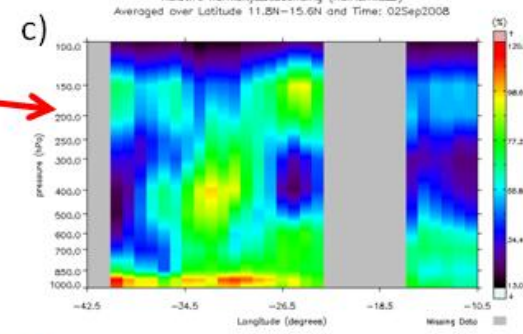
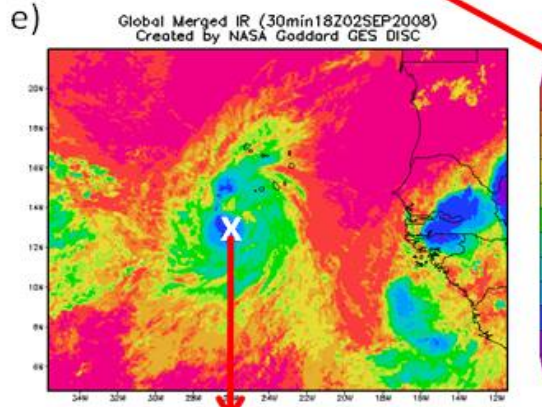
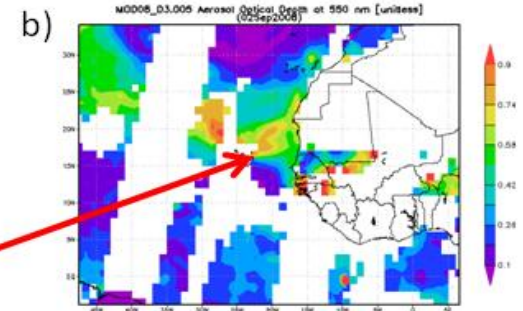
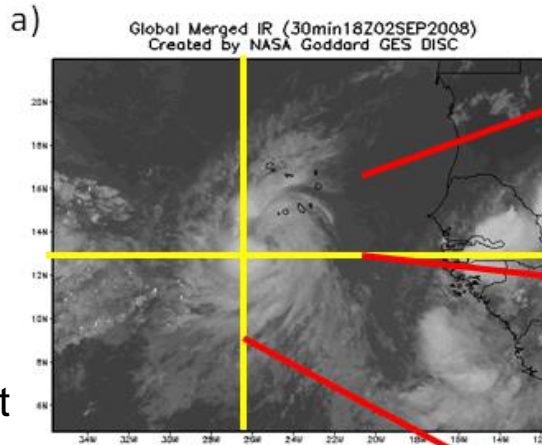




Example 2

Example 2 is of an African Easterly Waves (AEW) event and tropical cyclone analysis using the YOTC-GS and other Giovanni tools.

a) Black/white satellite imagery from the Hurricane Data Analysis Tool (HDAT) showing Tropical Storm Josephine; b) MODIS aerosol product showing a SAL is located in the north of Josephine; c) and d) Relative humidity longitude- and latitude-pressure cross section maps showing the dry SAL, respectively; e) False color satellite imagery of a) and X denotes the location of the vertical hydrometeor profiles (f) from the TRMM microwave imager.





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Questions???

GES DISC

<http://disc.gsfc.nasa.gov/>

YOTC-GS Portal

<http://disc.sci.gsfc.nasa.gov/yotc>

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