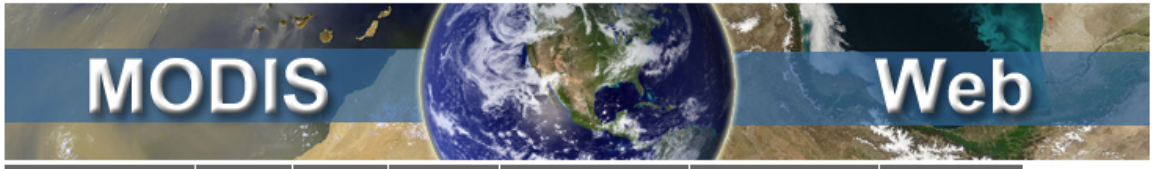
MODIS



The MODIS instrument is operating on both the Terra and Aqua spacecraft. It has a viewing swath width of 2,330 km and views the entire surface of the Earth every one to two days. Its detectors measure 36 spectral bands between 0.405 and 14.385 µm, and it acquires data at three spatial resolutions -- 250m, 500m, and 1,000m.

Along with all the data from other instruments on board the Terra spacecraft and Aqua Spacecraft, MODIS data are transferred to ground stations in White Sands, New Mexico, via the Tracking and Data Relay Satellite System (TDRSS). The data are then sent to the EOS Data and Operations System (EDOS) at the Goddard Space Flight Center. The Level 1A, Level 1B, geolocation and cloud mask products and the Higher-level MODIS land and atmosphere products are produced by the MODIS Adaptive Processing System (MODAPS), and then are parceled out among three DAACs for distribution. Ocean color products are produced by the Ocean Color Data Processing System (OCDPS) and distributed to the science and applications community.

The many data products derived from MODIS observations describe features of the land, oceans and the atmosphere that can be used for studies of processes and trends on local to global scales. As just noted, MODIS products are available from several sources. MODIS Level 1 and atmosphere products are available through the the LAADS web. Land Products are available through the Land Processes DAAC at the U. S. Geological Survey EROS Data Center (EDC). Cryosphere data products (snow and sea ice cover) are available from the National Snow and Ice Data Center (NSIDC) in Boulder, Colorado. Ocean color products and sea surface temperature products along with information about these products are obtainable at the OCDPS at GSFC. Users with an appropriate x-band receiving system may capture regional data directly from the spacecraft using the MODIS Direct Broadcast signal.

More information about obtaining MODIS data can be found from the information sites listed below. The URL's for these sources of data are as follows:

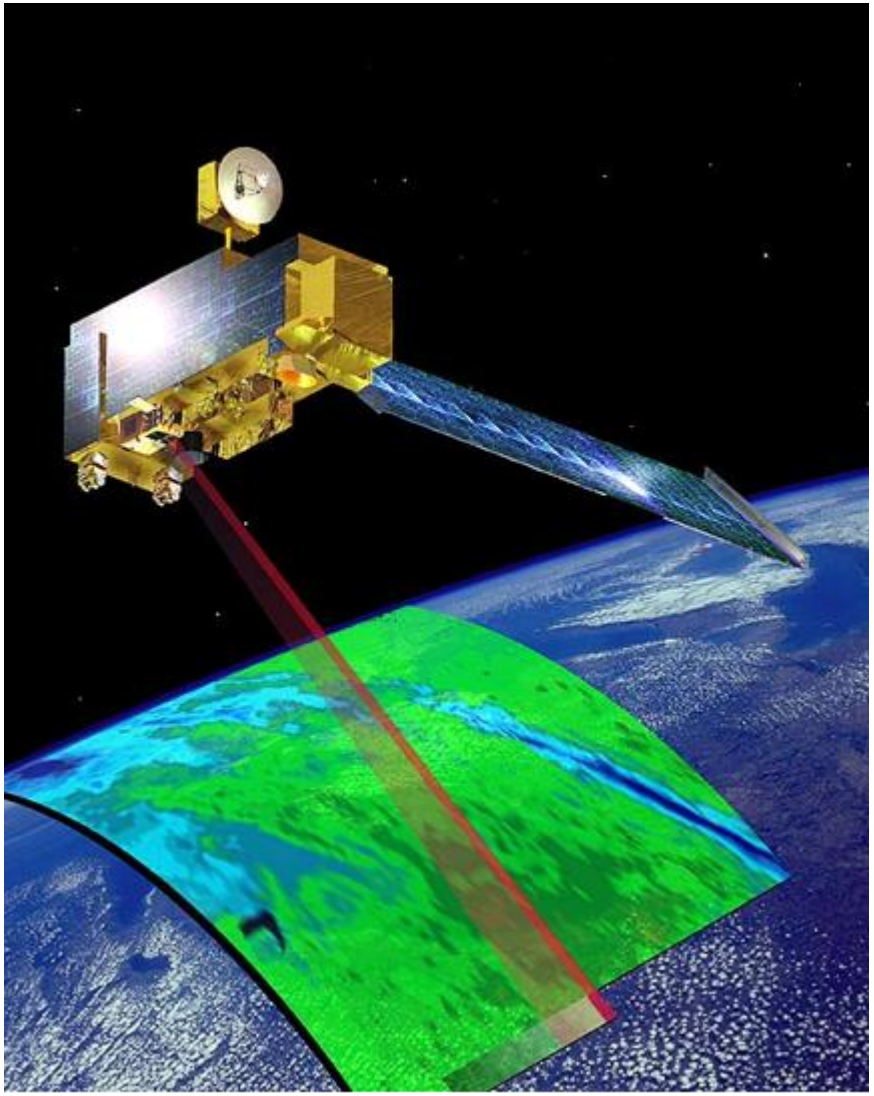
MODIS Level 1 data, geolocation, cloud mask, and Atmosphere products:
http://ladsweb.nascom.nasa.gov/

MODIS land products:
https://lpdaac.usgs.gov/

MODIS cryosphere products:
http://nsidc.org/daac/modis/index.html

MODIS ocean color and sea surface temperature products:
http://oceancolor.gsfc.nasa.gov/

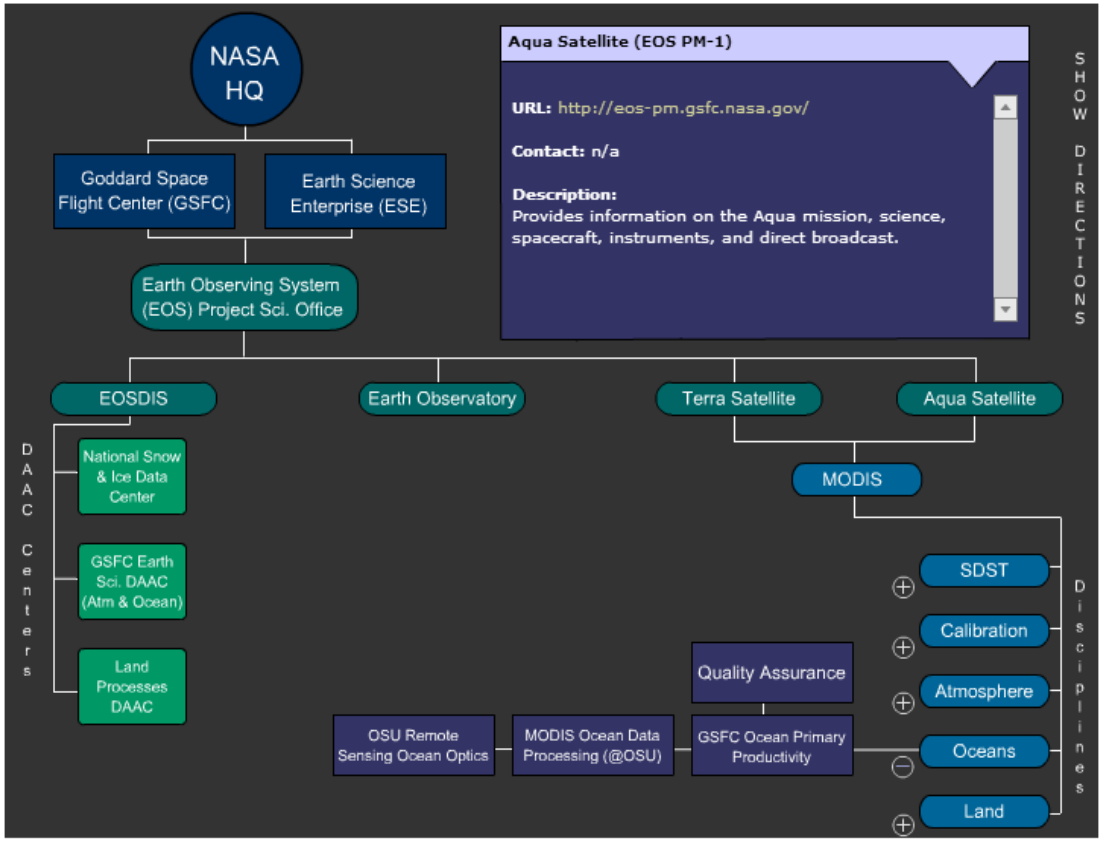
Curator: Brandon Maccherone
NASA Official: Shannell Frazier



MODIS Web

ORGANIGRAM

You need Flash Player 6 or higher in order to view the flash-based MODIS Organigram. You can download the Flash Player at www.macromedia.com. As an alternative, you can also view the non-flash MODIS organigram.



Curator: Brandon Maccherone
NASA Official: Shannell Frazier

MODIS Web

ORGANIGRAM

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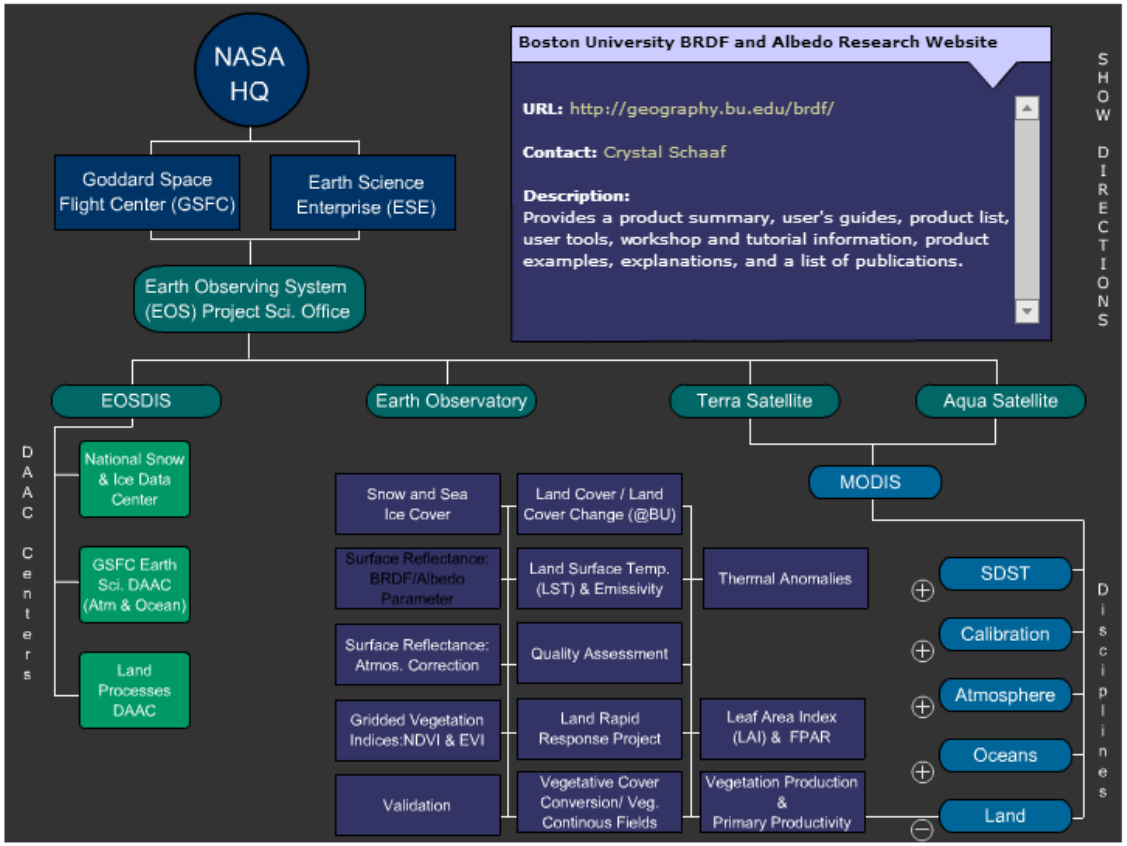
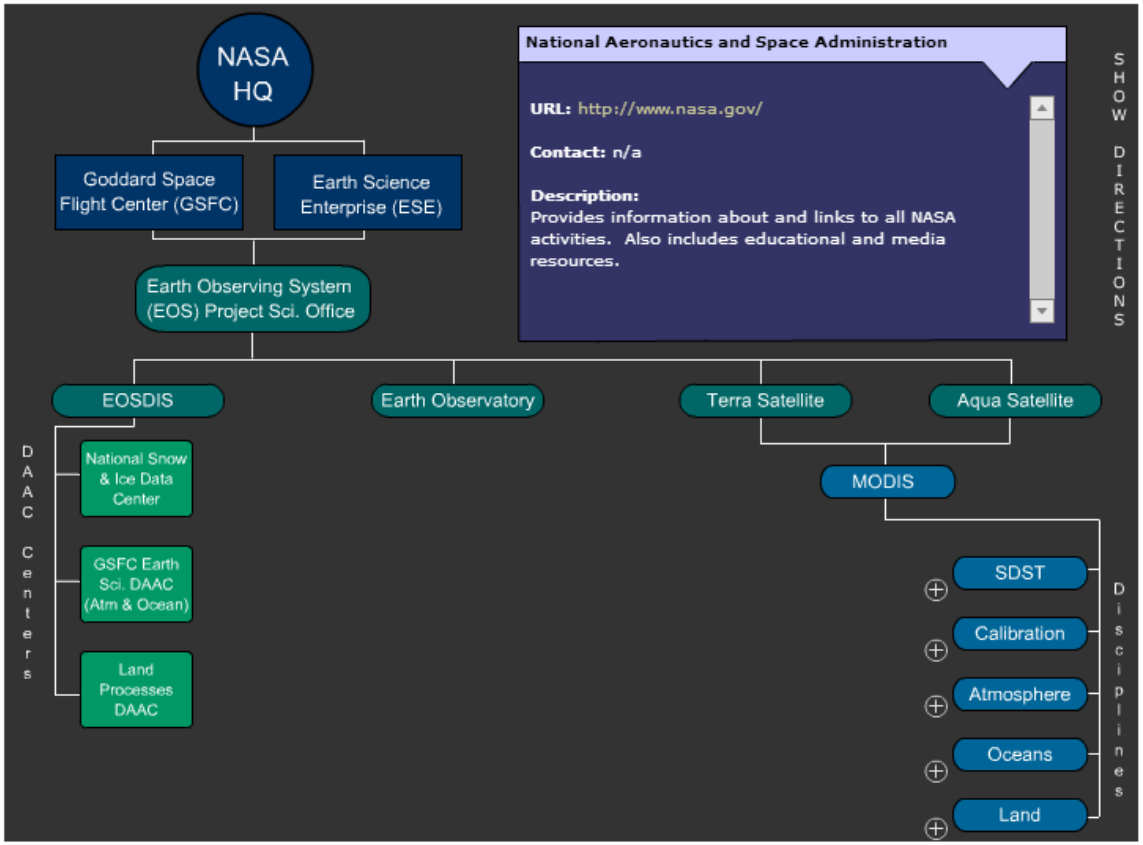


MODIS Web

ORGANIGRAM

You need Flash Player 6 or higher in order to view the flash-based MODIS Organigram. You can download the Flash Player at www.macromedia.com. As an alternative, you can also view the non-flash MODIS organigram.



Curator: Brandon Maccherone
NASA Official: Shannell Frazier

About Terra

Approximately the size of a small school bus, the Terra satellite carries five instruments that take coincident measurements of the Earth system:

- Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER)
- Clouds and Earth's Radiant Energy System (CERES)
- Measurements of Pollution in the Troposphere (MOPITT)
- Moderate Resolution Imaging Spectroradiometer (MODIS).
- Multi-angle Imaging Spectroradiometer (MISR)

Terra is in a circular sun-synchronous polar orbit that takes it from north to south (on the daylight side of the Earth) every 99 minutes.

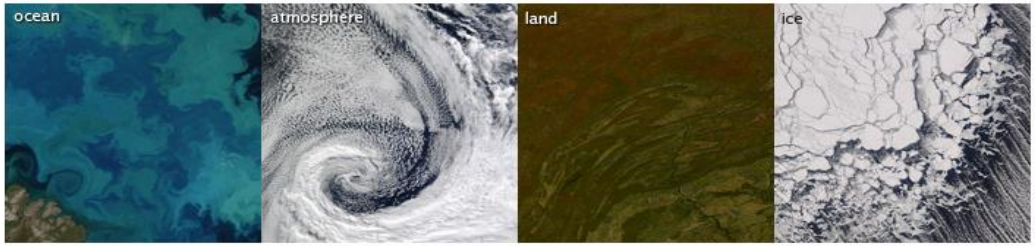
Spacecraft Quick Facts:

Launch Date: December 18,1999
Size: the spacecraft bus is 6.8 m long and 3.5 m across.
Weight: 5,190 kg (11,442 lbs.) at launch

Orbit Quick Facts:

Altitude: 705 kilometers (438 miles) above Earth's surface
Inclination: 98.5 degrees
Period: 99 minutes (16 orbits per day)
Equatorial crossing: 10:30 a.m., descending node

Moderate Resolution Imaging Spectroradiometer (MODIS)



With its sweeping 2,330-km-wide viewing swath, MODIS sees every point on our world every 1-2 days in 36 discrete spectral bands. Consequently, MODIS tracks a wider array of the earth's vital signs than any other Terra sensor. For instance, the sensor measures the percent of the planet's surface that is covered by clouds almost every day. This wide spatial coverage enables MODIS, together with MISR and CERES, to help scientists determine the impact of clouds and aerosols on the Earth's energy budget.

In addition to recording the frequency and distribution of cloud cover, MODIS measures the properties of clouds such as the distribution and size of cloud droplets in both liquid water and ice clouds. MODIS also measures the properties of aerosols—tiny liquid or solid particles in the atmosphere. Aerosols enter the atmosphere from manmade sources like pollution and biomass burning and natural sources like dust storms, volcanic eruptions, and forest fires. MODIS helps scientists determine the amount of water vapor in a column of the atmosphere and the vertical distribution of temperature and water vapor—measurements crucial to understanding Earth's climate system.

MODIS is ideal for monitoring large-scale changes in the biosphere that are yielding new insights into the workings of the global carbon cycle. MODIS measures the photosynthetic activity of land and marine plants (phytoplankton) to yield better estimates of how much of the greenhouse gas is being absorbed and used in plant productivity. Coupled with the sensor's surface temperature measurements, MODIS' measurements of the biosphere are helping scientists track the sources and sinks of carbon dioxide in response to climate changes.

Almost every day over the entire globe, the sensor monitors changes on the land surface, thereby building upon and extending the heritage begun by Landsat. MODIS maps the areal extent of snow and ice brought by winter storms and frigid temperatures. The sensor observes the "green wave" that sweeps across continents as winter gives way to spring and vegetation blooms in

Aqua, Latin for water, is a NASA Earth Science satellite mission named for the large amount of information that the mission is collecting about the Earth's water cycle, including evaporation from the oceans, water vapor in the atmosphere, clouds, precipitation, soil moisture, sea ice, land ice, and snow cover on the land and ice. Additional variables also being measured by Aqua include radiative energy fluxes, aerosols, vegetation cover on the land, phytoplankton and dissolved organic matter in the oceans, and air, land, and water temperatures.

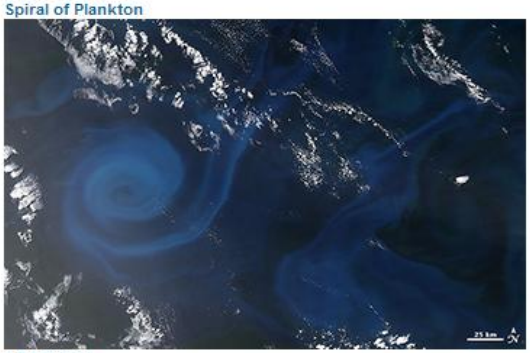
The Aqua mission is a part of the NASA-centered international Earth Observing System (EOS). Aqua was formerly named EOS PM, signifying its afternoon equatorial crossing time. A timeline of Aqua on-orbit progress through the initial 120 day check-out period can be found here.

Aqua was launched on May 4, 2002, and has six Earth-observing instruments on board, collecting a variety of global data sets. Aqua was the first member launched of a group of satellites termed the Afternoon Constellation, or sometimes the A-Train. The second member to be launched was Aura, in July 2004, the third member was PARASOL, in December 2004, and the fourth and fifth members are CloudSat and CALIPSO, in May 2006. GCOM-W1 and OCO-2 are scheduled to join the configuration in 2012 and 2013, respectively. Once completed, the A-Train will be led by OCO-2, followed by GCOM-W1, then Aqua, CloudSat, CALIPSO, PARASOL, and, in the rear, Aura.

AQUA IMAGE HIGHLIGHT

March 5, 2014

Spiral of Plankton



+ Read More

+ Image Highlights Archive

The Aqua mission is participating in the 2014 REEL Science Communication Contest. Click the image above for more information.

ANNOUNCEMENTS

+ Aqua Status

Operating instruments: AIRS, AMSU, CERES, MODIS, and AMSR-E, the latter at a reduced rotation rate appropriate for cross-calibration purposes rather than for science.

Current life expectancy: Aqua has far exceeded its design life of 6 years and has a strong chance of operating successfully into the early 2020s.

Current systems issues: None.

Data access: The processed Aqua data are available through several NASA data centers identified on the images and data page.

The Aqua data are also transmitted via direct broadcast, from which they can be processed for real-time applications using technologies and algorithms available from the NASA Direct Readout Laboratory (DRL).

Greater detail on the status of the Aqua spacecraft, instruments, and other aspects of the mission are presented in a PDF Aqua Status file.

+ Aqua video podcast series

A series of six video podcasts (i.e., vodcasts) are being produced by NASA Goddard TV in conjunction with Aqua mission personnel.

1. Vodcast 1, Introducing the Aqua Mission, viewable at the NASA Goddard YouTube channel and NASA Scientific Visualization Studio

2. Vodcast 2, Aqua AIRS: Visions of Weather and Climate, viewable at the NASA Goddard YouTube channel and NASA Scientific Visualization Studio

3. Vodcast 3, Aqua AMSR-E: Scanning Earth's Water Cycle, viewable at the NASA Goddard YouTube channel and NASA Scientific Visualization Studio

4. Vodcast 4, Aqua MODIS: Science and Beauty, viewable at the NASA Goddard YouTube channel and NASA Scientific Visualization Studio

SPECIFICATIONS

Orbit:	705 km, 10:30 a.m. descending node (Terra) or 1:30 p.m. ascending node (Aqua), sun-synchronous, near-polar, circular
Scan Rate:	20.3 rpm, cross track
Swath Dimensions:	2330 km (cross track) by 10 km (along track at nadir)
Telescope:	17.78 cm diam. off-axis, afocal (collimated), with intermediate field stop
Size:	1.0 x 1.6 x 1.0 m
Weight:	228.7 kg
Power:	162.5 W (single orbit average)
Data Rate:	10.6 Mbps (peak daytime); 6.1 Mbps (orbital average)
Quantization:	12 bits
Spatial Resolution:	250 m (bands 1-2) 500 m (bands 3-7) 1000 m (bands 8-36)
Design Life:	6 years

Primary Use	Band	Bandwidth[1]	Spectral Radiance[2]	Required SNR[3]
Land/Cloud/Aerosols Boundaries	1	620 - 670	21.8	128
	2	841 - 876	24.7	201
Land/Cloud/Aerosols Properties	3	459 - 479	35.3	243
	4	545 - 565	29.0	228
	5	1230 - 1250	5.4	74
	6	1628 - 1652	7.3	275
	7	2105 - 2155	1.0	110
Ocean Color/ Phytoplankton/ Biogeochemistry	8	405 - 420	44.9	880
	9	438 - 448	41.9	838
	10	483 - 493	32.1	802
	11	526 - 536	27.9	754
	12	546 - 556	21.0	750
	13	662 - 672	9.5	910
	14	673 - 683	8.7	1087
	15	743 - 753	10.2	586
	16	862 - 877	6.2	516
Atmospheric Water Vapor	17	890 - 920	10.0	167
	18	931 - 941	3.6	57
	19	915 - 965	15.0	250

Primary Use	Band	Bandwidth[1]	Spectral Radiance[2]	Required NE[delta]T(K)[4]
Surface/Cloud Temperature	20	3.660 - 3.840	0.45(300K)	0.05
	21	3.929 - 3.989	2.38(335K)	2.00
	22	3.929 - 3.989	0.67(300K)	0.07
	23	4.020 - 4.080	0.79(300K)	0.07
Atmospheric Temperature	24	4.433 - 4.498	0.17(250K)	0.25
	25	4.482 - 4.549	0.59(275K)	0.25
Cirrus Clouds Water Vapor	26	1.360 - 1.390	6.00	150(SNR)
	27	6.535 - 6.895	1.16(240K)	0.25
	28	7.175 - 7.475	2.18(250K)	0.25
Cloud Properties	29	8.400 - 8.700	9.58(300K)	0.05
Ozone	30	9.580 - 9.880	3.69(250K)	0.25
Surface/Cloud Temperature	31	10.780 - 11.280	9.55(300K)	0.05
	32	11.770 - 12.270	8.94(300K)	0.05
Cloud Top Altitude	33	13.185 - 13.485	4.52(260K)	0.25
	34	13.485 - 13.785	3.76(250K)	0.25
	35	13.785 - 14.085	3.11(240K)	0.25
	36	14.085 - 14.385	2.08(220K)	0.35

[1] Bands 1 to 19 are in nm; Bands 20 to 36 are in μm
[2] Spectral Radiance values are (W/m^2 -μm-sr)
[3] SNR = Signal-to-noise ratio
[4] NE(delta)T = Noise-equivalent temperature difference

Note: Performance goal is 30-40% better than required

NTSG Projects

MODIS

The NASA Earth Observing System is a $7.3 billion program planning satellite-based earth monitoring for 15 years, and is the heart of global change science for the United States.

MODIS GPP/NPP Project (MOD17)

The goal of the MOD17 MODIS project is to provide continuous estimates of Gross/Net Primary Production (GPP/NPP) across Earth's entire vegetated land surface. MOD17 GPP/NPP outputs are useful for natural resource and land management, global carbon cycle analysis, ecosystem status assessment, and environmental change monitoring. MOD17 is part of the NASA Earth Observation System (EOS) program and is the first satellite-driven dataset to monitor vegetation productivity on a global scale.

MODIS Global Evapotranspiration Project (MOD16)

This project is part of NASA/EOS project to estimate global terrestrial evapotranspiration from earth land surface by using satellite remote sensing data. MOD16 global evapotranspiration product can be used to calculate regional water and energy balance, soil water status; hence, it provides key information for water resource management. With long-term ET data, the effects of changes in climate, land use, and ecosystems disturbances (e.g. wildfires and insect outbreaks) on regional water resources and land surface energy change can be quantified.

MODIS Global Disturbance Index (MGDI)

Our goals are to operationally detect all major terrestrial ecosystem disturbances by using satellite remote sensing. These disturbances can be induced by different causes, such as wildfires, hurricanes, insect outbreaks, heatwaves, wind, ice storms, and deforestation. Quantification of the time, extent and severity of disturbances and the following recovery is critical to expedite our understanding of how climate change and human activity affect the dynamics of ecosystems.

MODIS Global Terrestrial Drought Severity Index

As part of the MODIS global terrestrial evapotranspiration project, the goal of the Drought Severity Index (DSI) is to use satellite remote sensing data to monitor and detect drought on Earth's land surface. The DSI enhances near-real-time drought monitoring capabilities that can assist decision makers in regional drought assessment and mitigation efforts, but without many of the constraints of more traditional drought monitoring methods.

‹ Hydrology

Spatial Climatology ›

NTSG
CHCB room 428 • The University of Montana • 32 Campus Drive • Missoula, MT 59812
Phone : (406) 243-6311 • Fax : (406) 243-4510

MODIS Aqua	Data Description	Download Available
MYD09A1	MODIS/Aqua Surface Reflectance 8-Day L3 Global 500m SIN Grid	No
MYD09GA	MODIS/Aqua Surface Reflectance Daily L2G Global 1km and 500m SIN Grid	No
MYD09GQ	MODIS/Aqua Surface Reflectance Daily L2G Global 250m SIN Grid	No
MYD09Q1	MODIS/Aqua Surface Reflectance 8-Day L3 Global 250m SIN Grid	No
MYD11A1 Day	MODIS/Aqua Surface Temperature/Emissivity Daily L3 Global 1km SIN Grid Day	No
MYD11A1 Night	MODIS/Aqua Surface Temperature/Emissivity Daily L3 Global 1km SIN Grid Night	No
MYD11A2 Day	MODIS/Aqua Surface Temperature/Emissivity 8-day L3 Global 1km SIN Grid Day	No
MYD11A2 Night	MODIS/Aqua Surface Temperature/Emissivity 8-day L3 Global 1km SIN Grid Night	No
MYD11B1 Day	MODIS/Aqua Surface Temperature/Emissivity Daily L3 Global 5km SIN Grid Day	No
MYD11B1 Night	MODIS/Aqua Surface Temperature/Emissivity Daily L3 Global 5km SIN Grid Night	No
MYD13A1 EVI	MODIS/Aqua Vegetation Indices 16-Day L3 Global 500m SIN Grid EVI	No
MYD13A1 NDVI	MODIS/Aqua Vegetation Indices 16-Day L3 Global 500m SIN Grid NDVI	No
MYD13A2 EVI	MODIS/Aqua Vegetation Indices 16-Day L3 Global 1km SIN Grid EVI	No
MYD13A2 NDVI	MODIS/Aqua Vegetation Indices 16-Day L3 Global 1km SIN Grid NDVI	No
MYD13A3 EVI	MODIS/Aqua Vegetation Indices Monthly L3 Global 1km SIN Grid EVI	No
MYD13A3 NDVI	MODIS/Aqua Vegetation Indices Monthly L3 Global 1km SIN Grid NDVI	No
MYD13Q1 EVI	MODIS/Aqua Vegetation Indices 16-Day L3 Global 250m SIN Grid EVI	No
MYD13Q1 NDVI	MODIS/Aqua Vegetation Indices 16-Day L3 Global 250m SIN Grid NDVI	No
MYD14A1	MODIS/Aqua Thermal Anomalies/Fire Daily L3 Global 1km SIN Grid	No
MYD14A2	MODIS/Aqua Thermal Anomalies/Fire 8-Day L3 Global 1km SIN Grid	No
MYD15A2 FPAR	MODIS/Aqua Leaf Area Index/FPAR 8-Day L4 Global 1km SIN Grid FPAR	No
MYD15A2 LAI	MODIS/Aqua Leaf Area Index/LAI 8-Day L4 Global 1km SIN Grid LAI	No
MYD17A2 GPP	MODIS/Aqua Gross Primary Productivity 8-day L4 Global 1km SIN Grid GPP	No
MYD17A2 Net Photosynthesis	MODIS/Aqua Gross Primary Productivity 8-day L4 Global 1km SIN Grid Net Photosynthesis	No

MODIS Terra	Data Description	Download Available
MOD09A1	MODIS/Terra Surface Reflectance 8-Day L3 Global 500m SIN Grid	No
MOD09GA	MODIS/Terra Surface Reflectance Daily L2G Global 1km and 500m SIN Grid	No
MOD09GQ	MODIS/Terra Surface Reflectance Daily L2G Global 250m SIN Grid	No
MOD09Q1	MODIS/Terra Surface Reflectance 8-day L3 Global 250m SIN Grid	No
MOD11A1 Day	MODIS/Terra Surface Temperature/Emissivity Daily L3 Global 1km SIN Grid Day	No
MOD11A1 Night	MODIS/Terra Surface Temperature/Emissivity Daily L3 Global 1km SIN Grid Night	No
MOD11A2 Day	MODIS/Terra Surface Temperature/Emissivity 8-day L3 Global 1km SIN Grid Day	No
MOD11A2 Night	MODIS/Terra Surface Temperature/Emissivity 8-day L3 Global 1km SIN Grid Night	No
MOD11B1 Day	MODIS/Terra Surface Temperature/Emissivity Daily L3 Global 5km SIN Grid Day	No
MOD11B1 Night	MODIS/Terra Surface Temperature/Emissivity Daily L3 Global 5km SIN Grid Night	No
MOD13A1 EVI	MODIS/Terra Vegetation Indices 16-Day L3 Global 500m SIN Grid EVI	No
MOD13A1 NDVI	MODIS/Terra Vegetation Indices 16-Day L3 Global 500m SIN Grid NDVI	No
MOD13A2 EVI	MODIS/Terra Vegetation Indices 16-Day L3 Global 1km SIN Grid EVI	No
MOD13A2 NDVI	MODIS/Terra Vegetation Indices 16-Day L3 Global 1km SIN Grid NDVI	No
MOD13A3 EVI	MODIS/Terra Vegetation Indices Monthly L3 Global 1km SIN Grid EVI	No
MOD13A3 NDVI	MODIS/Terra Vegetation Indices Monthly L3 Global 1km SIN Grid NDVI	No
MOD13Q1 EVI	MODIS/Terra Vegetation Indices 16-Day L3 Global 250m SIN Grid EVI	No
MOD13Q1 NDVI	MODIS/Terra Vegetation Indices 16-Day L3 Global 250m SIN Grid NDVI	No
MOD14A1	MODIS/Terra Thermal Anomalies/Fire Daily L3 Global 1km SIN Grid	No
MOD14A2	MODIS/Terra Thermal Anomalies/Fire 8-Day L3 Global 1km SIN Grid	No
MOD15A2 FPAR	MODIS/Terra Leaf Area Index/FPAR 8-Day L4 Global 1km SIN Grid FPAR	No
MOD15A2 LAI	MODIS/Terra Leaf Area Index/LAI 8-Day L4 Global 1km SIN Grid LAI	No
MOD17A2 GPP	MODIS/Terra Gross Primary Productivity 8-Day L4 Global 1km SIN Grid GPP	No
MOD17A2 Net Photosynthesis	MODIS/Terra Gross Primary Productivity 8-Day L4 Global 1km SIN Grid Net Photosynthesis	No
MOD17A3 GPP	MODIS/Terra Gross Primary Productivity Yearly L4 Global 1km SIN Grid	No
MOD17A3 NPP	MODIS/Terra Net Primary Production Yearly L4 Global 1km SIN Grid	No
MOD44B	MODIS/Terra Vegetation Continuous Fields (VCF) Yearly L3 Global 250km SIN Grid	No

MODIS Combined	Data Description	Download Available
MCD15A2 FPAR	MODIS/Terra+Aqua Leaf Area Index/FPAR 8-day L4 Global 1km SIN Grid	No
MCD15A2 LAI	MODIS/Terra+Aqua Leaf Area Index/LAI 8-day L4 Global 1km SIN Grid	No
MCD15A3 FPAR	MODIS/Terra+Aqua Fraction of Photosynthetically Active Radiation (FPAR) 4-day L4 Global 1km SIN Grid	No
MCD15A3 LAI	MODIS/Terra+Aqua Leaf Area Index (LAI) 4-day L4 Global 1km SIN Grid	No
MCD43A1	MODIS/Terra+Aqua BRDF/Albedo Model Parameter 16-Day L3 Global 500m SIN Grid	No
MCD43A2	MODIS/Terra+Aqua BRDF/Albedo 16-Day L3 Global 500m SIN Grid	No
MCD43A3	MODIS/Terra+Aqua Albedo 16-Day L3 Global 500m SIN Grid	No
MCD43A4	MODIS/Terra+Aqua Nadir BRDF-Adjusted Reflectance 16-Day L3 Global 500m SIN Grid	No
MCD43B1	MODIS/Terra+Aqua BRDF/Albedo Model-1 16-Day L3 Global 1km SIN Grid	No
MCD43B2	MODIS/Terra+Aqua BRDF/Albedo 16-Day L3 Global 1km SIN Grid	No
MCD43B3	MODIS/Terra+Aqua Albedo 16-Day L3 Global 1km SIN Grid	No
MCD43B4	MODIS/Terra+Aqua Nadir BRDF-Adjusted Reflectance 16-Day L3 Global 1km SIN Grid	No

EOSDIS Data Centers Map

Data Centers are responsible for data archival, product development and distribution, and user support. Each data center is distinguished from the others by its specific Earth system science discipline and has individual online systems that allow it to provide unique services for users of a particular type of data.

For more information about the data centers and their data and services, visit our Data section.

Near Real-Time Data

Land Atmosphere Near Real-time Capability for EOS

Near Real-Time Data

- Data
- Visualization
  - **Worldview**
  - GIBS
  - AIRS WMS
  - Rapid Response
  - Web Fire Mapper
  - MODIS Global Fire Maps
  - MODIS and OMI Browse
- FIRMS
- Rapid Response
- Learn
- About LANCE
- FAQ
- Support

GET DATA

- MODIS
- AIRS
- MLS
- OMI
- Platform
- Hazards and Disasters

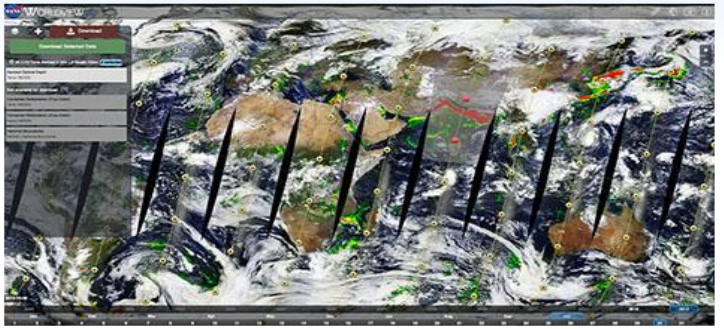
NRT HIGHLIGHTS

FIRMS

Home » Data » Near Real-Time Data » Visualization

Worldview

Interactively browse and download full-resolution, global, near real-time satellite imagery from 100+ data products from LANCE and other NASA data providers.



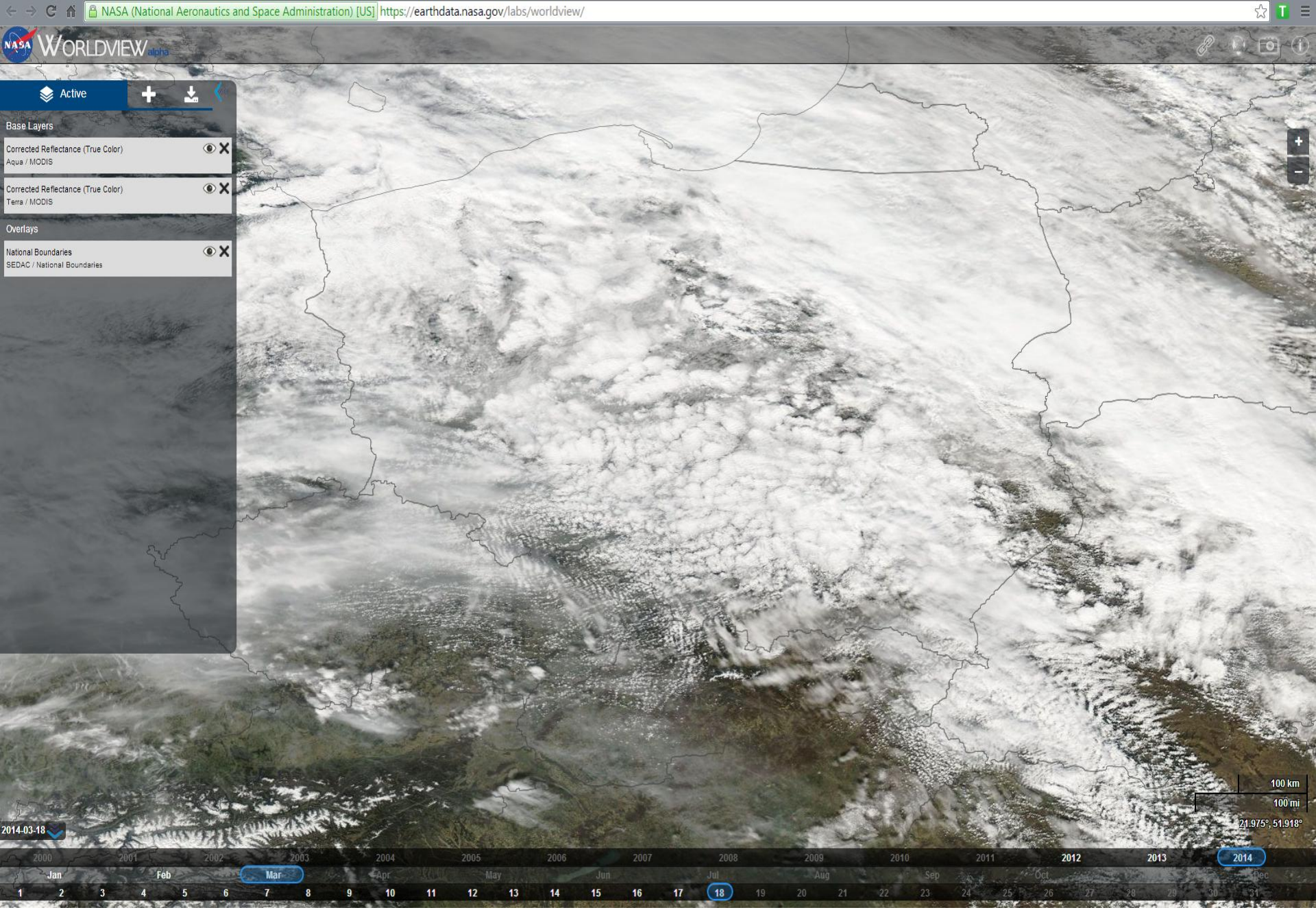
In essence, Worldview shows the entire Earth as it looks "right now" - or at least as it has looked within the past few hours. Worldview supports time-critical application areas such as wildfire management, air quality measurements, and weather forecasting.

The imagery is generally available within three hours of observation and can easily be compared to observations from the past - just click or drag the time sliders at the bottom of the page. Imagery is available from May 2012 onward and we are working to provide access to earlier dates. Arctic and Antarctic polar stereographic views of several products are also available for a "full globe" perspective.

Data granules, used to create the imagery are also searchable and can be downloaded through the Worldview interface.

Browsing on tablet devices (iPad 2+ recommended) is currently supported for mobile access to this spacecraft imagery while in the field or on the couch. Please note, however, that this is an alpha (preview) release and many features are still under development. Comments/suggestions/problem reports are welcome via Earthdata support. View frequently asked questions about Worldview.

On the backend, Worldview is supported by the Global Imagery Browse Services (GIBS) – a new set of standard services provided by EOSDIS to deliver global, full-resolution satellite imagery in a highly responsive manner. GIBS enable interactive exploration of NASA's Earth imagery for a broad range of users. GIBS serve the imagery to any internet-enabled client.


NASA (National Aeronautics and Space Administration) [US] https://earthdata.nasa.gov/labs/worldview/
WORLDVIEW alpha
Active
Base Layers
Corrected Reflectance (True Color)
Aqua / MODIS
Corrected Reflectance (True Color)
Terra / MODIS
Overlays
National Boundaries
SEDAC / National Boundaries
100 km
100 mi
21.975°, 51.918°
2014-03-18
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Dec
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Search Criteria | Data Sets | Additional Criteria | Results

2. Select Your Data Set(s)

Check the boxes for the data set(s) you want to search. When done selecting data set(s), click the *Additional Criteria* or *Results* buttons below. Click the plus sign next to the category name to show a list of data sets.

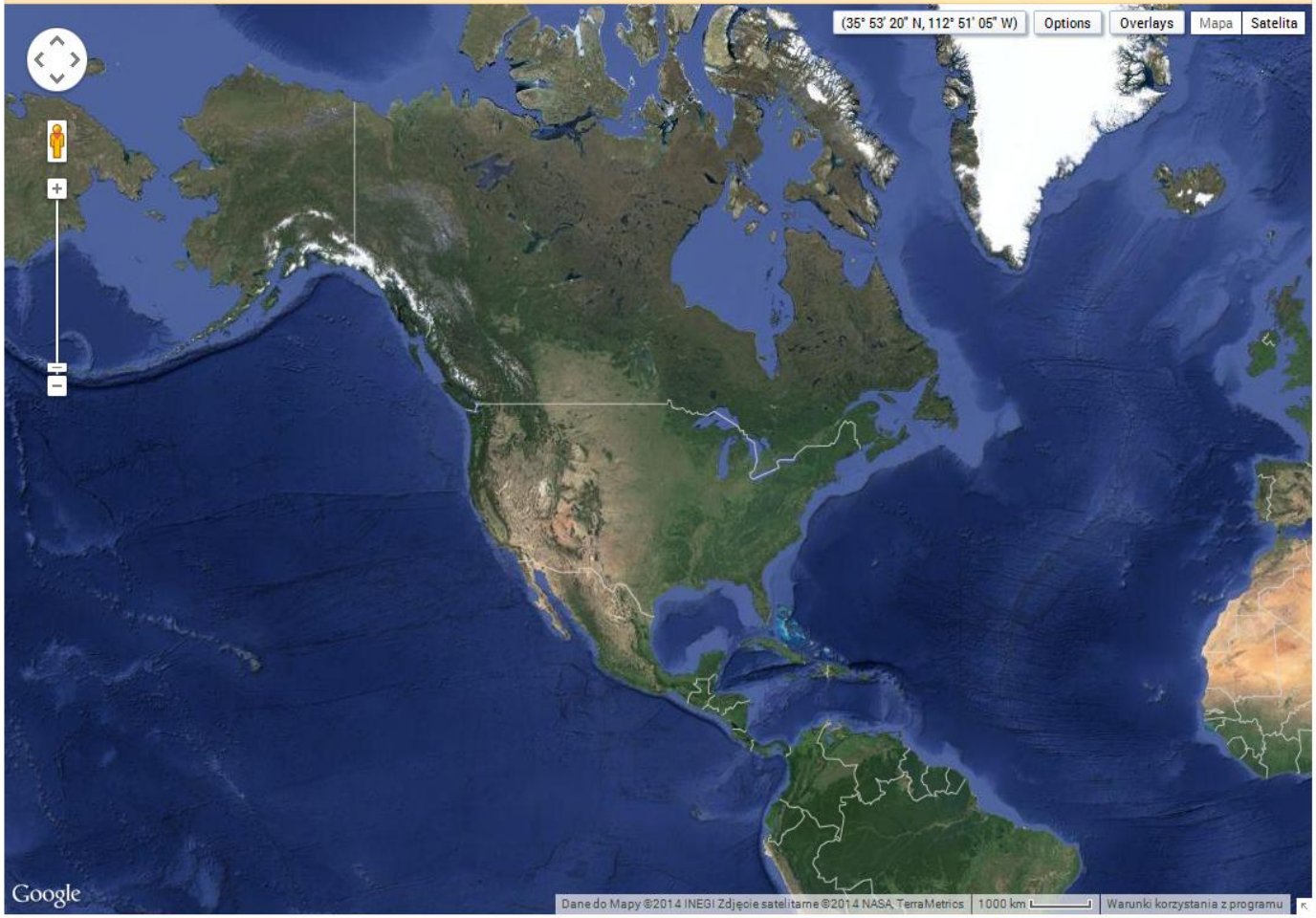
Use Data Set Prefilter (What's This?)

Data Set Search:

- JECAM Sites
- LIDAR
- Land Cover
- Landsat Archive
- Landsat CDR
- Landsat Legacy
- Landsat MRLC
- NASA LPDAAC Collections
  - AirMOSS Collections
  - ASTER Collections
  - MODIS BRDF and Albedo
  - MODIS Gross Primary Productivity
  - MODIS LAI/FPAR
  - MODIS Land Cover
  - MODIS Land Surface Reflectance
  - MODIS Land Surface Temp and Emiss
  - MODIS Thermal Anomalies and Fire
  - MODIS Vegetation Indices
  - MODIS Water Mask
  - NASA SRTM (SRTM 3) Collections
  - WELD Collections
- Orbview-3
- Radar
- Vegetation Monitoring

Clear All Selected | Additional Criteria » | Results »

Search Criteria Summary (Show) **Clear Criteria**



The up-to-date Google map is not for purchase or for download; it is to be used as a guide for reference and search purposes only.

USGS Global Visualization Viewer

System Notices (2), 1 New, 2 Critical

Collection Resolution Map Layers Tools File Help

- Aerial
- ASTER
- EO-1
- Landsat Archive
- Global Land Survey
- Landsat MRLC Collections
- Landsat Legacy Collections
- MODIS Aqua
- MODIS Terra
- MODIS Combined
- TerraLook

Data Descriptions

- MCD15A2 FPAR
- MCD15A2 LAI
- MCD15A3 FPAR
- MCD15A3 LAI
- MCD43A1
- MCD43A2
- MCD43A3
- MCD43A4
- MCD43B1
- MCD43B2
- MCD43B3
- MCD43B4

Long:

Scene Information:
ID: A2014057.h18v03.005
Date: 2014/2/26
Granule ID: 2131027915 # 1

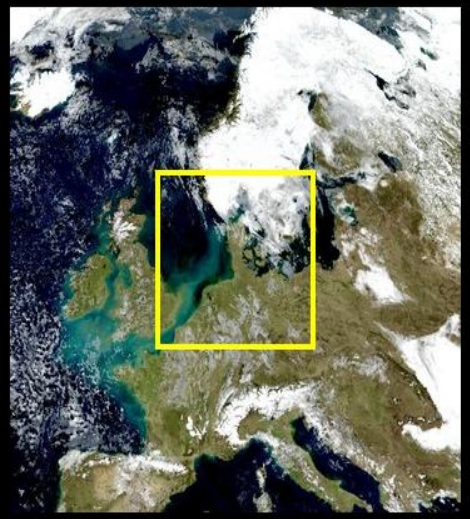
Feb 2014

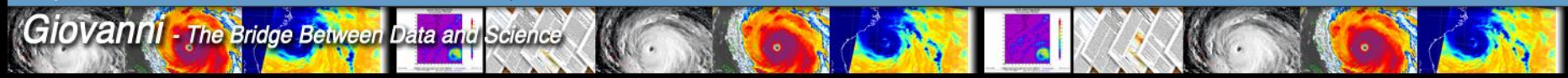
Prev Scene Next

MYD09A1 Scene List

Add Delete Send to Cart

10000m No Limits Set





» OVERVIEW

+ What is Giovanni?
+ Who Uses Giovanni?
+ Giovanni Parameters
+ Giovanni Plot Types
+ How to Use Giovanni
+ How to Acknowledge Giovanni
+ Acknowledgements

Additional Features

+ News
+ Users Manual
+ Publications
+ Newsletters
+ Feedback
+ FAQ

You are here: GES DISC Home » Giovanni - Interactive Visualization and Analysis

Giovanni - Interactive Visualization and Analysis

Contributors: tonyr, rchowdhury

Giovanni - Interactive Visualization and Analysis - GES DISC: Goddard Earth Sciences, Data and Information Services Center

Giovanni-4 Now Available
New! Please try out Giovanni-4, the next generation of Giovanni, with dramatically improved performance and interactive plotting and mapping. (Currently, only select Aerosols, Hydrology and Turbulent Flux data are available in Giovanni-4, with more on the way.)

Giovanni Portals | Giovanni Parameter List

Atmospheric Portals (Scroll down to view complete list)

- AeroStat: Aerosol data measured by satellites and Aeronet stations
- Aerosol Optical Thickness Measurement and Model Comparison: Daily
- Aerosol Optical Thickness Measurement and Model Comparison: Monthly
- MISR Daily
- MISR Monthly
- Aqua/AIRS Global: Daily
- Aqua/AIRS Global: Monthly
- Terra and Aqua MODIS: Daily
- Terra and Aq
- Aura OMI Level 3

Moderate Resolution Imaging Spectroradiometer on the Terra and Aqua satellites Global 1.0° x 1.0° Daily Level-3 Atmospheric Products

Application and Education Portal (Scroll down to view complete list)

Meteorological Portals

Ocean Portals

Hydrology Portals (Scroll down to view complete list)

Giovanni is a Web application developed by the GES DISC to provide a simple, intuitive way to visualize, analyze, and access vast amounts of Earth science remote sensing data, particularly from satellites, without having to download the data.

Giovanni consists of several portals tailored to meet the needs of different Earth science research communities. To use a Giovanni portal, click the its link in the lists under the left tab above.

Giovanni includes data for aerosols, atmospheric chemistry, atmospheric temperature and moisture, and rainfall. Giovanni also includes output from assimilation models covering a wealth of atmospheric, land surface and oceanographic parameters.

Latest News

2014 issue of The Giovanni News is online

Hide News

GIOVANNI NEWS

February 2014 issue of The Giovanni News is online
Mar 12, 2014

Pineapple Express Delivers Much Needed Precipitation to California
Feb 21, 2014

GES DISC "Top 10" Highlights for 2013
Feb 12, 2014

New additions to Giovanni publications list, September-December 2013
Feb 10, 2014

Giovanni Image Hall of Fame issue of The Giovanni News is online
Jan 10, 2014

Several members of the GES DISC attend ESIP Federation Winter Meeting 2014
Jan 07, 2014

December 2013 AGU special issue of The Giovanni News is online
Dec 19, 2013

GES DISC participates in AGU Fall Meeting 2013
Dec 06, 2013

More...

gdata1.sci.gsfc.nasa.gov/daac-bin/G3/gui.cgi?instance_id=MODIS_DAILY_L3

National Aeronautics and Space Administration

Search DISC + GO
+ Advanced Search

Giovanni - The Bridge Between Data and Science

+ ABOUT GIOVANNI | + NEWS | + INSTANCES | + FEEDBACK | + RELEASE NOTES | + HELP

MODIS Terra and Aqua Daily Level-3 Data

Atmosphere Daily Global 1X1 Degree Products

Home

Remove All

This tool is designed for visualization and analysis of the Atmosphere Daily Global Products. Users can generate plots or ASCII Output for Lat-Lon Map, Time Series, Hovmoller diagram, Scatter Plot, and Correlation Map. Animation is available for Lat-Lon Maps. The MODIS Science Team recommends MODIS Collection 5.1 (051) data be used for scientific investigations. More details about the data will be available in the future.

- **Further information about this MOVAS instance can be obtained here.**
- **Giovanni MOVAS Monthly instance is here.**
- **Data Availability from MODAPS LAADS Web is shown here.**

Select:

Spatial

Cursor Coordinates: 23.92500, 48.02813

Area of Interest: West: 14.625 North: 56.128 South: 48.028 East: 23.925 Update Map

Parameters

Display: Data Product Info Units

MOD08_D3.051(2000/03/01 - 2014/03/13)

Parameter	Data Product Info
Aerosol Cloud Mask Cloud Fraction (Land)	MODIS-Terra Ver. 5.1
Aerosol Cloud Mask Cloud Fraction (Ocean)	MODIS-Terra Ver. 5.1
Aerosol Cloud Mask Cloud Fraction Pixel Counts (Land)	MODIS-Terra Ver. 5.1
Aerosol Cloud Mask Cloud Fraction Pixel Counts (Ocean)	MODIS-Terra Ver. 5.1
Aerosol Optical Depth Pixel Counts	MODIS-Terra Ver. 5.1
Aerosol Optical Depth at 550 nm	MODIS-Terra Ver. 5.1

MYD08_D3.051(2002/07/04 - 2014/03/10)

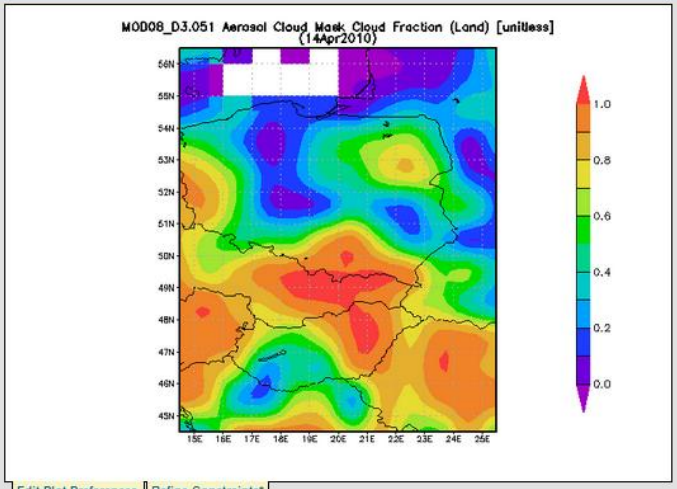
Parameter	Data Product Info
Aerosol Cloud Mask Cloud Fraction (Land)	MODIS-Aqua Ver. 5.1

MODIS Terra and Aqua Daily Level-3 Data

Atmosphere Daily Global 1X1 Degree Products

Home | Results #1 | Remove All

Visualization Results | Download Data | Product Lineage | Acknowledgment Policy

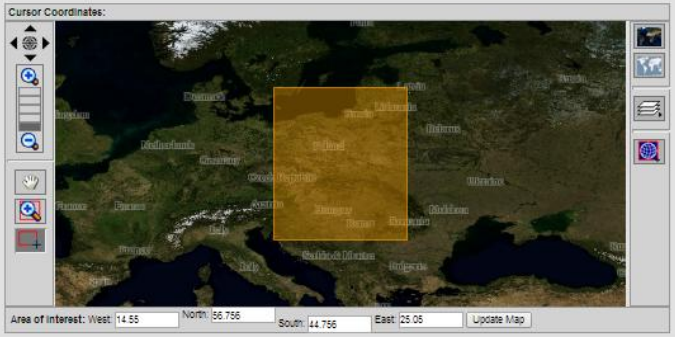


Edit Plot Preferences | Refine Constraints*

* Applies to the whole results set (all plots)

Refine Constraints [Top]:

Spatial



Temporal

Begin Date	Year 2010	Month Apr	Day 14	(Date Begin: 01 Mar 2000)
End Date	Year 2010	Month Apr	Day 14	(Date End: 13 Mar 2014)

* Aerosol Deep Blue are not available for Terra after Dec 2007 due to unavailability of the required polarization corrections to the L1B data. The Terra Aerosol Dark Target data are available for the whole mission period. Note: Terra data record has a few short periods in the mission where data is missing - please consult the calendar to determine when these period of missing data occur. (calender).

Edit Preferences [Top]:

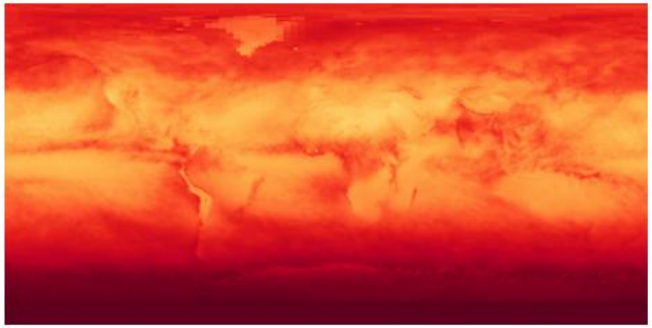
Plot Preferences

Image Width	700	Set the width of the plot image (in pixels)
Image Height	500	Set the height of the plot image (in pixels)
Decoration Flag	Yes / No	Determine whether decorations (axes reticles, labels, etc.) are displayed for the resultant images

neo.sci.gsfc.nasa.gov

NEO NASA EARTH OBSERVATIONS

ATMOSPHERE | ENERGY | LAND | LIFE | OCEAN | NEWS | ABOUT | IMAGES | ANALYZE



ENERGY

Solar Insolation

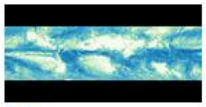
These maps show where and how much sunlight fell on Earth's surface during the time period indicated. Scientists call this measure solar insolation. Knowing how much of the Sun's energy reaches the surface helps scientists understand weather and climate patterns as well as patterns of plant growth around our world. Read more

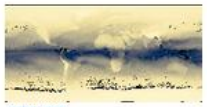
BROWSE DATASETS BY CATEGORY

Atmosphere

See All


Aerosol Optical Thickness

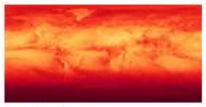

Rainfall


Water Vapor

Energy

See All

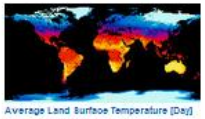

Global Temperature Anomaly

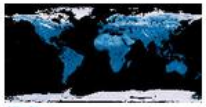

Solar Insolation


Net Radiation

Land

See All


Average Land Surface Temperature [Day]


Albedo


Active Fires

Life

See All


Vegetation Index [NDVI]


Net Primary Productivity


Population

Ocean

See All

LATEST NEWS

See All

Feb 5, 2014

Java and NEO Analysis

If you are a user of the analysis tool in NEO, you may have noticed that after you installed the latest Java update the analysis tool no longer works. Here is a short-term fix for that problem.
Read more

Dec 23, 2013

Data-like File Formats: CSV and floating point GeoTIFFs

In addition to the standard file formats that we support in NEO, many datasets support two additional "data-like" formats: CSV (comma-separated values) and floating point GeoTIFF.
Read more

Nov 20, 2013

New Dataset: Nitrogen Dioxide

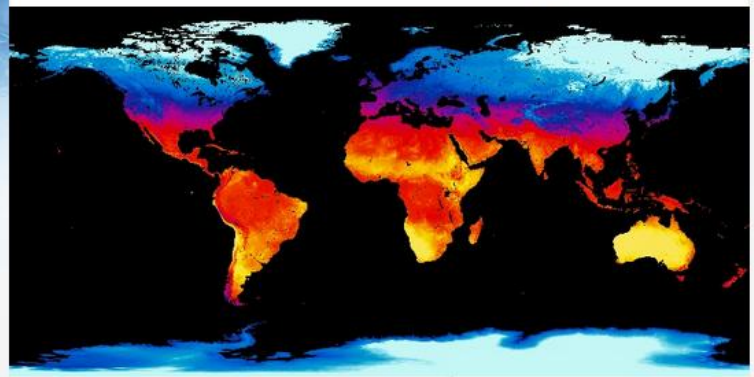
Nitrogen dioxide (NO_2) is a gas that occurs naturally in our atmosphere. NO_2 plays an important role in the formation of ozone in the air we breathe.
Read more

QUICK TIP

The Image Composite Explorer (ICE) is a simple analytical tool that allows you to select datasets for side-by-side comparison. Look for the "Add to Analysis" link on most datasets to get started.

View another tip

AVERAGE LAND SURFACE TEMPERATURE [DAY] (8 DAY)



View by date: 8 day | 1 mo

°C
-25 10 45
Download color table

Dataset you are currently viewing: December 27, 2001 - January 3, 2010

2001	May 2001	June 2001	July 2001	Augus
Apr 14	May 1 → May 8	Jun 2 → Jun 9	Jul 4 → Jul 11	Aug 5 →
Apr 22	May 9 → May 16	Jun 10 → Jun 17	Jul 12 → Jul 19	Aug 13 →
Apr 30	May 17 → May 24	Jun 18 → Jun 25	Jul 20 → Jul 27	Aug 21 →
	May 25 → Jun 1	Jun 26 → Jul 3	Jul 28 → Aug 4	Aug 29 →

● Data ● No Data ● Currently Viewing

About this dataset

Basic | Intermediate | Advanced

Land surface temperature is how hot the ground feels to the touch. If you want to know whether temperatures at some place at a specific time of year are unusually warm or cold, you need to compare them to the average temperatures for that place over many years. These maps show the average weekly or monthly daytime land surface temperatures for 2001-2010.

ADD TO ANALYSIS

Currently viewing:
December 27, 2001 - January 3, 2010

Downloads

File Type: JPEG

Color | Grayscale

1.0 degrees	360 x 180
0.5 degrees	720 x 360
0.25 degrees	1440 x 720
0.1 degrees	3600 x 1800

What do the colors mean?

The colors on these maps represent temperature patterns of the top millimeter (or "skin") of the land surface — including bare land, snow or ice cover, urban areas, and cropland or forest canopy — as observed by MODIS in clear-sky conditions for the time period indicated. Yellow shows the warmest temperatures (up to 45°C) and light blue shows the coldest temperatures (down to -25°C). Black means "no data."

Related Websites

MODIS

Terra

MODIS Land Group

Credits

Images by Jesse Allen, NASA's Earth Observatory using data courtesy of the MODIS Land Group.

Federal Geographic Data Committee Geospatial Metadata

View the FGDC Metadata for Average Land Surface Temperature [Day] (8 day)

QUICK TIP

Want all the images from a single dataset in either color or grayscale? Try downloading them from our ftp site.

View another tip

National Aeronautics and Space Administration

EOSDIS NASA's Earth Observing System Data and Information System

Reverb | ECHO

The Next Generation Earth Science Discovery Tool

Search Options

Spatial
Bounding Box
51.727, 21.270, 54.877, 14.590

Search Terms

Temporal

Platforms & Instruments [?]

Campaigns [?]

Processing Levels [?]

Science Keywords [?]

Save Query | Clear Criteria

Feedback? Tell us what you think.

Availability [?]

ECHO Degraded Service
Wed Mar 19 2014 13:00:00 GMT+0100 (Środkowoeuropejski czas stand.) (GMT+1:00) to Wed Mar 19 2014 21:00:00 GMT+0100 (Środkowoeuropejski czas stand.) (GMT+1:00)
More

NASA LaRC Network Outage
Fri Mar 21 2014 21:00:00 GMT+0100 (Środkowoeuropejski czas stand.) (GMT+1:00) to Sun Mar 23 2014 23:00:00 GMT+0100 (Środkowoeuropejski czas stand.) (GMT+1:00)
More

Notices [?]

Step 1: Select Search Criteria [?]

Spatial Search [?]

Bounding Box ▾ 51.727, 21.270, 54.877, 14.590 Reset Clear

Search by ESRI shape file [?]

Search Terms [?]

e.g. MODIS Fire AST_L1A Clear

Temporal Search [?]

START
YYYY-MM-DD HH:MM:SS Clear

END
YYYY-MM-DD HH:MM:SS Clear

* all times must be specified in GMT

Date Range | Annual Repeating Dates

Step 2: Select Datasets [?]

- UARS PEM Level 2 HEPS A V001
  Archive Center: GESDISC Short Name: UARPE2HEPSA Version: 001
- UARS PEM Level 2 HEPS B V001
  Archive Center: GESDISC Short Name: UARPE2HEPSB Version: 001
- UARS PEM Level 2 MEPS V001
  Archive Center: GESDISC Short Name: UARPE2MEPS Version: 001
- UARS PEM Level 2 VMAG AC V001
  Archive Center: GESDISC Short Name: UARPE2VMAGAC Version: 001
- UARS PEM Level 2 VMAG DC V001
  Archive Center: GESDISC Short Name: UARPE2VMAGDC Version: 001