Frequently Asked Questions

Do I need to pay for the imagery and data?

All NRT data and imagery are freely available.

Registration is required to download data.

https://urs.earthdata.nasa.gov/users/new

Do I need special software to use the imagery?

Imagery can be viewed using Worldview, *https://earthdata.nasa.gov/worldview*. Imagery can also be downloaded as JPG, PNG or GeoTIFF images and used in reports or blogs. Alternatively, you can pull imagery into your own GIS or web mapping application using the Global Imagery Browse Services (GIBS), *https://earthdata.nasa.gov/gibs*.

Can I get the underlying data I see in Worldview?

NRT data files are available for download and analysis.

Users can:

- Visually search and download data using Worldview
- Search and download data in ECHO Reverb - *https://earthdata.nasa.gov/reverb*
- Download HDF data via FTP or HTTPS - *https://earthdata.nasa.gov/lance*

Can I use the imagery in my reports/analysis?

Yes. We request the use of the following acknowledgement: *"We acknowledge the use of data products or imagery from the Land Atmosphere Near real-time Capability for EOS (LANCE) system operated by the NASA/GSFC/Earth Science Data and Information System (ESDIS) with funding provided by NASA/HQ".*

How does NRT data compare to the standard products?

NRT data are processed with less accurate ancillary data to make it available to users within 3 hours of satellite observation. The main difference is in geolocation due to the use of predictive rather than definitive orbit information. If latency is not a primary concern, users are encouraged to use the standard science products.

LANCE Services and Products

		EOSDIS Service	LANCE NRT Product
Data	Download Data	FTP / HTTPS File Distribution	HDF data files
		FIRMS FTP/ HTTPS	MODIS active fire data. File formats: TXT, SHP, KML
		Worldview	Visually search granules for download via ECHO
	Data via subscription	NRT Subscription	HDF data files
		FIRMS Fire Email Alerts	MODIS-derived hotspot/active fire location coordinates with optional map (Rapid, daily or weekly)
Visualize	Imagery	Rapid Response Subsets	MODIS geo-referenced, regional subset images in GIS compatible formats
		Rapid Response Orbit Swath Images	MODIS swath images for each five-minute interval
		Rapid Response Gallery Images	Geo-referenced MODIS imagery for interesting events and phenomena in GIS compatible formats
		Worldview	Imagery from AIRS, MLS, MODIS and OMI. Image subsets as JPEG, PNG, GeoTIFF and KMZ
		Global Imagery Browse Services (GIBS)	Imagery via standard services e.g. Web Map Tile Service (WMTS), and KML
	Fire Points	FIRMS Web Fire Mapper	Interactive global web map service for MODIS hotspot/active fire data

The Land Atmosphere Near real-time Capability for EOS (LANCE) is part of NASA's Earth Observing System Data and Information System (EOSDIS).

Questions?

support@earthdata.nasa.gov

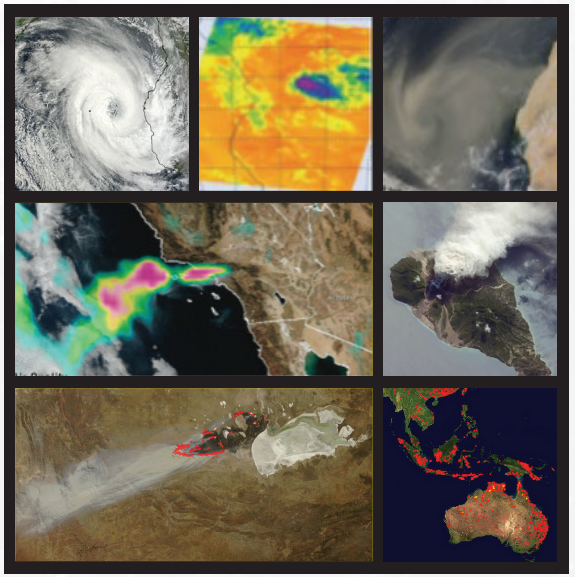
https://earthdata.nasa.gov/lance

NP-2014-10-187-GSFC

National Aeronautics and Space Administration

Near Real-Time Imagery and Data

Land Atmosphere Near real-time Capability for EOS (LANCE)

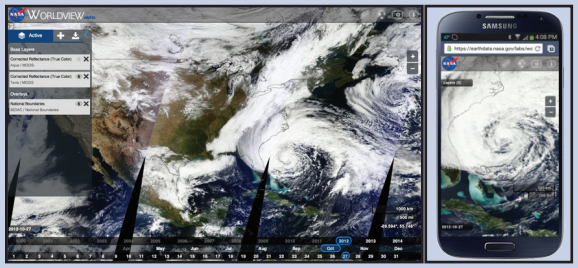


Near Real-Time (NRT) products are available from the MODIS, OMI, AIRS, and MLS instruments on board NASA's Earth Observing System (EOS) satellites, Terra, Aqua and Aura within 3 hours of satellite observation.

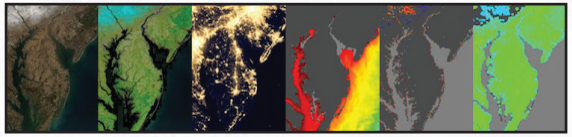
www.nasa.gov

LANCE Near Real-Time Services

Tools for viewing near real-time imagery

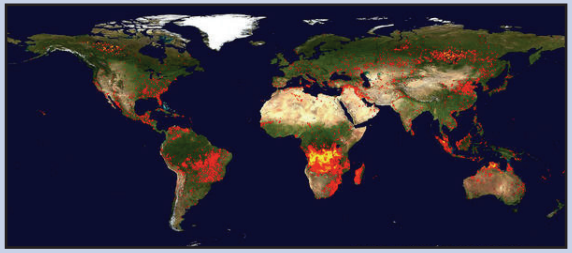


Worldview: Interactively browse and download full resolution imagery for more than 100 products. Underlying HDF data granules can also be downloaded from within the app, *https://earthdata.nasa.gov/worldview.*



Global Imagery Browse Services (GIBS): Providing imagery to Worldview through publicly accessible and standards compliant imagery services. Use GIBS in your own web mapping interface or client, *https://earthdata.nasa.gov/gibs.*

Rapid Response: View and download MODIS images in GIS-compatible formats, *https://earthdata.nasa.gov/lance/rapid-response.*



Fire Information for Resource Management System (FIRMS): Subscribe to fire email alerts for any area or view and download fire data in GIS compatible formats, *http://earthdata.nasa.gov/firms.*

LANCE Near Real-Time Products

Instrument	Product Categories	Average Latency
AIRS	Radiances, Temperature, Moisture Profiles, Precipitation, Dust, Clouds and Trace Gases	75 – 140 minutes
MLS	Ozone, Temperature, Carbon Monoxide, Water Vapor, Nitric Acid, Nitrous Oxide, Sulfur Dioxide	75 – 140 minutes
MODIS	Radiances, Cloud/Aerosols, Water Vapor, Fire, Snow Cover, Sea Ice, Land Surface Reflectance, Land Surface Temperature	60-125 minutes*
OMI	Ozone, Sulfur Dioxide, Aerosols, Cloud Top Pressure	100 -165 minutes**

* Latency excludes daily Land Surface Reflectance
** Latency excludes Level 3 products

LANCE is working to ingest and process AMSR2 data in NRT

- **AIRS** - Atmospheric Infrared Sounder (Aqua)
- **AMSR2** - Advanced Microwave Scanning Radiometer 2
- **MLS** - Microwave Limb Sounder (Aura)
- **MODIS** - Moderate Resolution Imaging Spectroradiometer (Terra and Aqua)
- **OMI** - Ozone Monitoring Instrument (Aura)

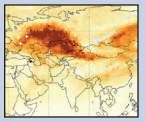
Ice on Lake Superior on the United States - Canada border. [image credit: MODIS (Aqua satellite) on April 20, 2014]

Use of LANCE Near Real-Time Products

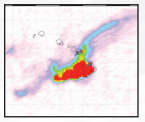
LANCE data and imagery are used for monitoring and analyzing a wide range of natural and man-made phenomena, including the following routine applications:

Global Agricultural Monitoring: The G-20 GEO Global Agricultural Monitoring community (GEOGLAM) use NRT MODIS Vegetation Indices to provide national to global crop condition assessments.

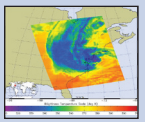
Monitoring Sea Ice Conditions: MODIS imagery is used to provide the latest ice conditions to ships and research vessels in the Antarctic to help them safely plot their course through icy waters. [image credit: National Science Foundation]



Air Quality: NRT imagery from MODIS and AIRS are used by air quality forecasters to track smoke and the propagation of toxic gases like Carbon Monoxide (CO) from large fires.



OMI data for Volcano Monitoring: OMI Sulfur Dioxide (SO_2) and Aerosol Index products are used to monitor volcanic clouds and detect pre-eruptive volcanic degassing globally. This information is used by Volcanic Ash Advisory Centers in advisories to airlines for operational decisions.



Numerical Weather Prediction: AIRS data are used by ECMWF and GMAO for Numerical Weather Prediction. They play an important role in the forecast improvement of hazard events such as hurricanes.