

Getting Experimental Data to End Users via a Research to Operations Paradigm

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Source Data

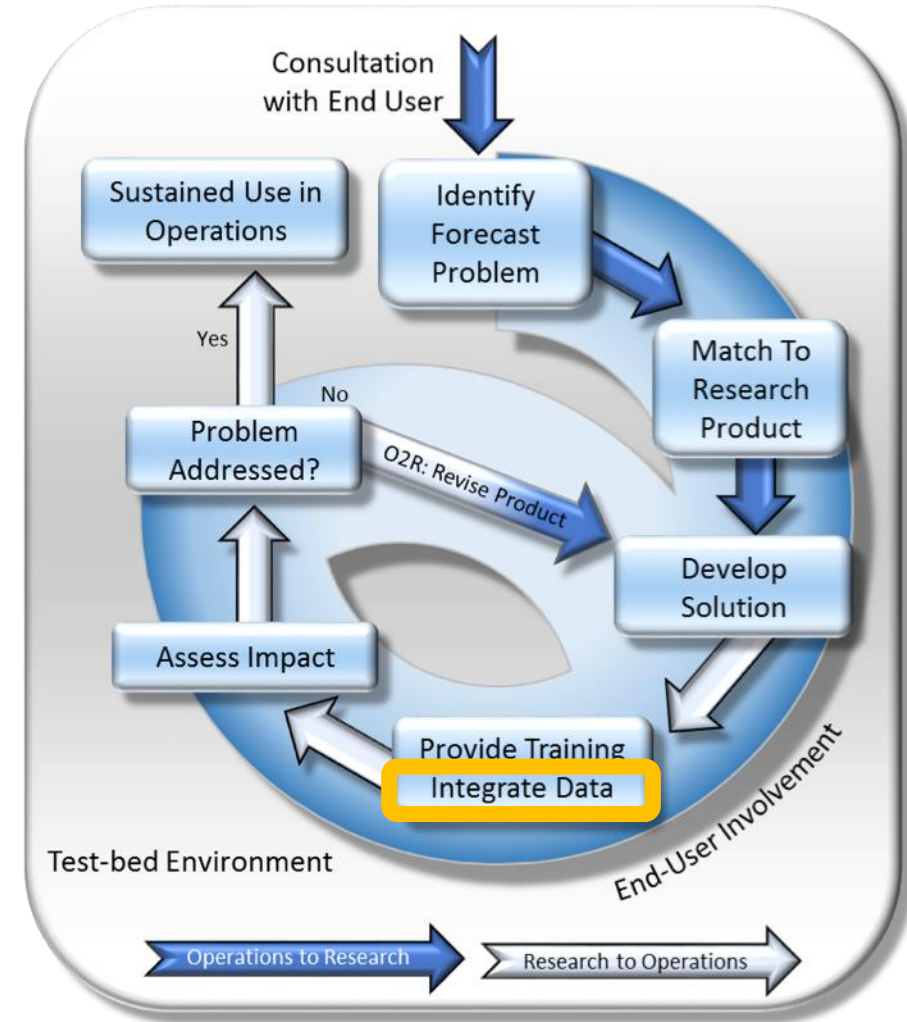
SPoRT has a long history of using an R2O/O2R paradigm to provide real-time data to end users in their *native* Decision Support Systems (DSS)

This often involves acquiring real-time data from a *variety* of external providers in a *variety of formats*

More often than not, these formats aren't compatible with the end-user DSS, requiring "*reformatting*"

SPoRT uses a variety of tools to convert data into ideal formats

- Source formats:
- netCDF3/4
 - GRIB
 - McIDAS AREA
 - Text/Binary
 - HDF
 - geoTIFF



Decision Support Systems: AWIPS

Advanced Weather Interactive Processing System

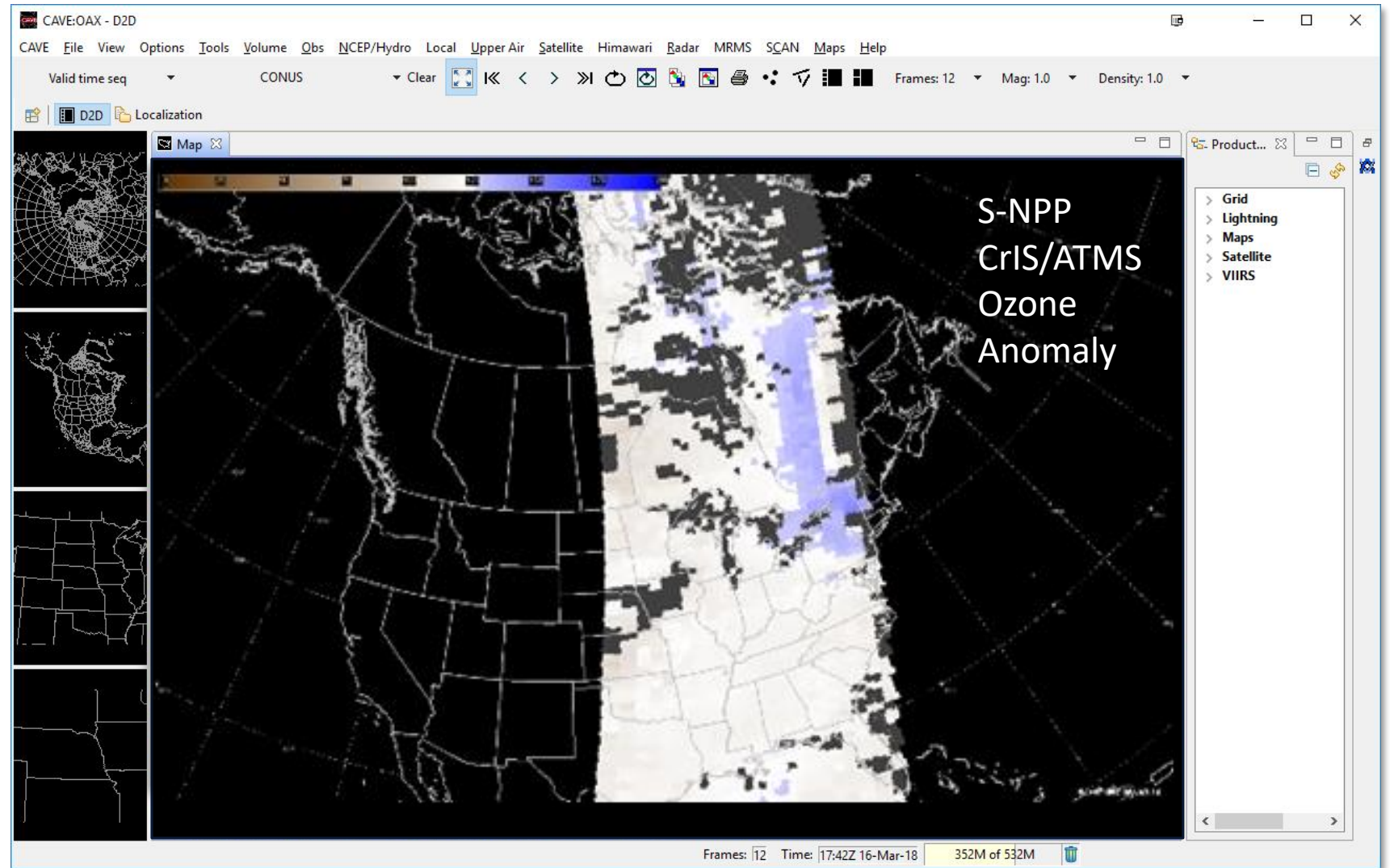
Primary DSS for National
Weather Service Weather
Forecast Offices

Developed client-side RGB
framework

Support over 30 WFOs

Accepted Formats:

- netCDF3/4
- GRIB
- Custom formats



Decision Support Systems: N-AWIPS

National Centers for
Environmental Prediction -
Advanced Weather
Interactive Processing System
(N-AWIPS)

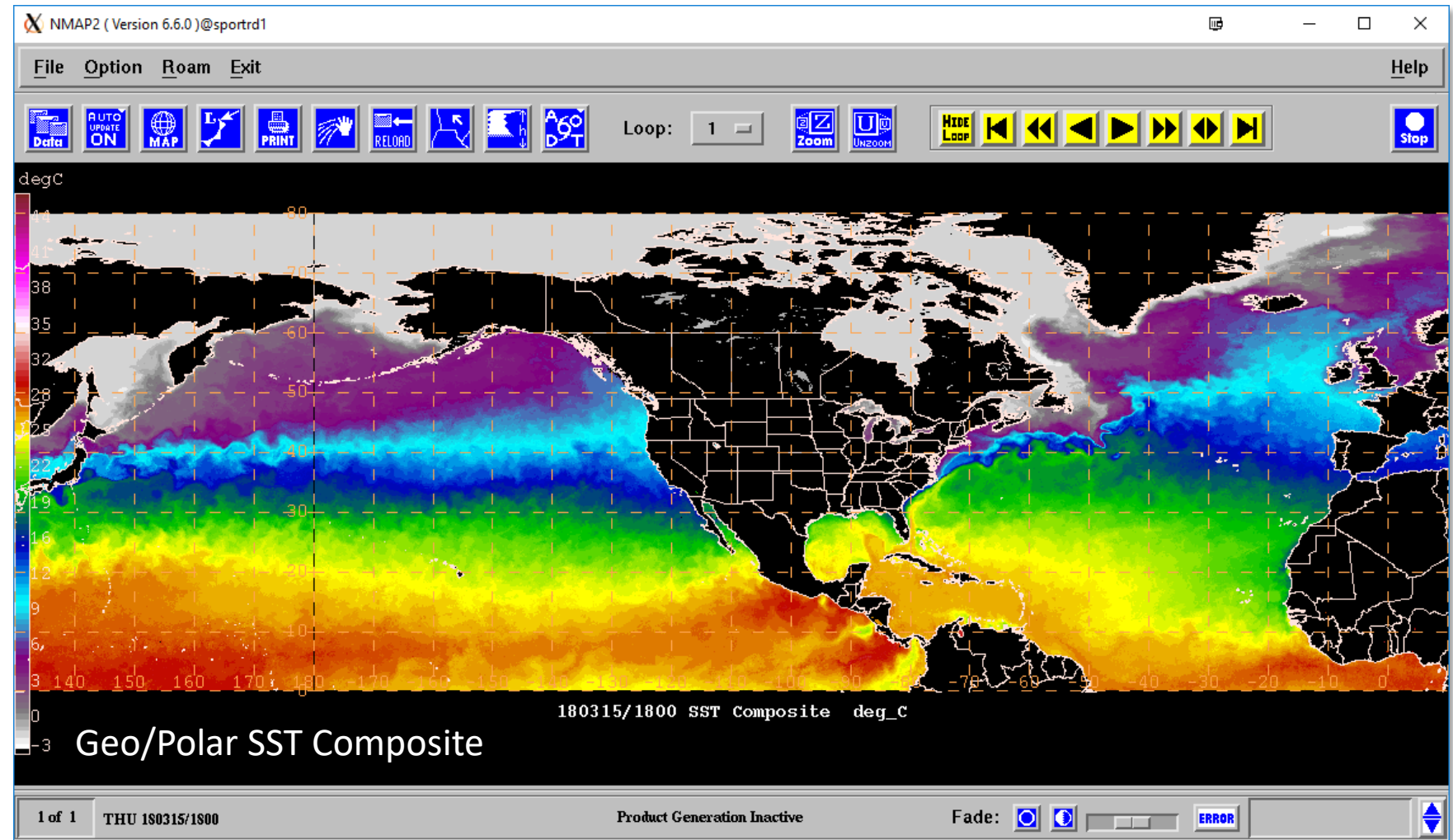
Primary DSS for the National
Weather Service National
Centers

Supported Centers: NHC,
SPC, AWC, OPC, WPC, SAB

Assisting in transition to
AWIPS II

Accepted Formats:

- McIDAS AREA
- Gempak grid



Decision Support Systems: GIS/WMS

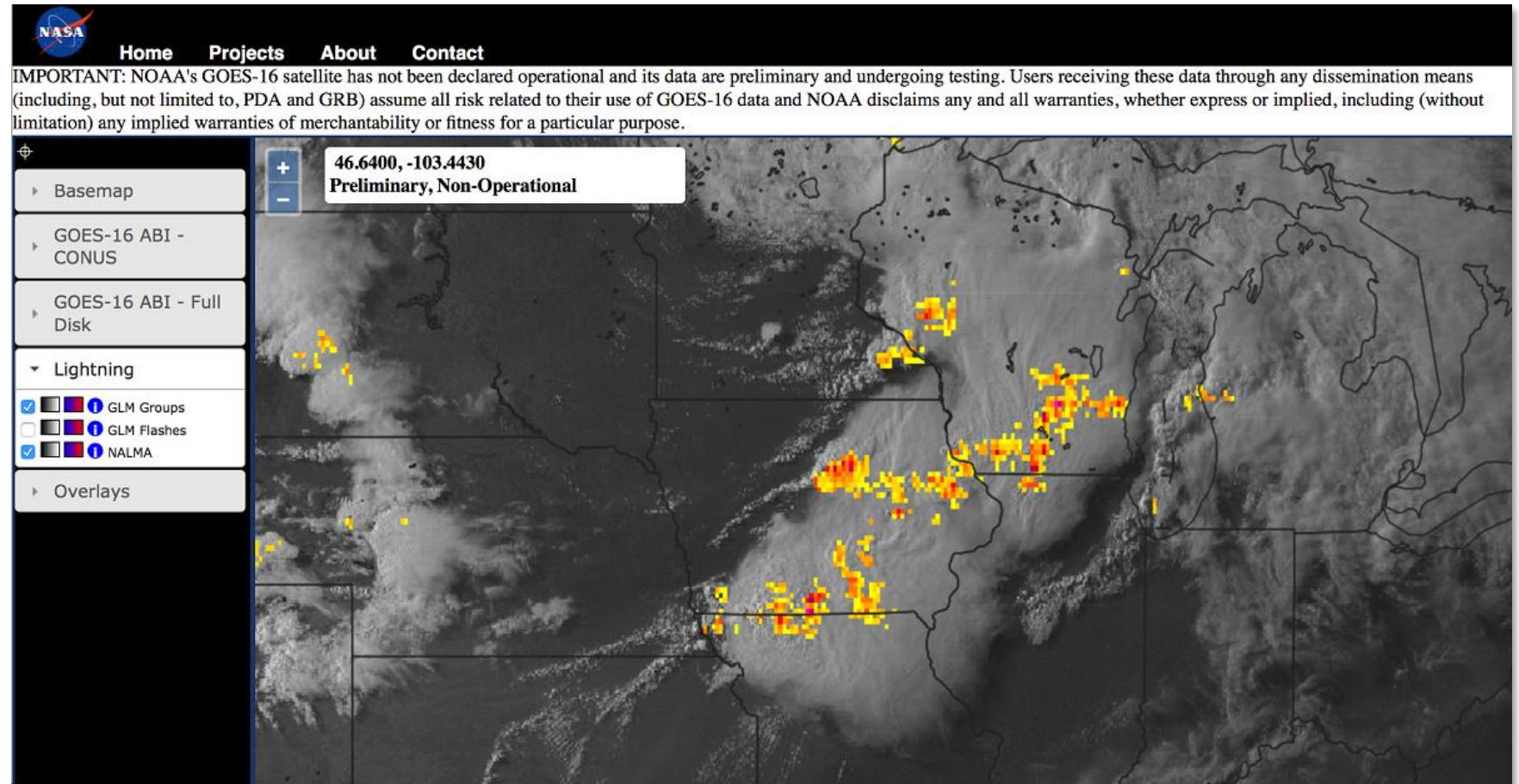
SPoRT hosts imagery via geoserver as a Web Map Service (WMS)

Transitioning to Esri ArcGIS Enterprise to expand capabilities

Developing more robust web viewers

Accepted Formats:

- geoTIFF
- HDF
- netCDF
- GRIB



GOES-16 GLM 2-Minute Groups Overlaid on ABI 0.64μm in WMS Web Interface

Decision Support Systems: Web Viewers



SPoRT is a NASA project to transition unique observations and research capabilities to the operational weather community to improve short-term forecasts on a regional scale.

- Real-Time Data
- Core Projects
- GOES-R PG
- JPSS PG
- Transitions
- Library
- Organization

GOES-16 ABI CONUS - Day Land Cloud Mar. 15, 2018 - 18:27 UTC

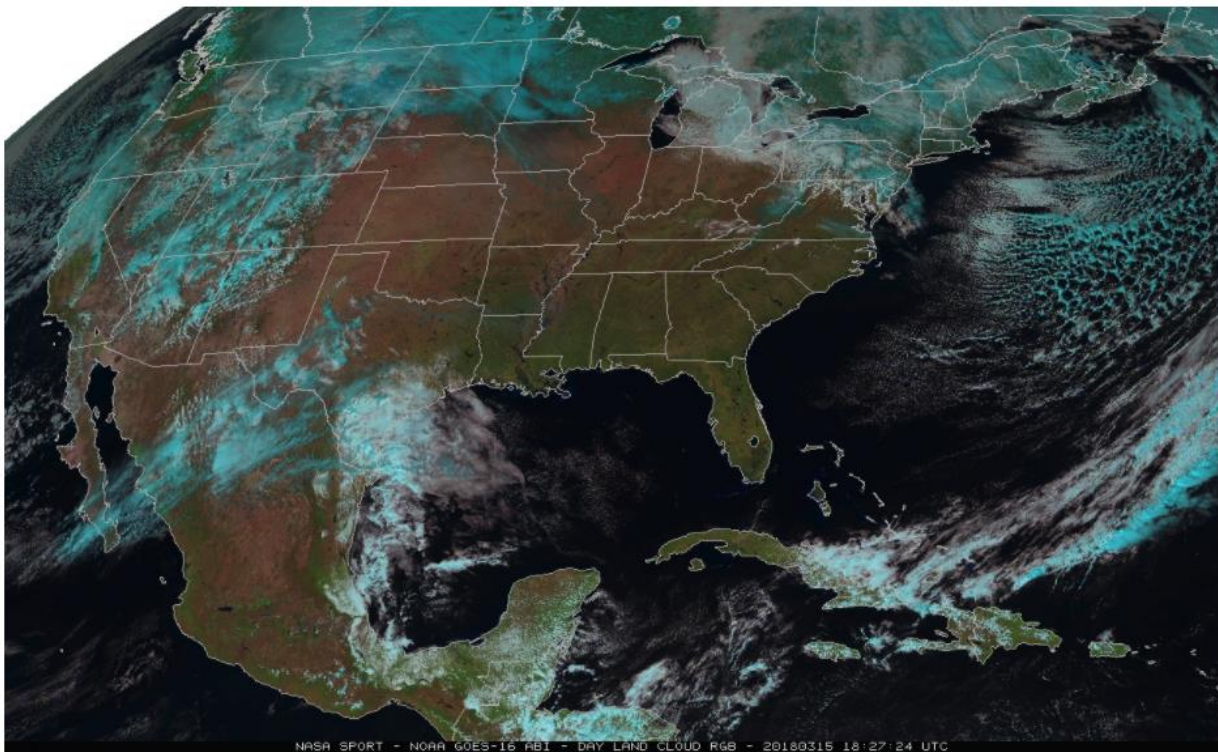
- Sectors: [CONUS](#) | [Full Disk](#) | [Mesoscale 1](#) | [Mesoscale 2](#)
- Quick Guides: [Air Mass RGB](#) | [Day Convection RGB](#) | [Daytime Microphysics RGB](#) | [Dust RGB](#) | [Nighttime Microphysics RGB](#)
- [Locations of mesoscale sectors](#)

Select an image:
Mar. 15, 2018 - 18:27 UTC

« Previous Next »
by product.

- Products
- [0.47 um \(Band 1\)](#)
 - [0.64 um \(Band 2\)](#)
 - [0.87 um \(Band 3\)](#)
 - [1.38 um \(Band 4\)](#)
 - [1.61 um \(Band 5\)](#)
 - [2.25 um \(Band 6\)](#)
 - [3.80 um \(Band 7\)](#)
 - [3.90 um \(Band 8\)](#)
 - [3.95 um \(Band 9\)](#)
 - [7.34 um \(Band 10\)](#)
 - [8.50 um \(Band 11\)](#)
 - [9.61 um \(Band 12\)](#)
 - [10.35 um \(Band 13\)](#)
 - [11.20 um \(Band 14\)](#)
 - [12.30 um \(Band 15\)](#)
 - [13.30 um \(Band 16\)](#)
 - [Air Mass](#)
 - [Asi](#)
 - [Day Cloud Convection](#)
 - [Day Cloud Phase](#)
 - [Day Convection](#)
 - [Day Land Cloud](#)
 - [Day Land Cloud Fires](#)
 - [Day Snow Fog](#)
 - [Daytime Microphysics](#)
 - [Differential Water Vapor](#)
 - [Dust](#)
 - [Fire Temperature](#)
 - [Nighttime Microphysics](#)
 - [Simple Water Vapor](#)
 - [SO2](#)

- Legend
- Currently Displayed
 - Available
 - Unavailable
- [Animate This Product](#)



Pre-defined "quick look" images

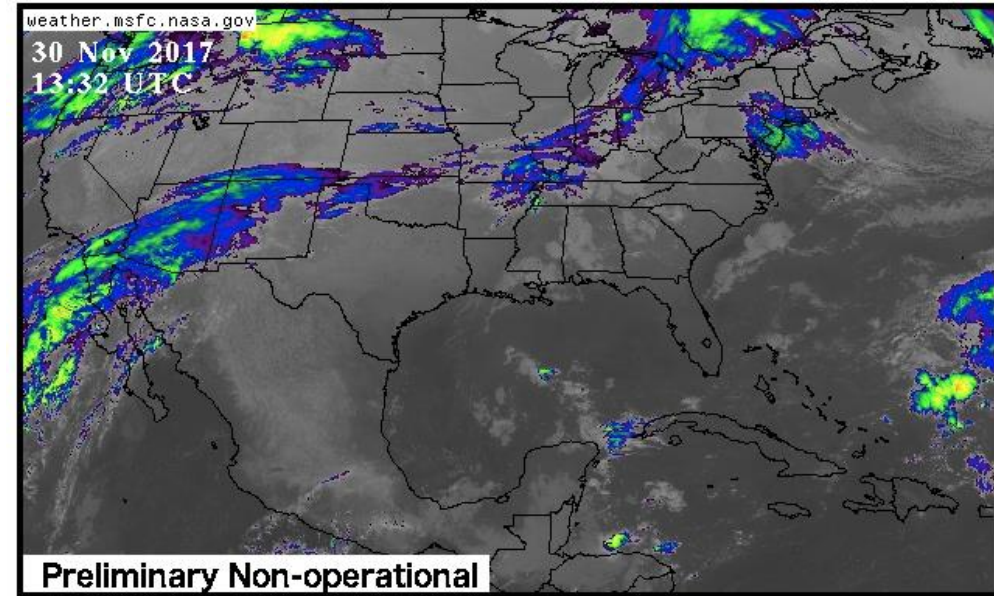
GOES-16 Wavelength: 11.20 μm Channel: 14 Resolution: 2 km
Used for: Imagery, sea surface temperature, clouds, rainfall.

Additional sectors / channels (hover over elements for description):

Choose

30 Nov 2017 15:53:16 UTC

30 Nov 2017 09:53:16 AM Local



Set controls below then click anywhere in the image to zoom.

Show a Single Image or an Animation as a image loop

Output Image (pixels): Width (100-1400): Height (100-1000):

Quality: Zoom Factor:

Map: Map Color:

Enhancement: Display color bar (IR2 only):

(choose image loop length above)

Dynamically-generated images (manual or via API)



Delivering Data to End Users

Unidata Local Data Manager (LDM)

- Network client and server programs designed for event-driven data distribution = **LOW LATENCY**
- The fundamental component comprising the Unidata Internet Data Distribution (IDD) system
- Over 260 universities, National Weather Service, and International end users
- <https://www.unidata.ucar.edu/software/lDM/>

HTTPS File Server

- Select files are placed onto a publically-accessible HTTPS file server
- Anonymous (no login required)

GIS

- Current geoserver implementation supports requesting imagery via WMS interface standard
- Esri products (Portal, ArcMap, ArcGIS Pro) will be able to request data from SPoRT Portal