GOES-R Data Access and Training Resources

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Affiliations: 1 Satellite Products and Services Division; 2 GOES-R Product Readiness and Operations Team, 3 Mission Operations Division; 4 NOAA Big Data Project

OVERVIEW OF GOES-R SERIES DATA ACCESS

Acronym	System Name	Description
GRB	GOES Rebroadcast	The primary relay of full resolution, calibrated, near-real-time broadcast of GOES-R for Level 1b data products. These data are available to all users with GRB receivers in view of a GOES-R series satellite at the East or West operational longitudes.
HRIT/ EMWIN	High Rate Information Transmission/ Emergency Managers Weather Information Network	The HRIT/EMWIN service is a new high data rate (400 Kbps) broadcast for GOES-R satellite imagery and selected products to remotely-located user terminals. Combines LRIT and the EMWIN direct broadcast service that provides users with weather forecasts, warnings, graphics and other information directly from the NWS in near real-time.
PDA	Product Distribution and Access	The Environmental Satellite Processing and Distribution System is responsible for receiving and storing real-time environmental satellite data and products and making them available to authorized users. The Product Distribution and Access (PDA) component of ESPDS provides real-time distribution and access services for GOES-R users through a terrestrial network.
CLASS	Comprehensive Large Array-data Stewardship System	Web-based data archive and distribution system for NOAA's environmental data. CLASS will provide retrospective data access and distribution services of GOES-R data to all users.

OVERVIEW OF GOES-R SERIES DATA ACCESS

Acronym	System Name	Description
GNC-A	GEONETCast Americas	GEONETCast Americas is the Western Hemisphere component of GEONETCast, a near real time, global network of satellite-based data dissemination systems designed to distribute space-based, air-borne and in situ data, metadata and products to diverse communities.
Websites	Websites on the Internet	NOAA, NASA, NOAA Cooperative Institutes, and Universities distribute GOES-16 imagery on their websites. Many universities receive data from Unidata. Unidata has GRB and NOAAPort receive stations.
BDP	Big Data Project	Demonstration Project. The BDP, through Cooperative Research and Development Agreements (CRADAs), currently works with five infrastructure-as-a-service (IaaS) providers to broaden access to NOAA's data resources.
NOAAPort	NWS Satellite Broadcast Network	GOES-R will provide selected products to the NWS Advanced Weather Interactive Processing System (AWIPS) Satellite Broadcast Network and NOAAPort. Sectorized Cloud and Moisture Imagery (SCMI) will be delivered via SBN/NOAAPort

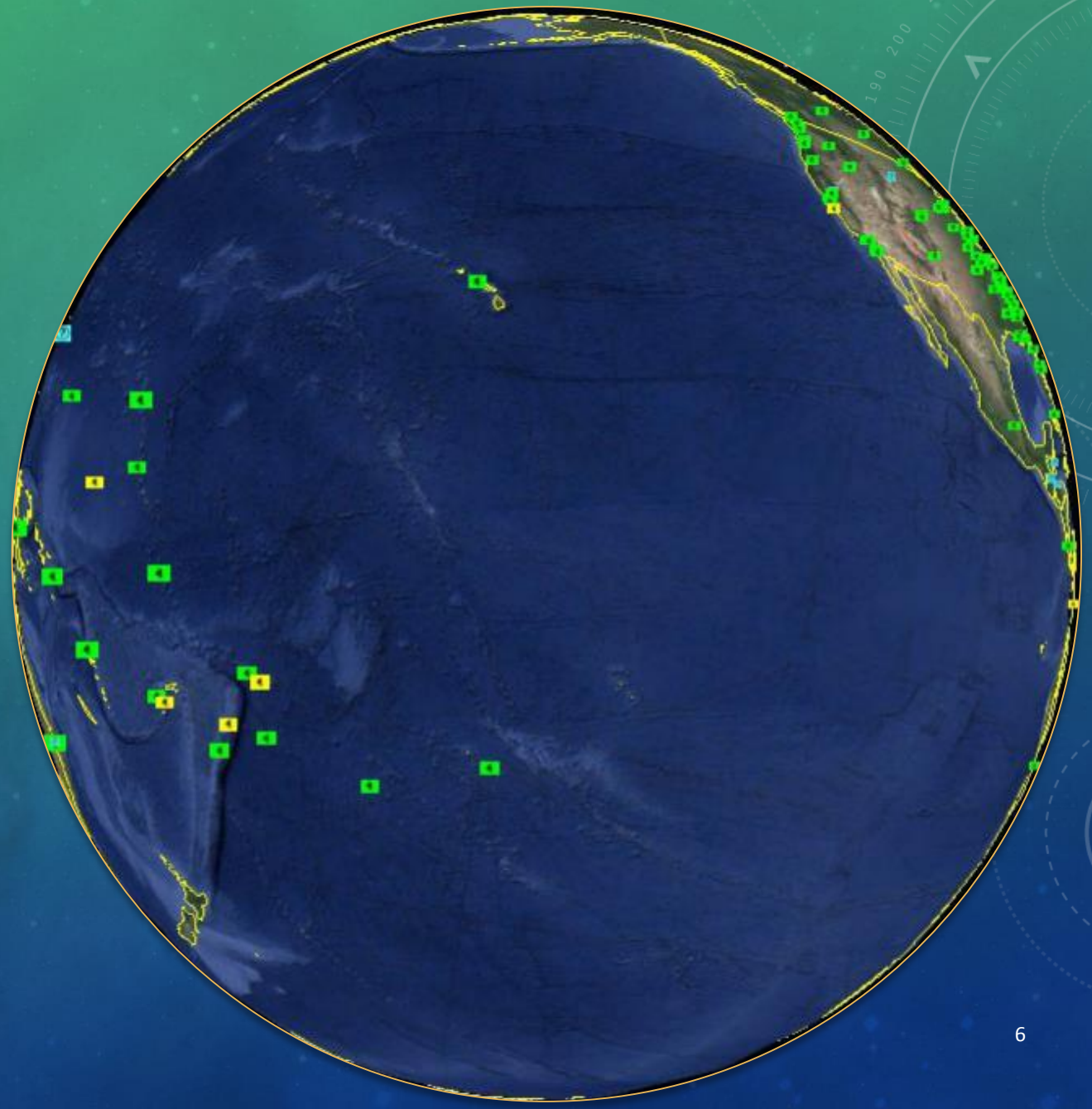
HRIT/EMWIN

- The High Rate Information Transmission (HRIT) / Emergency Managers Weather Information Service (EMWIN) broadcast is operational on GOES-16 and GOES-17.
- The HRIT/EMWIN product offering includes:
  - EMWIN products includes National Weather Service watches, warnings, forecasts and graphics
  - Additional 4 km resolution GOES-15 & Himawari-8 IR/WV/Visible Imagery (GOES-17 only)
  - GOES-16 & 17 Imagery – ABI Cloud and Moisture Imagery (CMI)
    - 2 km spatial resolution ABI Full Disk Bands 2, 7, 8, 9, 13, 14, and 15 available every 30 minutes
    - ABI mesoscale imagery in Bands 2, 7, and 13 available every 15 minutes (Band 2 is 0.5 km while Bands 7 and 13 are 2 km resolution)

RA-V HRIT/EMWIN Users

- Solomon Islands
- Tahiti
- Samoa (2)
- Tonga (2)
- Federated States of Micronesia
- Niue
- Papua New Guinea
- Kiribati
- Marshall Islands
- Fiji
- Cook Island
- Tuvalu
- Vanuatu

* 20+ receive stations are planned for the future*



PRODUCTION, DISTRIBUTION, AND ACCESS

- PDA service is dedicated for authorized near real-time users. Other near real-time distribution services are being explored as PDA is a finite resource
- The PUSH services are available only to users with a 24x7 support desk
- New user onboarding is currently suspended while the organization assesses time critical user needs and evaluates available capacity on the system
- Data access information is available at:

http://www.ospo.noaa.gov/Organization/About/access.html

- Must be signed by the Government official responsible for the data flow on the subscriber's end

LINKS TO WEB SITES

NOAA STAR GOES Image Viewer: https://www.star.nesdis.noaa.gov/GOES/

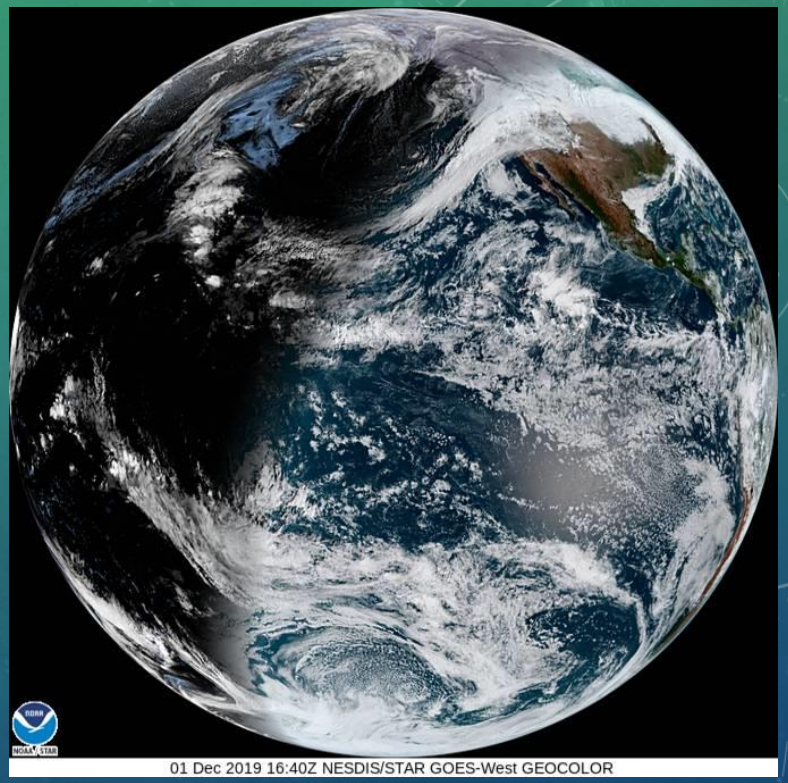
NOAA/NESDIS Geostationary Satellite Server: https://www.goes.noaa.gov/

NOAA satellite direct broadcast systems (GRB, HRIT, EMWIN, HRD, GNC-A)
http://www.noaasis.noaa.gov/NOAASIS/ml/satservices.html

NOAA Centers for Environmental Information (NCEI) portal NOAA/NESDIS CLASS
http://www.class.ngdc.noaa.gov/saa/products/welcome

Cloud services (experimental)

- AWS: https://aws.amazon.com/public-datasets/goes/
- Google: https://console.cloud.google.com/launcher/details/noaa-public/goes-16
- OCC: http://edc.occ-data.org/goes16/getdata/



NOAA does not endorse web sites outside of the noaa.gov domain nor assure their availability and reliability.

LINKS TO WEB SITES

GOES-17 GLM: https://www.weathernerds.org/

Several online resources from the University of Wisconsin–Madison Space Science and Engineering Center (SSEC) Cooperative Institute for Meteorological Satellite Studies (CIMSS)

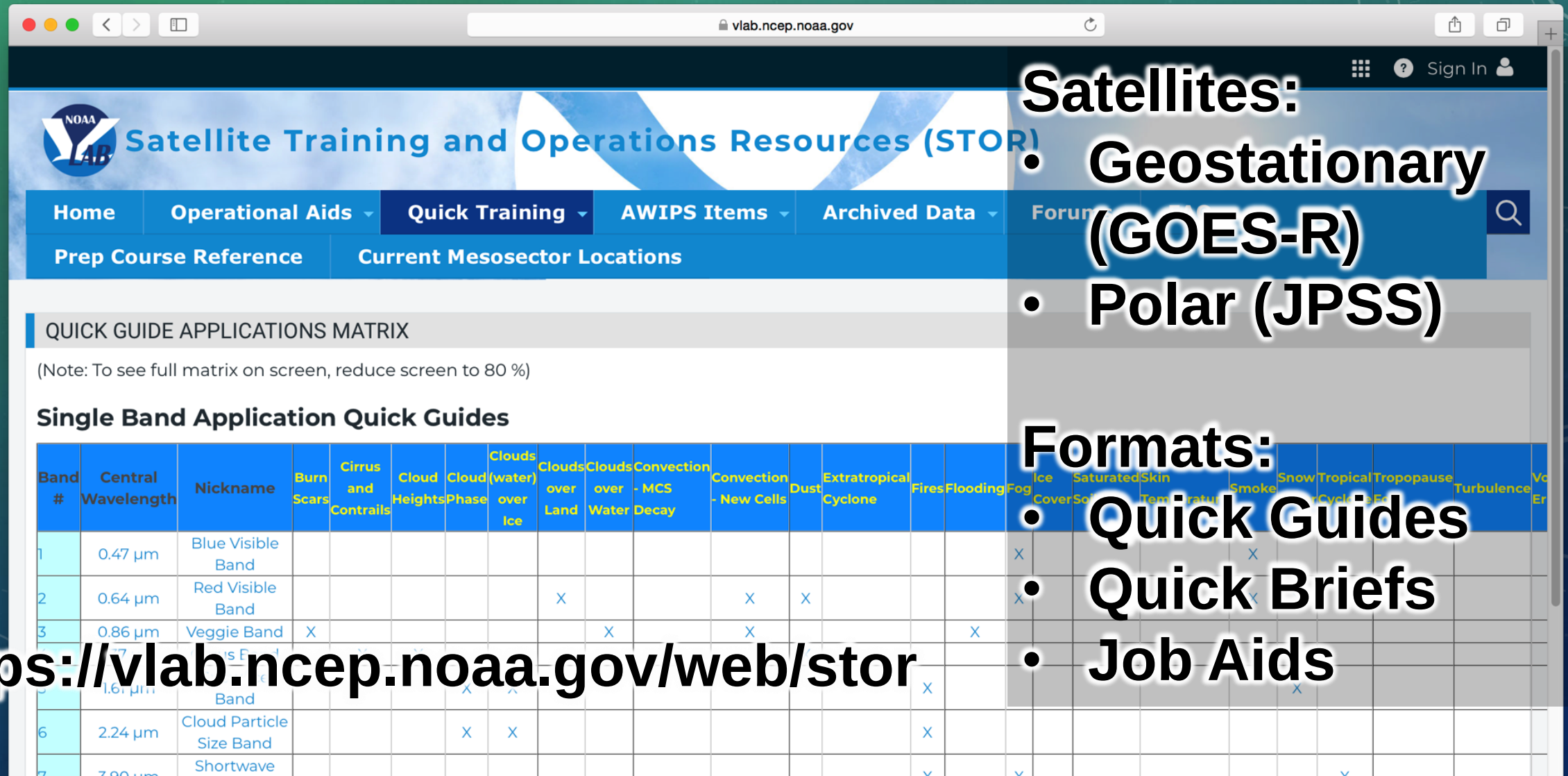
- RealEarth: https://realearth.ssec.wisc.edu/
- Geostationary Satellite Image Browser: SSEC Geo Browser Color hybrid with GOES-16/17 and Suomi NPP https://www.ssec.wisc.edu/data/geo
- UW-Madison SSEC/CIMSS List of GOES-16/17 Websites http://cimss.ssec.wisc.edu/goes/goesdata.html

ABI/AHI QUICK REFERENCE GUIDES

goes-r.gov

The University of Wisconsin and NOAA have developed a quick reference guide for each one of the AHI bands.

NOAA SATELLITE TRAINING SITE



Satellites:

- Geostationary (GOES-R)
- Polar (JPSS)

Formats:

- Quick Guides
- Quick Briefs
- Job Aids

https://vlab.ncep.noaa.gov/web/stor

SATELLITE INFORMATION FAMILIARIZATION TOOL (SIFT)

OPEN SOURCE SOFTWARE FROM THE COOPERATIVE INSTITUTE FOR METEOROLOGICAL SATELLITE STUDIES

Basic Information

- Latest version is 1.0.6
- Free downloads available for Windows, Mac, and Linux operating systems
- Can display imagery from ABI (downloadable from CLASS) and AHI
- Supports training for predominantly the National Weather Service (NWS)

Recent Developments

- Improved performance to handle multiple bands for multiple times over full disk
- Support for Lambert Conformal, Mercator, and geostationary map projections over CONUS and Pacific Basin
- Ability to customize imagery and produce RGB composites and band differences “on the fly”
- Can output image files

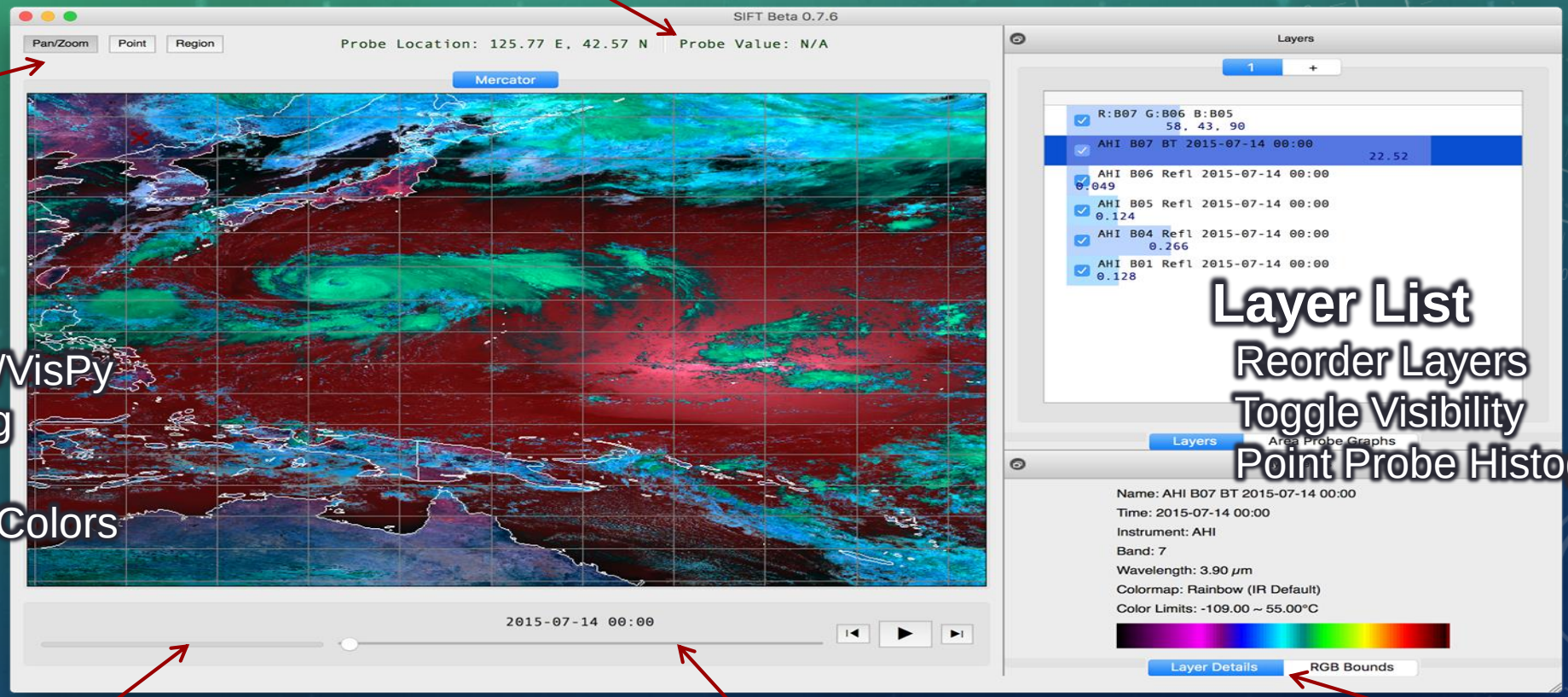
https://sift.ssec.wisc.edu/

SIFT Features and Functions

Point Probe Results

Tools
- Pan/Zoom
- Point Probe
- Area Selector

Map Display
- Powered by OpenGL/VisPy
- Panning and Zooming
- Dynamic Resolution
- Configurable Outline Colors



Layer List
- Reorder Layers
- Toggle Visibility
- Point Probe Histogram

Background Task Status

Animation Control
- Step-through or Autoplay
- Adjustable Speed Control

Layer Metadata
- Band Information
- Color Bar and Limits

NOTIFICATIONS, STATUS, AND CONTACTS

24/7 Help Desk	ESPCOperations@noaa.gov
ESPC Messages	https://www.ospo.noaa.gov/Operations/messages.html
User Services	SPSD.UserServices@noaa.gov
Data Access	NESDIS.Data.Access@noaa.gov
Facebook	https://www.facebook.com/NOAASatellites/
Twitter	https://twitter.com/NOAASatellites
GOES Status	https://www.ospo.noaa.gov/Operations/GOES/status.html
GOES User Information and Documents	https://www.ospo.noaa.gov/Operations/GOES/documents.html
Direct Services	https://noaasis.noaa.gov/NOAASIS/
GRB User Group	james.mcnitt@noaa.gov