

Some useful references from the AOMSUC-7 Conference and Training Workshop



Index

Topic 1: WMO web sites (OSCAR, SATURN, Access Guide)

Topic 2: Microwave products for precipitation monitoring

Topic 3: Other useful satellite web sites

Topic 4: Other references

Topic 1: WMO OSCAR

Getting started

Examine the web page

<https://www.wmo-sat.info/oscar/>

Choose "Satellite Capabilities"

Inspect "Recently launched"

Inspect "Planned launches 2016"

Click on FY-4A and inspect the LMI (Lightning Mapping Imager)

OSCAR
Observing Systems Capability Analysis and Review Tool

Home | Observation Requirements | Space-based Capabilities | Surface-based Capabilities

Welcome to OSCAR

OSCAR is a resource developed by WMO in support of Earth Observation applications, studies and global coordination.

It contains quantitative user-defined requirements for observation application areas of WMO (i.e. related to weather, water and climate) and detailed information on all earth observation satellites and instruments and their space-based capabilities.

The tool constitutes a building block of WIGOS and more specifically the Requirements Review process. OSCAR targets all users interested in the planning of global observing systems as well as data users looking for specifications at platform level. To continue, please select one of the following modules:

- Space-based Capabilities
- Surface-based Capabilities

Each of the modules can be consulted individually, however, the tool is also designed with the goal to integrate user requirements with actual capabilities. This facilitates the Rolling Requirements Review process, comparing "what is required" with "what is, or will be available", in order to identify gaps and support the planning of integrated global observing systems.

The tool is being further developed, and additional functionality and information will be added as appropriate. One future objective is to automatically generate first-level analyses of compliance between the quantitative requirements and the actual capabilities (space-or surface-based).

Satellite status updates

Recently launched | Planned launches 2016 | Statistics

Launch	Operator	Satellite	Payload
Nov 2016		GOES-R	ABI, EXIS, GEOS&R, GLM, SEMMAG, SUVI, DCIS, SEISS/MPS, SEISS/EHS, SEISS/SGPS
Nov 2016		ResourceSat-2A	AWIFS, LISS-4, LISS-3
Nov 2016		WorldView-4	GIS-2
≥2016		Aditya-1	VELC
≥2016		ASNARO-2	OPS
Dec 2016		CYGNSS (8 sats)	DDMI
Dec 2016		FY-3D	HIRAS, GAS, GNOS, MERSI-2, MWHS-2, MWRI, MWTS-2, SWS/PM, SWS/WAI, SWS/SEM/HEPD, SWS/SEMIMS
Dec 2016		FY-4A	DCS, GIIRS, LMI, AGRI, SEMIP/SEM, SEMIP-fields

OSCAR
Observing Systems Capability Analysis and Review Tool

Home | Observation Requirements | Space-based Capabilities | Surface-based Capabilities

Overview | Programmes | Satellites | Instruments | Frequencies | Agencies | Gap Analyses

Satellite: FY-4A

Satellite details

Acronym	FY-4A
Full name	Feng-Yun - 4A
Satellite Description	<ul style="list-style-type: none">1st flight unit of the FY-4 programme.Mission: operational meteorology.Significant contribution to space weather.
Mass at launch	5300 kg Dry mass
Power	3200 W
Data access link	no link provided
Data access information	<ul style="list-style-type: none">Near-real time availability of full resolution data by HRIT and CMACastAvailability of selected information by LRIT.Meteorological warnings (WAB) sharing the LRIT link.Availability of DCP messages by land lines.
Orbit	Geostationary orbit
Altitude	35786 km
Longitude	86.5° E
Space agency	CMA, NERCSC
Status	Planned
Details on Status (as available)	<ul style="list-style-type: none">Launch scheduled for December 2016.
Launch	Dec 2016 EOL ≥2021
Last update:	2016.08.08

Associated satellite programme and related satellites

Note: red tag: no longer operational, green tag: operational, blue tag: future

- Feng-Yun - 4
 - FY-4A (2016-12 - 2021)
 - FY-4B (2018 - 2025)
 - FY-4C (2020 - 2027)
 - FY-4D (2023 - 2030)
 - FY-4E (2027 - 2034)
 - FY-4F (2030 - 2037)
 - FY-4G (2033 - 2040)

Satellite Payload

All known Instruments flying on FY-4A

Acronym	Full name
DCS	Data Collection Service
CISSP	Cloud Imager and Spectrometer for High Resolution Sounder
LMI	Lightning Mapping Imager
SEMIP/SEM	Space Environment Monitoring Instrument Package - Space Environment Monitor
SEMIP-fields	Space Environment Monitoring Instrument Package - fields

Show instrument status and calibration

Topic 1: WMO Satellite User Readiness Navigator (SATURN)

Getting started

Examine the web page

<https://www.wmo-sat.info/satellite-user-readiness/>

Choose "Satellites – GEO-KOMPSAT-2A"

Scroll through the information to familiarise yourself with this satellite and its capabilities.

The image shows two screenshots of the WMO Satellite User Readiness Navigator (SATURN) website. The top screenshot shows the homepage with the 'Satellites' menu item highlighted in a red box. The bottom screenshot shows the 'GEO-KOMPSAT-2A' page, also with a red border, containing detailed information and a performance comparison table.

Satellite User Readiness Navigator (SATURN)
Preparing for the next generation of meteorological satellites

Home | **Satellites** | Data Access and Use | FAQ | Planning for readiness | Contacts

Home

Welcome to the WMO-CGMS Satellite User Readiness Navigator (SATURN). The new generation of Meteorological satellites, planned to enter operations in the 2015-2020 period, will present WMO Members with unprecedented opportunities and challenges. The aim of the SATURN portal is to provide a single point of access for all information needed for user community preparations. The content is provided by the satellite operators and by the WMO Space Programme. Explore this site using one of the following menus above:

- Se
- Se
- Acc
- Se
- FAQ

Newest entries

- Planning for Readiness
2 weeks ago
- GEO-KOMPSAT-2A Basic
4 weeks ago
- GEO-KOMPSAT-2A User Readiness Planning
4 weeks ago
- GEO-KOMPSAT-2A Instrument Performance
4 weeks ago

GEO-KOMPSAT-2A

GEO-KOMPSAT-2A Basic
Posted on 2016-10-13

[Content has been updated.]

GEO-KOMPSAT-2A Basic

① **Development of Geo-KOMPSAT-2A**

Geo-KOMPSAT-2A is under development and planned to be launched in 2018. The number of channels of Geo-KOMPSAT-2A will be increased from 5 to 16 and the number of meteorological products from 16 to 52, respectively.

Its ability of full disk scanning of every 10 minutes will make it possible to respond promptly to disasters.

Performance comparison between COMS and Geo-KOMPSAT-2A

	Number of Channels	Spatial Resolution (km)	Observation Cycle (times/hour)
COMS	5	1 (No), 4 (IR)	8
Geo-KOMPSAT-2A	16	0.5-1 (No), 2 (IR)	24

Newest entries

- Planning for Readiness
2 weeks ago
- GEO-KOMPSAT-2A Basic
4 weeks ago
- GEO-KOMPSAT-2A User Readiness Planning
4 weeks ago
- GEO-KOMPSAT-2A Instrument Performance
4 weeks ago
- GEO-KOMPSAT-2A Areas of Coverage and Observation Schedule
4 weeks ago

Recent comments

About
Webmaster
Disclaimer

Topic 1: WMO Product Access Guide

Getting started

Examine the web page

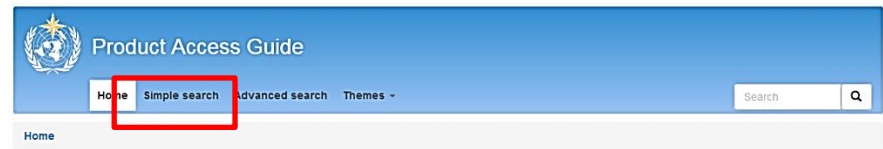
<https://www.wmo-sat.info/product-access-guide/>

Choose "Simple Search" then "Atmosphere"

Choose "Precipitation"

Note the web links pertaining to "Product Collections" and also the "Expert Groups"

Click on "JAXA GSMap Global Rainfall"



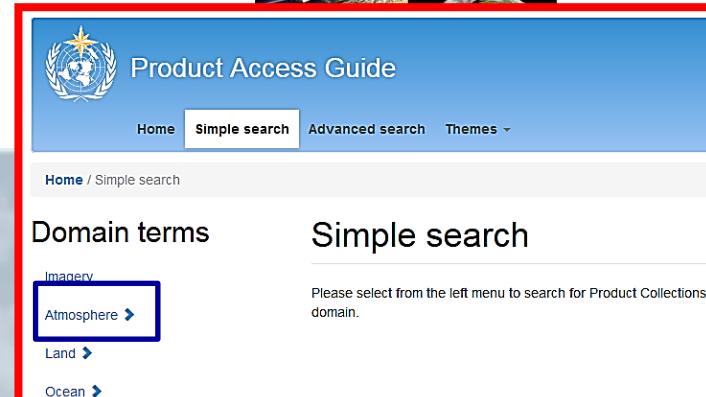
Welcome

Welcome to the WMO Product Access Guide (PAG) for satellite products. To find product collections, expert teams and training material, please use one of the 3 main navigation options:

- Use the "quick search form" available in the top right corner, to search for keywords such as "wind, precipitation, space weather, agriculture..."
- Use the "simple search" to find product collections by geophysical domain, navigating through a hierarchical list
- Use the "advanced search" to combine different conditions, such as geographical regions, organization or cross-cutting themes

About the PAG

The goal of this Product Access Guide (PAG) maintained by WMO is to facilitate access to satellite-based geophysical datasets (mostly "level 2" products or higher) for users, and to provide guidance on these products where possible. This is achieved by linking to quality-controlled product collections made available online by data providers. Information on theme-specific international expert groups and training material is also provided. The PAG is simple and distinct from comprehensive data portals such as the GEO portal, the INSPIRE-GEO portal, or the WIS portals. One key target audience are less-experienced satellite data users, in particular from developing countries.



Domain terms		Precipitation				
Imagery		Product Collections				
Image	Organization	Access link	Geographical tag	Domain tag	Theme tag	
	NOAA	OSPO Precipitation Products (incl Hydro-Estimator)	Global	Precipitation, Inland water and flooding	Agriculture, Disaster risk reduction, Tropical meteorology, Water	
	EUMETSAT	EUMETSAT Product Navigator: Precipitation products	Global, Africa (Region I), Europe (Region VI)	Precipitation, Snow	Disaster risk reduction, Tropical meteorology, Water	
	NASA	TRMM Precipitation Products	Global	Precipitation	Tropical meteorology, Water	
	EUMETSAT	EUMETSAT Meteosat 0 deg Real-Time Products	Africa (Region I), Europe (Region VI)	Precipitation, Wind, Fire	Disaster risk reduction	
	NOAA	OSPO Tropical System Products	Global	Clouds, Wind, Precipitation	Disaster risk reduction, Tropical meteorology	
	EUMETSAT	EUMETSAT H-SAF: Support to Operational Hydrology and Water Management	Europe (Region VI)	Precipitation, Snow, Soil moisture	Agriculture, Cryosphere, Disaster risk reduction	
	EUMETSAT	EUMETSAT NWC SAF (Support to Nowcasting and VSRF)	Europe (Region VI)	Clouds, Wind, Precipitation	Disaster risk reduction	
	EUMETSAT	Meteosat Indian Ocean Data Coverage Visualised Products	Indian Ocean, Africa (Region I), Asia (Region II)	Precipitation	Disaster risk reduction, Tropical meteorology	
	JAXA	JAXA GSMap Global Rainfall	Global	Precipitation		

Topic 2: Microwave products - JAXA Realtime Rainfall Watch

Getting started

Examine the web page

<http://sharaku.eorc.jaxa.jp/GSMaP/>

Choose "Go to Realtime Rainfall Watch"

Then choose "full screen"

Choose your area of interest

Choose a date and time range, then "submit"

Also explore the 24 and 72 hour rainfall accumulations

JAXA GLOBAL RAINFALL WATCH
世界の雨分布速報

日本語 Last Update: 10 Nov 2016 04:54:41 UTC

Date: 2016 / 11 / 10 00:00-00:59 UTC Submit

Global Data Google Maps Layer

Map

JAXA Google

Rain 0.1 0.5 1.0 2.0 3.0 5.0 10.0 15.0 20.0 25.0 30.0 (mm/hr) GIF Animation: To display time from 5 hours ago

Cloud Rain MWR Coverage Latest Typhoon Google earth link

Go to Realtime Rainfall Watch

We offer hourly global rainfall maps in near real time (about four hours after observation) using the combined MW-IR algorithm with GPM-Core GM1, TRMM TMI, GCOM-W AMSR2, DMP series SSMIS, NOAA series AMSU, MetOp series AMSU and Geostationary IR data. [Click here to see the details of the algorithm.](#)

Sep/28/16 Our Web and ftp system will be

Rainfall Watch

衛星全球降水マップ GSMaP GLOBAL SATELLITE MAPPING OF PRECIPITATION

05:32:37 UTC

10 / 04:30-05:29 UTC Submit

Full Screen Normal

Opacity: GSMaP NOW

Rainfall Watch

衛星全球降水マップ GSMaP GLOBAL SATELLITE MAPPING OF PRECIPITATION

11/05:32:37 UTC

till 09:59 UTC Submit

Cloud Rain MWR Coverage 24h rainfall accumulation 72h rainfall accumulation

Opacity: Google Map GSMaP NOW

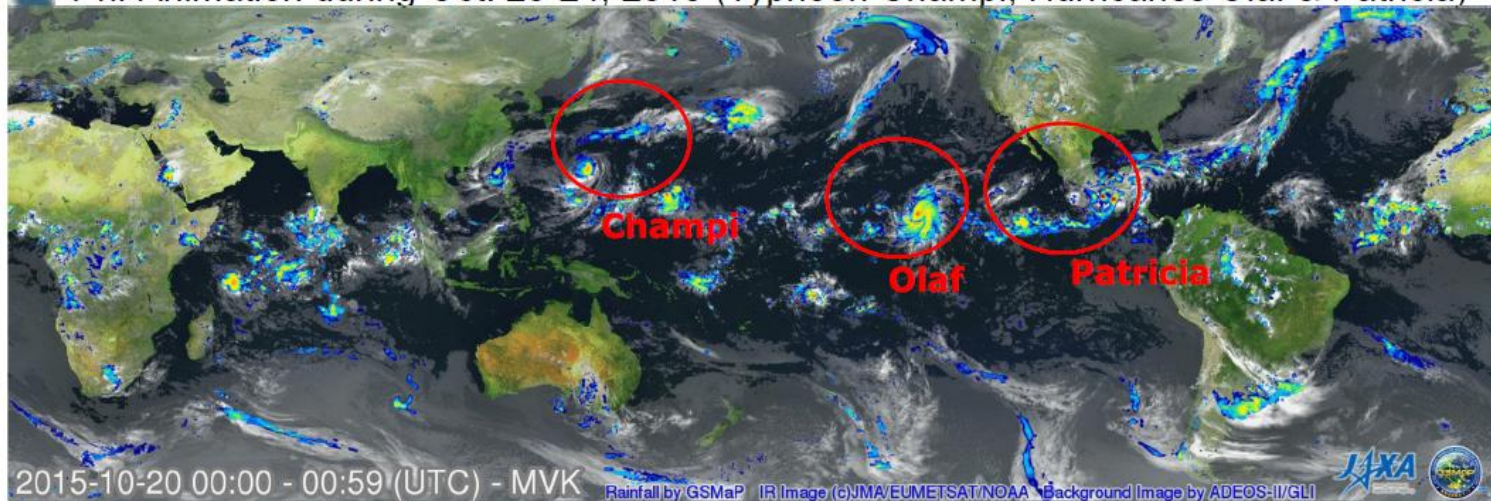
Topic 2: Microwave products - JAXA Realtime Rainfall Watch

Global Satellite Mapping of Precipitation (GSMaP)



<http://sharaku.eorc.jaxa.jp/GSMaP>

1-hr Animation during Oct. 20-24, 2015 (Typhoon Champi, Hurricanes Olaf & Patricia)



2015-10-20 00:00 - 00:59 (UTC) - MVK

Rainfall by GSMaP IR Image (c)JMA/EUMETSAT/NOAA Background Image by ADEOS-II/GLI

- ❑ GSMaP is a blended Microwave-IR product and has been developed in Japan for the GPM mission (Core and Constellations).
 - Processing and distributing global rainfall data in near real time basis (4-hour after observations) by merging multi-satellite data.
 - Hourly product in 0.1x0.1deg. lat/lon grid.
- ❑ "GPM-GSMaP" data were released on Sep. 2014.
 - Version update (Ver.4) is scheduled in Dec. 2016.
 - GSMaP Realtime version (GSMaP_NOW) over Himawari area (0-hr latency) has been available since Nov. 2016.

http://sharaku.eorc.jaxa.jp/GSMaP_NOW

Topic 2: Microwave products - JAXA Realtime Rainfall Watch

Use Case of GSMaP Realtime Version (GSMaP_NOW)

Case of Ogasawara Islands in Japan

Ogasawara Islands located outside the observation range of ground radar.

Difficult to capture horizontal rainfall distributions
using ground observation



JAXA provides to Ogasawara Village
"GSMaP_NOW Ogasawara customized version"

Ogasawara Village Web site

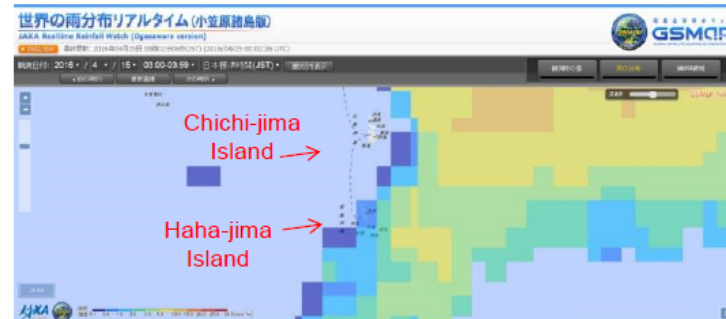
<http://www.vill.ogasawara.tokyo.jp/>



Ogasawara Islands
consists of
main two Islands.



"Rainfall over Ogasawara
watched from space"



http://sharaku.eorc.jaxa.jp/GSMaP_NOW/ogasawara.htm

Rainfall information coming from ocean is available in **REALTIME** using **GSMaP**!
If you are interested in use of GSMaP, please contact us.
(How about using in Christmas Island, Cocos Island, and so on?)

JAXA is willing to collaborate with those who are interested in GSMaP_NOW.

5

Topic 2: Microwave products - JAXA Realtime Rainfall Watch



Summary

- GPM
 - GSMP new version will be available in Dec. 2016.
 - GSMP realtime version (GSMP_NOW) with 0-hr latency is available over Himawari-8 area since Nov. 2016. Provide information to the islands where ground radar is not available.
 - <http://www.gportal.jaxa.jp/gp/top.html> (standard products)
 - <https://sharaku.eorc.jaxa.jp/GSMaP> (GSMP)
- GCOM-W
 - Successfully continues all-weather observations of water related parameters, e.g., SST, sea ice, ice sheet melting, etc.
 - <https://gcom-w1.jaxa.jp> (standard products)
 - http://suzaku.eorc.jaxa.jp/GCOM_W/research/resdist.html (research products)
- GCOM-C
 - SGLI algorithms are applied to Himawari-8 to produce consistent products between GEO-LEO satellites.
- Himawari-8
 - JAXA Himawari Monitor to distribute images and data of Himawari-8 (L1, JAXA-developed L2 & L3) has opened since August 2015.
 - Renewal of web and products in August 2016.
 - <http://www.eorc.jaxa.jp/ptree>
- Research Announcement
 - Deadline is Nov. 15, 2016
 - http://www.eorc.jaxa.jp/en/research/ra/1st_ra_eo

Topic 2: Microwave products (MIMIC-TPW ver.2)

Getting started

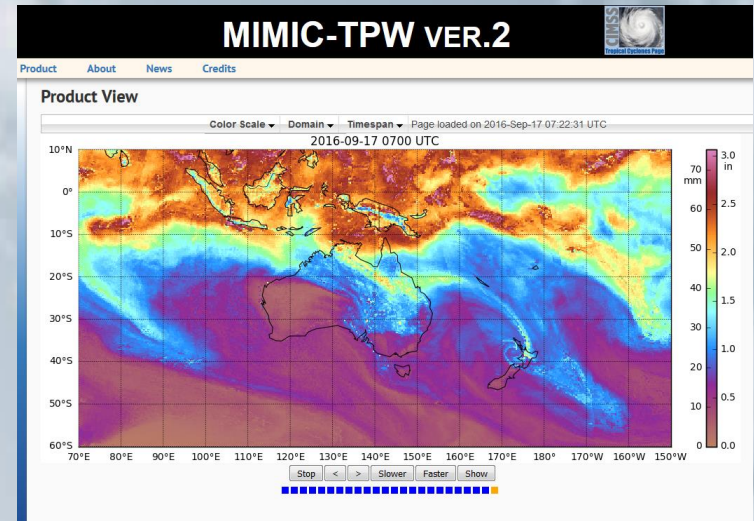
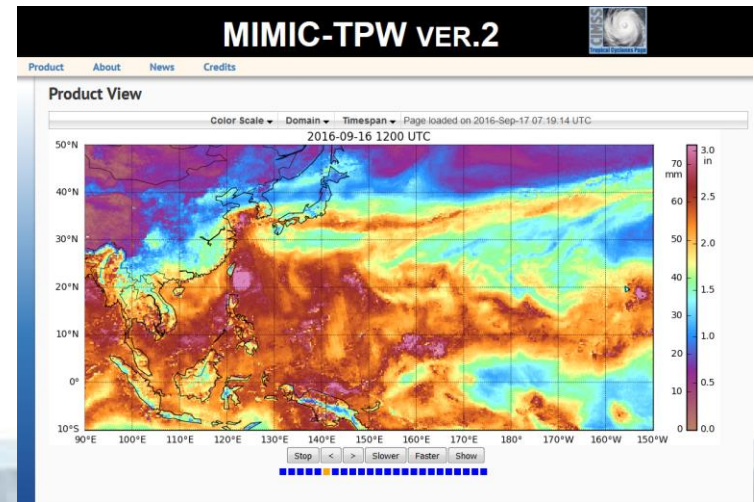
Examine the web page

http://tropic.ssec.wisc.edu/real-time/mtpw2/product.php?color_type=tpw_nrl_colors&prod=wpac×pan=24hrs

If your region of interest is the SW Pacific or another domain, please change the "Domain" option

Vary the Timespan to the latest 48 or 72 hours

Read the "About" section to obtain information about how the product is created.



Topic 2: Microwave products and anomalies (NOAA)

Getting started

Examine the web page

http://www.ospo.noaa.gov/Products/bTPW/Product_Animation.html

Choose an area of interest.

Animate this imagery and compare the

TPW and the PCT for your region of interest

Examine the Image Increment period at 1 hour intervals and notice how the Polar Orbiting data is added to the dataset

The screenshot displays the NOAA Office of Satellite and Product Operations website. The header includes the NOAA logo and the text "OFFICE OF SATELLITE AND PRODUCT OPERATIONS" and "NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE". The navigation menu has tabs for ORGANIZATION, SERVICES, PRODUCTS, and OPERATIONS. The main content area is titled "Product Animation" and contains instructions: "To view an animation for a region of interest, click on an image in the table below, or click on a link in the right side menu. A new window will open that contains the animation." Below the instructions is a grid of 32 thumbnail images arranged in 8 rows and 4 columns. The columns are labeled TPW and PCT, and the rows represent different regions: Global, Conus, Super Natl, Atlantic, Africa, Asia, Europe, East Asia, North Pacific, West Pacific, East Pacific, South Pacific, Indian Ocean, and South Indian. To the right of the grid is a vertical menu with links for Home, TPW, PCT, and TPW & PCT, each followed by a list of regional links.

Topic 3: NASA Worldview Earthdata

Getting started

Examine the web page

<https://worldview.earthdata.nasa.gov/index.html>

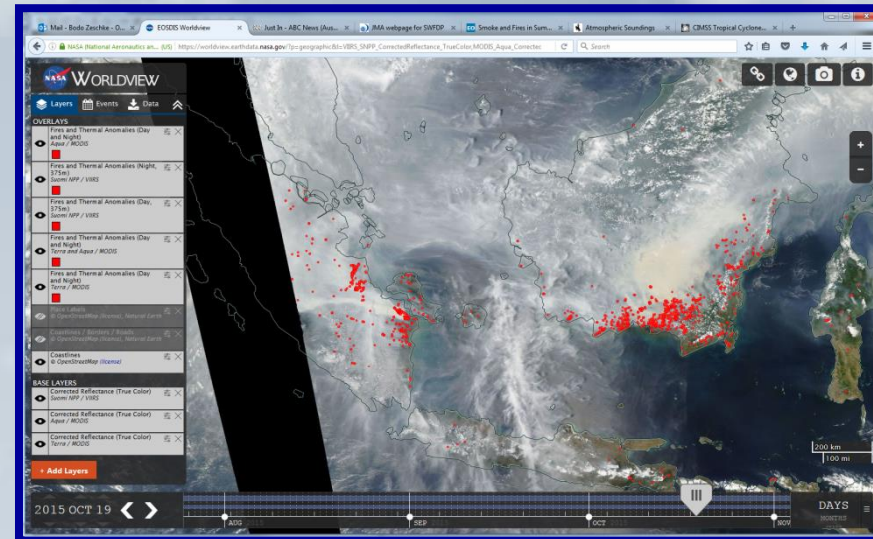
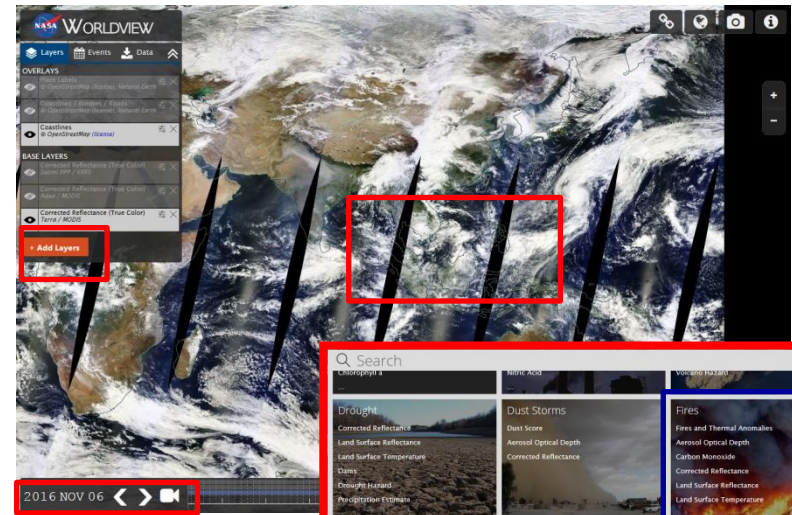
Skip the Tour

Select the west Indonesian region (as shown), choose the 19th October 2015

Click on "Add Layer"

Choose Fires, then Fires and Thermal Anomalies

Click on all of the options and then delete the layers that are not relevant



Topic 3: CIRA Himawari-8 imagery (1)

Getting started

Examine the web page

<http://rammb.cira.colostate.edu/ramsdi/s/online/himawari-8.asp>

Choose "Full Disk AHI Geocolour" and "HTML5 Loop"

Note the transition from daytime to night-time in the animation.

For an explanation of the night-time imagery please check the next slide



- RAMSDIS Online Home
- Tropical
- GOES-West / GOES-East
- GOES-R Proving Ground
- Central and South America and the Caribbean
- GOES Sounder
- Suomi NPP VIIRS
 - Random Granules
 - Arctic
 - COHUS
 - South America
 - Southwest Asia
- MSG-3
- Cold Air Aloft
- Himawari-8
- Himawari-8 Loop of the Day

Himawari-8 Imagery


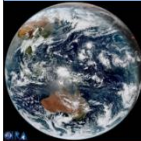
Imagery courtesy of the [Japanese Meteorological Agency](#)

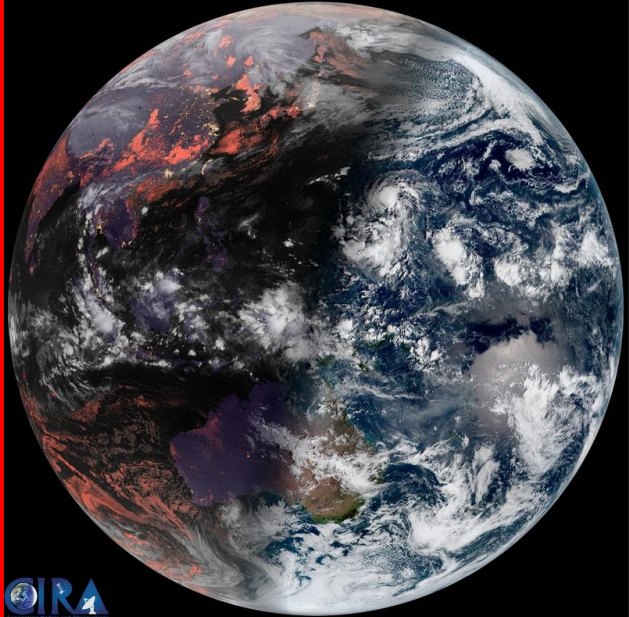
Please visit our new [Himawari-8 Loop of the Day](#) page.

Links to Specific Sections:

[Full Disk](#) [Floaters](#) [American Samoa](#) [Australia](#) [Bangladesh](#) [Eastern China](#) [Eastern Russia](#) [Guam](#) [Hawaii](#) [Indonesia](#) [Japan](#) [Marshall Islands](#) [New Zealand](#) [North Pacific](#) [Philippines](#) [Southeast Asia](#) [Tropics](#)

Full Disk

Full Disk AHI Natural Color  HTML5 Loop Latest Image 4 Wk. Archive Pop-up Loop Product Info	Full Disk AHI Geocolour  HTML5 Loop Latest Image Pop-up Loop Product Info
Full Disk AHI RGB Airmass	Full Disk Band 3 (0.64 µm, 2 km)



2016-11-10
22:40:00Z

Image Slider

(P)lay (L)oop (R)ock (R)et(V)erse


Animation Speed (-/+)

Show/Hide

Current (I)mage (A)dvanced Controls

All (C)ontrols

[Experimental Products Disclaimer](#)



Topic 3: CIRA Himawari-8 imagery (2)

More information about the GeoColour product

Examine the web page

<http://rammb.cira.colostate.edu/research/goes-proving-ground/cira-product-list/geo-color-imagery-detailed.asp#6>

In particular, section 3, "Product Examples and Interpretation"

An explanation slide is also shown next from an AOMSUC-7 presentation by Mr. C.Seaman



Cooperative Research Program (CoRP) | Center for Satellite Applications and Research (STAR)



GeoColor Imagery - Detailed Information

[GOES-R Home](#) | [CIRA Product List](#)

[Go back to basic information...](#)

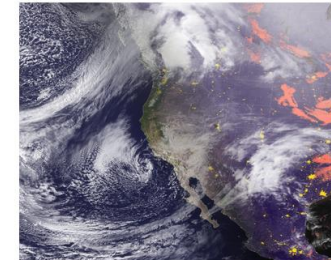


Fig. 1. Example of the GeoColor image product rendered over the continental United States. The product depicts clouds and snow cover (when present) in white, moonlit nighttime terrain in purple, city lights from major metropolitan areas in yellow, and daytime land and shallow-water features in true color. Click on figure for full resolution.

3) Product Examples and Interpretation:

Figures 3 and 4 demonstrate the performance of the GeoColor product for daytime and nighttime scenes using imagery from Hurricane Katrina.

During the day (Figure 3), the Blue Marble true color background depicts blue ocean water in the Gulf of Mexico as well as light green shallow-water features (highly reflective sand/shoals) near Key West, Florida, and Key Largo (south of Cuba). Green vegetation dominates the land portions of the background scene. Close inspection reveals semi-transparent thin cirrus over Cuba, in contrast to the opaque clouds associated with Katrina's rain bands over southern Louisiana. At night (Figure 4), the Blue Marble background is replaced by nighttime city lights, shown as yellow/orange patches (to simulate the appearance of sodium lighting which dominates most urban lighting), corresponding to the major metropolitan areas. Again, note the transparency (city lights shining through cirrus) to the north of Katrina in contrast to the opacity (coastal cities obscured by deep, cold clouds) closer to the storm's rain bands. These city lights provide useful additional information to the imagery analyst in terms of relating the current location of weather features to population centers and major transportation corridors (e.g. small towns along interstates often manifest themselves as linear features traced out in the nighttime lights background).

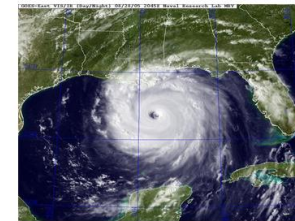


Fig. 3. Daytime composite of Hurricane Katrina advancing on the city of New Orleans, LA. Note cirrus transparency near Cuba, in contrast to the relative opacity of the primary hurricane cloud formations (e.g., spiral rainbands). Click on figure for full resolution.

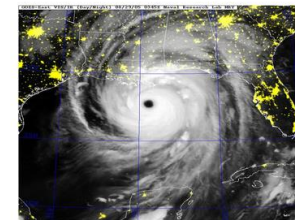
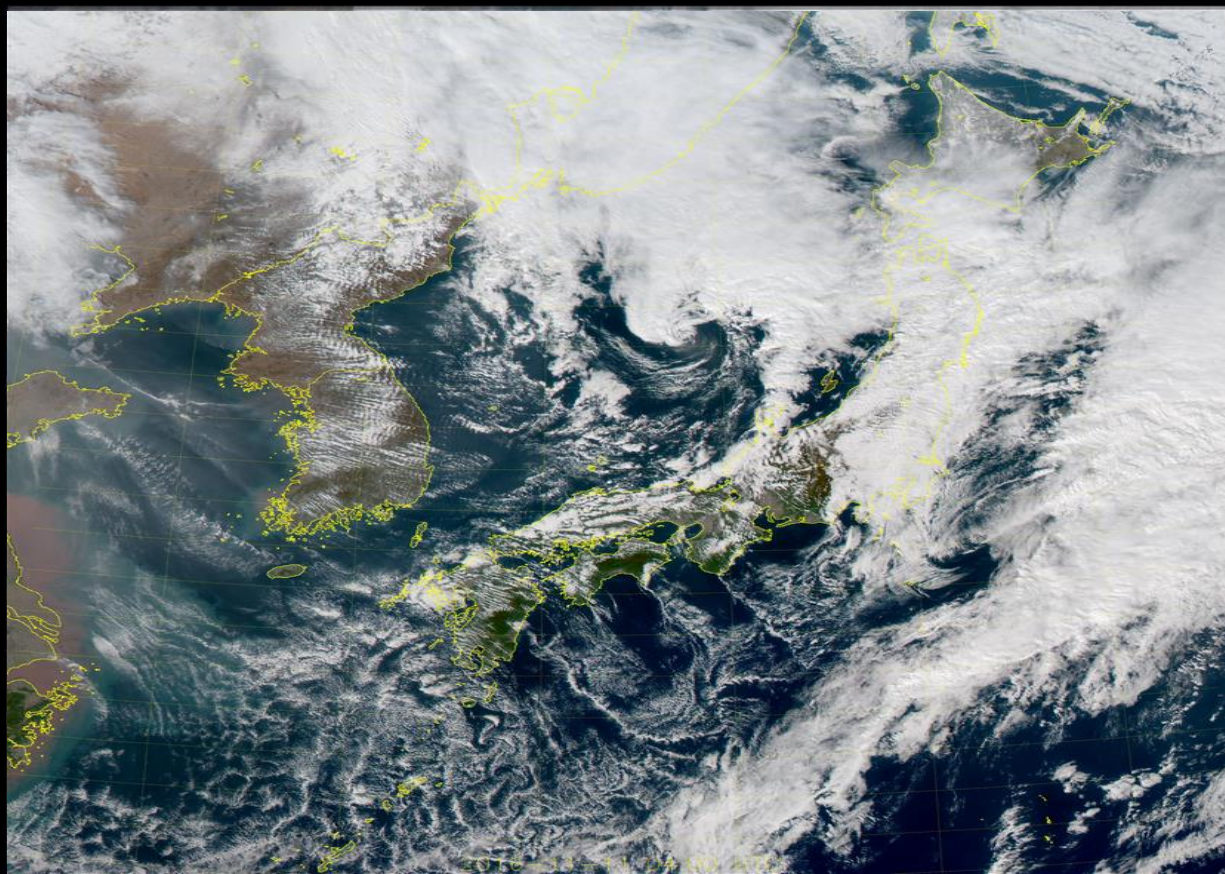


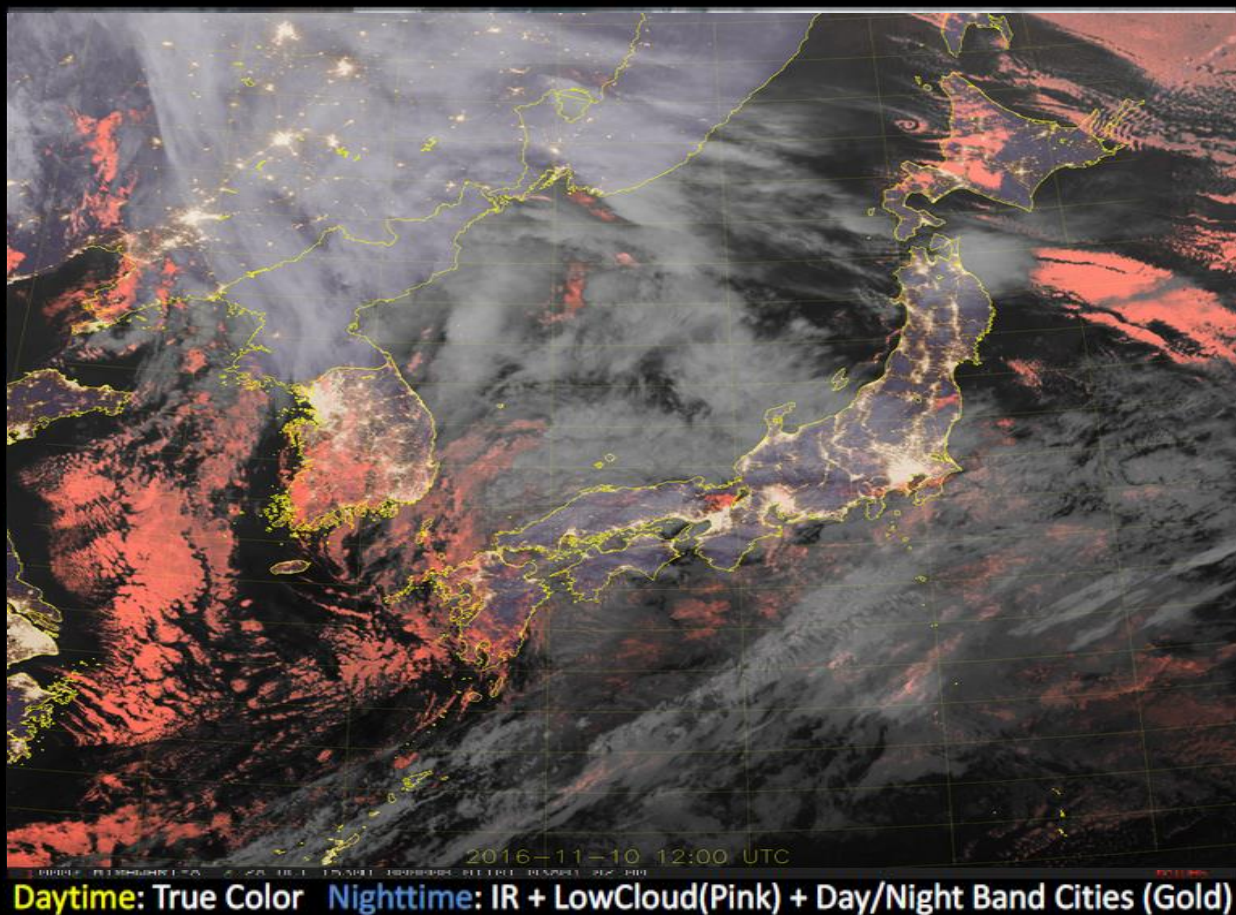
Fig. 4. Hurricane Katrina moves closer to the shore in this nighttime-only composite. Purple terrain has been turned off in the background of this example. City lights offer additional information on the proximity of storm features to major metropolitan areas. Click on figure for full resolution.

Korea/Japan Region in GeoColor

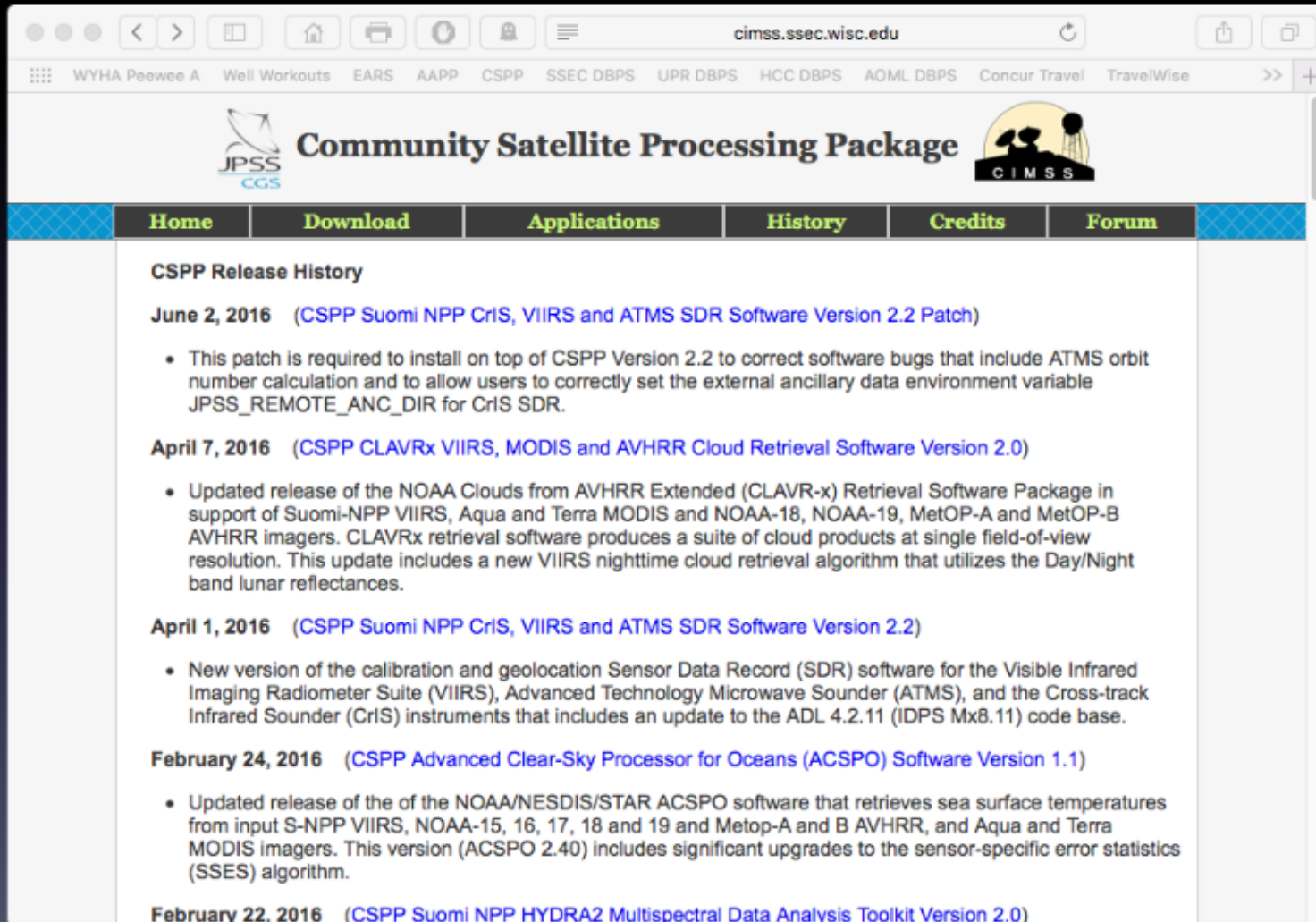


Daytime: True Color **Nighttime:** IR + LowCloud(Pink) + Day/Night Band Cities (Gold)

Korea/Japan Region in GeoColor



<http://cimss.ssec.wisc.edu/cspp/>



The screenshot shows a web browser window with the URL cimss.ssec.wisc.edu. The page title is "Community Satellite Processing Package" and features logos for JPSS CGS and CIMSS. A navigation menu includes Home, Download, Applications, History, Credits, and Forum. The main content area is titled "CSPP Release History" and lists several updates:

- June 2, 2016** ([CSPP Suomi NPP CrIS, VIIRS and ATMS SDR Software Version 2.2 Patch](#))
 - This patch is required to install on top of CSPP Version 2.2 to correct software bugs that include ATMS orbit number calculation and to allow users to correctly set the external ancillary data environment variable JPSS_REMOTE_ANC_DIR for CrIS SDR.
- April 7, 2016** ([CSPP CLAVRx VIIRS, MODIS and AVHRR Cloud Retrieval Software Version 2.0](#))
 - Updated release of the NOAA Clouds from AVHRR Extended (CLAVR-x) Retrieval Software Package in support of Suomi-NPP VIIRS, Aqua and Terra MODIS and NOAA-18, NOAA-19, MetOP-A and MetOP-B AVHRR imagers. CLAVRx retrieval software produces a suite of cloud products at single field-of-view resolution. This update includes a new VIIRS nighttime cloud retrieval algorithm that utilizes the Day/Night band lunar reflectances.
- April 1, 2016** ([CSPP Suomi NPP CrIS, VIIRS and ATMS SDR Software Version 2.2](#))
 - New version of the calibration and geolocation Sensor Data Record (SDR) software for the Visible Infrared Imaging Radiometer Suite (VIIRS), Advanced Technology Microwave Sounder (ATMS), and the Cross-track Infrared Sounder (CrIS) instruments that includes an update to the ADL 4.2.11 (IDPS Mx8.11) code base.
- February 24, 2016** ([CSPP Advanced Clear-Sky Processor for Oceans \(ACSP0\) Software Version 1.1](#))
 - Updated release of the of the NOAA/NESDIS/STAR ACSP0 software that retrieves sea surface temperatures from input S-NPP VIIRS, NOAA-15, 16, 17, 18 and 19 and Metop-A and B AVHRR, and Aqua and Terra MODIS imagers. This version (ACSP0 2.40) includes significant upgrades to the sensor-specific error statistics (SSES) algorithm.
- February 22, 2016** ([CSPP Suomi NPP HYDRA2 Multispectral Data Analysis Toolkit Version 2.0](#))

CSPP Software (October 2016)



CSPP Software	Product Description
1. SDR	VIIRS, CrIS, and ATMS geolocated and calibrated earth observations.
2. VIIRS EDR	VIIRS imager cloud mask, active fires, surface reflectance, vegetation indices, sea surface temperature, land surface temperature, and aerosol optical depth.
3. HSRTV	Hyperspectral infrared sounder retrievals of temperature and moisture profiles, cloud properties, total ozone, and surface properties.
4. Polar2grid	Reprojected imagery (single and multi-band) in GeoTIFF and AWIPS formats.
5. Hydra	Interactive visualization and interrogation of multispectral imagery and hyper spectral soundings.
6. MIRS	Microwave sounder retrievals of temperature and moisture profiles; surface properties; snow and ice cover; rain rate; and cloud/rain water paths.
7. CLAVR-x	Multispectral imager retrievals of cloud properties; aerosol optical depth; surface properties; ocean properties.
8. NUCAPS	Combined hyperspectral infrared sounder and microwave sounder retrievals of temperature and moisture profiles, cloud cleared radiances, and trace gases.
9. IAPP	Combined infrared sounder and microwave sounder retrievals of temperature and moisture profiles, water vapor, total ozone, and cloud properties.
10. ACSPO	Multispectral imager retrievals of sea surface temperature.
11. Sounder Quicklook	Projected 2D maps of temperature and water vapor retrievals, and Skew-T profiles for individual atmospheric profiles.
12. VIIRS Imagery EDR	VIIRS imagery in Ground Track Mercator projection from I-bands and Day/Night Band Near Constant Contract

Topic 4: Other links – GOES-R Baseline Products

<http://www.goes-r.gov/products/baseline.html>

GOES-R

Home Mission User Info Outreach Multimedia Resources Organization

GEOSTATIONARY OPERATIONAL ENVIRONMENTAL SATELLITE - R SERIES
A collaborative program of NOAA and NASA

USER INFO : PRODUCTS : **All Baseline Products**

BASELINE PRODUCTS

[GOES-R Level-1 Requirements \(L1RD\) Document](#)

The following is a compiled list of baseline products which will be made available by the GOES-R satellite. GOES-R baseline products are those that are funded for operational implementation as part of the ground segment base contract. Click links for baseline product descriptions.

ADVANCED BASELINE IMAGER (ABI)	GEOSTATIONARY LIGHTNING MAPPER (GLM)
Aerosol Detection (Including Smoke and Dust)	Lightning Detection: Events, Groups & Flashes
Aerosol Optical Depth (AOD)	
Clear Sky Masks	SPACE ENVIRONMENT IN-SITU SUITE (SEISS)
Cloud and Moisture Imagery	Energetic Heavy Ions
Cloud Optical Depth	Magnetospheric Electrons & Protons: Low Energy
Cloud Particle Size Distribution	Magnetospheric Electrons & Protons: Med & High Energy
Cloud Top Height	Solar & Galactic Protons
Cloud Top Phase	
Cloud Top Pressure	MAGNETOMETER (MAG)
Cloud Top Temperature	Geomagnetic Field
Derived Motion Winds	
Derived Stability Indices	EXTREME ULTRAVIOLET AND X-RAY IRRADIANCE SUITE (EXIS)
Downward Shortwave Radiation: Surface	Solar Flux: EUV
Fire/Hot Spot Characterization	Solar Flux: X-ray Irradiance
Hurricane Intensity Estimation	