Presentation Outline

- Overview of the Office of Satellite and Product Operations (OSPO)

- Status of Satellite Operations

- Status of McIDAS at ESPC

- Updates on Data Access and Distribution

- Q&A
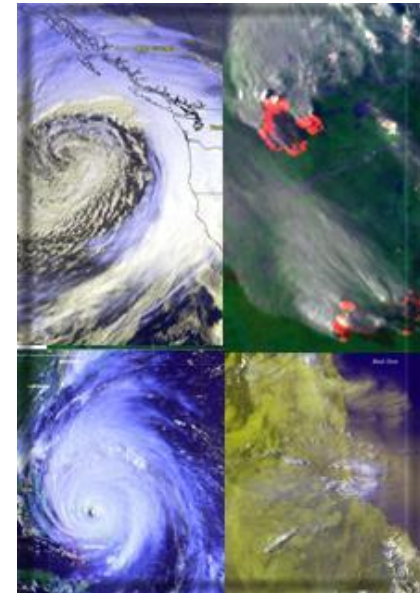
NESDIS Office of Satellite and Product Operations (OSPO)

- Operates the Nation's 16 environmental satellites:
  - 3 Geostationary (GOES) by NOAA
  - 3 Polar-Orbiting (POES) by NOAA
  - 6 Defense Meteorological Satellite program (DMSP) operated by NOAA
  - 2 OSTM Jason-2 & Jason-3 (Ocean Surface Topography Mission) - Joint NOAA, NASA, CNES, EUMETSAT effort
  - 1 Suomi National Polar-orbiting Partnership (NPP) by NOAA & NASA
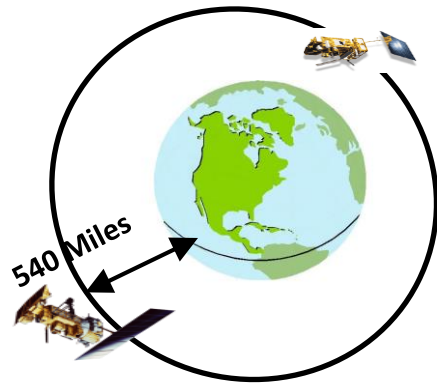 - 1 DSCOVR (Deep Space Climate Observatory) by NOAA

  *GOES-R scheduled to launch this Saturday, November 19, 2016.
  *JPSS-1 will launch no earlier than mid-March 2017.
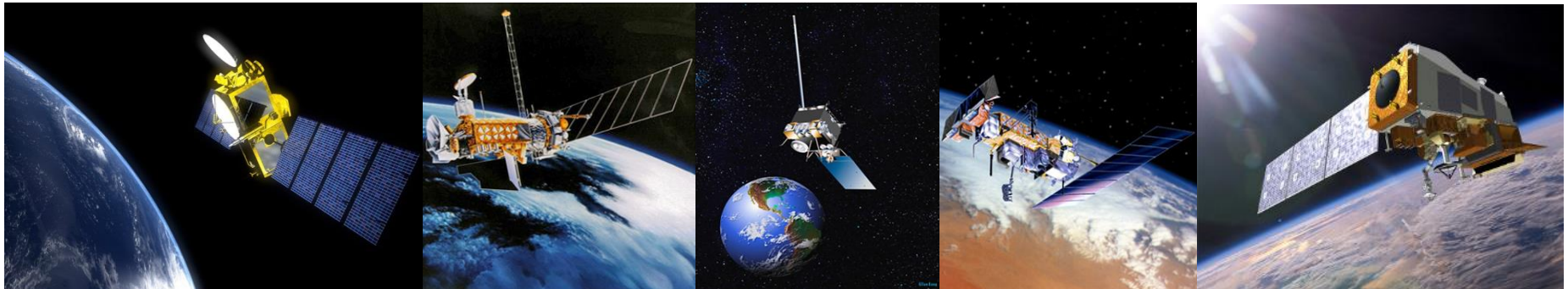
Three Observation Vantage Points

Polar-orbiting Operational Environmental Satellites

540 Miles

Each satellite covers the Earth twice per day

- Pole-to-pole orbit is 101 minutes and views each location at the same time of day; capability for ½ orbit dumps with JPSS-1
- Global coverage every 12 hours with one satellite
- EUMETSAT - mid-morning orbit
- NOAA - early afternoon orbit

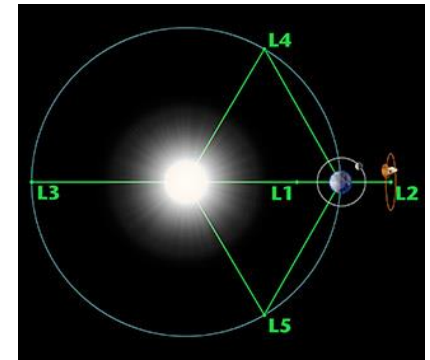## Geostationary Operational Environmental Satellites

22,300 Miles
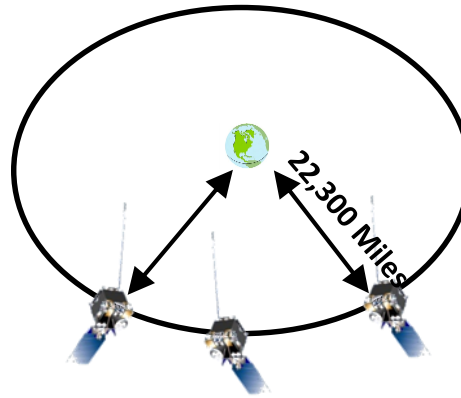
Continuous monitoring of the Americas

- Coverage over the same geographic location
- Constant monitoring for nowcast purposes and for forecast applications (NWP, etc.)

Deep Space at Lagrange 1 Point

Continuous monitoring of the Sun

- Uninterrupted view of the sun
- Information is used for solar winds monitoring for Space Weather warnings

OSPO's Key Roles

- Ground System Command & Control, Ingest, Generation, and Distribution

- Pre-Launch and Post-Launch Testing

- Operational Testing, Validation, and Verification

- User Readiness for Broadcast Services and Product Delivery

- Long-Term Continuity of Products and Services
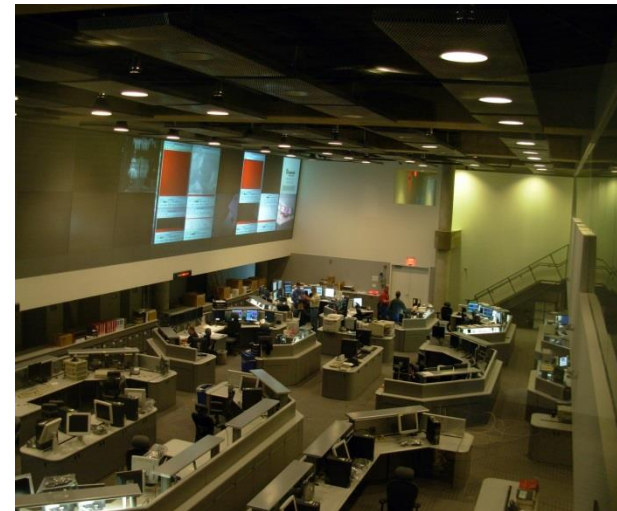
OSPO Operational Facilities

Suitland, MD

Over 500 staff supporting or operating the satellites, receptors, and processing systems

College Park, MD

Fairmont, WV*

Wallops, VA

Fairbanks, AK

* GOES-R and JPSS (New) Backup Facility

Nominal Satellite Data Flow
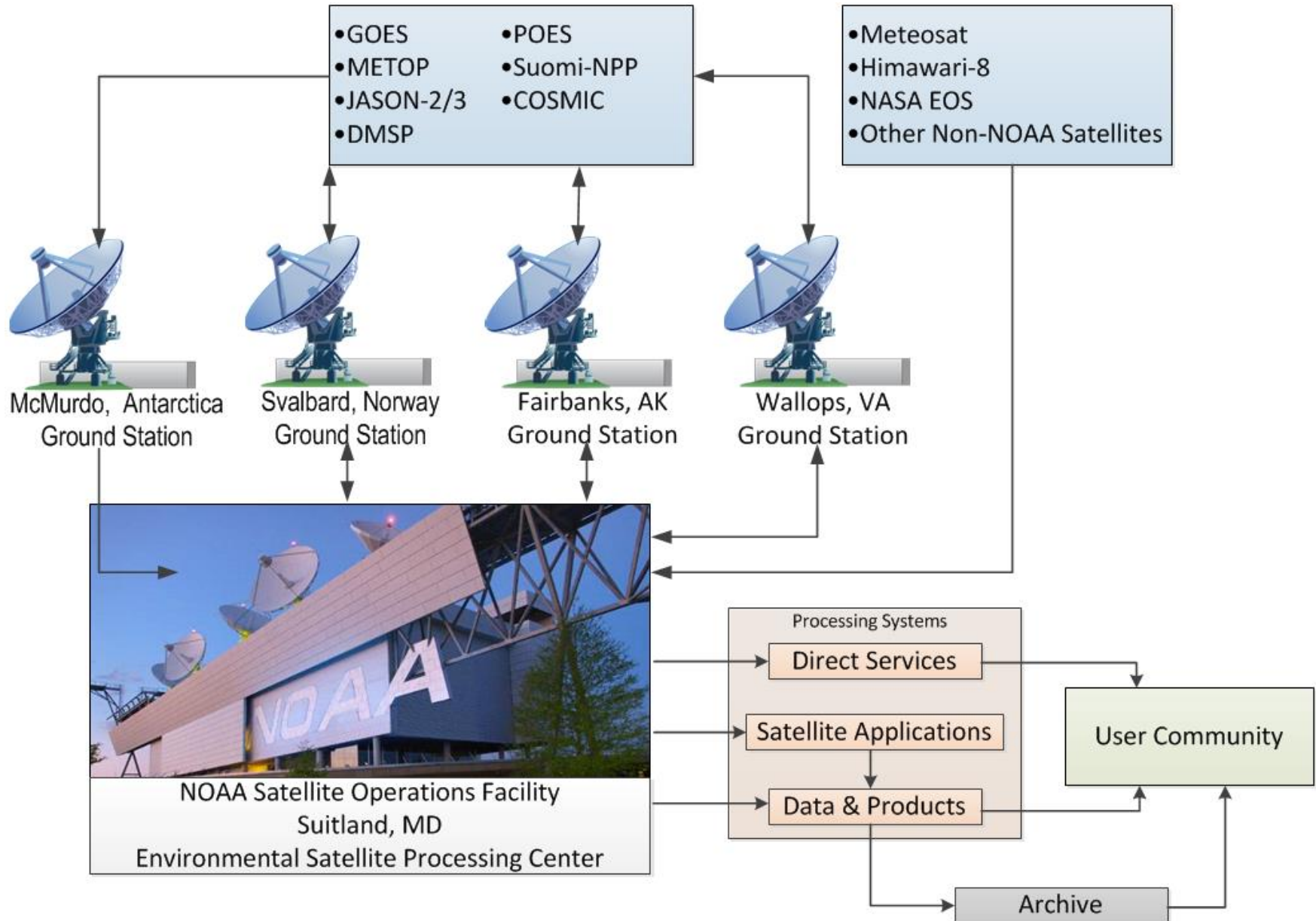
OSPO's Satellite Products and Services Division

- Provides 24x7 interpretive analyses of satellite data
  - Atmospheric temp/moisture
  - Hurricane intensity & position
  - Volcanic Ash
  - Fire and Smoke
  - Oil Spills
  - Significant Precipitation (20x7)
- Manages automated environmental products
- Collaborates with partners to support transition of research products into operations
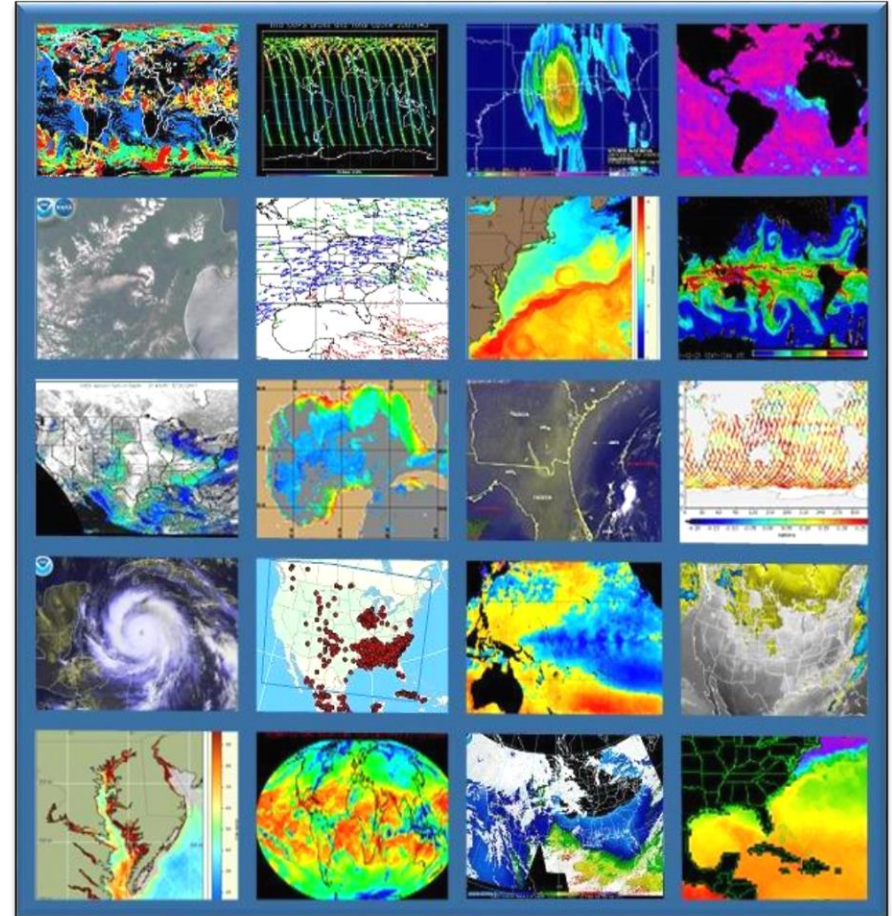
Direct Service Operations

Emergency Managers Weather Information Network (EMWIN):

- NOAA satellites relay critical information to users across the country.

  http://www.weather.gov/emwin/index.htm

Low Resolution Image Transmission (LRIT):

- NOAA satellites are used to relay satellite and weather products to users in remote locations, that do not have landlines or internet connections.

  http://www.noaasis.noaa.gov/LRIT/
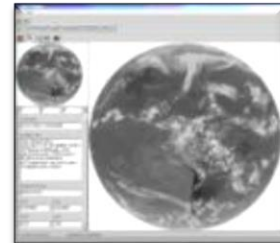
Data Collection:

- NOAA satellites are used to collect and relay scientific data from around the globe.

  http://www.noaasis.noaa.gov/DCS/   http://www.noaasis.noaa.gov/ARGOS/

Search and Rescue Satellite Aid Tracking (SARSAT):

- NOAA satellites are used to relay distress alerts from aviators, mariners and land-based users (http://www.sarsat.noaa.gov/

Geonetcast Americas:

- Data from NOAA for diverse societal benefits - agriculture, energy, health, climate, weather, disaster mitigation, biodiversity, water resources, and ecosystems.

  http://www.geonetcastamericas.noaa.gov/index.html

GEO Status

GOES Status (November 2016)

Payload Instrument	GOES-13 (East) Launch: May 06 Activation: Apr 10	GOES-14 (Standby) Launch: Jun 09 Activation:	GOES-15 (West) Launch: Mar 10 Activation: Dec 11
Imager	G	G	G
Sounder	R (1)	G	Y (5)
Energetic Particle Sensor (EPS)	G	G	G
Magnetometers	G	G	G
High Energy Proton and Alpha Detector (HEPAD)	G	G	G
X-Ray Sensor (XRS)	Y (2)	G	G
Solar X-Ray Imager (SXI)	Y (3)	G	S/C (6)
Spacecraft Subsystems			
Telemetry, Command & Control	G	G	G
Attitude and Orbit Control	S/C (9)	G	Y (8)
Fuel for Inclination Control	G	G	G
Propulsion	S/C (4)	G	G
Mechanisms	G	G	G
Electrical Power	G	G	G
Thermal Control	G	G	G
Communications Payloads	G	G	S/C (7)

Key

Operational
G

Spacecraft issues but no user impacts
S/C

Operational with limitations
Y

Non-operational
R

http://www.oso.noaa.gov/goesstatus

GOES Flyout Schedule

NOAA Geostationary Satellite Programs
Continuity of Weather Observations
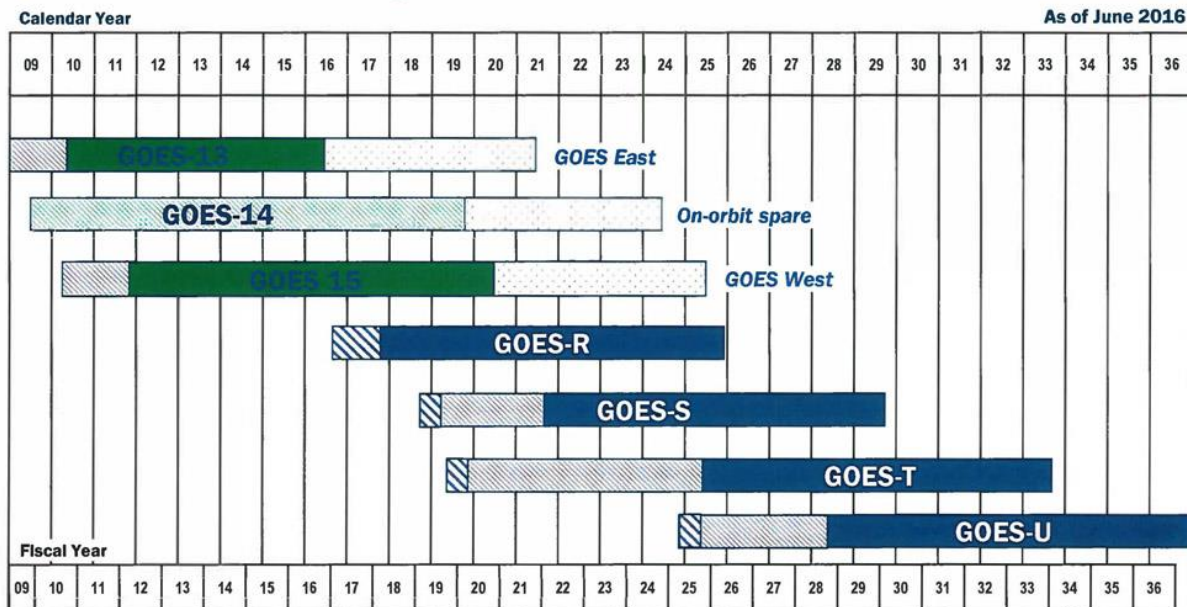
As of June 2016

http://www.nesdis.noaa.gov/FlyoutSchedules.html   http://www.goes-r.gov

GOES-R Update

- GOES-R Launch: Nov 19, 2016 at 5:42 p.m. ET to 89.5deg West

   - GOES-16 Post-Launch Testing: Nov 2016 – Apr 2017 at 89.5deg West

   - GOES-16 Extended Validation: Apr 2017 – Nov 2017 at 89.5deg West

- First public images for GOES-16 data: ~Jan 2017

- GOES-16 Positioned at GOES-East or GOES-West: ~Nov 2017

Future Launch Dates:

- GOES-S Launch: Feb 2018

- GOES-T Launch: 2019

- GOES-U Launch: 2024

GOES Constellation

GOES-West
GOES-15
135° West

GOES-East
GOES-13
75° West

Standby
GOES-14
105° West

GOES-R
Checkout
89.5° West
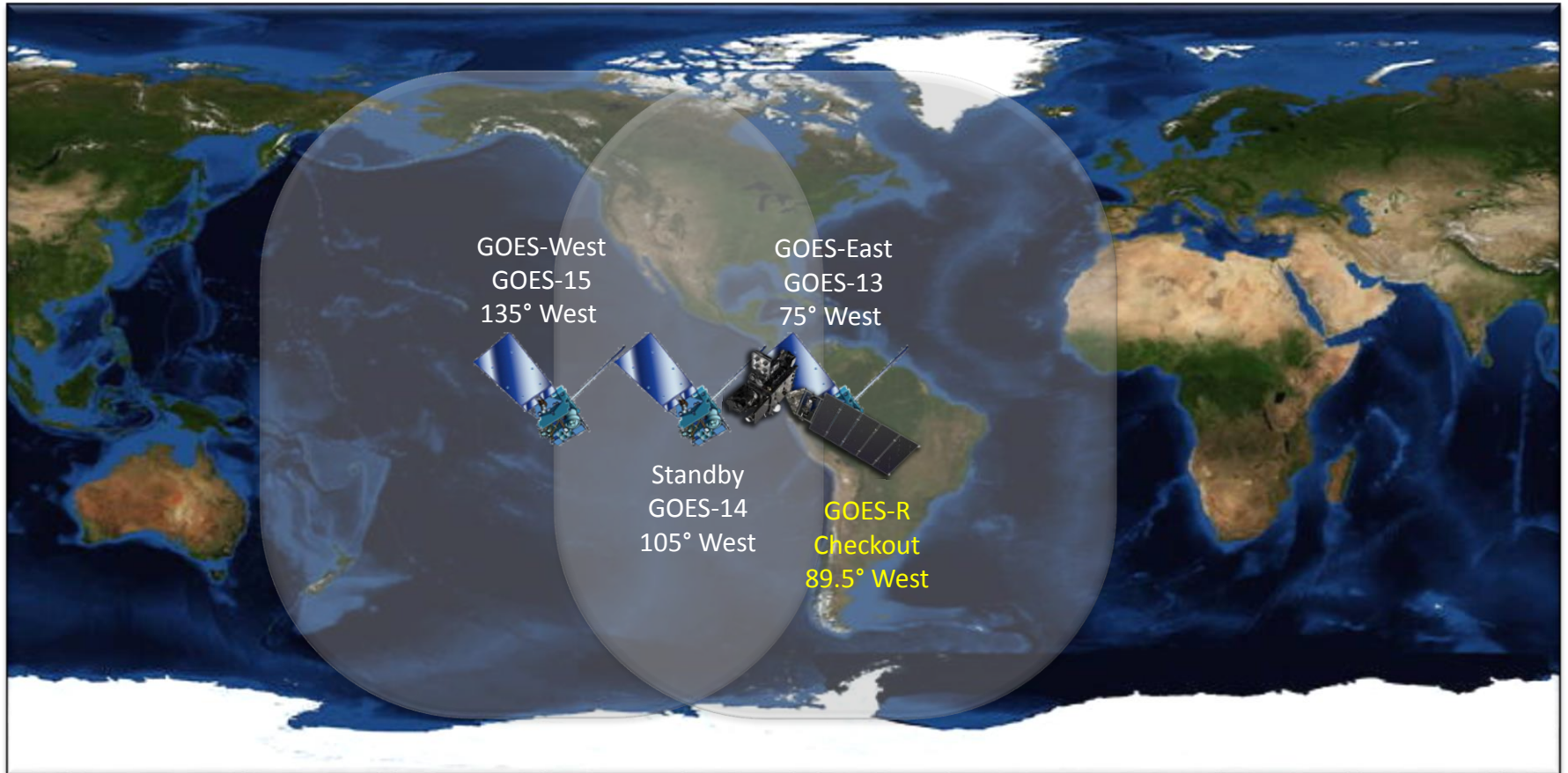
GOES Constellation

GOES-West
GOES-15
135° West
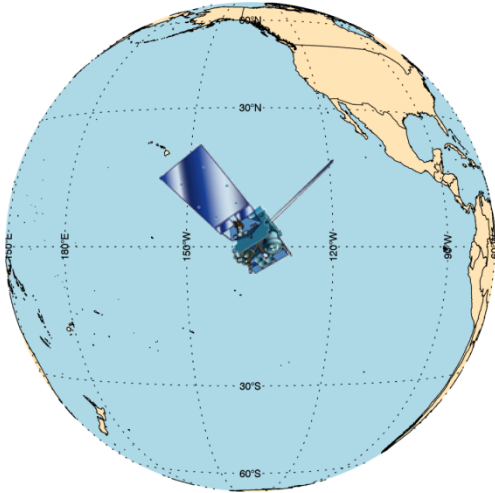
Standby
GOES-14
105° West

GOES-East
GOES-13
75° West

GOES-R
Checkout
89.5° West

- Primary source of data for short forecasting, especially of severe weather such as tropical storms
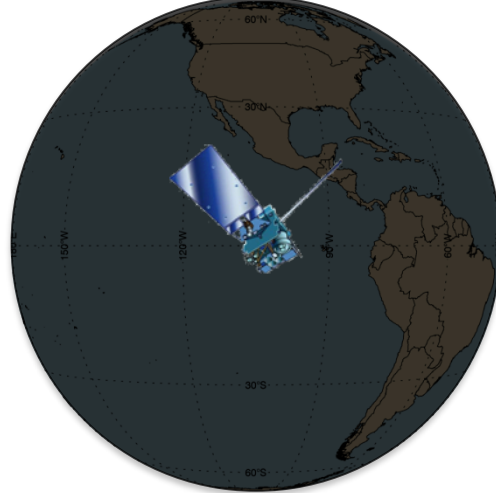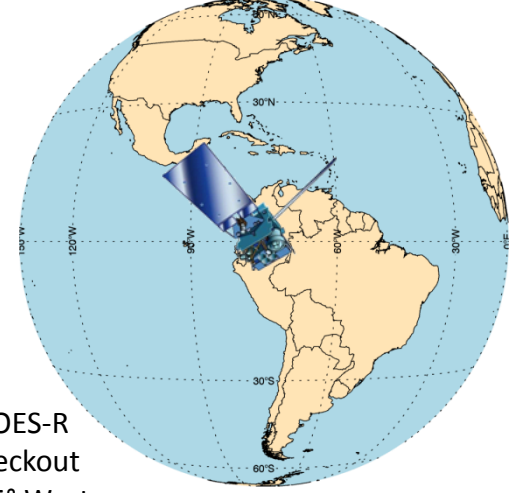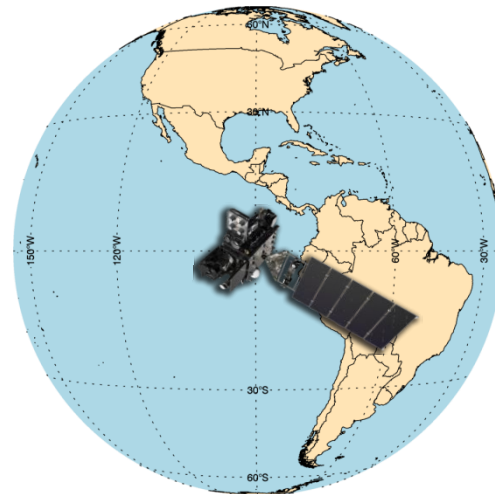
- Continuity of Operations since 1974

POES Status

POES Status (Nov 2016)

http://www.ospo.noaa.gov/Operations/POES/status.html

Operational	G
Spacecraft Issue but no User Impact	S/C
Operational with Limitation	Y
Non-Operational	R
Not Applicable	N/A

	METOP-A	METOP-B	NOAA-19	NOAA-18	NOAA-15
Launch Date	Oct 2006	Sept 2012	Feb 2009	May 2005	May 1998
Operational Date	May 2007	April 2013	Jun 2009	Aug 2005	Dec 1998
Mission Data Category	Secondary (AM)	Primary (AM)	Prime Services Mission (PM)	Secondary (PM)	Secondary (AM)
Payload Instruments					
AVHRR	G	G	G	G	Y(20)
HIRS	G	Y (33)	Y (32)	Y (3)	R (6)
AMSU-A1	G	G	G	G	Y(21)
AMSU-A2	G	G	G	G	
AMSU-B	N/A		N/A	N/A	R (12)
MHS	G	G	Y (8)	G	N/A
SEM	G	G	G	G	G
SBUV	N/A		S/C (9)	R(29)	N/A
Spacecraft Subsystems					
Telemetry, Command & Control	G	G	G	G	G
ADACS	G	G	G	Y (7)	Y(10)
EPS	G	G	G	G	G
Thermal Control	G	G	G	G	Y(22)
Communications	Y (1)	G	G	G	Y(23)
APT/LRPT	R (2)	G	G	G	G
DCS	N/A	N/A	N/A	G	G
ADCS	G	Y(31)	G	N/A	N/A
SAR	G	Y(31)	G	G	Y(24)

POES AVHRR Channel Switching

- Background: AVHRR Channel 3A/3B
  - Support hydrology community needs for snow/ice data mapping (channel 3A).
  - Support hazard community needs for fire detection and monitoring (channel 3B).
- Traditional configuration:
  - POES AVHRR using 3B, NOAA-15, NOAA-18 and NOAA-19
  - Metop AVHRR 3A/3B configuration: both A and B swapping at day/night terminator crossing
- Origin of initial request for switching and justification came from Geographic Information Network of Alaska (GINA).
- NESDIS formally granted NWS request for the activation of 3A/3B switching of NOAA-15 and NOAA-19 satellites to Channel 3A over the Alaska region for the period excluding May 15th to Sept. 15th.
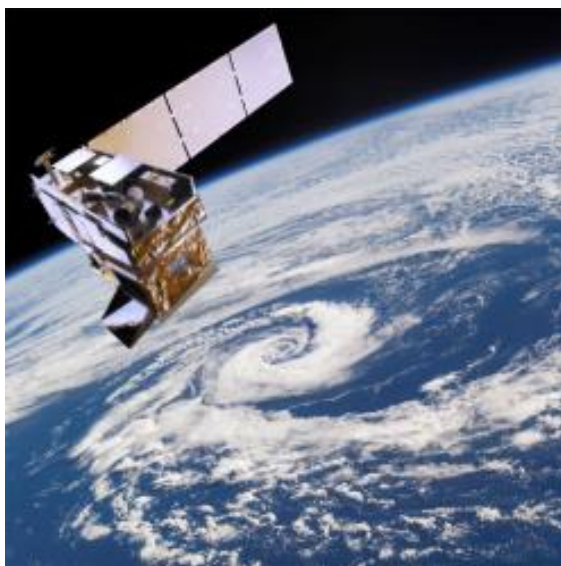
S-NPP Status (Nov 2016)

Spacecraft	S-NPP
Launch Date	Oct 28, 2011
Mission Category	LTAN 1330 (PM) +/- 10 mins

Payload Instruments	Status
ATMS	G
CERES	G
CrIS	G
OMPS – Nadir	G
OMPS – Limb	G
VIIRS	G

Spacecraft Subsystem	Status
TLM, Command & Control	G
ADCS	G
EPS	G
Thermal Control	G
Communications	G
CDP	G
SCC	G
GPS	G
1553	G
1394	G

Operational (or capable of)

Operational with limitations (or in standby)

Operational with degraded performance

Not functional

Functional but turned off

No status reported

Key Points: Suomi-NPP and JPSS-1

- Main mission objective is to provide KPPs (Key Performance Parameters):
  - Sounder data (ATMS/CrIS) for NWP data assimilation purposes
  - Imagery for high latitudes (VIIRS) for nowcasting purposes where geostationary satellite coverage is not present - Alaska
- Data volume outputs from these satellites are large (1.5 - 4 TB/day).
- Activities to extend critical life expectancy of key instruments (ATMS microwave sounder) have been implemented.
- Collision avoidance with space debris remains a challenge that is mitigated with risk mitigation maneuvers performed by the satellite.
- JPSS-1 launch expected no earlier than mid-March 2017.
- A significant ground system update is expected to take place in 2017.
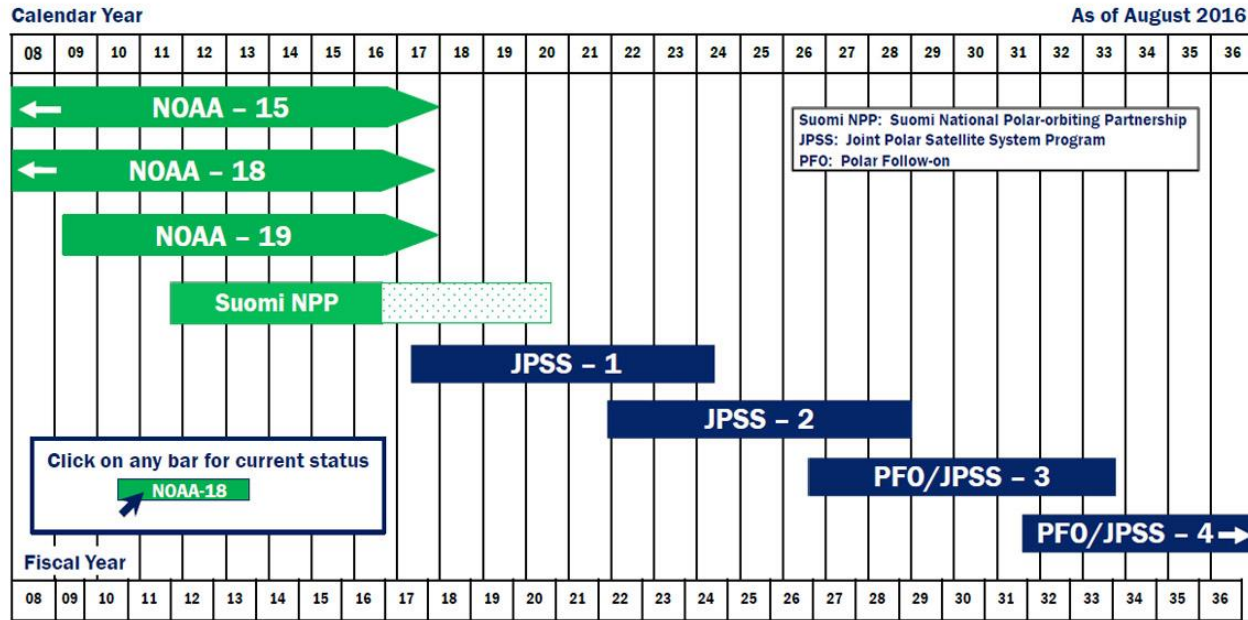
SNPP & JPSS-1 Concurrent Operations at OSPO

- The JPSS-1 mission profile is substantially similar to S-NPP as JPSS-1 will lead S-NPP by ½ orbit (i.e. ~51 min.)
- With the launch of JPSS-1, NOAA will operate two satellites within the same environment.
- S-NPP northern contact will often coincide with JPSS-1 southern contact.
- JPSS1- SMD playback data latency significantly improved vs. S-NPP(140 to 80 min.)
- The Community Satellite Processing Package (CSPP) supports direct readout users in making the transition from POES to SNPP and subsequently to JPSS.

LEO Flyout Schedule

NOAA Polar Satellite Programs
Continuity of Weather Observations

Calendar Year   As of August 2016

| 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |

NOAA – 15
NOAA – 18
NOAA – 19
Suomi NPP
JPSS – 1
JPSS – 2
PFO/JPSS – 3
PFO/JPSS – 4

Suomi NPP: Suomi National Polar-orbiting Partnership
JPSS: Joint Polar Satellite System Program
PFO: Polar Follow-on

Click on any bar for current status
NOAA-18

Fiscal Year

| 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |

Approved: _____ **Original Signed By**
Assistant Administrator for Satellite and Information Services

Note: Operations beyond design life are reflected through the next year based on current operating health.

In orbit and operating beyond design life
Launched before Jan 2008

Planned Mission Life, from Planned Launch Date
Planned Mission Life Beyond 2036
Fuel-Limited Lifetime Estimate

http://www.nesdis.noaa.gov/FlyoutSchedules.html   http://www.jpss.noaa.gov

Jason-3

Gathering environmental intelligence from the world's oceans

- Launched January 17, 2016

- February 12, 2016 - Began sending Operational Geophysical Data Records (OGDRs) to Ocean Prediction Center for evaluation.

- Full public release of Jason-3 products commenced this summer.

- Jason-2 successfully transferred to interleaved orbit on October 13, 2016

  – First Intermediate Geophysical Data Records (IGDRs) distributed to users on October 17, 2016

Space Weather Observations
Deep Space Climate Observatory (DSCOVR)

- Launched 11 February 2015, at L1 on 8 June

- NOAA took command on October 28, 2015

- DSCOVR will work together with GOES-R to locate and measure size of solar flares; provide earlier warning detection for geomagnetic storms.
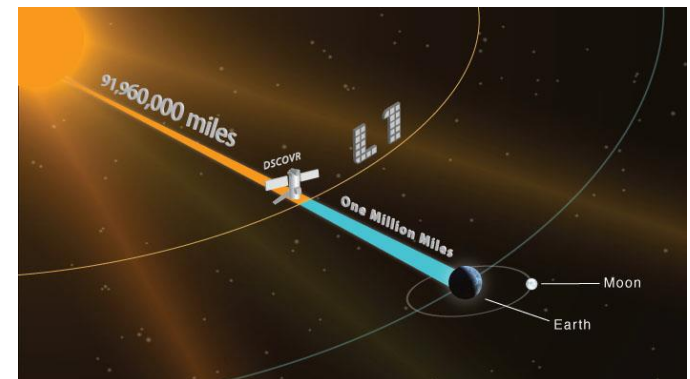
# Indian Ocean Data Coverage (IODC) - Mission Update

Meteosat-7 Transition Plans

- Meteosat-8 moves MSG-1/M-8) to 41.5° East longitude

- Drift period from July 1, 2016 to ~Sep 15, 2016 (TBC)

- Parallel operations of M-8 and M-7 (57.5° E) planned to run from Oct 2016– Jan 2017 (TBC)

- M-8 IODC service – Jan 2017 (TBC) – 2019 (TBC)

- Re-orbiting / Decommission of Meteosat-7 – April 2017 (TBC)

Meteosat-8 Transition
Metosat-10 Active
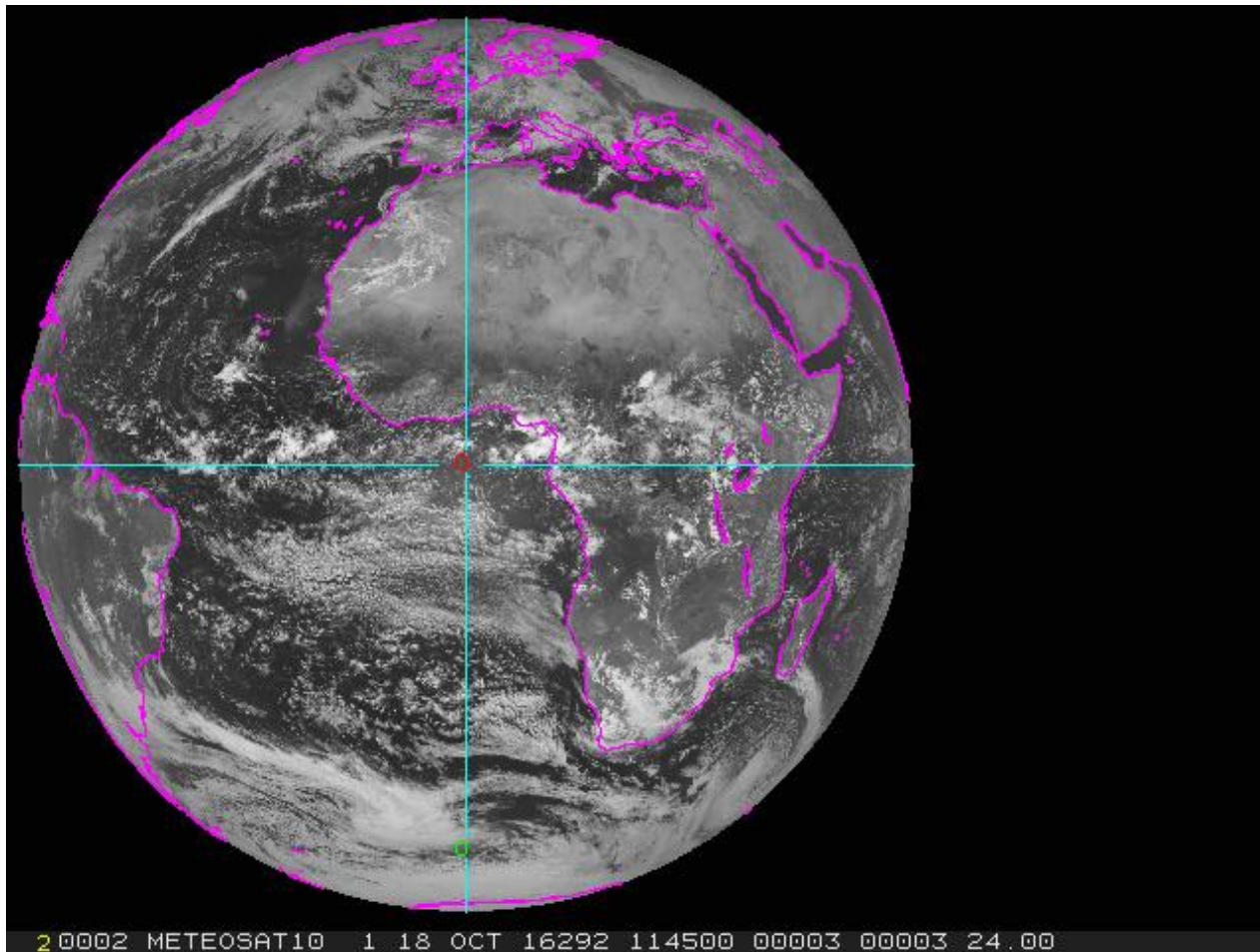
Proposed Meteosat-8 IODC Services – Image Data
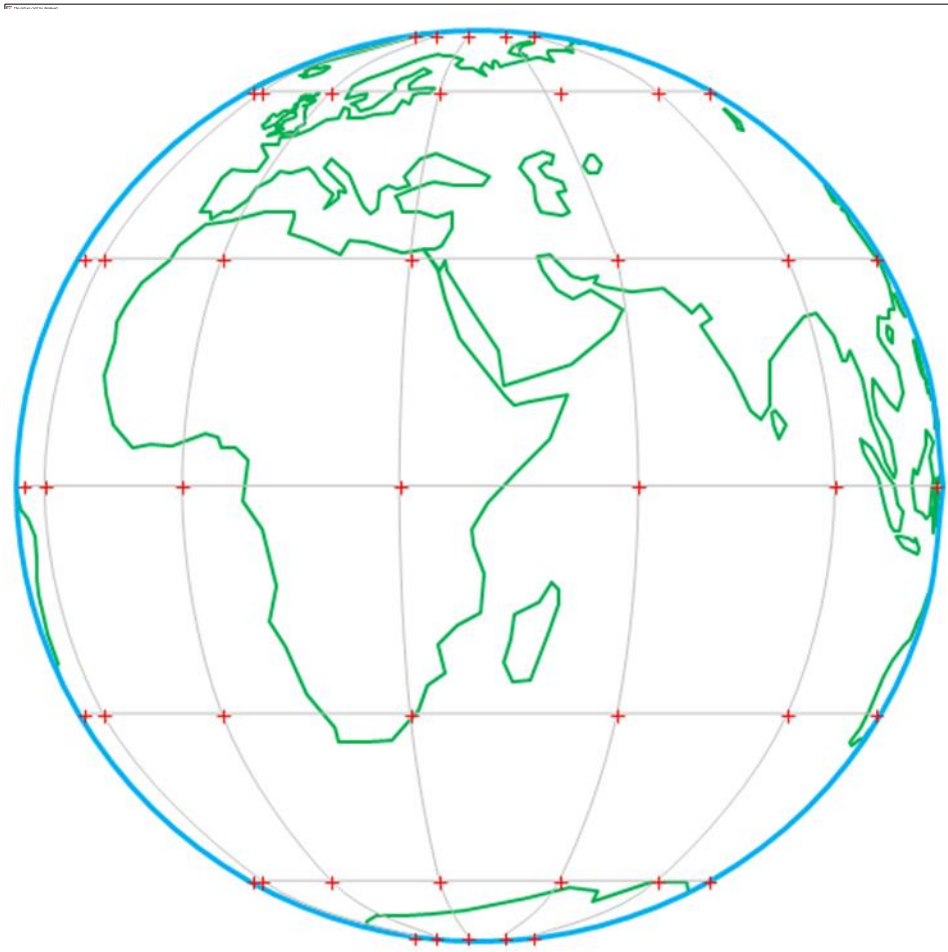
View from 41.5 deg

Full Earth scan -
12 channels/15 Minutes

Covering
~40°West to ~120°East

Imager Resolution:
- 1 km VIS (HRV) and 2 km channels 1-11, VIS, IR and WV
- Image frequency – every 15 mins

Planned Meteosat-8 IODC Data Dissemination Strategy

- To NOAA using EUMETCast terrestrial-based multicast service via approved terrestrial point-to-point protocols
- EUMETSAT and NOAA are currently working toward using high speed trans-Atlantic links (GEANT & I2, and N-WAVE); this initiative is underway
- OSPO examining resources required to process M-8 HRIT data to McIDAS format at the ESPC for user distribution
  - If resources are available, imagery would be provided, possibly level 2 products
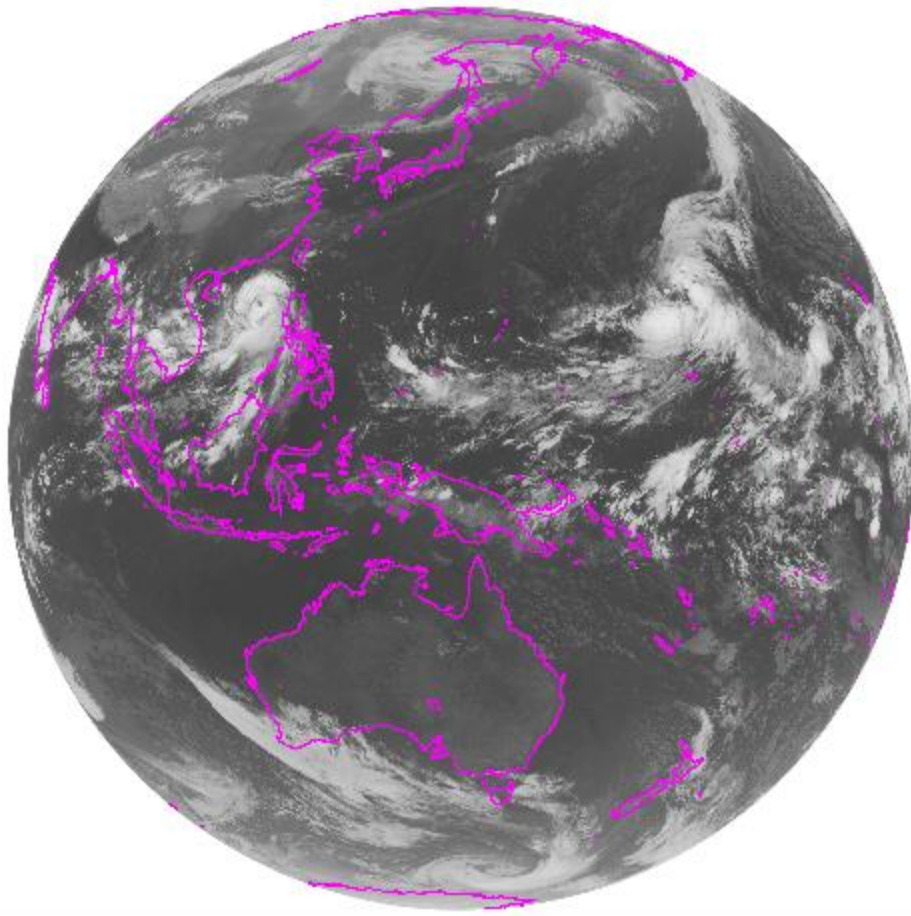
Himawari-8 Update

- NESDIS/STAR, College Park, is pulling full resolution Himawari-8 AHI level 1b data from the HimawariCloud server
  - NOAA has *one* account for data access to the JMA server. On a best effort basis, full res H-8 AHI data are further distributed from STAR's server to:
    - NWS NCEP (includes AMVs and radiances in BUFR to EMC/JCSDA)
    - DoD
    - SSEC/CIMSS
    - NSOF/ESPC
- NSOF/ESPC is making H-8 imagery and derived level 2 products in McIDAS available from GEODIST
  - Sub-sampled H-8 data reflecting the H-8 specifications of the five channels having a spatial resolution of 4 km in the IR, and 1 km in the Visible are being used to produce imagery and derived level 2 products (product listing next slide)

Specific Products Generated at NESDIS/ESPC from Himawari-8 Data

NESDIS H-8 Product	Data Format(s)
Visible and IR Imagery	McIDAS Area
Tropical Cyclone Formation Probability	McIDAS Area
Wildfire Automated Biomass Burning Algorithm	McIDAS Area
Global Hydro-Estimator Satellite Rainfall Estimates	McIDAS Area, GRIB2, NetCDF4, PNG
Advanced Dvorak Technique	McIDAS Area
Volcano Multi-Spectral Imagery	McIDAS Area
Volcano Principle Component Imagery	McIDAS Area
Snow Cover, Ice Cover, Snow Depth, and Ice Concentration	McIDAS Area, GRIB2, ASCII
One-hourly NH Composite for AWIPS	AWIPS/GINI
Three-hourly Global Geostationary Mosaic	McIDAS Area, NetCDF4
Arctic Composite Imagery	McIDAS Area
Geostationary Satellite (Web) Server	JPEG, GIF

Himawari-8 Full Disk IR

`1 0001 HIMAWARI-8 13    2 OCT 15275 143000 00001 00001 48.00          McIDAS`

Additional Updates

- Transfer of HimawariCloud data distribution from STAR to the ESPC PDA will begin sometime in mid 2017
  - Operational 24x7 support
- Himawari-9 launched successfully on Nov 2, 2016

McIDAS at ESPC

McIDAS Data Delivery Summary

GEODIST –

Geostationary satellite data is ingested on a SSEC Data Ingestor (SDI), converted to McIDAS format and placed on a server.

In addition, some foreign geostationary data, polar data, model data and derived products are converted into McIDAS.

This data is served via McIDAS ADDE:

| Data	NSOF Server	ADDE Name
Derived Products	GEODIST1e	DPD
GOES-E	GEODIST2e	GER
GOES-W	GEODIST3e	GWR
Polar	GEODIST4e	PLR
Model data	GEODIST5	MOD
Global Mosaic 5 Sat. Comp.	GEODIST6	MOS
MSG/MET/	GEODIST6e	MSG / MET / IND
Himawari	GEODIST7e	HIM
Select requested data	SATEPSANONE	PUB *(not operational)*
Surface/Ship Buoy/RAOBs	FOS2	FOS (Family of Services)

McIDAS & ESPC Applications

- Over 50 applications in ESPC use McIDAS, McIDAS libraries, input & serve McIDAS AREA Files, MD point files, GRID (McIDAS GRID Format), and Text via ADDE

- ADT, ABBA, CSBT, HMS, others...
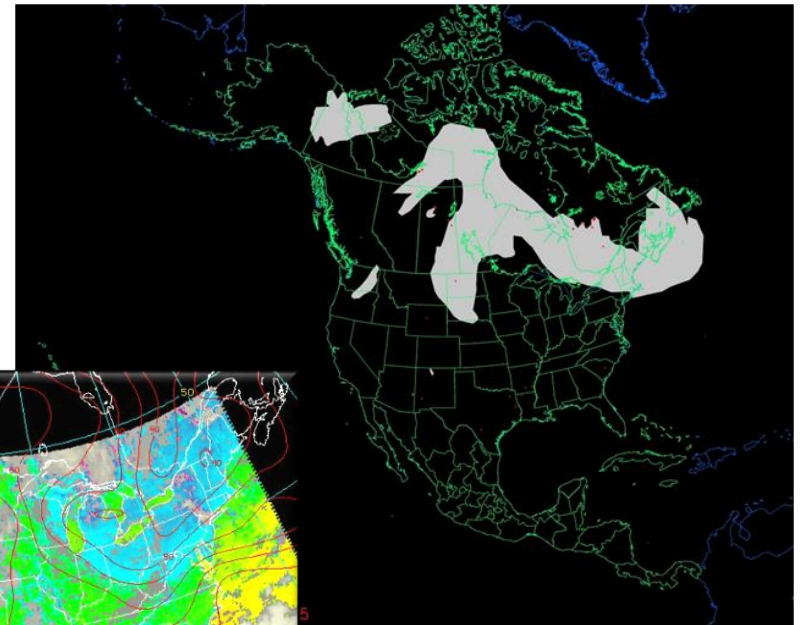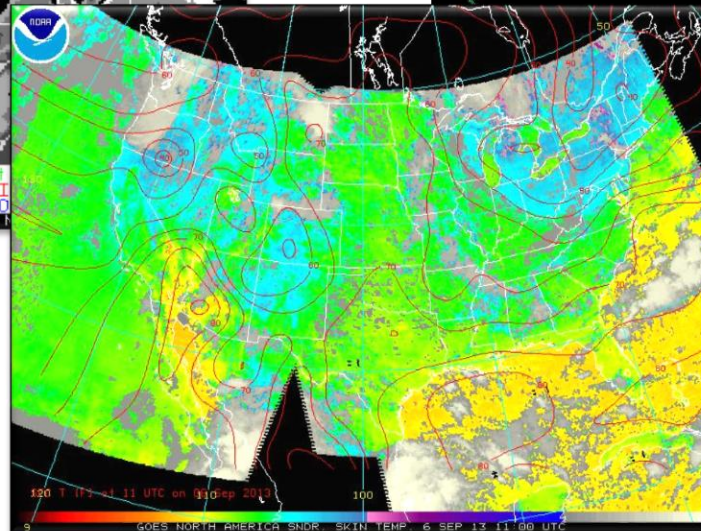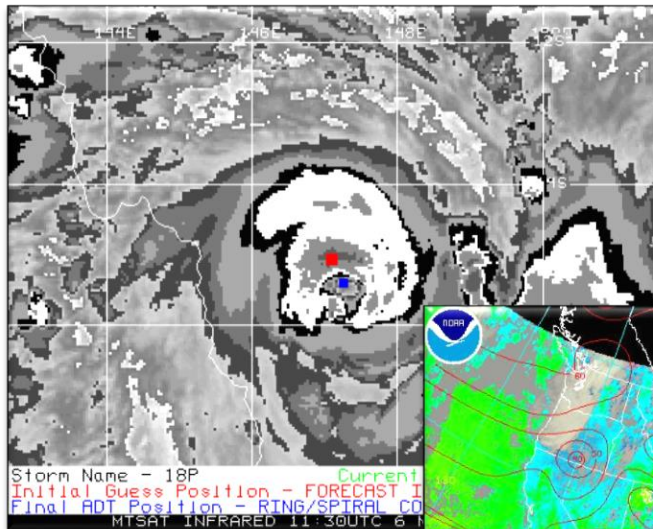
McIDAS Systems at ESPC

- Over 20 SDIs at NSOF and Wallops OBF
  - Several are dedicated...
  - GOES-East, -West, -14, Remappers
  - MTSAT Remapper
  - GOES Ingest and NOAAPORT Interface (GINI)

- Over 20 Workstations in SAB
  - -X for realtime analysis, product generation, and QA/QC
  - RHEL 6 Linux on Intel x86_64
  - Many "home grown" programs in Fortran, .PGM, BATCH

- Advantage - The ADDE protocol allows for many users accessing single systems with one port (112)
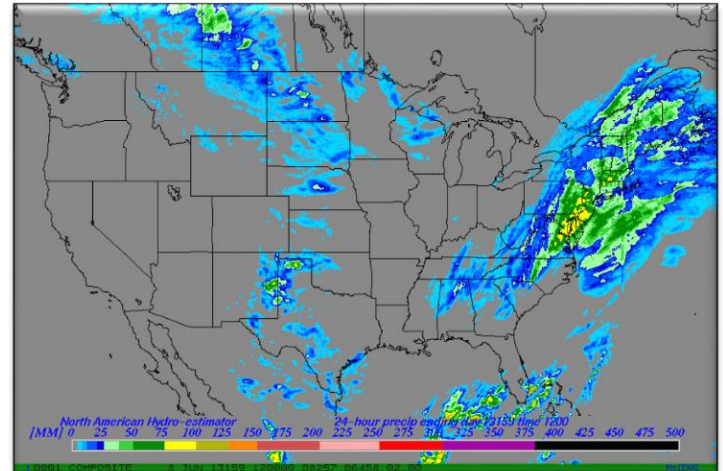
Global Hydro-Estimator 1 Day Total

- ESPC Product Generation/Distribution
  - IBM P6 & P7 Series with Linux Partitions, GEO Boxes
 - Many other Linux systems (gp*)
  - GINI running on Linux

McIDAS at ESPC

- ESPC has a standing, annual contract with SSEC for McIDAS Support and ongoing development

- ESPC representatives on the McIDAS Advisory Committee (MAC)

  – Jason Taylor and Bonnie Morgan

  – Kathryn Mozer (Alternate)

SAB Use of McIDAS

- SAB is 24x7 operation of 5 disaster mitigation desks (Heavy Precipitation, Volcanic Ash, Fire/Smoke/Dust, Marine Pollution, Tropical Cyclones) All desk use Mc-X in some capacity, except Marine which is ArcGIS

- McIDAS-X Usage: ~10 operational Linux systems with 24 GB RAM each and multiple monitor visualization setup

- A persistent daemon (image loop refresh) "SPIDER" uses ADDE protocol to display ~100 imagery loops

- Use Fnc keys to switch loops and pan entire globe through SPIDER loaded frames (e.g. NW Pacific IR, Shift+F1 - NW Pacific Vis, F2 - Central US IR) and still use command line (grudgingly)

- Lots of batch commands and everything is scripted by business work flow

- Uses McIDAS AREA files for web site as do NWS offices across country, namely NHC, AWC, NWS Western Region
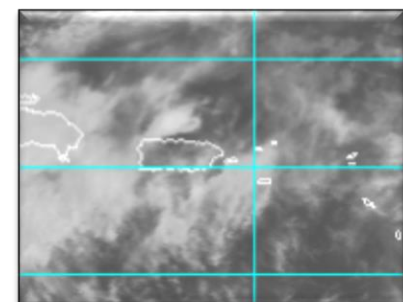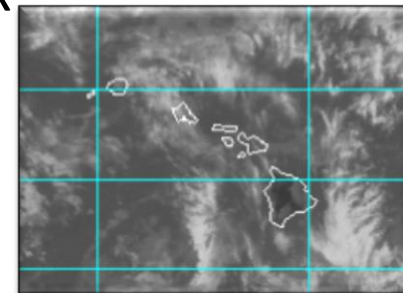
McIDAS Advantages in SAB

- Institutional knowledge - SAB Analysts have great familiarity with McIDAS

- Ability to have near-global coverage at multiple domain scales and resolution (~980 frames) of quickly and routinely loaded (SPIDER) imagery at the tap of a button (TU Hotkeys) to perform interrogation, manipulation and value-added analysis when every second counts for time sensitive and rapidly evolving natural and man-made hazards; such as volcanic eruptions, flash flooding, fires, etc.

  – This cannot be done presently with NAWIPS or HMS. In fact, depending on the area of concern up to 20 minutes is lost waiting for imagery to show up on these other systems vs McIDAS

  – HOWEVER, since the NWS is the primary user of many SAB products (e.g. volcanic ash and heavy precipitation), there are benefits for SAB to conduct PG on NAWIPS like, <u>quick overlays</u> and seamless <u>in-tool distribution</u>. Fire uses HMS for analysis.
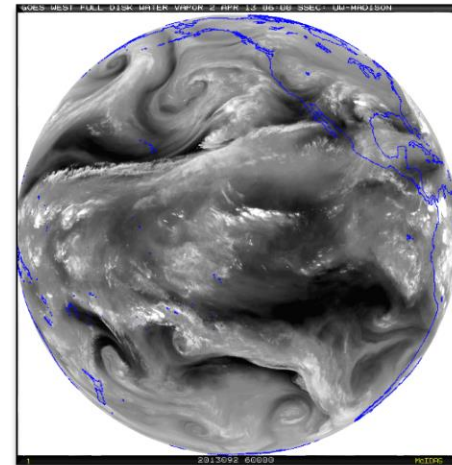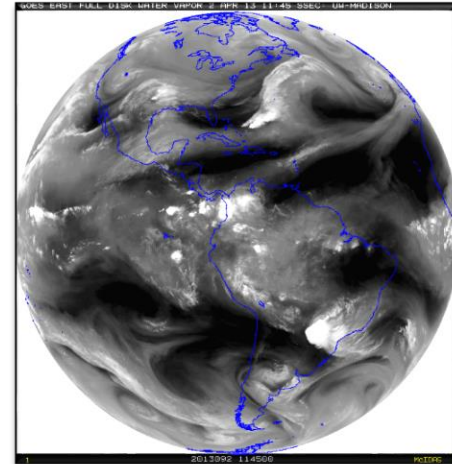
McIDAS Challenges in SAB

- Maintaining efficient access to servers for operations (SPIDER is in-house stop-gap measure).

- Additional customer requirements for advanced data formats (GIS, KMZ)... writing own local code for NPP VIIRS, Windsat, others to convert them to AREA files as there are no local servers

- Learning Curve with commands

- Color Tables – 8 bit (default) – challenge with upcoming GOES-R
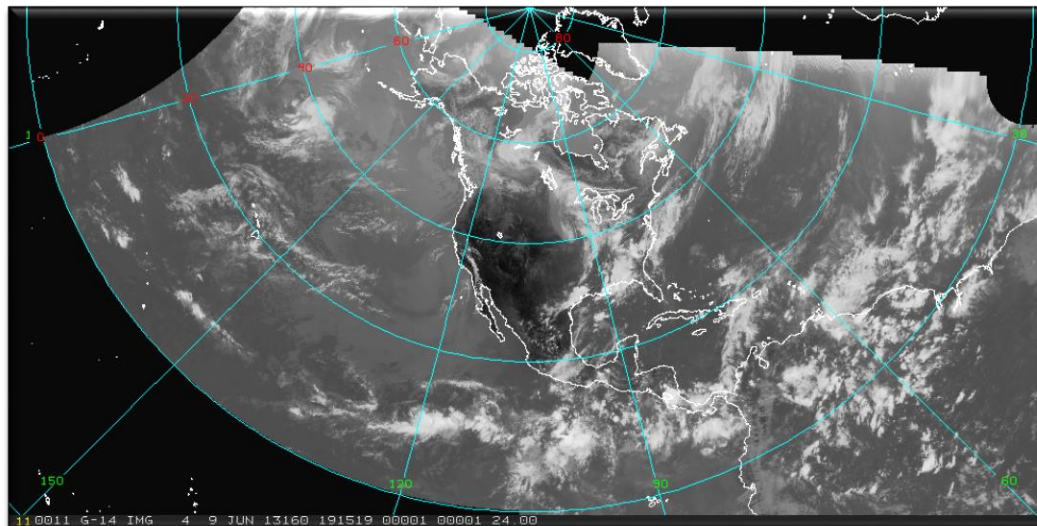
North Hemi Composite - IR
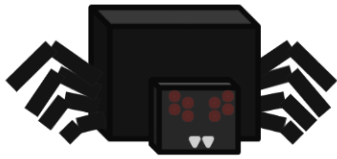
SPider

Satellite **P**roduct **I**nformation **D**istribution **E**nvi**R**onment

Expands on concepts of Core Mcidas commands concepts

ADDE, DATALOC, DSSERVE, PT/GRD/IMGLIST, PT/GRD/IMGDISP, PT/GRD/IMGCOPY, SKL, etc.

Consists of two programs: Spider Server (SPS) and Spider Client (SPC)

Benefits:
- -- Automatic loading without duplication of images
- -- Reduces task loading of server/workstations
  - Numerous pings to server but fewer downloads
- -- Run from command line environment (typically SKL) on all platforms
  - Leads to distribution system effectiveness
- -- Timely, based on user needed requirements (set to any refresh rate)
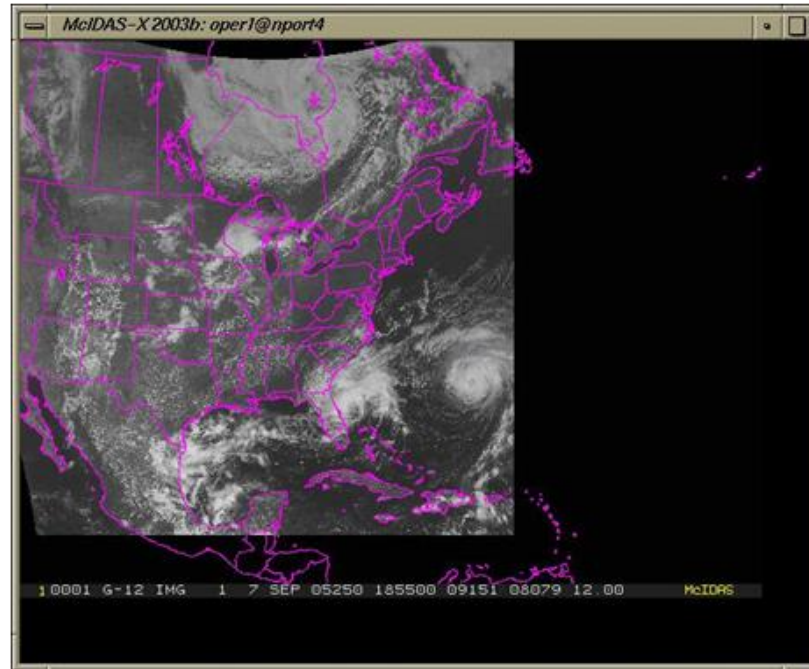
Two Types of SPider

- Spider Client (SPC)
  - User
    - Resides on Workstation
    - Keeps Request File of user defined loop(s) specifications and polls it against the Server Availability File
    - Pulls "area" files from server and loads it into predetermined frame

- Spider Server (SPS)
  - Host
    - Resides on Server
    - Integrated into "Area generator" that creates products on the server
    - Keeps and up to date Availability List of these products

SPC

SPS
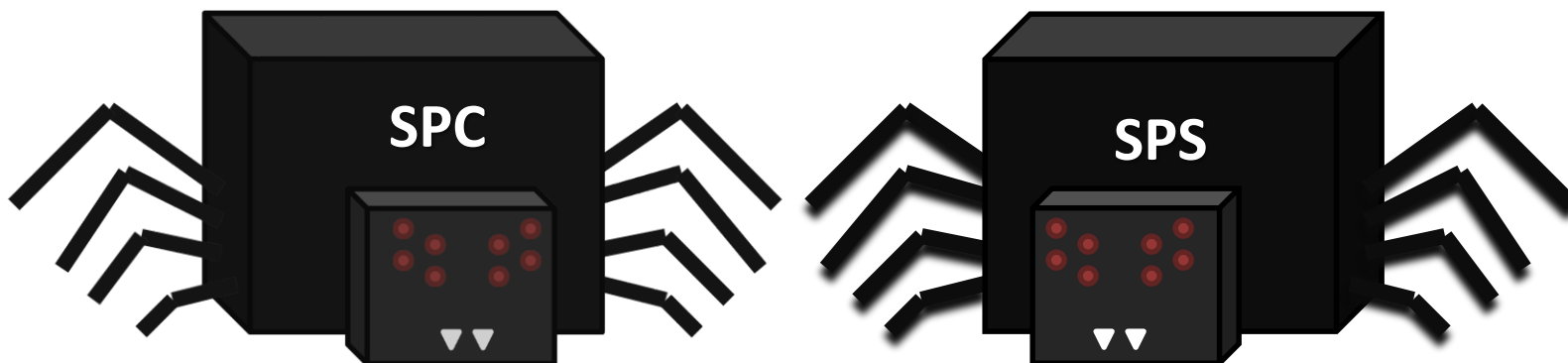
Other Ad hoc McIDAS Usage at ESPC

- Heavy usage of the local GINI server in McIDAS format for validation checks (image previews) for conversion of GOES-13 and GOES-15 data to NWS AWIPS

- Great reliance on GINIs during GOES-13 anomalies to confirm the output images quickly and efficiently (Generated mock AWIPS files to confirm changes to use GOES-14).

- GINIs, remappers, and Level 2 products that utilize McIDAS were all used for:
  - The GOES-13 rapid schedule
  - The GOES-13 optimized routine schedule

- McIDAS-X client-side software to create all of the imagery on the OSPO web page.

- OSPO web servers are currently being upgraded with the newest McIDAS-X as well as the prerequisite Redhat update.
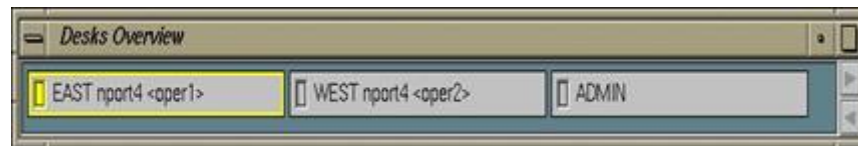
AWIPS Composite Using McIDAS

AWIPS EAST Products

**CONUS, Super National, North Hemisphere, Puerto Rico National, Puerto Rico Regional
Atlantic Sounder, Carribean Sounder, Gulf of Mexico Sounder**
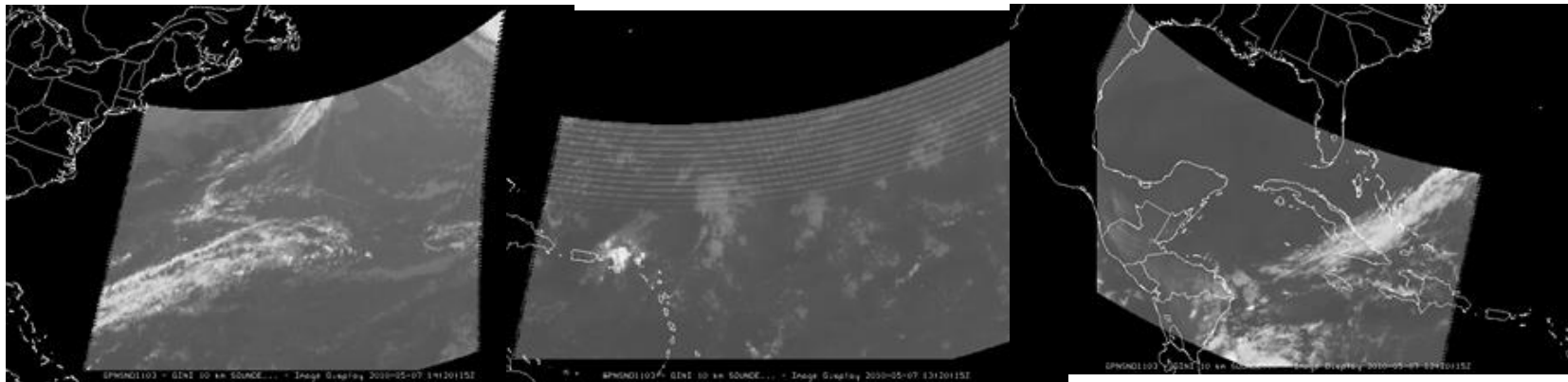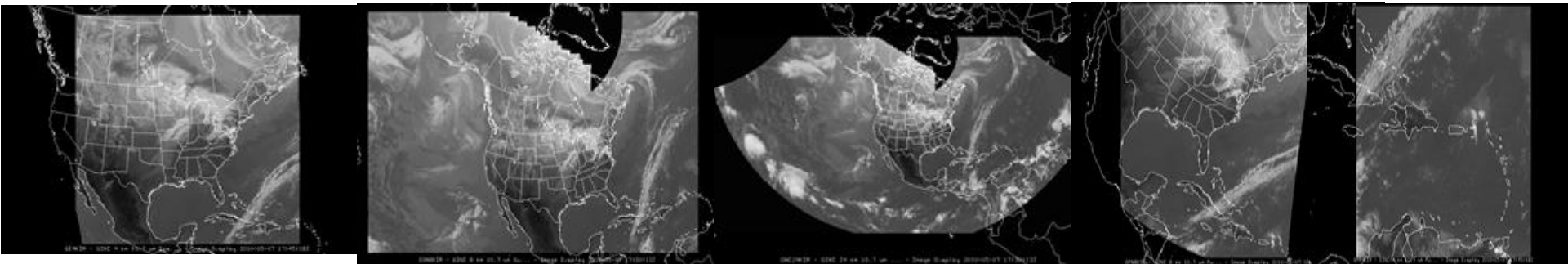
AWIPS WEST Products

**Conus, Super National, North Hemisphere, Alaska Regional,
Alaska National, Hawaii Regional, Hawaii National, Conus Sounder**

Future SAB Use of McIDAS

- SSEC McIDAS-X support to end 2020? (answered- Thank you!)

- NAWIPS, AWIPS2, McIDAS-X, & ENVI/IDL currently used in operations

- Increased use of AWIPS2 for some operations being explored.

- Spider will use netCDF files to display routine GOES-R imagery.

- Imagery file formats needed (HDF, geoTIFF, netCDF).

- McIDAS-V could be used for intense image interrogation, manipulation and value-added analysis.

Data Distribution Update:
Near real-time data access
Product Distribution & Access (PDA)

Data Access Services

- Current Access Services (in addition to Direct Broadcast)
  - Data Distribution Service (DDS) – (s)FTP push/pull from secure accounts *
  - NWS Telecommunications Gateway
  - GINI (GOES Ingest and NOAAPORT Interface) / NOAAPORT for Advanced Weather Interactive Processing System (AWIPS) display
  - GEODIST – GOES, POES, and Derived Products; McIDAS *
  - Shared Processing DAPE Gateway – for military partners *
  - MODIS server – subset of products made by NASA *
  - Websites - http://www.ospo.noaa.gov/

  Require Data Access Request

- Archival
  - NCEI archive data products using CLASS

Data Access & Distribution Policy

- Full policy and forms at http://www.ospo.noaa.gov/Organization/About/access.html

- Security requirement to know and document all users accessing operational data servers and what products they are receiving
  - Users request data using a Data Access Request (DAR) form.

- Ever increasing data volume requires prioritization of users to effectively manage distribution resources and ensure effective system performance

- Higher priority access will be given to organizations with:
  - Mission and statutory authority
  - Signed NESDIS cooperative agreements or legislative authorities
  - A demonstrated timeliness requirement for near-real time data to support operational user applications

- If available and sufficient, users will be directed to sources of data external to NESDIS (e.g. CIMSS). Also recommend alternatives for denied users
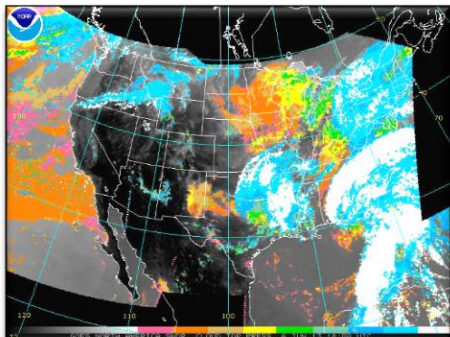
Cloud Top Pressure
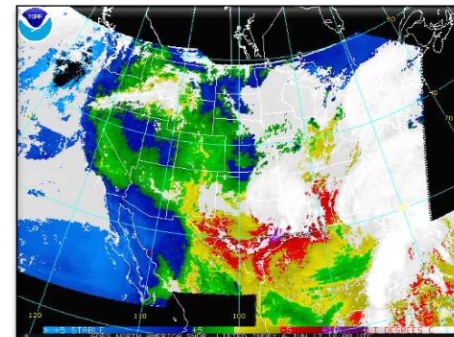
Lifted Index

Near Future Distribution with PDA

The purpose of the Production Distribution and Access (PDA) is to serve as the NESDIS enterprise distribution system for our near real-time users.

PDA Distribution Service Improvements:

- Enhanced security controls / transfer protocols

- Provide our organization with far greater management control and system insight over data distribution.

- Ability to handle large data volumes

- In deference to NOAA security policies, PDA will set subscriptions for international and non-US government partners, as is done now on the DDS. (PDA User Interface requires a government CAC or PIV card.)

ESPC PDA Operations – User Prioritization

- PDA supports near real-time users – prioritized according to most critical mission need first.

- PDA operators can perform load shedding of the lowest priority users – this is a system management feature that guarantees resources for the highest priority users if so needed.

- The new ESPC network infrastructure is a high performance, horizontally scalable network; however, distribution time is governed by the slowest link speed between source and destination.

Operational Prioritization Approach	
1	Life & Property / National Interest Missions
2	Int'l Agreement Missions / NRT NOAA-NASA Environmental Missions/ Launch Support-Cal Val
3	External Mission Support (i.e. AR) / Data Preservation/Archive
4	Operations Test Support
5	Mission (Development) Test Support / Long term Approved RT Request
6	Prototype dataflow / temporary dataflows or tests – research to operations

Data Access & Distribution in PDA Era

- Legacy GOES data in GVAR format will be on PDA.

- McIDAS AREA files will remain on GeoDist servers for GOES 13 & 15.

- Users will need to obtain GOES-R data via PDA.

- GOES-R data will <u>not</u> be on GeoDist servers and will <u>not</u> be in McIDAS AREA file format <u>nor</u> served on ADDE via ESPC

- Newer versions of McIDAS <u>will</u> allow users to read GOES-R data.

- S-NPP/JPSS products will be generated by NDE 2.0 and provided via PDA.

- All distribution will use FTPS or SFTP protocols.

Future ESPC Data Operations (To-Be State)
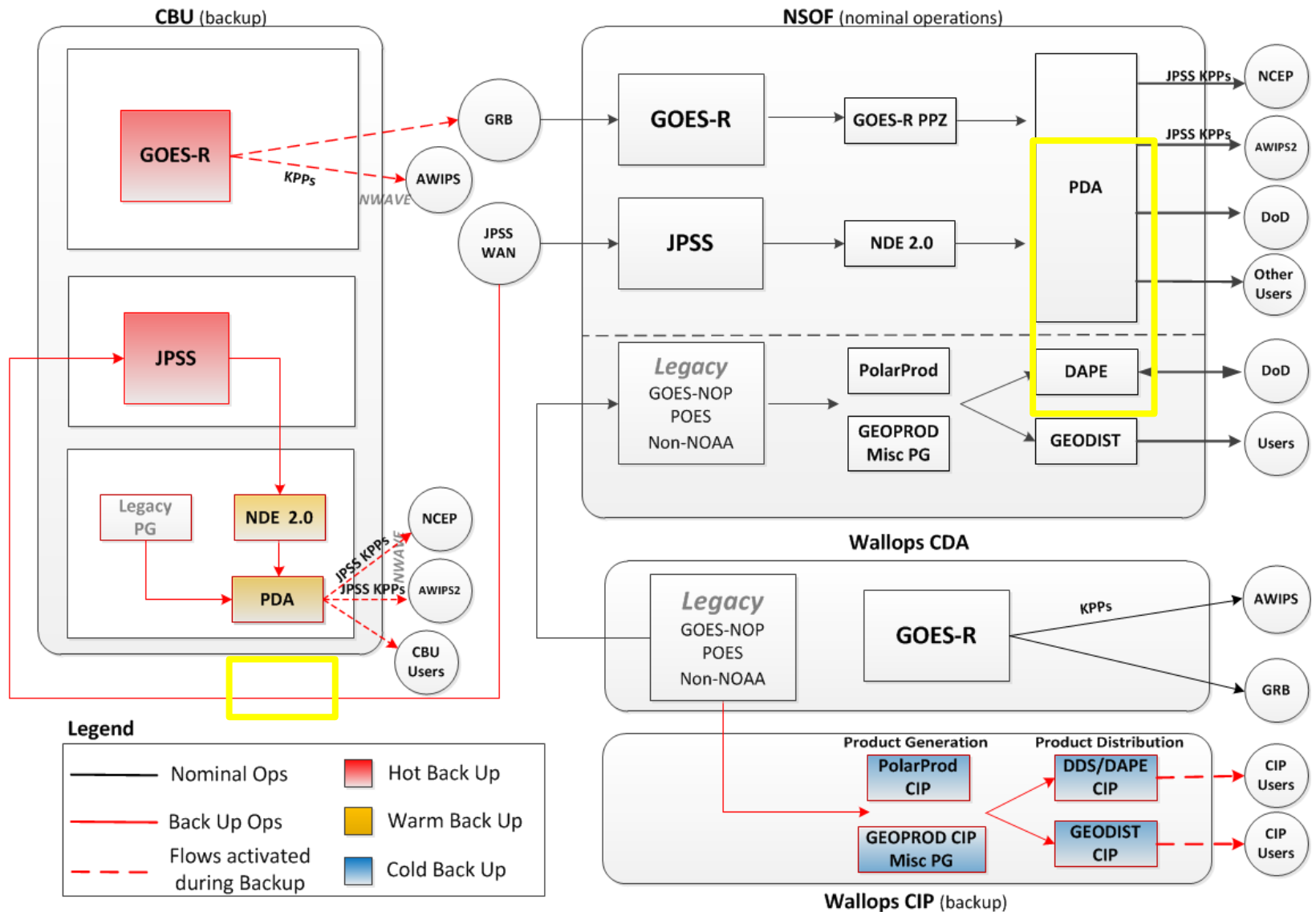
User Subscription Revalidation

- All users have been notified to revalidate their subscriptions before the switch to PDA occurs.

  - o Data Access Request (DAR) Form is available at http://www.ospo.noaa.gov/Organization/About/access.html

- Users must complete and submit the new Data Access Request (DAR) form (Apr. 2016 version 15).

  - o Exception for users involved with Solers integration activities.

- Subscribers who fail to revalidate will not be automatically moved over to PDA or removed from DDS.

  - o As data gets moved off DDS and the DDS is subsequently turned off, users who do not revalidate will be without data.

PDA Schedule

- Internal readiness reviews:
  - Operational Readiness Review (ORR) held Nov 15, 2016
  - JPSS Block 2.0 transition NET Jan 23, 2017
  - Actual near real-time data flow is dependent upon the new JPSS ground system upgrade (TBD)

- Existing users of S-NPP NDE system are being scheduled for integration.

- Existing users with questions should contact:
  - Donna McNamara (Data Access Manager) donna.mcnamara@noaa.gov
  - Chris Sisko (JPSS Data Operations Manager)   chris.a.sisko@noaa.gov
  - Matt Seybold (GOES-R Data Operations Manager) matthew.seybold@noaa.gov

- New users with questions should contact NESDIS Satellite User Services NESDIS.Data.Access@noaa.gov

PDA User Training

- PDA user training will be made available to re-validated users in Dec 2016.

- A PDA external User's Guide will be available as well.

- Training will be done locally in the Washington area as well as remotely via Webinar.

ESPC Notifications, Status, and Contacts

24/7 Help Desk	ESPCOperations@noaa.gov
ESPC Messages	http://www.ssd.noaa.gov/PS/SATS/messages.html
WMO GTS Bulletins	Urgent: http://www.weather.gov/view/validProds.php?prod=ADM&node=KNES Routine: http://www.weather.gov/view/validProds.php?prod=ADA&node=KNES
User Services	SPSD.UserServices@noaa.gov
Data Access	NESDIS.Data.Access@noaa.gov
Webmaster	SSDWebmaster@noaa.gov
Facebook	www.facebook.com/NOAANESDIS
Twitter	www.twitter.com/noaasatellites
Satellite Ops Status	http://www.oso.noaa.gov/daily-news/index.asp
Press releases	http://www.nesdis.noaa.gov/news_archives/
Web	www.ospo.noaa.gov

NOAA Satellite Conference

July 17-21, 2017

New York City, New York

Thank you!

Questions?