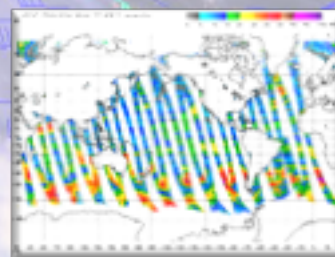
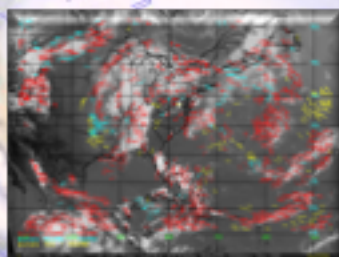
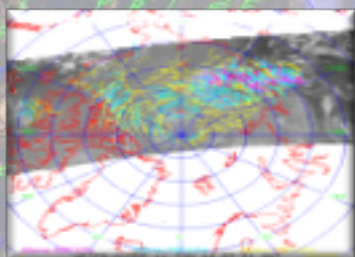




# Operational Wind Products at NOAA/NESDIS



## Current Status & Updates

Hongming Qi<sup>1</sup>, Jaime Daniels<sup>2</sup>, Jeff Key<sup>2</sup>, Paul Chang<sup>2</sup>  
Nicholas Esposito<sup>1</sup>, Andrew Bailey<sup>2</sup>, Jeffrey Augenbaum<sup>1</sup>, Yufeng Zhu<sup>1</sup>

1: NOAA/NESDIS/OSPO/Satellite Products & Services Division (SPSD)

2: NOAA/NESDIS/STAR

13<sup>th</sup> International Winds Workshop, Monterey, USA  
June 27, 2016



# TOPIC

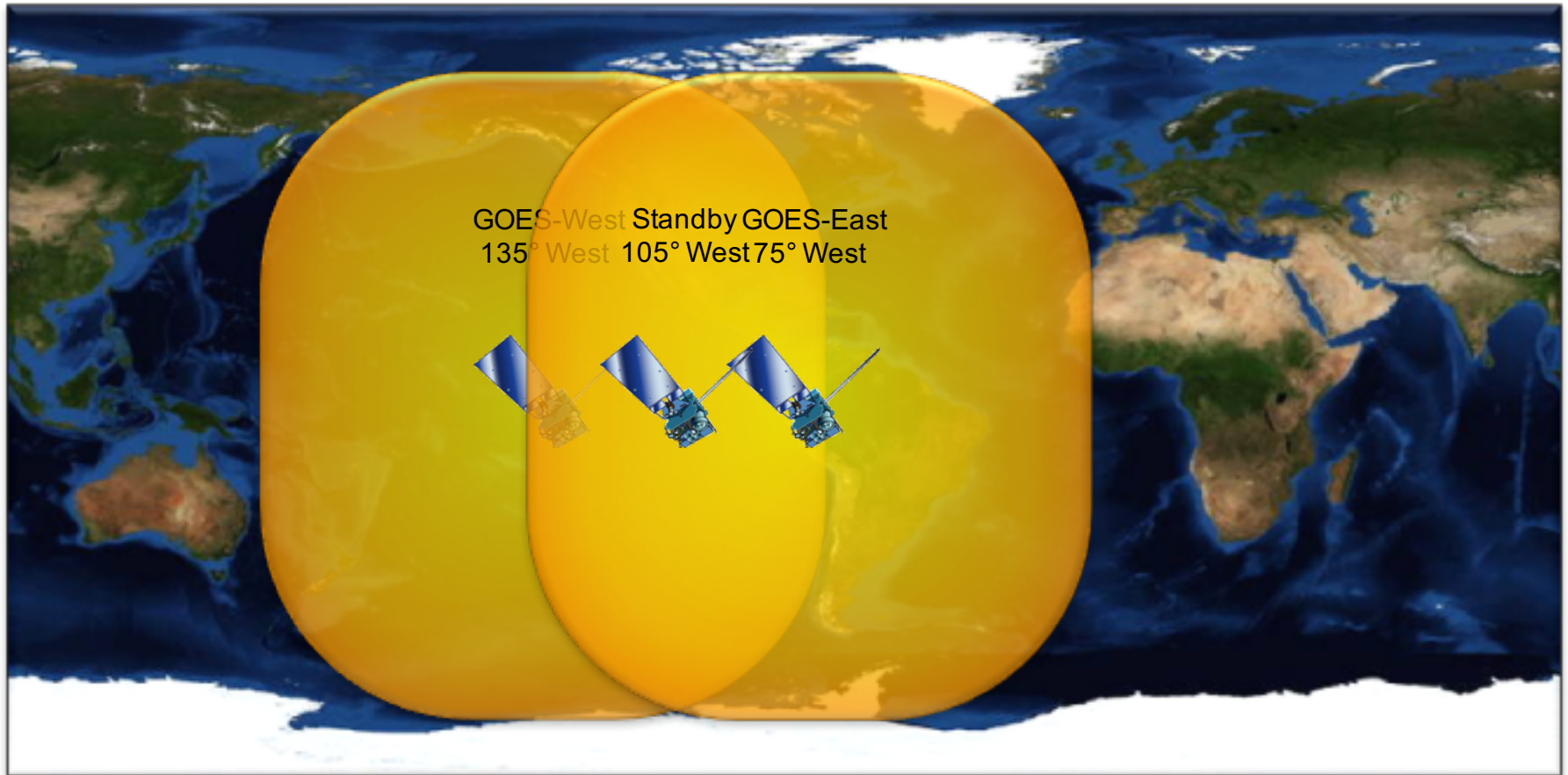
- Status of GOES and POES Satellites
- Operational AMV System and Products
  - AMV System Architectures
  - AMV Products, Monitoring, and Distribution
- Operational ASCAT processes and products
- Update on Satellites, Products, and Systems

# TOPIC

- Status of GOES and POES Satellites
- Operational AMV System and Products
  - AMV System Architectures
  - AMV Products, Monitoring, and Distribution
- Operational ASCAT processes and products
- Update on Satellites, Products, and Systems



# Nominal GOES Constellation

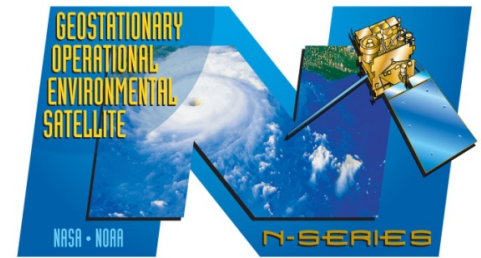


- Continuity of Operations since 1974
- GOES 13/14/15 improvements over GOES 10/11/12
  - Spring and fall eclipse outages are avoided by larger onboard batteries
  - Improved navigation and radiometrics

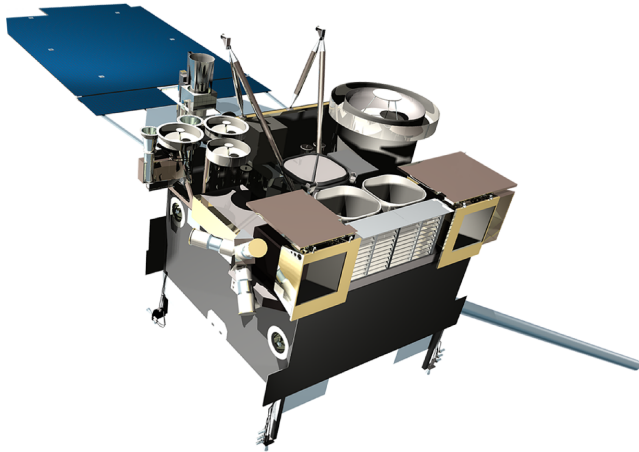


# GOES-13 (East)

Launch: May 2006 | Operational: April 2010



No Issue on Imager Instrument



## Issue:

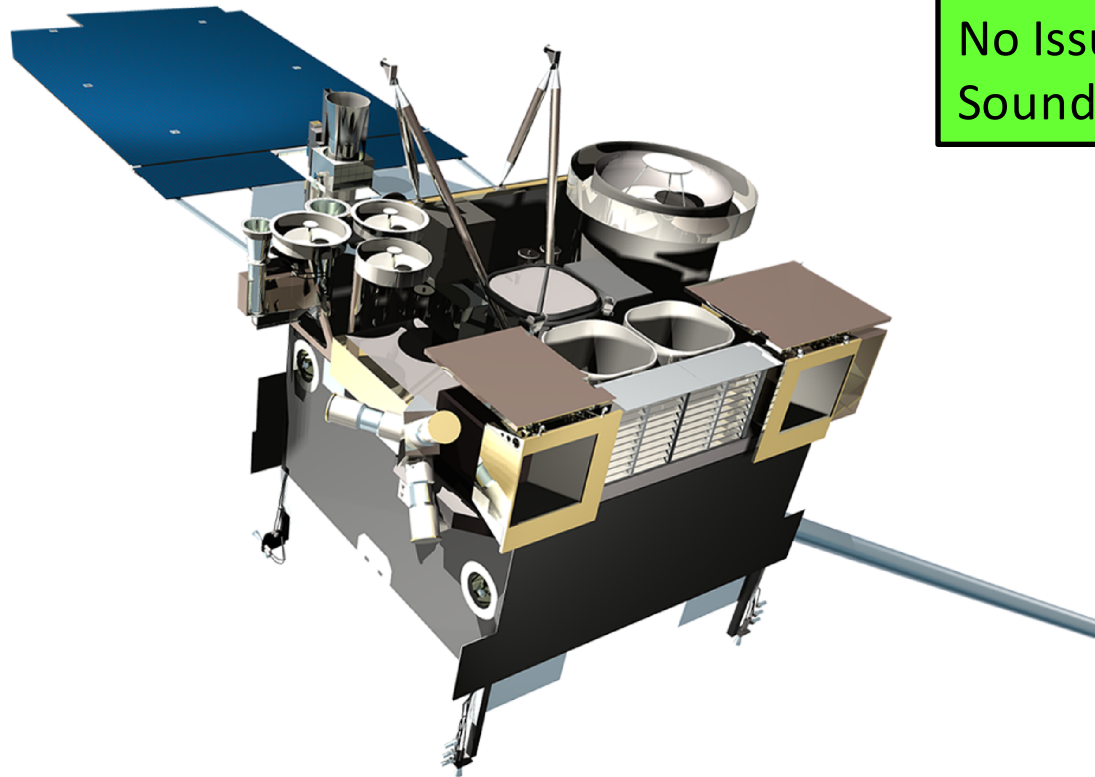
Sounder filter wheel anomaly.  
Sounder frame sync losses.

## Impact:

Sounder IR data are not usable.

# GOES-14 (Standby)

Launch: June 2009 | Operational: N/A



No Issue on Imager and  
Sounder Instrument

# GOES-15 (West)

Launch: March 2010 | Operational: Dec 2011



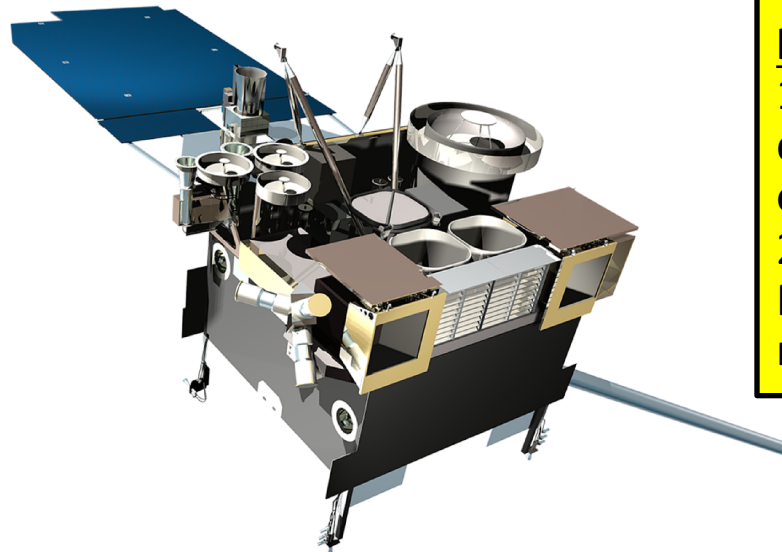
No Issue on Imager Instrument

## **Issue:**

Sounder temperature control blanket is raised. To maintain patch temperature control, a yaw flip at Equinox to keep Sun angle below cooler plane.

## **Impact:**

1 hour data outage and degraded products during each yaw flip maneuver and 28 hours of INR (Image Navigation & Registration) recovery period.



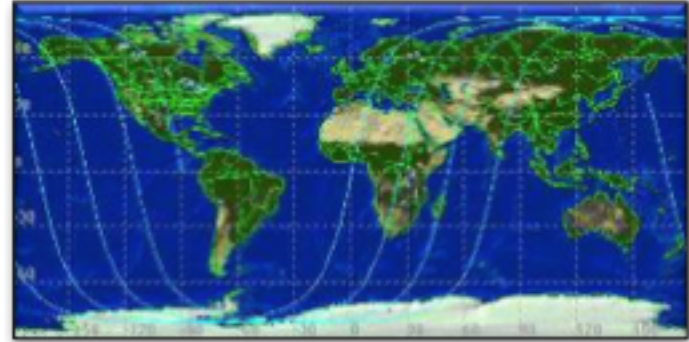


# POES Constellation

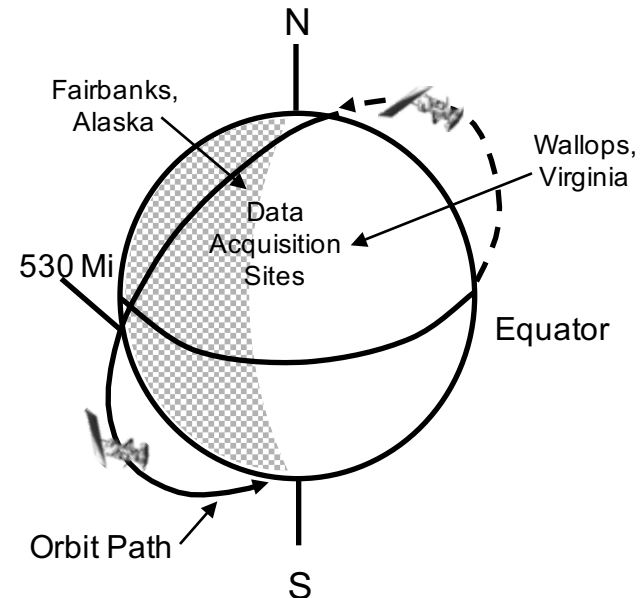
AM Orbit (Metop-B)



PM Orbit (S-NPP)



- Two polar operational satellites; one in morning and one in afternoon orbit. Each orbit is 102 minutes
- Since May 2007, NOAA using EUMETSAT satellite operationally for mid-morning orbit through NOAA/EUMETSAT partnership
- Each satellite provides world-wide coverage every 12 hours (6-hour global sampling for the pair)
- Directly broadcasts data to global users



- Continuity of operations since early 1960s



# S-NPP Status as of June 2016









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



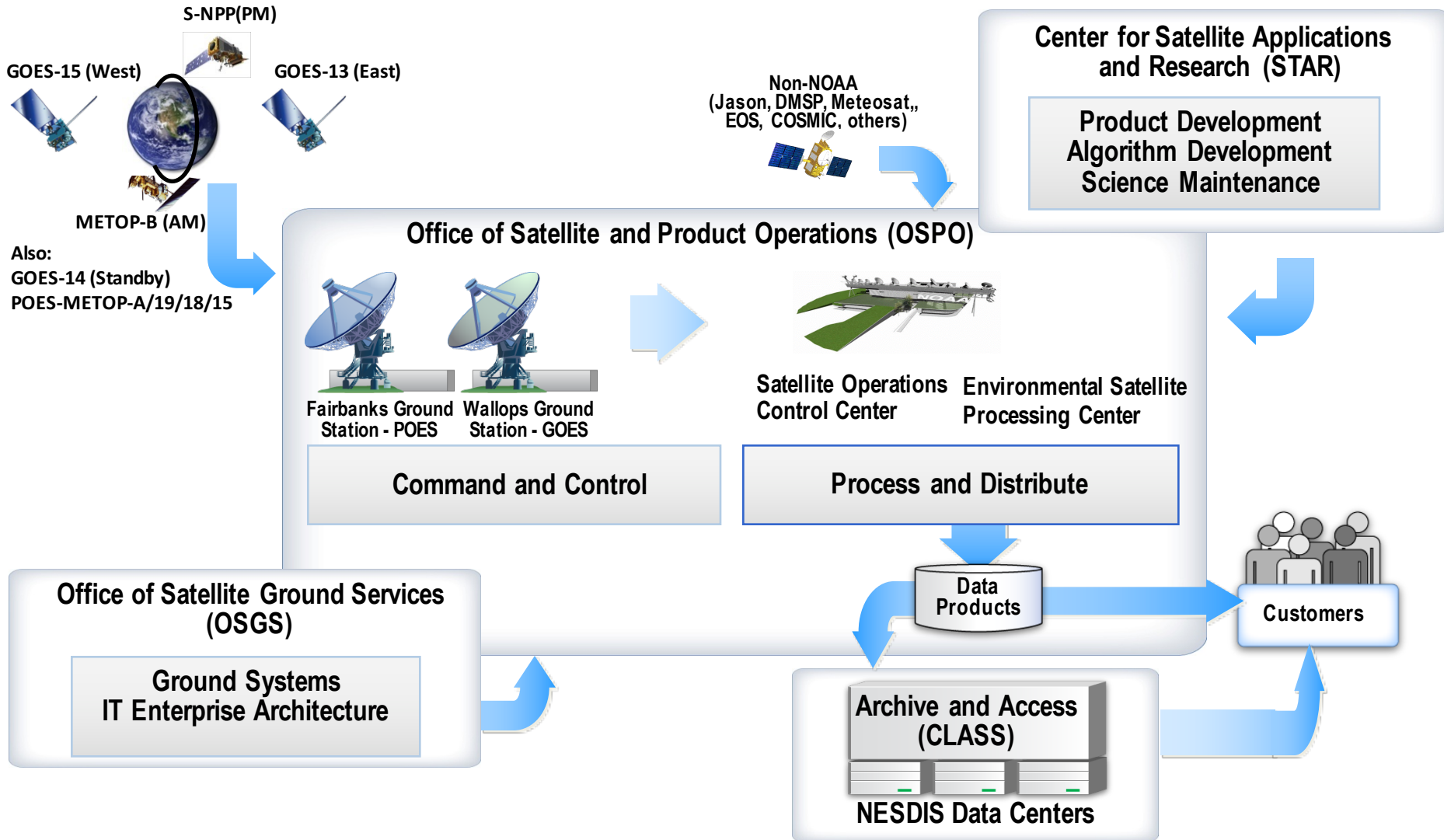
Payload Instruments	Status
ATMS	G
CERES	G
CrIS	G
OMPS – Nadir	G
OMPS – Limb	G
VIIRS	G

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

# Satellite Information Flow

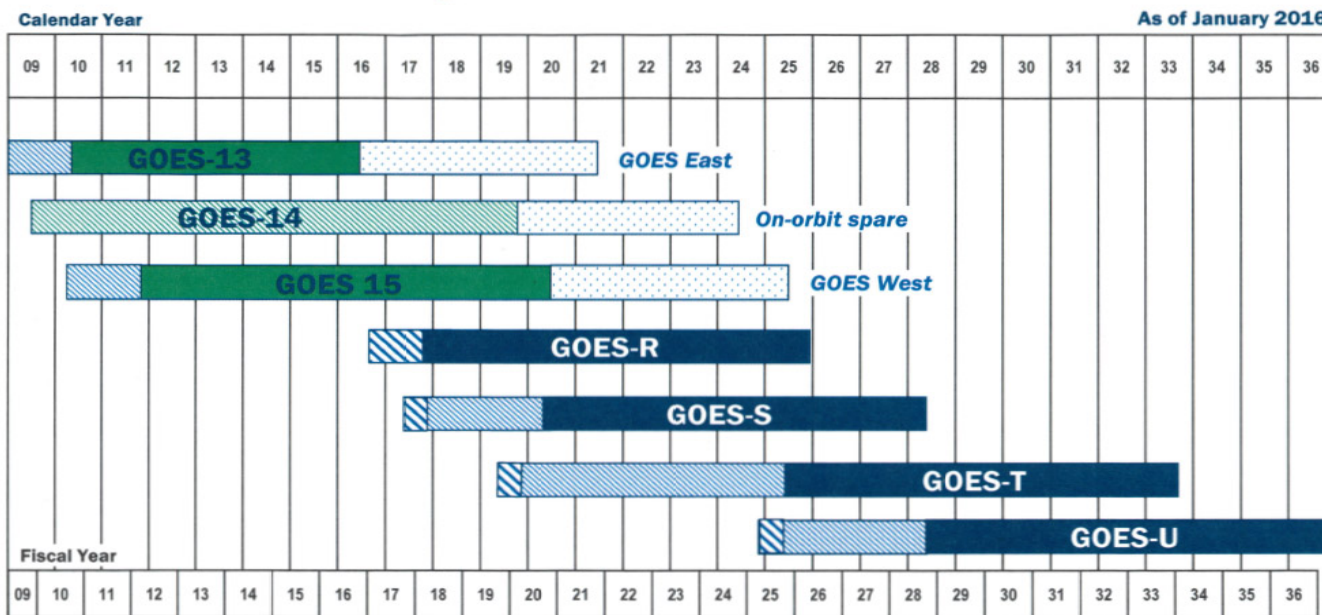




# GOES Flyout Schedule



## NOAA Geostationary Satellite Programs Continuity of Weather Observations



Approved:   
Assistant Administrator for Satellite and Information Services



[http://www.nesdis.noaa.gov/flyout\\_schedules.html](http://www.nesdis.noaa.gov/flyout_schedules.html)



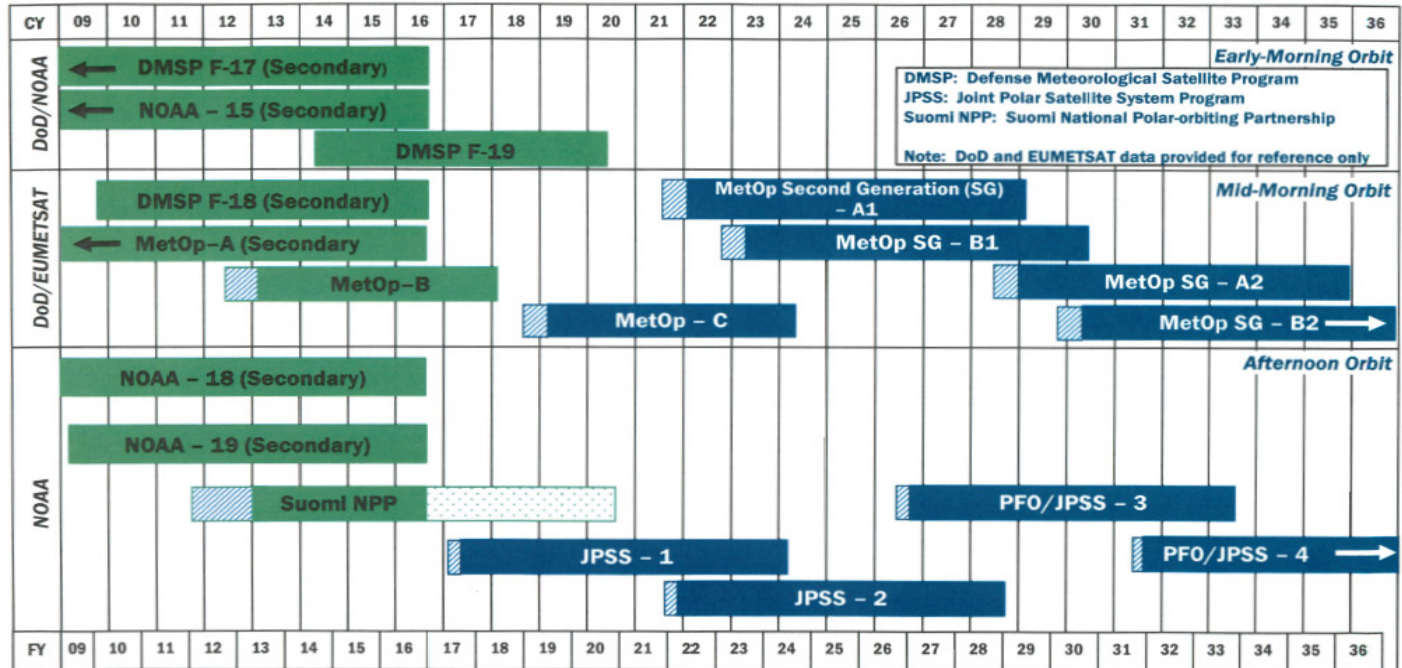
# LEO Flyout Schedule



## NOAA & Partner Polar Satellite Programs Continuity of Weather Observations



As of January 2016



DMSP: Defense Meteorological Satellite Program  
JPSS: Joint Polar Satellite System Program  
Suomi NPP: Suomi National Polar-orbiting Partnership  
Note: DoD and EUMETSAT data provided for reference only

Approved: *Stephens*  
Assistant Administrator for Satellite and Information Services

Note: Extended operations are reflected through the current FY, based on current operating health.

	In orbit		Post Launch Test
	Fuel-Limited Lifetime Estimate		Planned Mission Life, from Launch Readiness Date
	Launched before Oct 2008		Operational beyond Dec 2036

[http://www.nesdis.noaa.gov/flyout\\_schedules.html](http://www.nesdis.noaa.gov/flyout_schedules.html)



# TOPIC

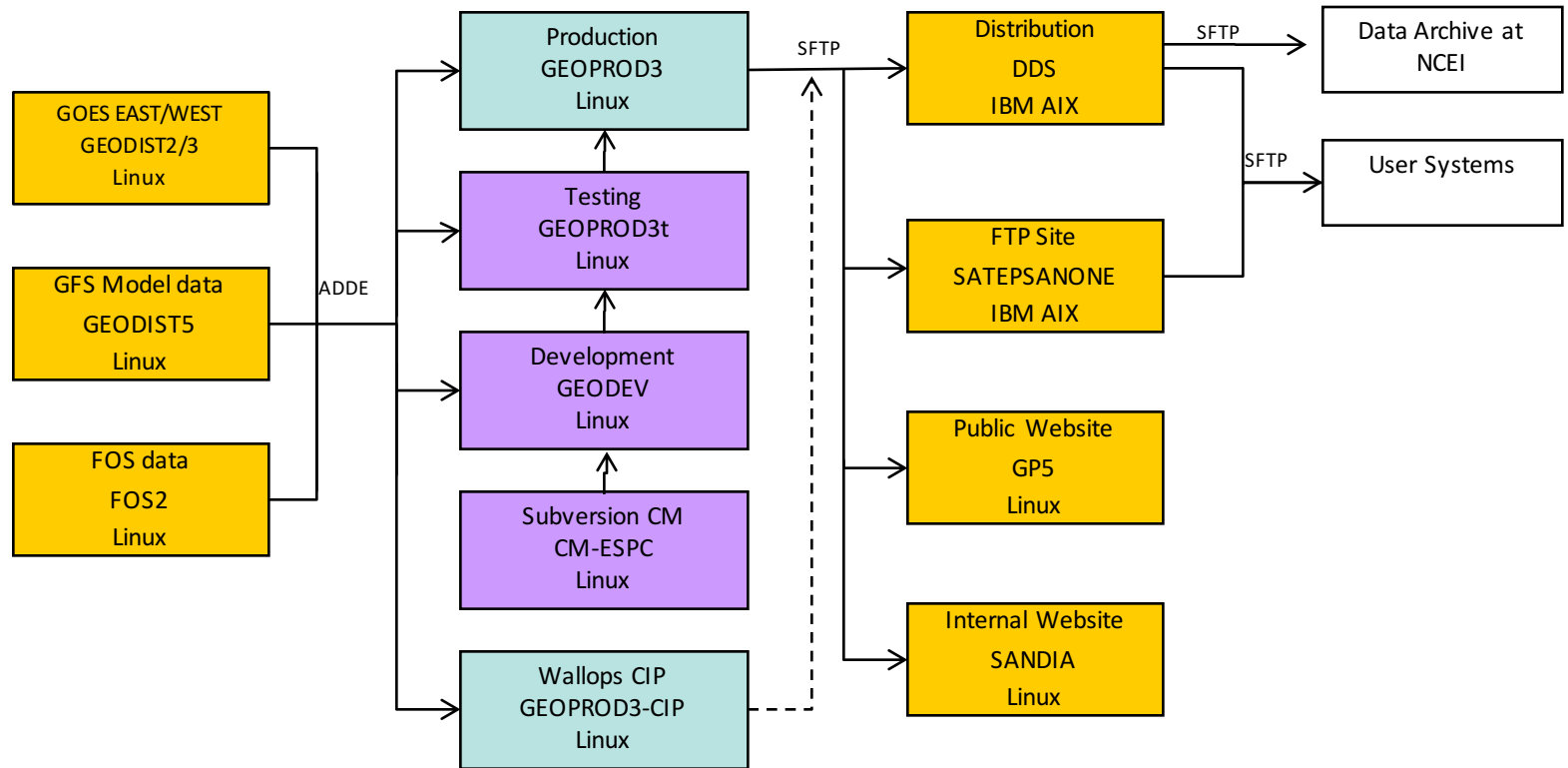
- Status of GOES and POES Satellites
- Operational AMV System and Products
  - AMV System Architectures
  - AMV Products, Monitoring, and Distribution
- Operational ASCAT processes and products
- Update on Satellites, Products, and Systems



# Operational AMV Systems

- GOES and POES AMV System
  - Generate GOES, MODIS, and AVHRR AMV products
  - Run on Linux VM server
- OSPO NDE system
  - An Enterprise System for S-NPP
  - Generate S-NPP VIIRS Polar Winds

# GOES/POES Winds System and Data Flow



SATEPS Security at ESPC/NSOF

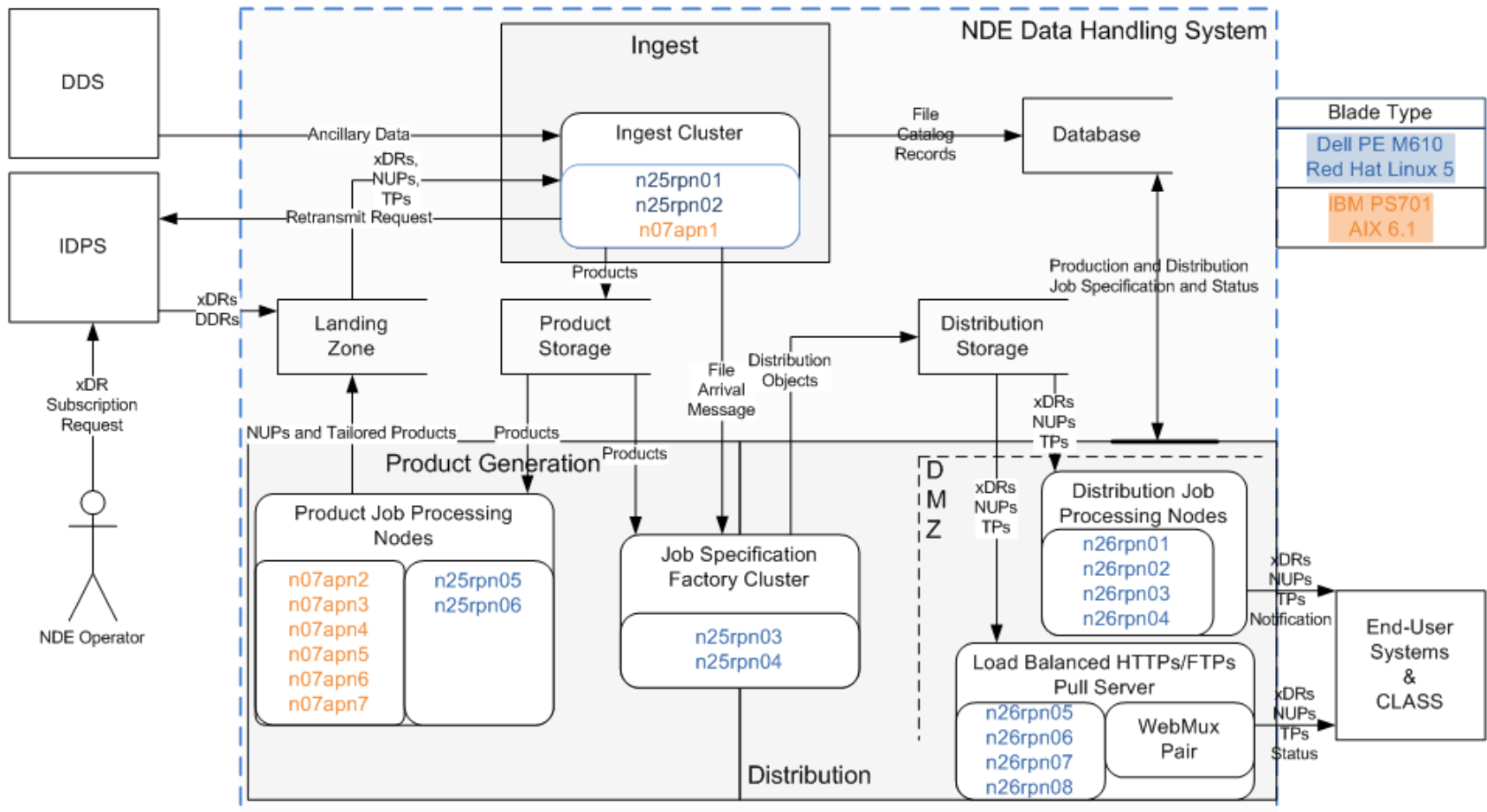
Production Zone
Development Zone
Distribution Zone (DMZ)
External User Zone

# OSPO NDE System

- S-NPP Data Exploitation (NDE) is an enterprise system to generate and distribute S-NPP products
- NDE Data Handling System (DHS) consists of Ingest, Product Generation, Product Distribution and Monitoring subsystems
- Numerous Linux servers and SAN
- VIIRS Polar Winds is one product from NDE



# OSPO NDE System Diagram



# TOPIC

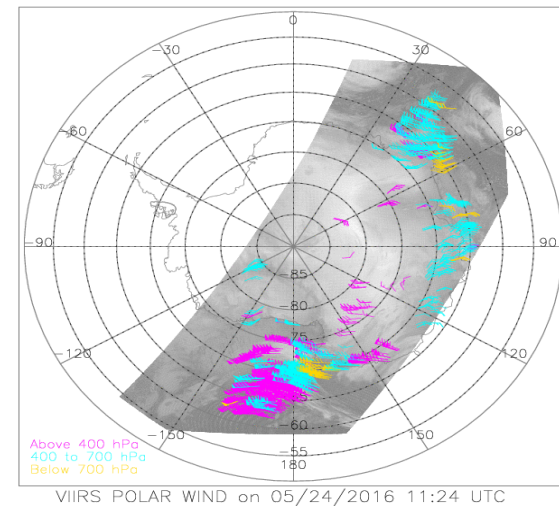
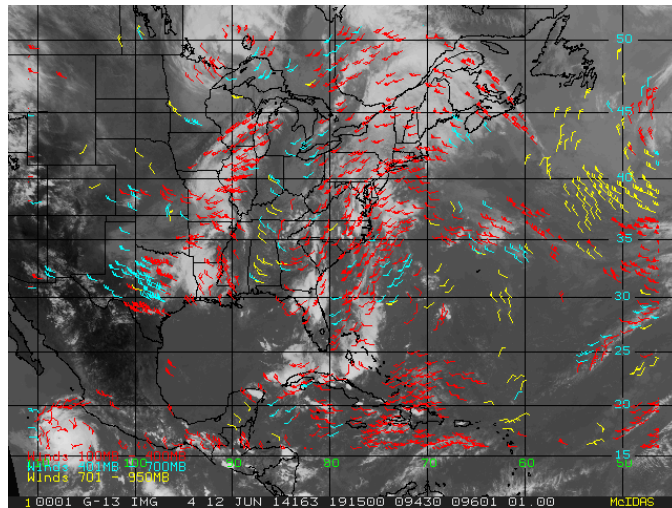
- Status of GOES and POES Satellites
- Operational AMV System and Products
  - AMV System Architectures
  - AMV Products, Monitoring, and Distribution
- Operational ASCAT processes and products
- Update on Satellites, Products, and Systems

# Update on Operational AMV Products

- Discontinued AMV products in recent years
  - GOES-E Sounder Water Vapor Channel Winds in November 2015  
(Failed Sounder Instrument on GOES-13)
  - MTSAT-2 Winds in December 2015  
(Decommissioned MTSAT-2 Satellite)

# Update on Operational AMV Products

- AMV products in operation
  - GOES, MODIS, AVHRR, and S-NPP VIIRS Winds



# Operational AMV Products (1/4)

AMV Products	Frequency (hours)	Image Sectors	Image Interval (min)	WMO Header
<b>GOES</b>				
LWIR (10.68um) Cloud-drift	1	CONUS/PACUS	15	JACX11 (GOES-E)
	1	NHEM/SHEM	30	JCCX11 (GOES-W)
SWIR (3.9um) Cloud-drift	1(Nighttime)	CONUS/PACUS	15	JQCX11 (GOES-E)
	1 (Nighttime)	NHEM/SHEM	30	JRCX11 (GOES-W)
Water Vapor (6.55um)	1	NHEM/SHEM	30	JECX11 (GOES-E) JGCX11 (GOES-W)
Visible (0.625um) Cloud-drift	1 (Daytime)	CONUS/PACUS	15	JHCX11 (GOES-E)
	1 (Daytime)	NHEM/SHEM	30	JJCX11 (GOES-W)



# Operational AMV Products (2/4)

AMV Products	Frequency (hours)	Image Sectors	Image Interval (min)	WMO Header
<b>GOES SOUNDER</b>				
Sounder WV (7.4um)	1	Tropical	60	JMCX11 (GOES-W)
Sounder WV (7.0um)	1	Tropical	60	JPCX11 (GOES-W)
<b>AQUA/TERRA MODIS</b>				
LWIR (11um) Cloud-drift	2	NHEM/SHEM (poleward 65°)	100	JBCX11 (TERRA) JICX11 (AQUA)
Water Vapor (6.7um)	2	NHEM/SHEM (poleward 65°)	100	JLCX11 (AQUA)

# Operational AMV Products (4/4)

AMV Products	Frequency (hours)	Image Sectors	Image Interval (min)	WMO Header
<b>AVHRR</b>				
LWIR Cloud-drift	2	NHEM/SHEM (poleward 65°)	100	JCVX98 (Metop-B) JCVX95(N19) JCVX97(Metop-A) JCVX94(N18) JCVX91(N15)
<b>VIIRS</b>				
LWIR (10.76um) Cloud-drift	2	NHEM/SHEM (poleward 65°)	100	INVX01 INVX02 INVX03

# Operational GOES AMV Monitoring

## Monitor of GOES-E HD Winds Operations

Friday, 06/24/2016 16:09:49 UTC		Saturday, 06/18/2016																							
		00Z	01Z	02Z	03Z	04Z	05Z	06Z	07Z	08Z	09Z	10Z	11Z	12Z	13Z	14Z	15Z	16Z	17Z	18Z	19Z	20Z	21Z	22Z	23Z
Northern Hemisphere (NH)	CD	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	
	SW	N/A	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	VZ	Wnd Buf	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	
	WV	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	
Southern Hemisphere (SH)	CD	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	N/A	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	
	SW	N/A	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	VZ	Wnd Buf	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Wnd Buf	Wnd Buf	Wnd Buf	N/A	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	
	WV	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	N/A	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	
CONUS	CD	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	N/A	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	
	SW	N/A	N/A	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	VZ	Wnd Buf	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Wnd Buf	Wnd Buf	Wnd Buf	N/A	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	Wnd Buf	



# Operational POES AMV Monitoring

Friday, 06/24/2016 16:11:48 UTC

METOP-A High Density Winds				
N	06/24/16 12:22 Wind BUFR	06/24/16 10:40 Wind BUFR	06/24/16 08:59 Wind BUFR	06/24/16 07:18 Wind BUFR
	06/24/16 05:36 Wind BUFR	06/24/16 03:55 Wind BUFR	06/24/16 02:14 Wind BUFR	06/24/16 00:32 Wind BUFR
H	06/23/16 22:51 Wind BUFR	06/23/16 21:09 Wind BUFR	06/23/16 19:28 Wind BUFR	06/23/16 17:47 Wind BUFR
	06/23/16 16:05 Wind BUFR	06/23/16 14:24 Wind BUFR	06/23/16 12:43 Wind BUFR	
S	06/24/16 11:31 Wind BUFR	06/24/16 09:50 Wind BUFR	06/24/16 08:08 Wind BUFR	06/24/16 06:27 Wind BUFR
	06/24/16 04:46 Wind BUFR	06/24/16 03:04 Wind BUFR	06/24/16 01:23 Wind BUFR	06/23/16 23:41 Wind BUFR
H	06/23/16 22:00 Wind BUFR	06/23/16 20:19 Wind BUFR	06/23/16 18:37 Wind BUFR	06/23/16 16:56 Wind BUFR
	06/23/16 15:15 Wind BUFR	06/23/16 13:33 Wind BUFR	06/23/16 11:52 Wind BUFR	

METOP-B High Density Winds				
N	06/24/16 13:15 Wind BUFR	06/24/16 11:33 Wind BUFR	06/24/16 09:52 Wind BUFR	06/24/16 08:10 Wind BUFR
	06/24/16 06:29 Wind BUFR	06/24/16 04:48 Wind BUFR	06/24/16 03:06 Wind BUFR	06/24/16 01:25 Wind BUFR
H	06/23/16 23:44 Wind BUFR	06/23/16 22:02 Wind BUFR	06/23/16 20:21 Wind BUFR	06/23/16 18:40 Wind BUFR
	06/23/16 16:58 Wind BUFR	06/23/16 15:17 Wind BUFR	06/23/16 13:35 Wind BUFR	
S	06/24/16 12:24 Wind BUFR	06/24/16 10:42 Wind BUFR	06/24/16 09:01 Wind BUFR	06/24/16 07:20 Wind BUFR
	06/24/16 05:38 Wind BUFR	06/24/16 03:57 Wind BUFR	06/24/16 02:16 Wind BUFR	06/24/16 00:34 Wind BUFR
H	06/23/16 22:53 Wind BUFR	06/23/16 21:12 Wind BUFR	06/23/16 19:30 Wind BUFR	06/23/16 17:49 Wind BUFR
	06/23/16 16:08 Wind BUFR	06/23/16 14:26 Wind BUFR	06/23/16 12:45 Wind BUFR	

NOAA-18 High Density Winds				
N	06/24/16 10:45 Wind BUFR	06/24/16 09:03 Wind BUFR	06/24/16 07:21 Wind BUFR	06/24/16 05:39 Wind BUFR
	06/24/16 03:57 Wind BUFR	06/24/16 02:15 Wind BUFR	06/24/16 00:33 Wind BUFR	06/23/16 22:51 Wind BUFR
H	06/23/16 21:09 Wind BUFR	06/23/16 19:27 Wind BUFR	06/23/16 17:45 Wind BUFR	06/23/16 16:03 Wind BUFR
	06/23/16 16:03 Wind BUFR	06/23/16 14:21 Wind BUFR	06/23/16 14:21 Wind BUFR	06/23/16 12:39 Wind BUFR
	06/24/16 09:54 Wind BUFR	06/24/16 08:12 Wind BUFR	06/24/16 06:30 Wind BUFR	06/24/16 04:48 Wind BUFR

NOAA-19 High Density Winds				
N	06/24/16 13:05 Wind BUFR	06/24/16 11:23 Wind BUFR	06/24/16 09:41 Wind BUFR	06/24/16 07:59 Wind BUFR
	06/24/16 06:17 Wind BUFR	06/24/16 04:35 Wind BUFR	06/24/16 02:52 Wind BUFR	06/24/16 01:10 Wind BUFR
H	06/24/16 01:10 Wind BUFR	06/23/16 23:28 Wind BUFR	06/23/16 21:46 Wind BUFR	06/23/16 20:04 Wind BUFR
	06/23/16 18:22 Wind BUFR	06/23/16 16:40 Wind BUFR	06/23/16 14:58 Wind BUFR	06/23/16 13:16 Wind BUFR
	06/24/16 12:14 Wind BUFR	06/24/16 10:32 Wind BUFR	06/24/16 08:50 Wind BUFR	06/24/16 07:07 Wind BUFR



# OSPO NDE Process Monitoring

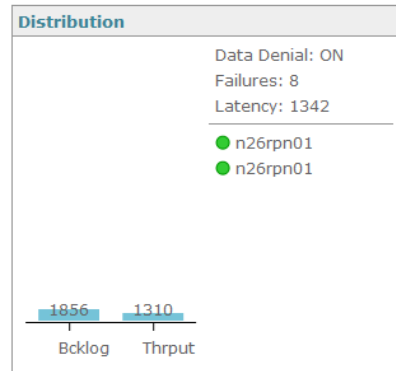
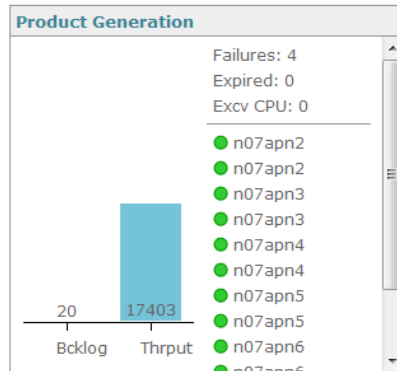
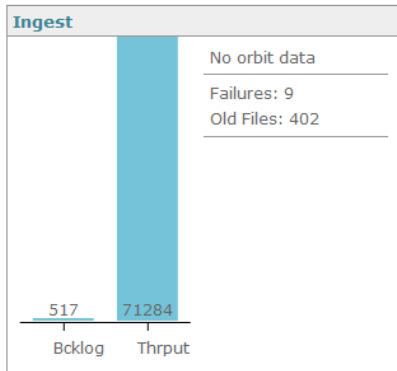
## NDE DATA HANDLING SYSTEM

NDE\_OP1

System ▾ Product Management ▾ Ingest ▾ Product Generation ▾ Distribution ▾ 0586 secs ▾ Last 24 hrs ▾ adminuser ▾

**SAN** **NaN% Used**  
Cleanup: 15 sec ago

**Notices** There are no notices at this time < 1 / 1 >  
[view all](#)



**Customer Hosts**

- n24rpn03
- dds.nesdis.noaa.gov

**Log/Alert Summaries**

Type	Host	Count	Message	Last Occurred
NOTIFY	6	1	Resource ( Res ID: 6) is DOWN	2013-06-27 08:45:04
NOTIFY	7	1	Resource ( Res ID: 7) is DOWN	2013-06-27 08:45:04
NOTIFY	13	1	Resource ( Res ID: 13) is DOWN	2013-06-27 08:45:04
NOTIFY	16	1	Resource ( Res ID: 16) is DOWN	2013-06-27 08:45:04
NOTIFY	17	1	Resource ( Res ID: 17) is DOWN	2013-06-27 08:45:04
NOTIFY	23	1	Resource ( Res ID: 23) is DOWN	2013-06-27 08:45:04
NOTIFY	26	1	Resource ( Res ID: 26) is DOWN	2013-06-27 08:45:04
NOTIFY	27	1	Resource ( Res ID: 27) is DOWN	2013-06-27 08:45:04



# VPW Quality Monitoring

## Product Monitor

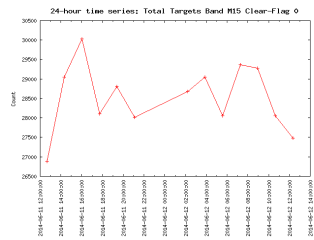
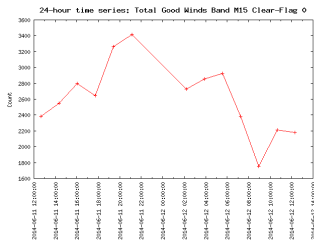
imgs

[Manual Plotting Tool](#)

< 2014-06-10 > Today

● Good ● Warning ● Bad ● Unknown

Product	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACSPO_SST	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
NPR_MIRS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
NUCAPS_Rad	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
NUCAPS_Ret	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
VPW_NH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
VPW_SH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●



- New quality monitoring tool which has one database as the backend
- More information of the process and products on metadata and database
- Benefit the monitoring of AMV product quality in the longer term
- Automatic email warning notification

# OSPO AMV Products Web Pages

The image is a collage of several screenshots from the NOAA Office of Satellite and Product Operations (OSPO) website, specifically focusing on High Density Winds (HDWinds) and GOES East Northern Hemisphere Infrared (NH Infrared) products.

**High Density Winds Page:** The top left screenshot shows the main OSPO website header with the NOAA logo and the text "OFFICE OF SATELLITE AND PRODUCT OPERATIONS NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE". Below the header is a navigation menu with "ORGANIZATION", "SERVICES", "PRODUCTS", and "OPERATIONS". The main content area is titled "High Density Winds" and contains a paragraph explaining that satellite derived winds (AMV - Atmospheric Motion Vectors) are generated by incorporating GOES and POES imager and forecast data from a numerical model. It also lists the satellites used: GOES East, GOES West, NOAA KLINN, Metop-A, Aqua and Terra. A link for "HD\_Winds\_Home" is visible.

**GOES East Northern Hemisphere Infrared Page:** The top right screenshot shows the "GOES East: Northern Hemisphere Infrared" page. It features a map of the Northern Hemisphere with wind vectors overlaid on an infrared satellite image. The page includes a "Hour: 16" dropdown menu and "Animation: Start Stop" buttons. A sidebar on the right lists satellite channels for Northern and Southern Hemispheres: Infrared, Water Vapor, Visible, Short Wave IR, Sounder Channel 10, and Sounder Channel 11. Below the map, there are lists of NOAA satellite IDs (NOAA-19, NOAA-18, NOAA-16, NOAA-15) and Antarctic satellite IDs (METOP-B, METOP-A, NOAA-19, NOAA-18, NOAA-16, NOAA-15). A "Data: FTP" link is also present.

**AVHRR HD Winds (Metop B - ARCTIC) Page:** The bottom middle screenshot shows the "AVHRR HD Winds (Metop B - ARCTIC)" page. It displays a map of the Arctic region with wind vectors. A table of timestamps is shown: 14:30 UTC 12:48 UTC 11:07 UTC 09:26 UTC (06/12/14, 06/12/14, 06/12/14, 06/12/14) and 00:59 UTC 23:17 UTC 21:36 UTC 19:55 UTC 18:13 UTC 16:32 UTC (06/12/14, 06/11/14, 06/11/14, 06/11/14, 06/11/14, 06/11/14). Below the map, there are lists of satellite channels for Northern and Southern Hemispheres and a "Data: FTP" link.

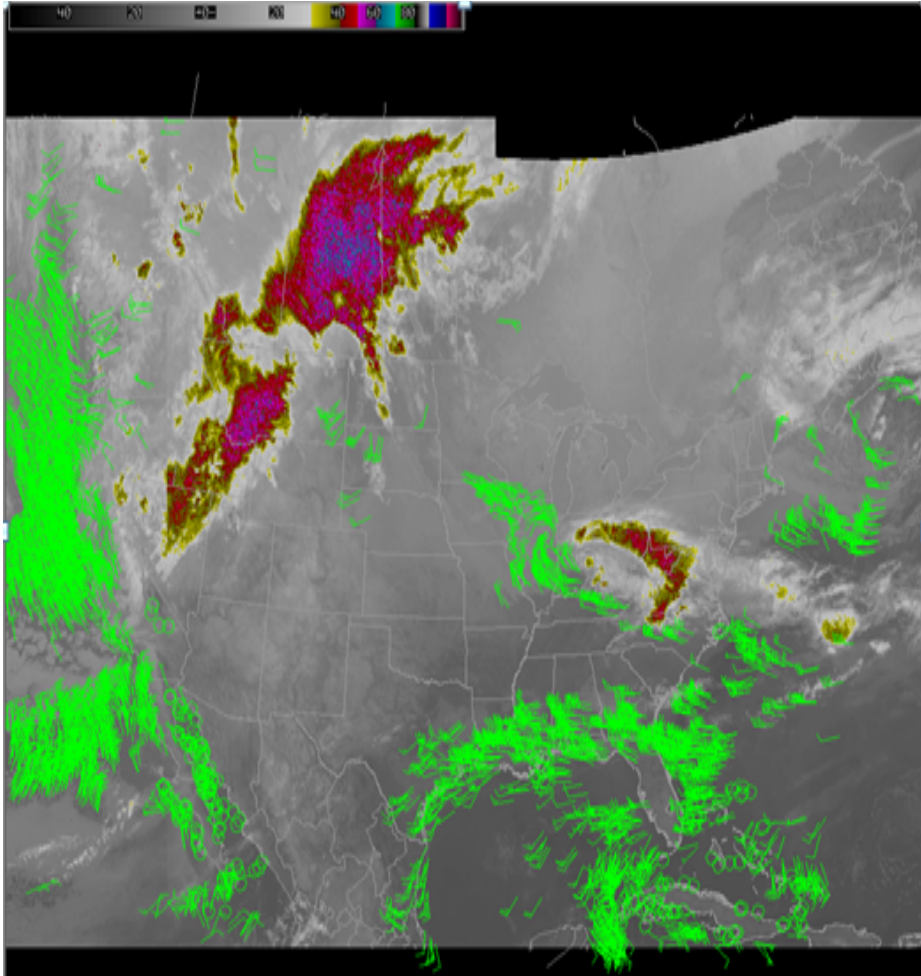
**Additional Maps:** There are two more map screenshots at the bottom. The one on the left shows a map of the Northern Hemisphere with wind vectors and a color scale from 0000 to 1600. The one on the right shows a map of the Arctic region with wind vectors and a color scale from -350 to -120.

<http://www.ospo.noaa.gov/Products/atmosphere/hdwinds/index.html>

# Operational AMV Products Distribution

- GOES, POES and MODIS AMV products are distributed via DDS server for NOAA users and via GTS for international users
- S-NPP VIIRS Polar Winds is being distributed via OSPO NDE distribution subsystem (FTPS transfer protocol is needed) and GTS with EUMETSAT help

# Day to Day Uses of AMV at AWIPS



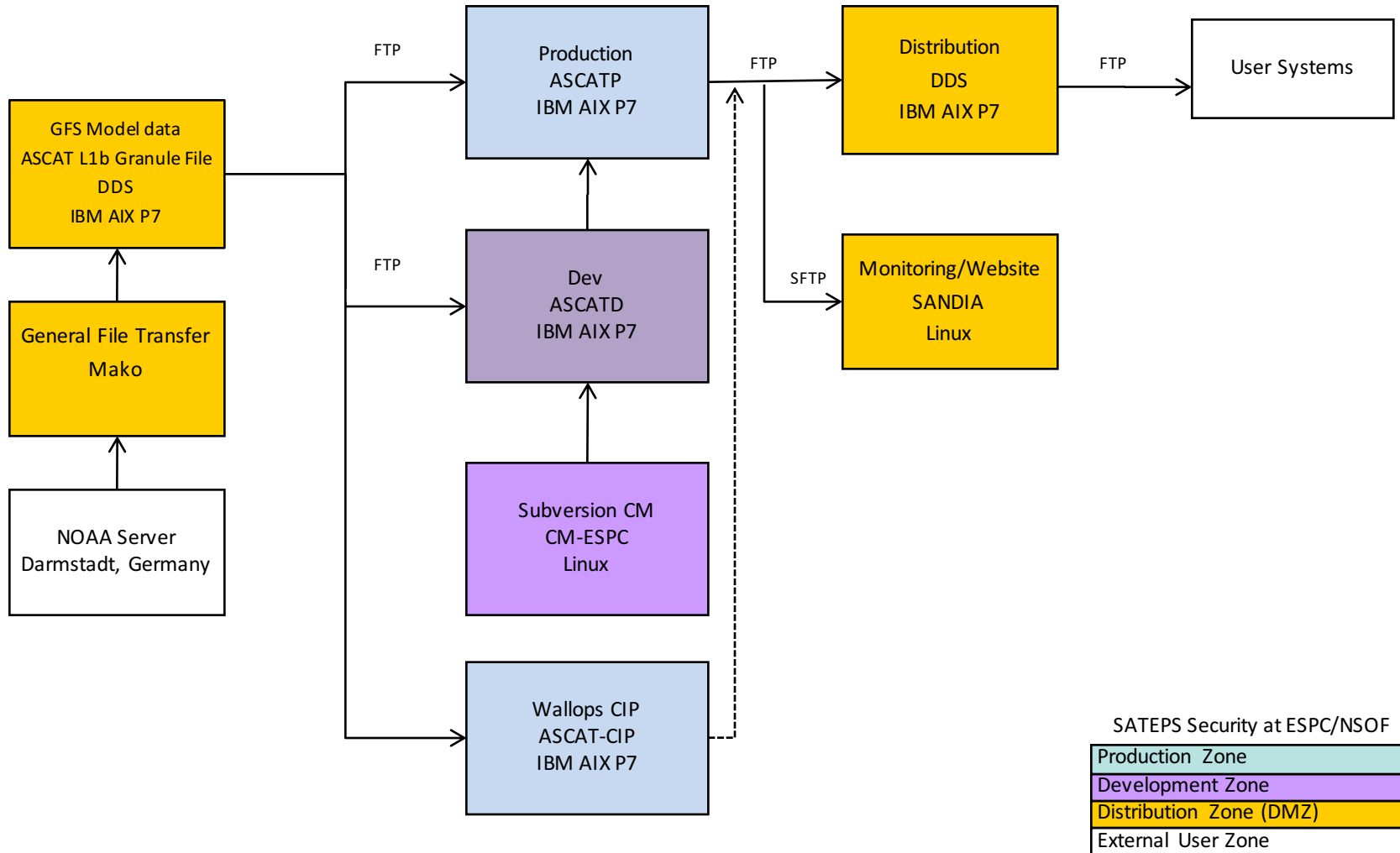
- NWS AWIPS gives the field forecasters access to a multitude of digital data to help them in daily forecast preparation
- AWIPS display software allows for easy integration of AMVs with a multitude of other data sources like model analyses/forecasts, observations from other observation systems)

# TOPIC

- Status of NESDIS' GOES and POES Satellites
- Operational AMV System and Products
  - AMV System Architectures
  - AMV Products, Monitoring, and Distribution
- Operational ASCAT processes and products
- Update on Satellites, Products, and Systems



# ASCAT Ocean Surface Wind System and Data Flow

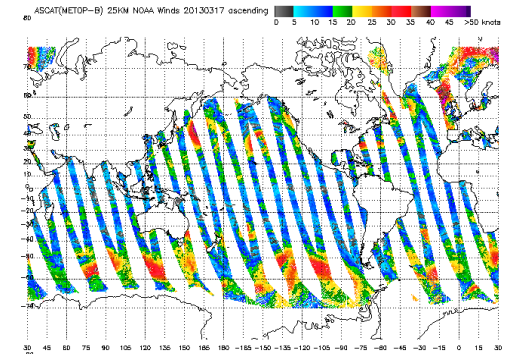
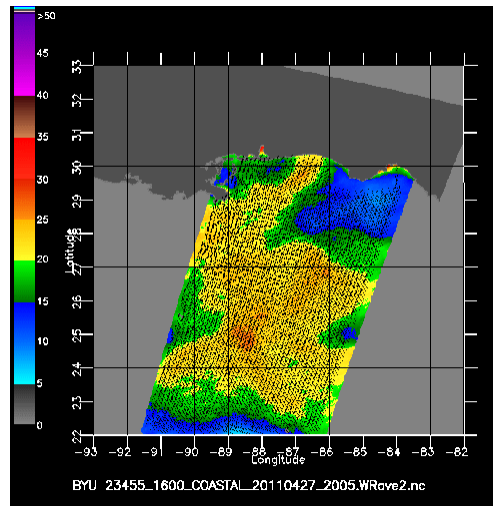
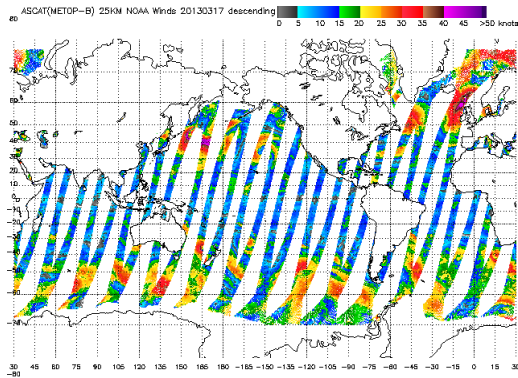


# Operational ASCAT Winds (1/2)

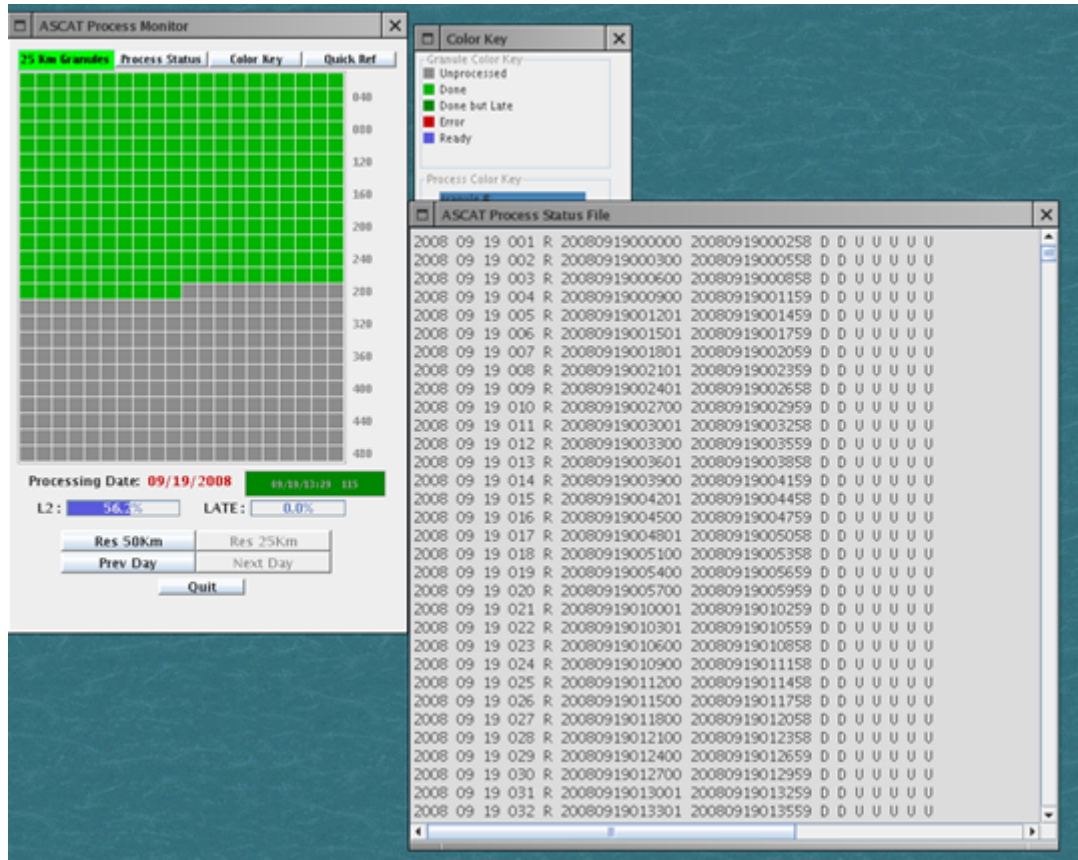
- Metop-B and Metop-A ASCAT
  - 50 km and 25 km OSVW products
    - 50 km
      - 3-min granule files in BUFR and binary
      - 3-min ASCAT-lite files for NAWIPS (binary)
    - 25 km
      - 3-min granule files in BUFR and binary
      - 3-min ASCAT-lite files for NAWIPS (binary)
      - 3-min ASCAT-lite files for AWIPS (BUFR)

# Operational ASCAT Winds (2/2)

- Enhanced resolution wind products
  - Tropical cyclone storm sector wind speed imagery



# ASCAT Winds Monitoring



- A Java based automatic monitoring tool for ASCAT winds
- Monitoring the process on 3-minute granule level
- Ability to display the status from data ingest, process and distribution

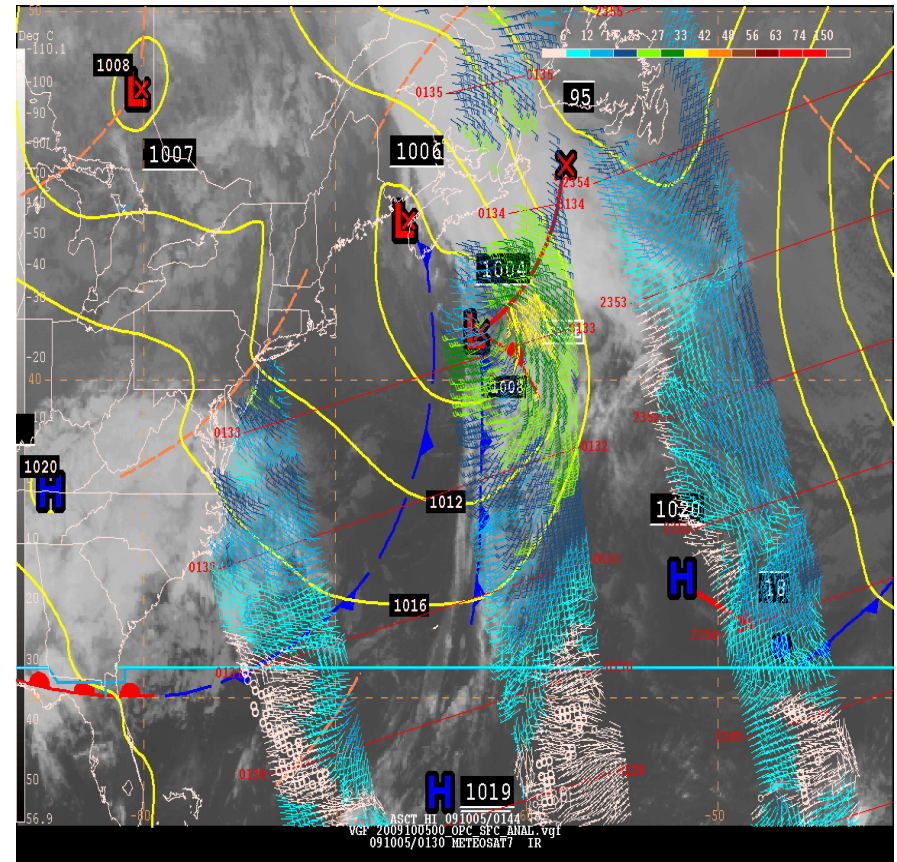
# Operational ASCAT Winds Distribution

- ASCAT winds are distributed via DDS server
- Main NOAA users
  - National Hurricane Center (NHC)/Tropical Prediction Center (TPC)
  - Ocean Prediction Center
  - Alaska and Pacific Regions
  - Coastal Weather Forecast Offices
  - Great Lakes Weather Forecast Offices
  - Environmental Modeling Center (EMC)



# Day to Day Uses of ASCAT at OPC

- Identify weather features
- Marine wind warnings
- Short term marine forecasts
- Real-time Verification



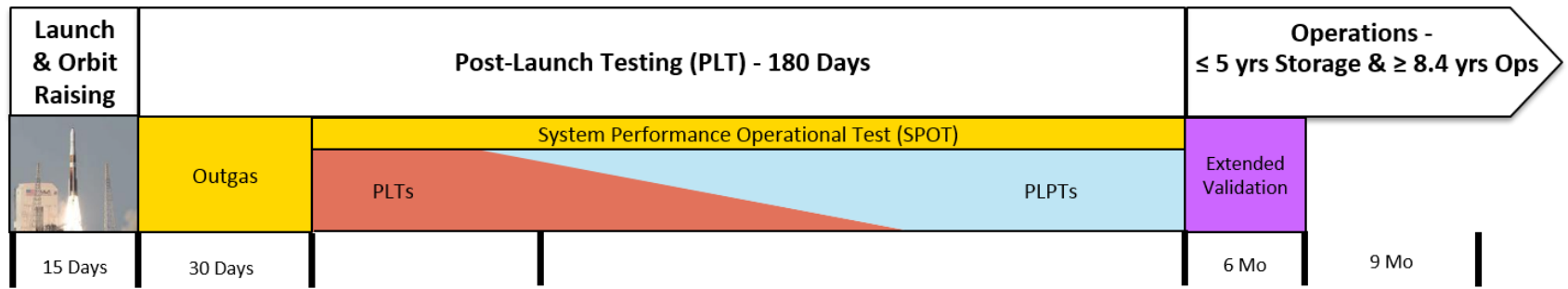
# TOPIC

- Status of GOES and POES Satellites
- Operational AMV System and Products
  - AMV System Architectures
  - AMV Products, Monitoring, and Distribution
- Operational ASCAT processes and products
- Update on Satellites, Products, and Systems

# Update on GOES-R Satellite

- GOES-R Launch: Nov. 4, 2016 to 89.5 deg West
- Post-Launch Testing: Nov. 2016 – Apr. 2017 at 89.5 deg West
- Extended Validation: Apr. 2017 – Nov. 2017 at 89.5 deg West
- Positioned at GOES-East or West: Nov. 2017

# Data Release & Product Validation Schedule

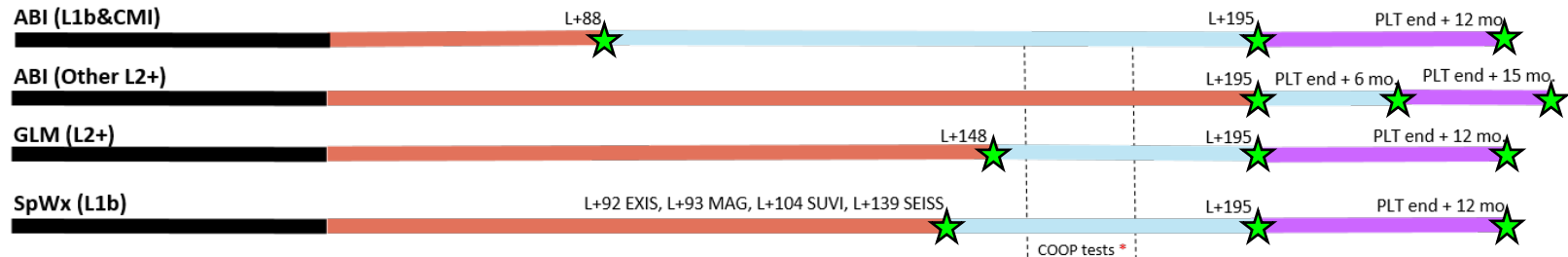


Internal Flow L+15 Days

External Distribution L+88 Days

Handover Readiness Review (HRR) & Operations Handover L+6 Months

East/West Assignment L+12 Months



**LEGEND**

- Science Data Not Flowing
- Post-Launch Observatory Testing / beta testing
- Post-Launch Product Testing (PLPT) / provisional testing
- Extended Val / full validation testing

Current as of Apr 12, 2016  
elizabeth.mcmichael@noaa.gov

**Beta Validated Products**      **Provisionally Validated Products**      **Fully Validated Products**

\* Two one-day data blackout during this period due to COOP tests.

# GOES-R Winds

- Available in NETCDF format and BUFR formats with new BUFR table
- Begin to be distributed to users via PDA at Launch+6 months
- A provisional validation maturity status at Launch+1 year
- A full validation maturity status at Launch+21 months
- Plan to be disseminated via GTS

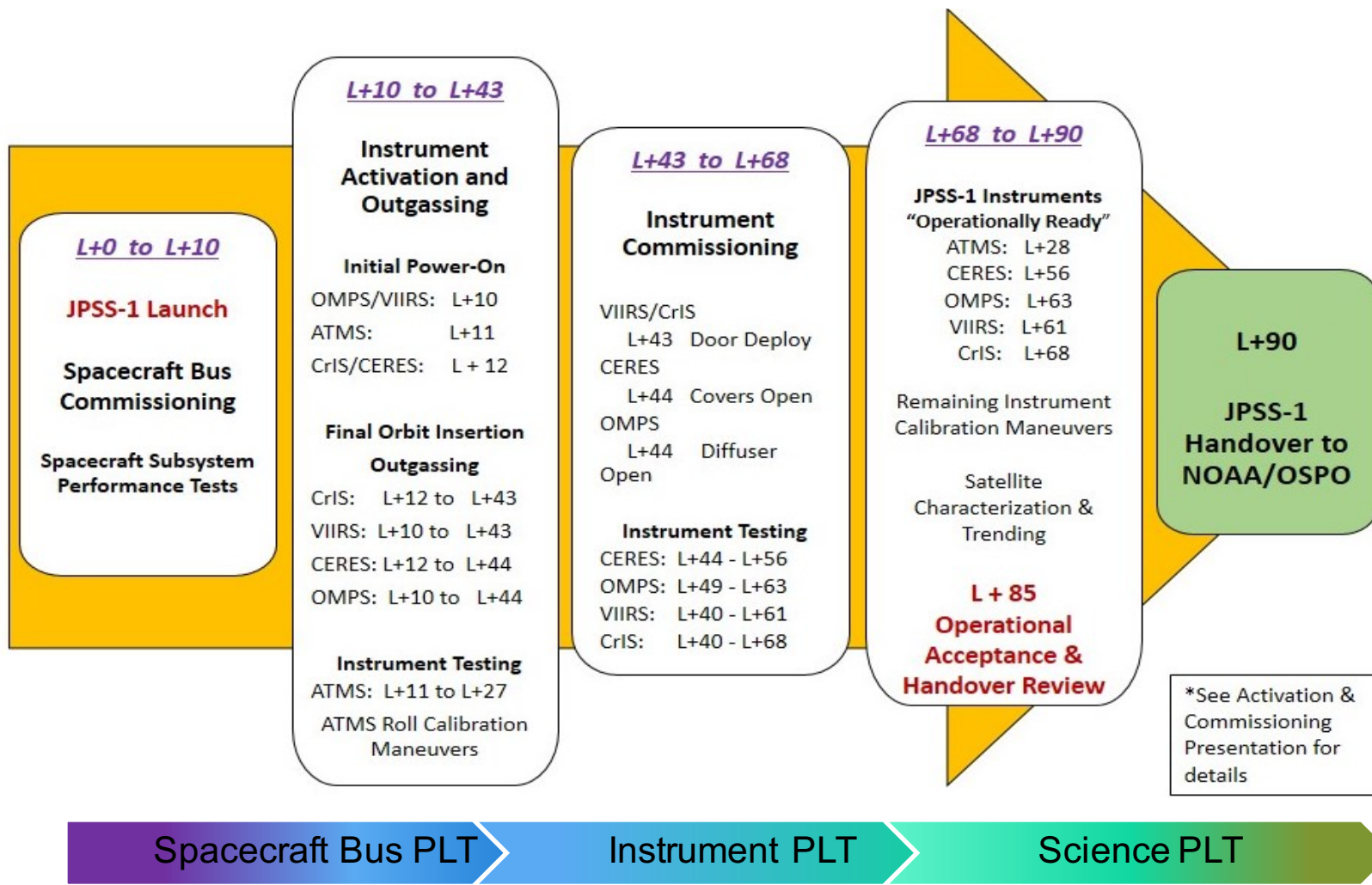
# Update on JPSS-1 Satellites

- Proposed JPSS-1 Launch date is around Jan., 2017
- JPSS-1 Handover to OSPO at Launch+90 days



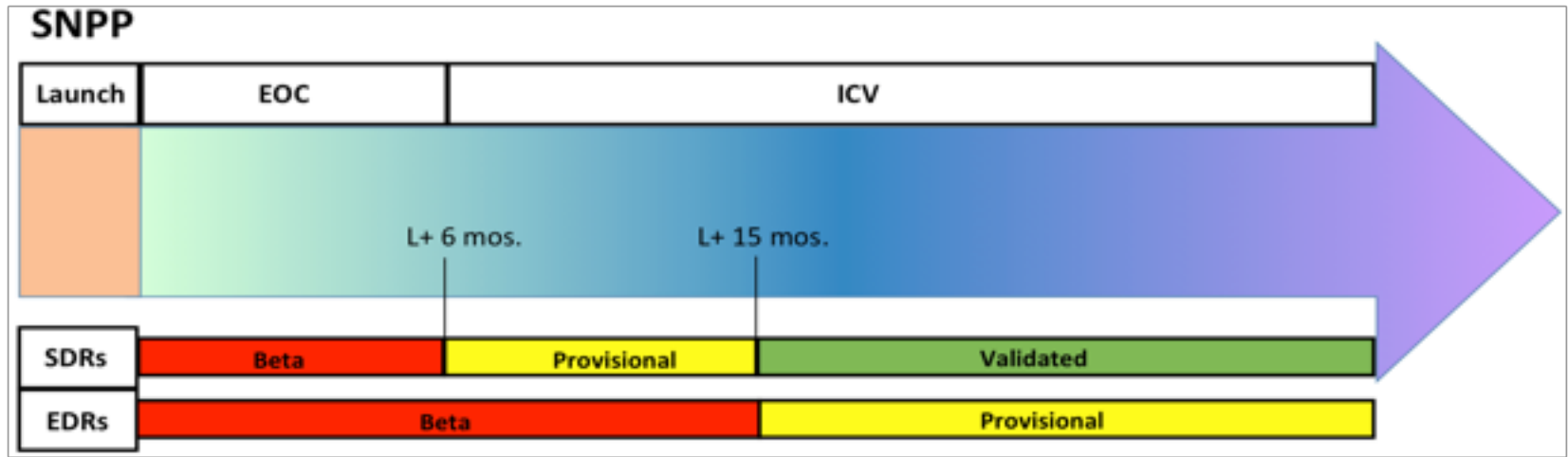
# On-orbit Commissioning Timeline Overview (JPSS-1)

## Launch Readiness Date (LRD) - Jan 2017

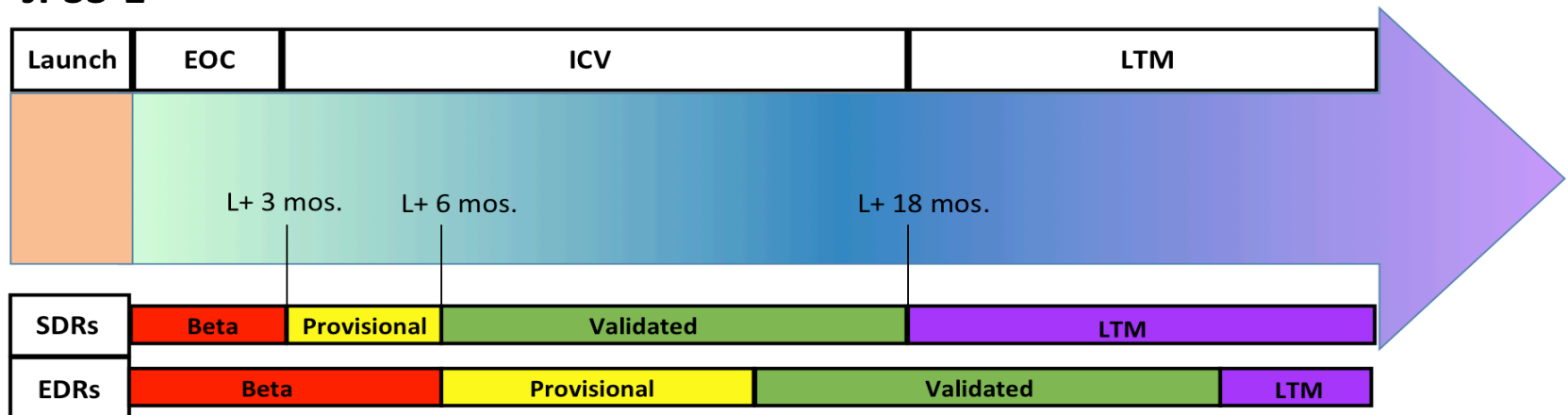


Tentative schedule – informational only

# JPSS-1 Cal/Val Timeline (Draft Version)



## JPSS-1



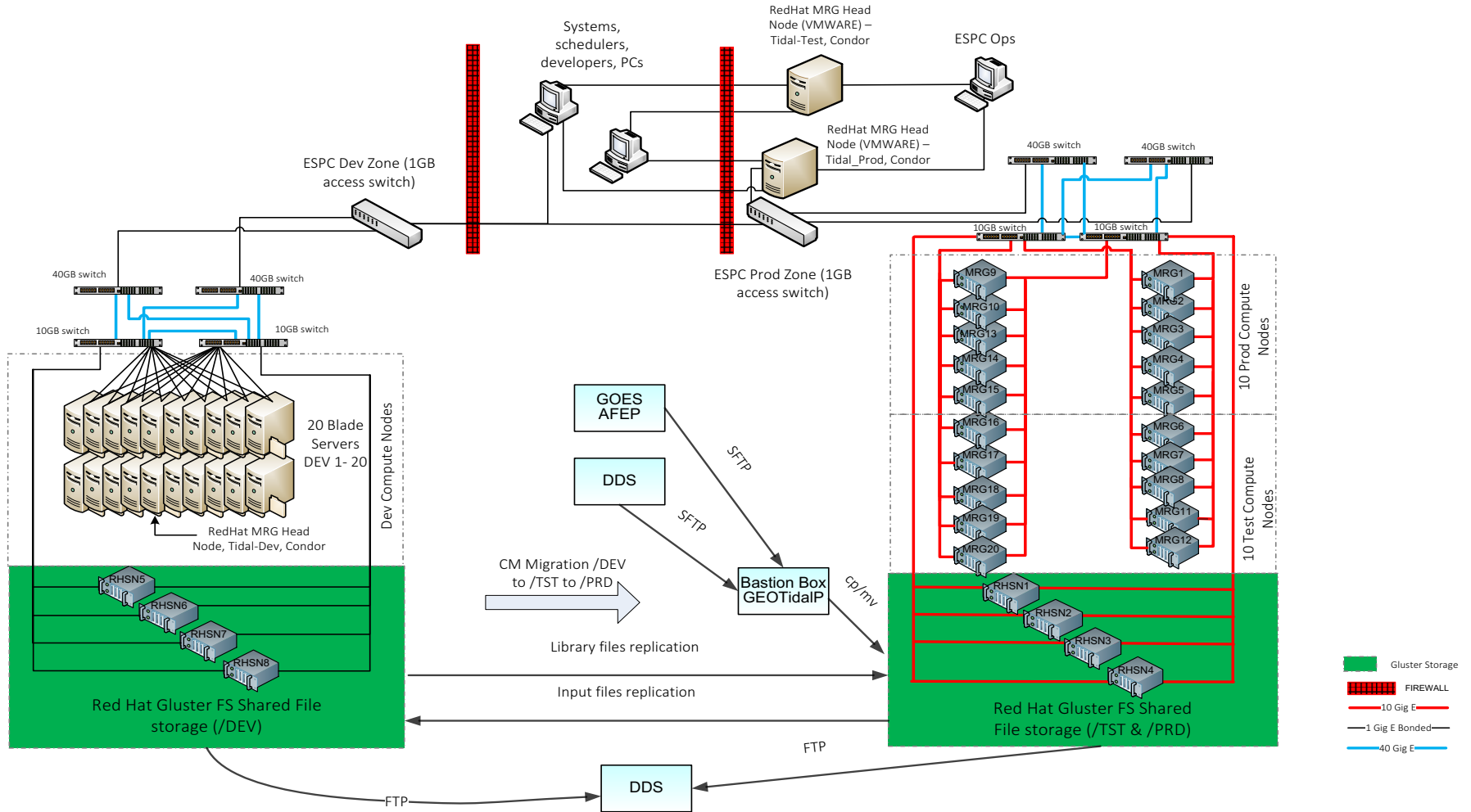
Early Orbit Checkout (EOC); Intensive Cal/Val (ICV); Long Term Maintenance (LTM)

Note – this is an early draft timeline; a detailed schedule is to be available in summer 2016.

# JPSS-1 VIIRS Polar Winds

- Products will be in operation in June 2018
- Will be run on OSPO NDE system as S-NPP VPW
- Available in NETCDF format and BUFR formats with new BUFR table
- Will be distributed via PDA

# CHOPS 2.0 Architecture Diagram



CHOPS 2.0 Architecture 03152016.vsd

# Update on AMV Products

- New Improved GOES Winds (Expected to be available in Spring 2017)
  - Using GOES-R algorithm with current GOES data
  - Available in NetCDF4 format and BUFR format with new BUFR table
  - Will run on CHOPS 2.0
  - Plan to provide users the testing period in parallel with current GOES AMV products

# Update on AMV Products

- MODIS/AVHRR Winds with GOES-R Algorithm (June, 2017)
  - Will be generated by the same GOES-R algorithm as S-NPP VIIRS Polar Winds
  - Avoid the different error characteristics from different algorithm
  - Will run on CHOPS 2.0



# New Processing & Distribution

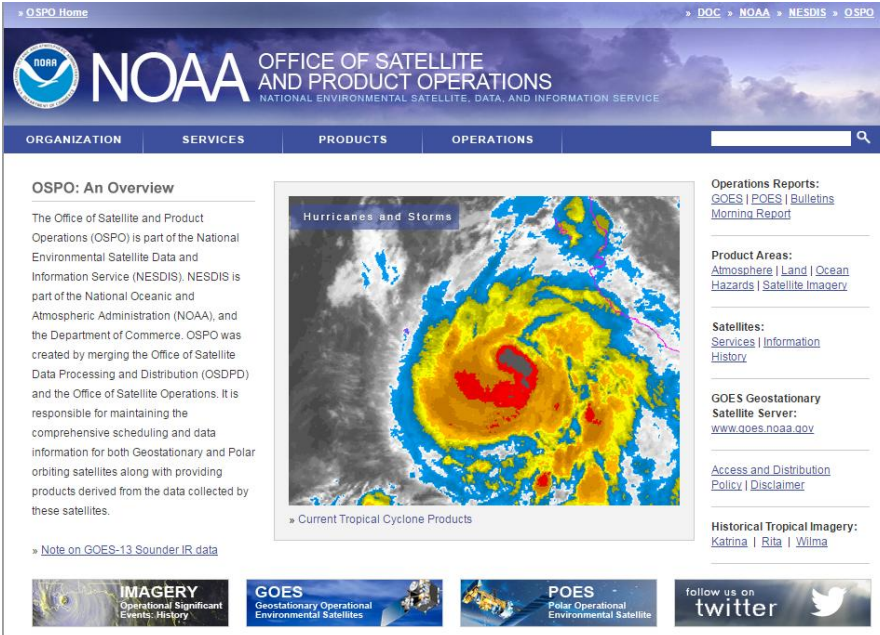
- PDA – Product Distribution and Access System
- All near real time distribution will be done from PDA
  - GOES-R products
  - S-NPP and JPSS products
  - Other products from currently supported missions

# New Processing & Distribution

- Highly automated, user driven process
- User managed search and tailoring
- OSPO to manage and update international user subscriptions, same as current DDS
- Currently GOES-R data is expected to be the first products available on PDA

# Data Access & Distribution Policy

Contact: [NESDIS.data.access@noaa.gov](mailto:NESDIS.data.access@noaa.gov)



OSPO: An Overview

The Office of Satellite and Product Operations (OSPO) is part of the National Environmental Satellite Data and Information Service (NESDIS). NESDIS is part of the National Oceanic and Atmospheric Administration (NOAA), and the Department of Commerce. OSPO was created by merging the Office of Satellite Data Processing and Distribution (OSDPD) and the Office of Satellite Operations. It is responsible for maintaining the comprehensive scheduling and data information for both Geostationary and Polar orbiting satellites along with providing products derived from the data collected by these satellites.

» [Note on GOES-13 Sounder IR data](#)

Operations Reports:  
[GOES](#) | [POES](#) | [Bulletins](#)  
[Morning Report](#)

Product Areas:  
[Atmosphere](#) | [Land](#) | [Ocean](#)  
[Hazards](#) | [Satellite Imagery](#)

Satellites:  
[Services](#) | [Information](#)  
[History](#)

GOES Geostationary  
Satellite Server:  
[www.goes.noaa.gov](http://www.goes.noaa.gov)

[Access and Distribution](#)  
[Policy](#) | [Disclaimer](#)

Historical Tropical Imagery:  
[Katrina](#) | [Rita](#) | [Wilma](#)

IMAGERY  
Operational Significant  
Events: History

GOES  
Geostationary Operational  
Environmental Satellites

POES  
Polar Operational  
Environmental Satellite

follow us on  
twitter

[www.ospo.noaa.gov](http://www.ospo.noaa.gov)

- To consistently vet user requests for near real-time satellite data and products based on organizational affiliation or type of application
- To effectively manage **data distribution resources** to ensure effective system performance
- To be in compliance with policy, procedures and required **interconnection agreements** with NIST/DOC IT security regulations
- To factor ESPC **IT system planning** and future distribution resource availability and capacity needs into data access decisions

# Contact Information for Operational Wind Products

**Hongming Qi**

Winds PAL (Product Area Leader)

At NESDIS/OSPO

Email: [Hongming.Qi@noaa.gov](mailto:Hongming.Qi@noaa.gov)

# Contact Information

OSPO: An Overview

The Office of Satellite and Product Operations (OSPO) is part of the National Environmental Satellite Data and Information Service (NESDIS). NESDIS is part of the National Oceanic and Atmospheric Administration (NOAA), and the Department of Commerce. OSPO was created by merging the Office of Satellite Data Processing and Distribution (OSDPD) and the Office of Satellite Operations. It is responsible for maintaining the comprehensive scheduling and data information for both Geostationary and Polar orbiting satellites along with providing products derived from the data collected by these satellites.

Current Tropical Cyclone Products

Operations Reports: [GOES](#) | [POES](#) | [Bulletins](#) | [Morning Report](#)

Product Areas: [Atmosphere](#) | [Land](#) | [Ocean](#) | [Hazards](#) | [Satellite Imagery](#)

Satellites: [Services](#) | [Information](#) | [History](#)

GOES Geostationary Satellite Server: [www.goes.noaa.gov](http://www.goes.noaa.gov)

Access and Distribution [Policy](#) | [Disclaimer](#)

Historical Tropical Imagery: [Katrina](#) | [Rita](#) | [Wilma](#)

IMAGERY: [Operational Significant Events](#) | [History](#)

GOES: [Geostationary Operational Environmental Satellites](#)

POES: [Polar Operational Environmental Satellites](#)

follow us on [twitter](#)

follow us on [twitter](#)

**NOAA Satellites**  
 @usnoaagov\_ospo Suitland, MD  
 NOAA Satellite and Information Service - The Office of Satellite and Product Operations highlights satellite imagery, hazard products, direct services, etc.

24/7 Help Desk	<a href="mailto:ESPCOperations@noaa.gov">ESPCOperations@noaa.gov</a>
User Services	<a href="mailto:SPSD.UserServices@noaa.gov">SPSD.UserServices@noaa.gov</a>
Data Access	<a href="mailto:NESDIS.Data.Access@noaa.gov">NESDIS.Data.Access@noaa.gov</a>
Webmaster	<a href="mailto:SSDWebmaster@noaa.gov">SSDWebmaster@noaa.gov</a>
Web	<a href="http://www.ospo.noaa.gov">www.ospo.noaa.gov</a>
 Find us on Facebook	<a href="http://www.facebook.com/NOAANESDIS">www.facebook.com/NOAANESDIS</a>
 FOLLOW US ON twitter	<a href="http://www.twitter.com/usnoaagov_ospo">www.twitter.com/usnoaagov_ospo</a>

# Comments and Questions





Dzieki Ačiū TACK! þakka þér fyrir Takk

**Danke!** Teşekkürler Salamat Mahalo

Cảm ơn bạn 谢谢您 dhanayawad Grazie

**Хвала** Kiitos *Bedankt* mulţumesc! Спасибо

Σε ευχαριστώ 감사합니다 *gracias!* obrigado! Hvala

Go raibh maith agat

# THANK YOU!

ありがとうございました

Domo merci! Благодаря a dank!

Paldies תודה Toda TĀNAN vd'aka! Asante

