Working Group/Observational Data (Satellite Data)

Spring 2017 COPC

Co-Chairs:
Mr. Vincent Tabor, NOAA/NESDIS
Mr. Eric Wise, HQ/USAF/A3W

Exec. Secretary:
Mr. Anthony Ramirez, OFCM

Satellite Data Requests

Phases: Access Approval, Change Approval, Implementation, Closure

Data	Requestor	Provider	Delivery	Status/Phase
GCOM-W Lvl 1b and Lvl 2 Prods	557th & FNMOC	NESDIS	March 2017	Closure
SMAP	557th	NESDIS	N/A	Access Approval (data not yet acquired - TBD)
Radarsat	FNMOC	NESDIS		Implementation
SSMIS Upper Air Soundings (UAS) Unified Pre-Processor (UPP)	NESDIS	FNMOC	April 2017	Closure
S-NPP Ice Concentration	557th	NESDIS	April 2017	Implementation
MIRS	NAVO	NESDIS	March 2017	Closure

Satellite Data Requests

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Data	Requestor	Provider	Delivery	Status/Phase
Megha-Tropique SAPHIR Level 1a and 1b radiances* (*understood to be data of opportunity only)	FNMOC/ 557th	NESDIS		Implementation
ScatSat	FNMOC	NESDIS	N/A	Access Approval (data not yet acquired - TBD)
SMDB Buoy and Satellite SST	FNMOC	NAVO		Closure
GCOM RDR	FNMOC	557th WW	April 2017	Closure
SMOPS	557th	NESDIS	March 2017	Closure

Satellite Data Requests

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Data	Requestor	Provider	Delivery	Status/Phase
MODIS AMSU/AIRS (343-channel)	557th	NESDIS	Aug 2017	Implementation
INSAT-3D	FNMOC/ 557th	NESDIS	N/A	Access Approval (data not yet acquired - TBD)
Sentinel-3A	NESDIS	NAVO	April 2017	Access Approval

Satellite Data Requests

(unfunded no current NESDIS requirements)

Phases: Access Approval, Change Approval, Implementation, Closure

Data	Requestor	Provider	Delivery	Status/Phase
IceCube	FNMOC	NESDIS	N/A	Access Approval (data not acquired – ESPC System owner pushed request back to CSAB)
Topics	FNMOC	NESDIS	N/A	Access Approval (data not acquired – ESPC System owner pushed request back to CSAB)
CYGNSS Level 1b and level 2 Ocean Surface Wind Data	FNMOC	NESDIS	N/A	Access Approval (data not yet acquired - TBD)

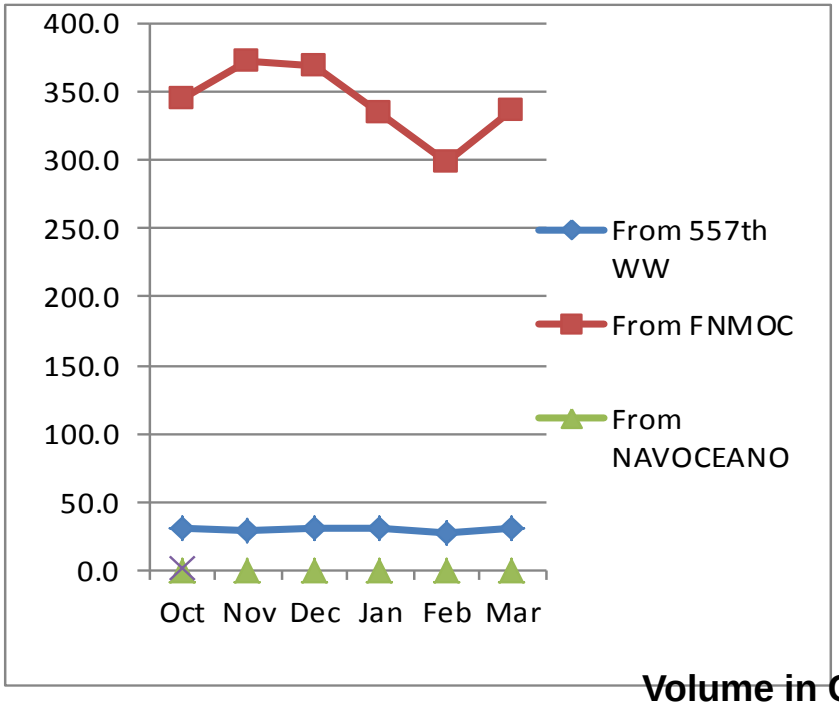
Recent Activities

- NESDIS/DAPE and FNMOC staffs continue to work DAPE Gateway access to new distribution server at FNMOC (testing ongoing)
- NAVO switched to "gzip" format for SST/buoy matchup data delivered to FNMOC to accommodate new security system/software requirements at FNMOC.
- NAVO initiated transfer of Sentinel-3A Sea Surface Height Anomaly data to FNMOC.
- NESDIS has requested Sentinel-3A Sea Surface Height Anomaly data for use in Ocean Heat Content (OHC) system.
- Transfer data rate testing
  - NAVO coordinated with NESDIS to conduct transfer data rate testing with DAPE server.
  - NESDIS has approved Work Request (WR) to conduct transfer data rate testing with NAVO and other OPC and plan to start testing soon.
  - These tests should give WG/OD a baseline for MFG tests in the future.

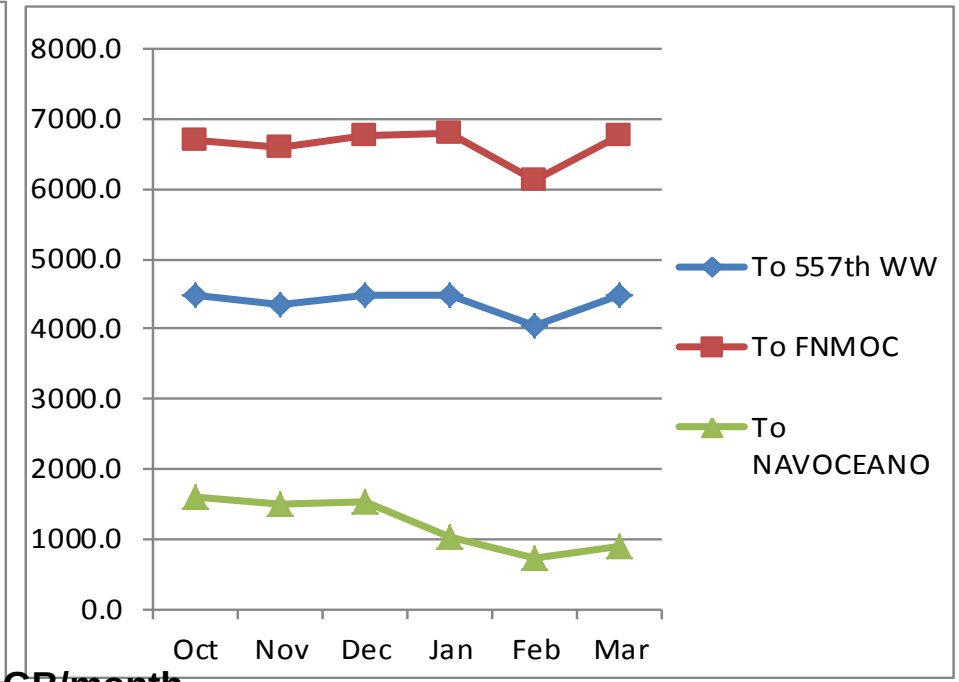
DAPE Gateway Statistics
October 2016 to March 2017

	Oct	Nov	Dec	Jan	Feb	Mar
From 557th WW	30.6	29.6	30.3	30.6	27.7	30.7
From FNMOC	345.0	372.6	367.9	334.6	298.0	336.2
From NAVOCEANO	0.1	0.1	0.1	0.1	0.1	0.1
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
To 557th WW	4486.6	4332.9	4468.6	4481.2	4038.9	4467.9
To FNMOC	6700.3	6590.9	6758.5	6779.4	6121.5	6744.7
To NAVOCEANO	1609.3	1519.4	1542.7	1021.6	747.4	912.0

Data sent to NESDIS



Data sent from NESDIS



Volume in GB/month

ESPC CIP Fail-over

After being postponed on March 29-30, 2017, due to the threat of severe weather in the Central U.S, the fail-over was successfully executed on April 19, 2017

- Plan to conduct the fail-over was confirmed during 7:30 am EDT go-no-go call
  - Most of the OPCs participated in the call
- Staff started failing over at 7:50 am EDT
- The fail-over completed at 9:20 after correcting firewall issue and most users gained access to the systems at the CIP site
  - SAB initially had an issue with connectivity. However, the issue was resolved by the CIP team at 10:00 am EDT
  - FNMOC reported that it appeared that they lost connectivity about the time SAB was connected
    - An action was taken by CIP team and an investigation is being conducted for this report
- CIP team started the fail-back at 12:00 noon and fail-back was completed by 12:08 pm EDT

Note – CIP is Critical Infrastructure Protection (i.e. COOP site) for ESPC that functions as a transparent backup for the most critical ESPC data services.

Ongoing Activities

Jason-2

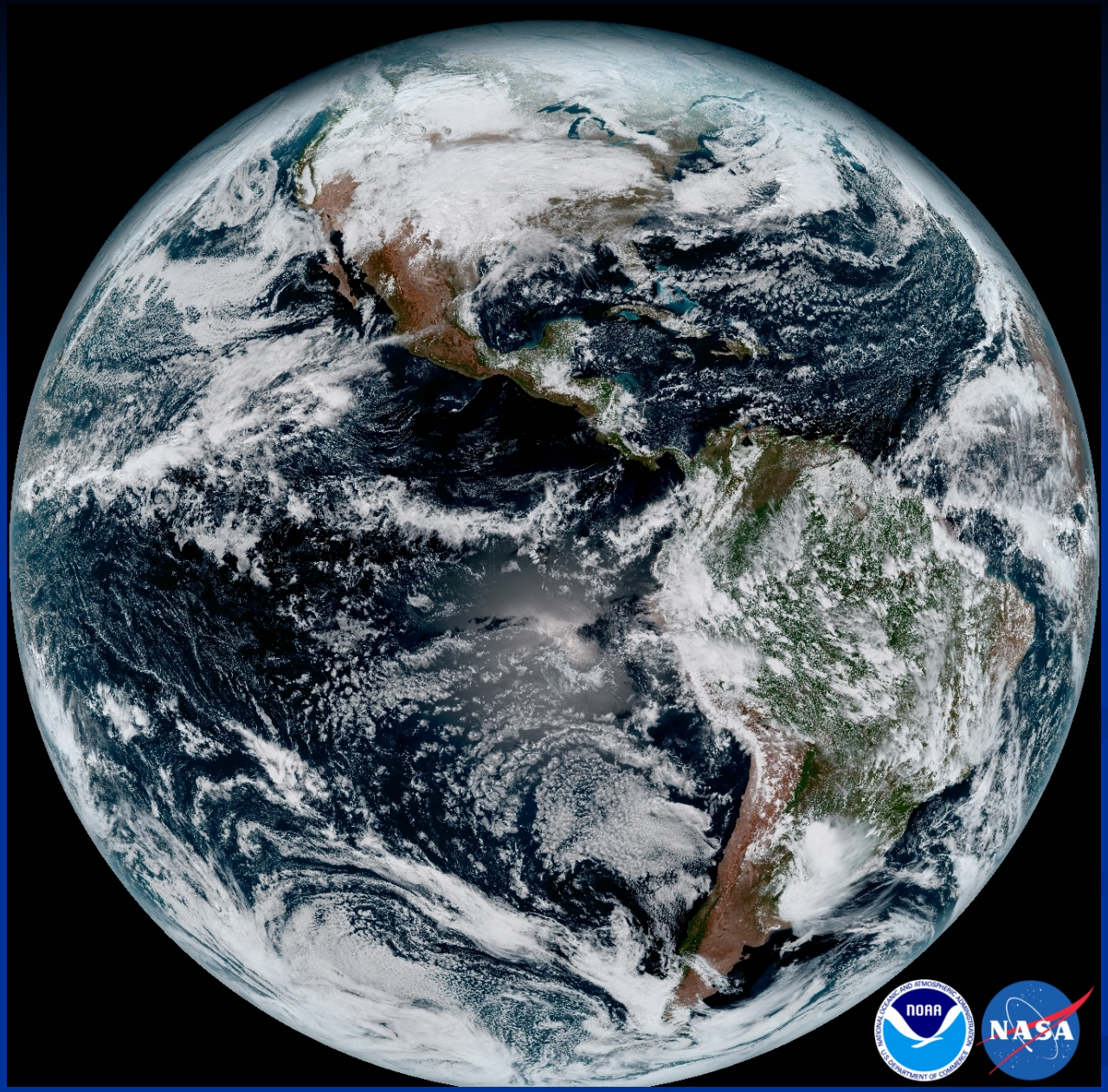
- Jason-2 Interleave orbit achieved on 14 October 2016
- NAVO commenced operational delivery of J-2 Interleave SSHa products on 8 Nov 2016
- Attainment of interleave orbit increased Jason Series contribution by 100% and reduced orbit ground-track spacing by 50%, from 315 km to ~155km, respectively, greatly improving mesoscale feature detection and characterization
- Jason-2 went into safe-hold mode on March 22, 2017 and was recovered on March 30, 2017
  - Satellite appears to be operating as expected

Sentinel-3A

- The Sentinel-3A satellite launched on February 16, 2016 in a new 27 day exact repeat orbit (ERO), which will provide additional improvement for mesoscale characterization.
- The NAVOCEANO ADFC gained access from NOAA/STAR for the NRT datasets on August 25 ,2016, and STC datasets on January 5, 2017.
- Sentinel-3a NRT/STC SSHa operational product delivery to Navy modelers began February 6, 2017.
- Sentinel-3a wind/wave products are not currently available. Work is in progress.

GOES-16 (GOES-R)

- Satellite was successfully launched on November 19, 2016
- GOES-R became GOES-16 when it reached geostationary orbit (day 14)
- Satellite currently positioned at 89.5° W longitude for checkout and validation (expected duration 1 year)
- The GOES-16 ABI sensor will send full disk images of earth every 15 minutes
- Methodology for data access via PDA has been established
- 557th will have a direct readout
- Data access request form may be required by NESDIS
- Satellite in Post Launch Testing (PLT)
  - Appears to be performing well
  - Some data has been released but not for operational use



Composite color full-disk visible image of the Western Hemisphere was captured from NOAA GOES-16 satellite at 1:07 pm EST on Jan. 15, 2017 and created using several of the 16 spectral channels available on the satellite's sophisticated Advanced Baseline Imager.

Meteosat-7 Follow-on

- Meteosat-7 ended all data dissemination on 31 March 2017
- Meteosat-7 moved to “graveyard orbit” on 3 Apr 2017
- Meteosat-8 arrived at 41.5° E on 21 September 2016
- Meteosat-8 became primary IODC mission on 1 February 2017
- NAVO is pursuing access to Met-8 sea surface temperature data via IFREMER
- OPCs are coordinating access methods and exchange protocols

Other Activities

Mission Partner (Federated) Gateway

- WG/OD standing by to assist as required by gathering representative proxy data to test the operational effectiveness of the gateway – reference COPC action item

Product Distribution and Access (PDA)

- NDE 2.0 and PDA transited to full operations on March 8, 2017
  - Four data sets stopped being made available to the DAPE with this transition
  - An urgent Configuration Change Request (CCR) was issued to allow the DAPE to pull these data from PDA and make these data available to FNMOC

DMSP

- F-19 continues autonomous transmission of real-time imagery/mission sensor data (may continue into 3rd QTR 2017 but with mapping degradation over time)
  - FNMOC submitted a requirement to AF to receive DRO F-19 microwave data via MARK-IVB.
  - 557th WW has met FNMOC request for data and is shipping along with direct readout for all DMSPs.
  - SSMIS sensor spun down March 2017 and has failed making microwave data unavailable
  - F-18 and F-17 microwave data via MARK-IVB continues to be made available.
- F-20 was cancelled, final disposition under way.

Risk Reduction for Windsat

- The Operationally Responsive Space (ORS) COWVR mission will only have ground processing software /raw data to FNMOC (launch Feb 2018)
- Navy and Air Force working together on risk reduction for Windsat and DMSP.
- WSF-M timeframe, 557th WW and FNMOC will be delivered raw data and run the ground processing software (launch 2022)

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COSMIC 2

Per latest NOAA update to the Committee for Environmental Satellites:

- COSMIC-2 Team is positioned for a successful mission and on schedule to support a C-2A launch in 2017. Launch may slip into 2018 depending on launch vehicle readiness.
- Air Force will supplement NOAA data capture with MARK-IVB

Thank you -- questions?