Working Group/Observational Data (Satellite Data)

Fall 2017 COPC

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Satellite Data Requests

Phases: Access Approval, Change Approval, Implementation, Closure

Data	Requestor	Provider	Delivery	Status/Phase
SMAP	557th	NESDIS	Data incorporated into SMOP data	Closure
Radarsat	FNMOC	NESDIS	November 2017 via DAPE	Implementation
Megha-Tropique SAPHIR Level 1a and 1b radiances* (*understood to be data of opportunity only)	FNMOC/ 557th	NESDIS	November 2017 via DAPE	Implementation
ScatSat	FNMOC	NESDIS	N/A	Access Approval (data not yet acquired - TBD)
SMOPS	557th	NESDIS	July 2017 via DAPE and PDA	Closure

Satellite Data Requests

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

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)
Tropics	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)

Satellite Data Requests

Phases: Access Approval, Change Approval, Implementation, Closure

Data	Requestor	Provider	Delivery	Status/Phase
GOES-16 (16-ch, including vis, IR, and WV)	FNMOC	557 WW	TBD	Formal request to AF/A3W in draft
METEOSAT-11 (same channels and resolution as MET-10)	FNMOC	557 WW	TBD	Formal request to AF/A3W in draft
Atmospheric Motion Vectors (AMV) Software and Support	FNMOC	NESDIS-STAR	TBD	Formal request to NESDIS-STAR (NOAA) in draft

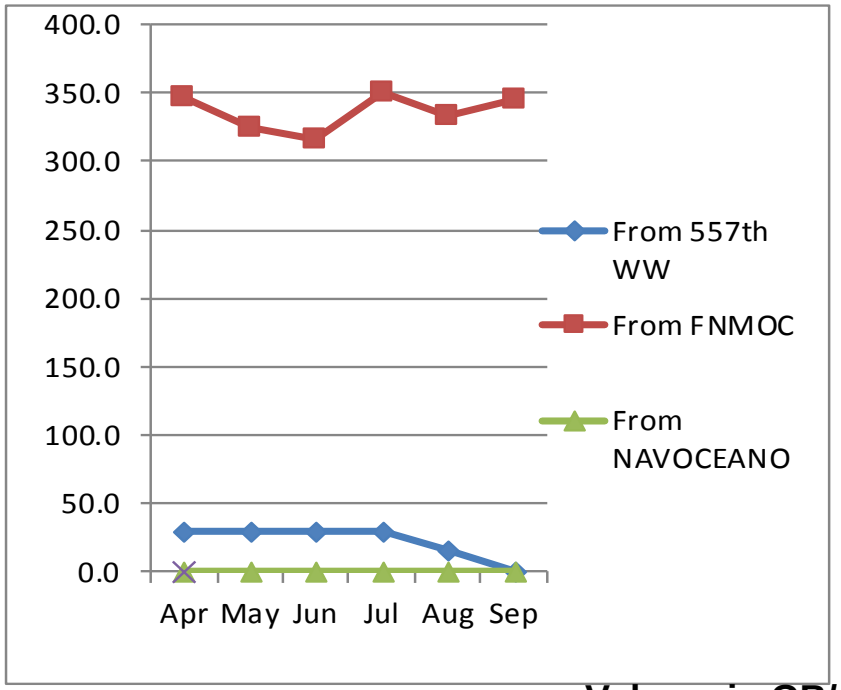
Recent Activities

- NESDIS/DAPE and FNMOC staffs made the switch to the new DART distribution server at FNMOC. This new server is expected to be a more relevant, timely, and effective way for data transfers.
- NESDIS requested Sentinel-3A Sea Surface Height Anomaly data for use in Ocean Heat Content (OHC) system. These data are now being delivered to the DAPE. DAPE need to now set up transfers of these data to PDA.
  - NAVO is looking at pushing these data directly to PDA.
    - Firewall form to allow them to pushed these data to PDA has been made available to NESDIS network staff
      - Network staff is waiting for JPSS freeze to be lifted so that necessary changes can be made.
- Transfer data rate testing
  - 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.

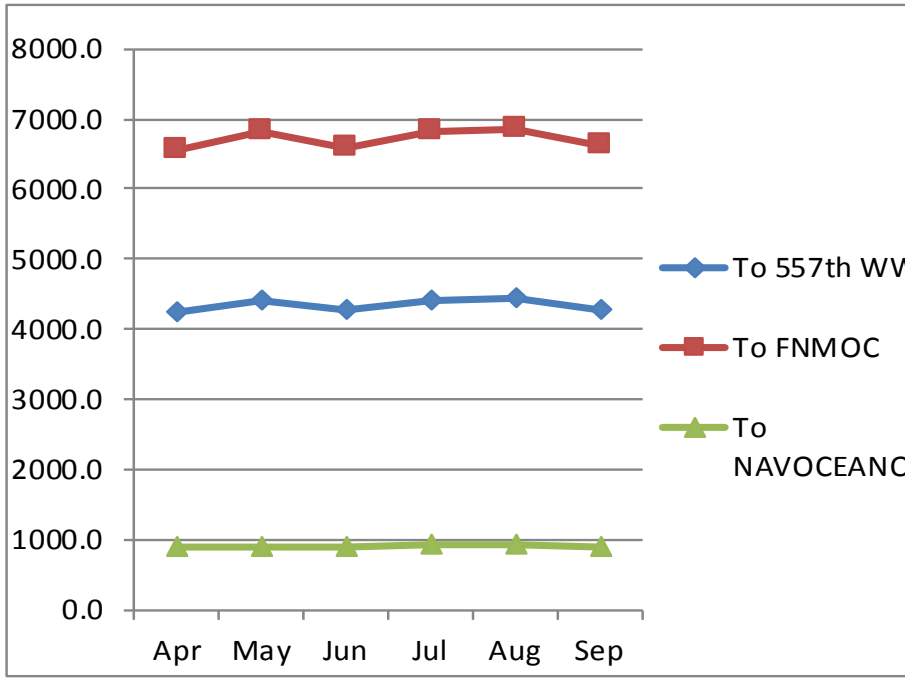
DAPE Gateway Statistics
April 2017 to September 2017

	Apr	May	Jun	Jul	Aug	Sep
From 557th WW	29.5	30.4	29.7	30.7	15.6	0.2
From FNMOC	346.8	324.9	315.9	350.8	332.8	344.6
From NAVOCEANO	0.1	0.1	0.1	0.1	0.1	0.1
	Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**
To 557th WW	4231.1	4406.6	4265.3	4423.3	4430.4	4286.0
To FNMOC	6534.1	6807.0	6591.7	6833.0	6855.9	6600.9
To NAVOCEANO	891.7	908.1	879.0	911.0	927.1	882.9

Data sent to NESDIS



Data sent from NESDIS



Volume in GB/month

ESPC CIP Fail-over

- CIP Activated on September 13, 2017
  - Activated for product generation and validation
- Fail-over (Mini Test) Planned for December 2017
  - No product transferred during this test
  - OSPO will test the firewalls
  - OSPO will test College Park ability to access internet during fail-over
- CIP staff is now planning how to operate and make some CIP products available to CBU via the CIP

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.

CBU Activation

- CBU was activated on October 4, 2017
  - JPSS/S-NPP only
  - Users needed to get S-NPP from CBU during the activation
  - Pull users needed to make a switch to point to the CBU
  - Push users should not have to make a change

Ongoing Activities

Jason-2

- Jason-2 geodetic orbit achieved on July 12, 2017.
- NAVO commenced operational delivery of Jason-2 geodetic SSHa products on August 15, 2017.
- The Jason-2 geodetic data is degraded/less accurate but does add value. These non-repeat observations will overlap with other altimetry satellites; therefore the overall SSHa coverage will be less.
- Jason-2 went into safe-hold mode due to gyro issues from 14 Sept - 11 Oct 2017. NAVO resumed wind/wave and SSH deliveries on 13 Oct 2017. The Jason-2 team is working to improve data availability.

Sentinel-3A

- NAVO commenced operational delivery of Sentinel 3a wind wave products to FNMOC on June 12, 2017.
- To address delivery of the SSHA data to NOAA Ocean Heat Content system, two methods are being pursued.
  - A Configuration Change Request (CCR) was submitted by NESDIS to modify the DAPE Gateway to grab the Sentinel-3A SSHa files and send them to PDA.
  - NAVO is also setting up a PDA account/connection to deliver the SSHA products directly.

GOES-16

- GOES-R became GOES-16 when it reached geostationary orbit (day 14)
- Satellite currently positioned at 89.3° W longitude for checkout and validation (expected duration 1 year)
- GOES-16 to be moved to 75.2° W (see transition presentation GOES-13 turned off December 14, 2017 and placed in storage January 2, 2018)
- Concerns include data availability and planning continues to transition legacy GOES-13 AMV to new DMV BUFR product (new meta data, tables and parameters). Time is needed to transition and implement data assimilation changes with the new algorithms.
  - Data currently being acquired and evaluated from NOAA STAR for risk reduction purposes
  - Transition to OPS and PDA scheduled for mid November

Meteosat-8

- Meteosat-8 arrived at 41.5° E on 21 September 2016
- Meteosat-8 became primary IODC mission on 1 February 2017
- NOAA receives these data from
  - EUMETCast terrestrial-based multicast service (NESDIS STAR)
  - Secure terrestrial point-to-point protocols (EUM MMDS → PDA)
  - WMO GTS circuits (EUM → GTS → WSH RTH)
- EUMESAT Ocean and Sea Ice Satellite Application Facility (OSI SAF) is making Met-8 SST data available at the JPL Physical Oceanography DAAC which NAVO has acquired
- OPCs have coordinated 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)

- Release 3 (JPSS-1 and other fixes/improvements) went into ops in October
- DDS data transition to PDA is complete (critical weather slowed progress)
- PDA has gone down outside of 8 x 5 and push users has lost data. OPCs may want to considered being pull user for control
- DDS-CIP transition; kick-off meeting to sync certain KPP-like/critical products occurred recently
  - Hope to finish project by Q2/FY18

DOD Follow-on Efforts

- Gap-Fillers Prior to WSF
  - Operationally Responsive Space Mission 6 **(ORS-6)** Tech Demo
    - Ocean Wind Vector Radiometer; Launch: 4QFY18
  - Operationally Responsive Space Mission 8 **(ORS-8)** Ops Prototype
    - Early Morning Polar; processing architecture TDB; Launch: FY21
- Weather System Follow-On (WSF)
  - Polar E-O/IR **(WSF-E)**; Launch: FY24
  - Geostationary **(WSF-G)**; Relocate Residual GOES to IO region (~FY20) mitigates anticipated end of life of Meteosat-8 in 2019
  - Polar Microwave **(WSF-M)**; Launch: FY23
- DMSP sustainment continues

COSMIC 2A and 2B

Per joint NOAA and Taiwan Ministry of Science and Technology memorandum

- The two agencies concluded they would not pursue development of a second set of six Constellation Observing System for Meteorology, Ionosphere, and Climate (COSMIC) 2 satellites -- COSMIC-2B Cancelled
- COSMIC-2A (initial set of 6 satellites) has been built and is scheduled for launch as part of the U.S. Air Force's Space Test Program 2 mission, launching on a SpaceX Falcon Heavy in early 2018.
- Air Force will supplement NOAA data capture with MARK-IVB

Thank you -- questions?