Working Group for Cooperative Support & Backup

OPC Outage Mitigation Effort

Spring 2016 COPC Meeting
(FNMOC, Monterey, CA)
May 3-4, 2016

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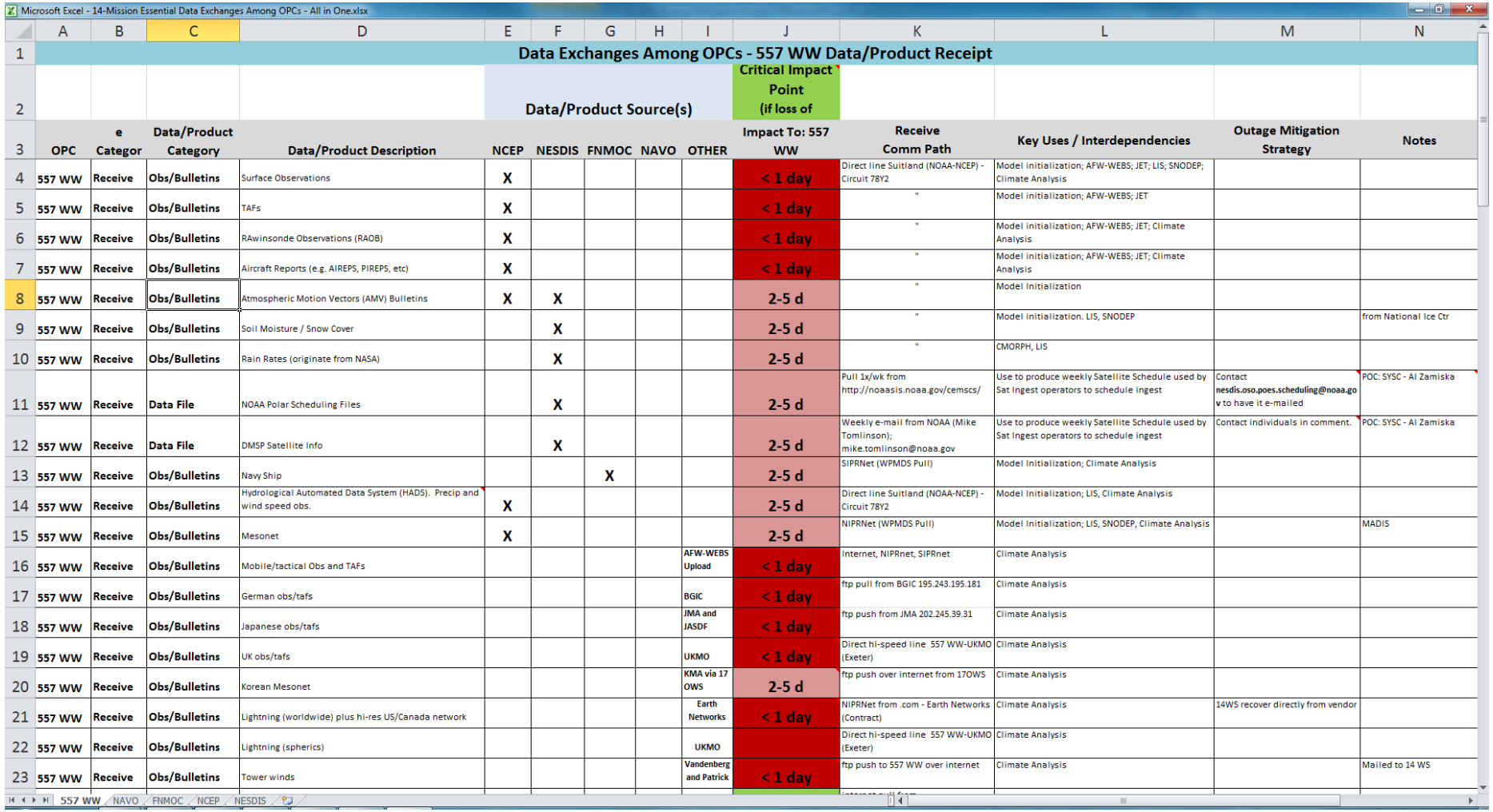
COPC AI Overview

COPC Action Item 2015-2.1: Building on the OPC outage mitigation effort presented at the Fall 2015 COPC, develop a user oriented data source priority list or table per Center.

Purpose: To increase the understanding of mission essential data exchange, single data sources, and data agency interdependencies, with the overall goal to mitigate the impacts on the OPCs when significant data outages occur.

- OPC identified the critical data inputs for their Operations
- OPC identified critical products, with associated latency
- Began assessing mitigation options
  - **alternate data sources, if primary provider is offline**
  - **alternate product line created at other center(s)**
  - **alternate pathways, if primary data feed is unavailable**

Example



Microsoft Excel - 14-Mission Essential Data Exchanges Among OPCs - All in One.xlsx

Data Exchanges Among OPCs - 557 WW Data/Product Receipt

OPC	e Categor	Data/Product Category	Data/Product Description	Data/Product Source(s) NCEP	NESDIS	FNMOC	NAVO	OTHER	Critical Impact Point (if loss of Impact To: 557 WW	Receive Comm Path	Key Uses / Interdependencies	Outage Mitigation Strategy	Notes
557 WW	Receive	Obs/Bulletins	Surface Observations	X					< 1 day	Direct line Suitland (NOAA-NCEP) - Circuit 78Y2	Model initialization; AFW-WEBS; JET; LIS; SNODEP; Climate Analysis		
557 WW	Receive	Obs/Bulletins	TAFs	X					< 1 day	"	Model initialization; AFW-WEBS; JET		
557 WW	Receive	Obs/Bulletins	RAwinsonde Observations (RAOB)	X					< 1 day	"	Model initialization; AFW-WEBS; JET; Climate Analysis		
557 WW	Receive	Obs/Bulletins	Aircraft Reports (e.g. AIREPS, PIREPS, etc)	X					< 1 day	"	Model initialization; AFW-WEBS; JET; Climate Analysis		
557 WW	Receive	Obs/Bulletins	Atmospheric Motion Vectors (AMV) Bulletins	X	X				2-5 d	"	Model Initialization		
557 WW	Receive	Obs/Bulletins	Soil Moisture / Snow Cover		X				2-5 d	"	Model initialization. LIS, SNODEP		from National Ice Ctr
557 WW	Receive	Obs/Bulletins	Rain Rates (originate from NASA)		X				2-5 d	"	CMORPH, LIS		
557 WW	Receive	Data File	NOAA Polar Scheduling Files		X				2-5 d	Pull 1x/wk from http://noaasis.noaa.gov/cemscs/	Use to produce weekly Satellite Schedule used by Sat Ingest operators to schedule ingest	Contact nesdis.oso.poes.scheduling@noaa.gov to have it e-mailed	POC: SYSC - Al Zamiska
557 WW	Receive	Data File	DMSP Satellite Info		X				2-5 d	Weekly e-mail from NOAA (Mike Tomlinson); mike.tomlinson@noaa.gov	Use to produce weekly Satellite Schedule used by Sat Ingest operators to schedule ingest	Contact individuals in comment.	POC: SYSC - Al Zamiska
557 WW	Receive	Obs/Bulletins	Navy Ship			X			2-5 d	SIPRNet (WPMDS Pull)	Model Initialization; Climate Analysis		
557 WW	Receive	Obs/Bulletins	Hydrological Automated Data System (HADS). Precip and wind speed obs.	X					2-5 d	Direct line Suitland (NOAA-NCEP) - Circuit 78Y2	Model Initialization; LIS, Climate Analysis		
557 WW	Receive	Obs/Bulletins	Mesonet	X					2-5 d	NIPRNet (WPMDS Pull)	Model Initialization; LIS, SNODEP, Climate Analysis		MADIS
557 WW	Receive	Obs/Bulletins	Mobile/tactical Obs and TAFs					AFW-WEBS Upload	< 1 day	Internet, NIPRnet, SIPRnet	Climate Analysis		
557 WW	Receive	Obs/Bulletins	German obs/tafs					BGIC	< 1 day	ftp pull from BGIC 195.243.195.181	Climate Analysis		
557 WW	Receive	Obs/Bulletins	Japanese obs/tafs					JMA and JASDF	< 1 day	ftp push from JMA 202.245.39.31	Climate Analysis		
557 WW	Receive	Obs/Bulletins	UK obs/tafs					UKMO	< 1 day	Direct hi-speed line 557 WW-UKMO (Exeter)	Climate Analysis		
557 WW	Receive	Obs/Bulletins	Korean Mesonet					KMA via 17 OWS	2-5 d	ftp push over internet from 17OWS	Climate Analysis		
557 WW	Receive	Obs/Bulletins	Lightning (worldwide) plus hi-res US/Canada network					Earth Networks	< 1 day	NIPRNet from .com - Earth Networks (Contract)	Climate Analysis	14WS recover directly from vendor	
557 WW	Receive	Obs/Bulletins	Lightning (spherics)					UKMO		Direct hi-speed line 557 WW-UKMO (Exeter)	Climate Analysis		
557 WW	Receive	Obs/Bulletins	Tower winds					Vandenberg and Patrick	< 1 day	ftp push to 557 WW over internet	Climate Analysis		Mailed to 14 WS

557 WW | NAVO | FNMOC | NCEP | NESDIS

Critical OPC Data Exchange
Altimetry Data and Derived Product(s)

- **Data Provider – NOAA/NESDIS/OSPO**
  - **Jason-2 & 3, AltiKa, Cryosat-2**
- **Data Recipient – NAVOCEANO (Core Processing Center)**
- **Derived Products**
  - **Sea Surface Height Anomaly**
    - **NAVO (ocean models)**
    - **FNMOC (atmospheric models)**
    - **NESDIS(Ocean Heat Content)**
    - **NCEP (via HYCOM initialization fields and SSHa product)**
- **Candidate Mitigation Strategies**
  - **COA 1: Navy Research Lab-Stennis as alternate source of raw altimetry data for NAVOCEANO**

COPC AI Recommendation

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- Recommend keeping Action Item open
  - Additional prioritization required
- Recommend opening a follow-on Action Item to assess viability of establishing complete mitigation process for each OPCs most critical data and dependent product.
  - Not advocating full COOP capability, but utilization of previously derived products

Questions / Discussion