TRANSITION OF JPSS PRIORITY 3 AND 4 EDR PRODUCT GENERATION TO ESPC

Arron L. Layns

JPSS Algorithm Management Project &
Satellite Project Manager for JPSS PSDI

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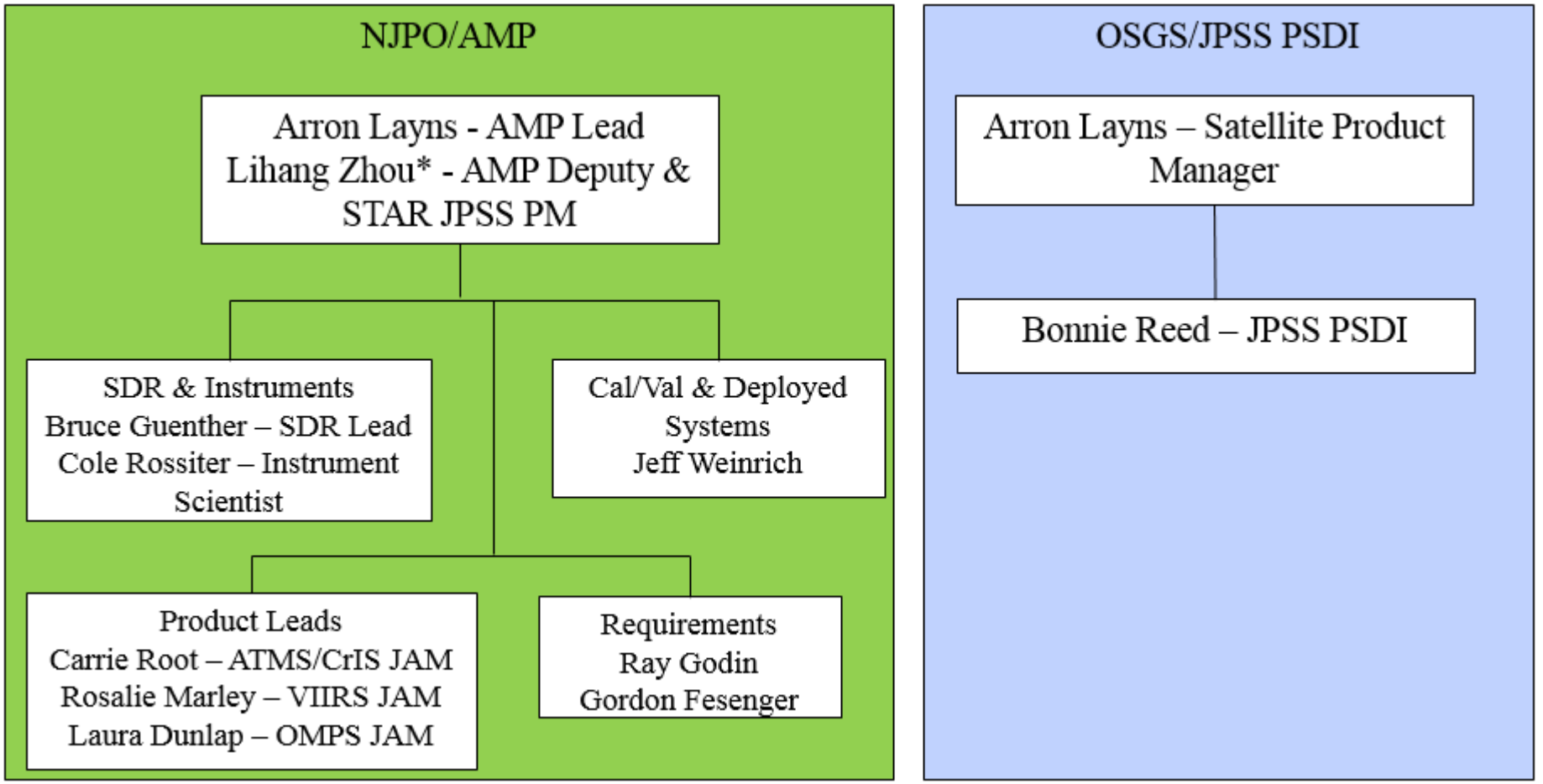
Outline

- Satellite Product Management for JPSS
- Background on transition of EDRs
- Process for transition
- Timeline for transition
- Items to be Worked

Satellite Product Management for JPSS

- JPSS, **through the Algorithm Management Project (AMP),** is responsible for providing JPSS data products that meet user requirements.
- OSGS, **through Product System Development and Implementation (PSDI),** is responsible for sustaining product algorithms based on user needs.
- **STAR** is responsible for providing high quality science and algorithms that meet the program requirements as well as provide calibration/ validation, long-term science maintenance, product quality monitoring, and anomaly resolution for the life of the products.
- In the past, **AMP** has focused on those products implemented in the **IDPS** whereas **OSGS/PSDI** focused on those products implemented in **ESPC.**
  - NESDIS is moving towards consolidation of AMP and PSDI management for all data products regardless of processing system.

AMP & PSDI Organization (Current)



Background on the Transition

- The JPSS Proving Ground/Risk Reduction funded the adaption of GOES-R algorithms to the JPSS/VIIRS sensors.
  - Product performance was overall better than the performance of the IDPS algorithms and provided an opportunity to move towards Enterprise Algorithms.
- The JPSS Program reallocated product processing responsibilities from IDPS to NDE through approval of the following CCRs:
  - NJO-2013-12, Reallocation of CrIS/ATMS EDRs
  - NJO-2013-15, Reallocation of VIIRS SST EDR
  - NJO-2014-25, Reallocation of Active Fires
  - NJO-2015-18, Reallocation of all Priority 3 and 4 EDRs
- The reallocation of the Priority 3 and 4 EDRs was approved with liens:
  - DAP delivery and integration efforts can proceed.
  - Performance assessments of the NDE system to be completed in order to confirm if (and how much) additional processing capability needs to be added.
    - OSGS is conducting this analysis now and will likely have results before the NDE 2.0 ORR
- Full transition process is outlined on the next slide

Process for Transitioning to Enterprise Algorithms/Processing

Following the approval to reallocate processing to an enterprise processing system (e.g., NDE):

1. **Flow down of Requirements**: The Configuration Managers of the applicable Level 2, 2.5, and 3 boards will confirm that CCRs have been generated in response to the Level 1 CCRs.
2. **Project Planning and Execution:** Satellite Product and Services Review Board (SPSRB) project plans are developed and executed leading to an SPSRB recommendation for operational readiness.
3. **Operationalization:** OSPO, with the applicable ground segment project, confirms reallocated product is operational, and users have been notified of the pending status of the terminated product.
4. **User Notification and Transition:** OSPO and NCEI confirm reallocated product is archived appropriately, and users have been notified of the availability of the new product, and pending status of the terminated product.
5. **Termination of Legacy Product**: After users have been given sufficient time to transition to the new products (estimated 1-2 months), the legacy products will be terminated.

S-NPP Data Products (EDRs Only)

Note: Does not include VIIRS Imagery EDRs because they will be processed in IDPS

Enterprise		
Aerosol Detection (VIIRS)	Global Surface Type (VIIRS)*	Rainfall Rate (ATMS)
Active Fires (VIIRS)	Green Vegetation Fraction (VIIRS)	Sea Ice Characterization (AMSR-2)
Aerosol Optical Depth(VIIRS)	Ice Age/Thickness (VIIRS)	Sea Surface Temperature (AMSR-2)
Aerosol Particle Size (VIIRS)	Ice Concentration (VIIRS)	Sea Surface Temperature (VIIRS)
Albedo (Surface) (VIIRS)	Ice Concentration (ATMS)	Sea Surface Wind Speed (AMSR-2)
AMSR Calibrated Sensor Data (AMSR-2)	Ice Surface Temperature (VIIRS)	Snow Cover/Depth (AMSR-2)
Atmospheric Vertical Moisture Profile (CrIS/ATMS)	Imagery (AMSR-2)	Snow Cover (ATMS)
Atmospheric Vertical Temperature Profile (CrIS/ATMS)	Imagery (ATMS)	Snow Cover (VIIRS)
Carbon Dioxide (CO) (CrIS)**	Infrared Ozone Profile (CrIS)	Snow Water Equivalent (ATMS)
Carbon Monoxide (CO2) (CrIS)**	Land Surface Emissivity (ATMS)	Snow Water Equivalent (AMSR-2)
Cloud Cover/Layers (VIIRS)	Land Surface Temperature (VIIRS)	Soil Moisture (AMSR-2)
Cloud Height (Top and Base) (VIIRS)	Land Surface Temperature (ATMS)	Surface Reflectance (VIIRS)
Cloud Liquid Water (AMSR-2)	Methane (CH4) (CrIS)**	Surface Type (AMSR-2)
Cloud Liquid Water (ATMS)	Moisture Profile (ATMS)	Temperature Profile (ATMS)
Cloud Mask (VIIRS)	Ocean Color/Chlorophyll (VIIRS)	Total Precipitable Water (AMSR-2)
Cloud Optical Depth (VIIRS)	Outgoing Longwave Radiation (CrIS)	Total Precipitable Water (ATMS)
Cloud Particle Size Distribution (VIIRS)	Ozone Nadir Profile (OMPS-N)	Vegetation Indices (VIIRS)
Cloud Phase (VIIRS)	Ozone Total Column (OMPS-N)	Vegetation Health Index Suite (VIIRS)
Cloud Top Pressure (VIIRS)	Polar Winds (VIIRS)	Volcanic Ash Detection And Height (VIIRS)
Cloud Top Temperature (VIIRS)	Precipitation (Type/Rate)(AMSR-2)	

Already available in ESPC	Expected to be operational in NDE 1.0 soon	Will be available when NDE 2.0 is operational	Will be available soon after NDE 2.0 is operational	Implementation in NDE planned in 2017

S-NPP EDRs Transition to Operations Timeline

- **Cryosphere, Aerosol, and Cloud algorithms delivered to NDE.**
  - Operational Readiness Review (ORR) will coincide with NDE 2.0 ORR
  - Products will be available operationally when NDE 2.0 becomes operational (expected November 2016)
- **Ozone products (Total Column and Nadir Profile) algorithms delivered to NDE.**
  - Expected to be made operational in the first NDE software release following NDE 2.0 ORR
- **Land Products**
  - Surface Reflectance
    - ARR planned for December 2016
    - ORR planned for January 2017
  - Surface Albedo & Land Surface Temperature
    - ARR planned for June 2017
    - ORR planned for August 2017
  - Vegetation Indices
    - Algorithm Readiness Review planned for May 2017
    - ORR planned for July 2017

NOTE: Products are usually transitioned to operations within 1 month of ORR

JPSS-1 Timeline

	2016			2017												2018								
Task Name	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9
J-1 MiRS	CDR																	ARR			Ops			
J-1 NUCAPS Level 2 Products	CDR																	ARR			Ops			
J-1 CrIS OLR	CDR																	ARR			Ops			
J-1 ACSPO	CDR																	ARR			Ops			
J-1 Polar Winds	CDR																	ARR			Ops			
J-1 V8Pro (NP)										ORR	Ops													
J-1 V8TOz/LFSO2 (TC)										ORR	Ops													
J-1 Cloud, Aerosol, LST, LSA, and Cryo						CDR													ARR		ORR		Ops	
J-1 Active Fires	CDR																	ARR			Ops			
J-1 Surface Reflectance	CDR																	ARR			Ops			
J-1 GVF	CDR																	ARR			Ops			
J-1 Veg Health	CDR																				ARR			Ops
J-1 Vegetation Indices	CDR																	ARR			Ops			

Note: Blended products (e.g., Ozone, Snow, Biomass Burning, SST, and Microwave TC) planned operational dates in late 2018/early 2019)

Items to be Worked

1. Close-out remaining actions from the Priority 3/4 reallocation CCR so that Ozone and Land products can transition to operations
2. Efficiently transition all users of IDPS-generated EDRs to Enterprise products
3. Retire the IDPS-generated EDRs as quickly as possible to avoid ongoing maintenance costs
4. Proceed with long-term planning for the Enterprise Land products
5. Continue to refine/update products and requirements to meet user needs

Summary

- The transition to enterprise algorithms is making very good progress.
  - Cryosphere, Aerosol, and Cloud products will become operational when NDE 2.0 goes operational
  - Ozone EDR algorithms have been delivered to NDE and await operationalization
  - Land products have clear plans for DAP delivery and operationalization
- We need to start transitioning users IDPS-generated EDRs to the enterprise products now.
  - IDPS-generated EDRs will be terminated after the enterprise products are available and archived, and users are transitioned.
- AMP and PSDI responsibilities will combine (starting in FY2017), and all JPSS algorithms and products will follow SPSRB processes and standards and will be evaluated using consistent maturity standards.