



2017 JPSS STAR Annual Meeting

JPSS ALGORITHM MANAGEMENT PROJECT (AMP) UPDATES

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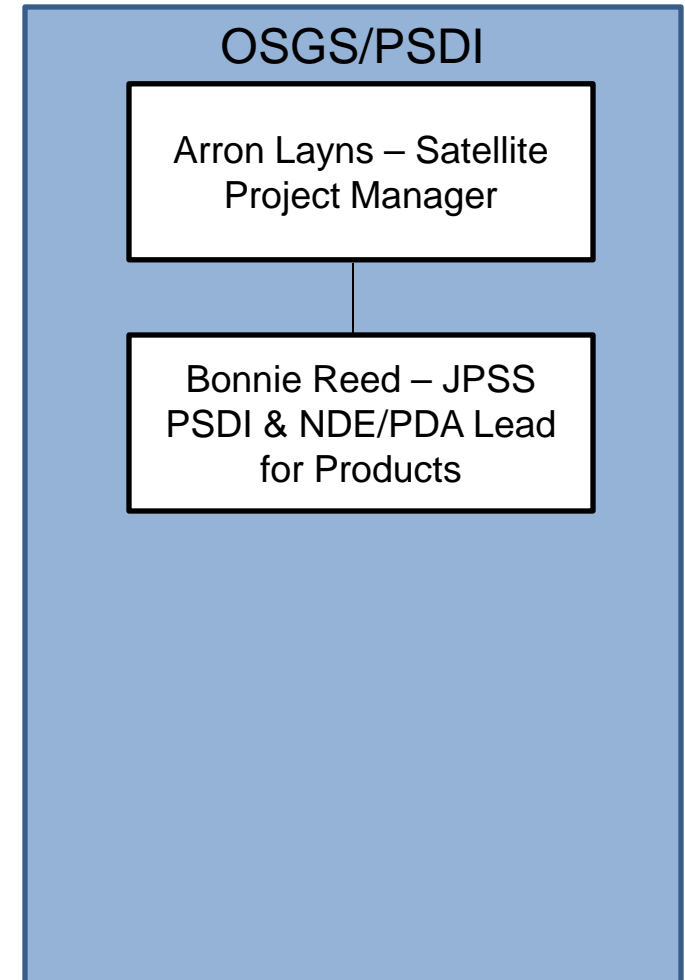
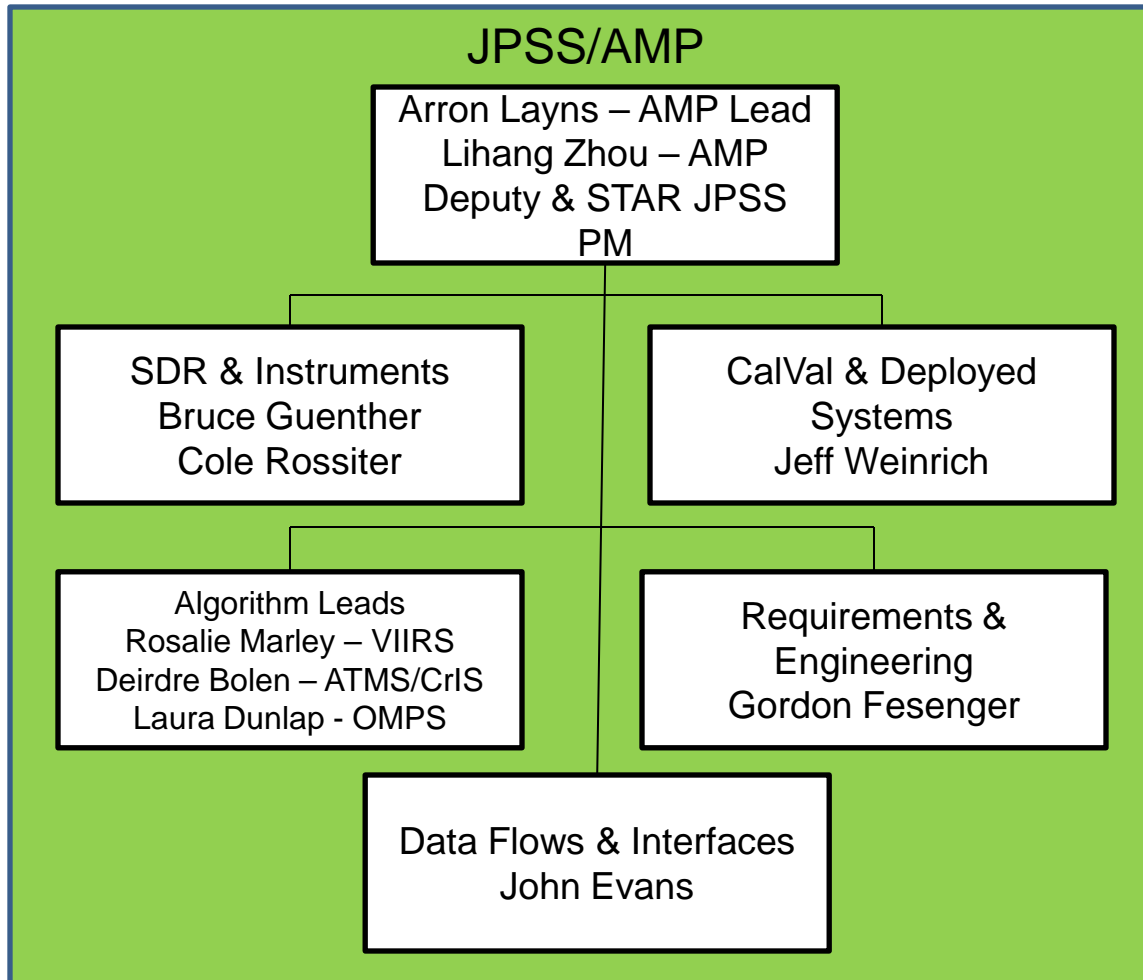


Partnerships

- STAR provides foundational science and science leadership for all data products
- AMP provides management and process support (IDPS JAMs, NDE coordination, SPSRB support, systems engineering, flight coordination)
- We work closely with JPSS Science Engineering on requirements definition, verification, and validation.
- We work with the system teams (NDE/PDA, IDPS, Okeanos) to implement the algorithms operationally.
- All in support of the operational (primary focus) and non-operational users.



JPSS Data Product Staff (AMP/PSDI)





Strategic Priorities

- Maintain S-NPP data product performance
- Preparation for JPSS-1
- Complete the transition to the Enterprise algorithms and processing for the L2 product (EDRs)
- Support the user community and maximize the benefits of these satellite systems



Maintain S-NPP Performance

- Nearly all S-NPP data products have reached validated maturity
 - Need to monitor and maintain the IDPS data product performance
 - For non-Imagery EDRs, this only needs to occur until we complete the transition to the enterprise
 - For IDPS, work with the JAMs to submit Discrepancy Reports (DRs) and implement as issues arise
 - For NDE, work with ESPDS and OSPO to implement fixes.

IDPS Block 2.0 Build Schedule

- Mx4
 - No Longer an operational build due to the launch freeze. Everything that falls after MX 3 will be rolled into the next build.
- Block 2.1 – MX 0
 - Code Cutoff - 8/24/17
 - ACPs need to be submitted to DPES testing by 7/26/17 at the latest
 - CCRs need to be Approved at the AERB by 8/9/17 at the latest
 - Sol Deploy Regression – 10/30/17-11/10/17
 - I&T Deploy Regression – 11/27/17-12/22/17
 - MXRR Date – 11/16/17 (Moved from 11/9/17)
 - TTO Begins: 1/22/2018 (Moved from 2/5/2018)

Prep for JPSS-1

- IDPS processing (for all SDRs/TDR and VIIRS Imagery EDRs) is tested and ready
 - Final coefficients to be delivered/implemented soon
- NDE KPP algorithms/tailoring (NUCAPS Phase 4 for CrIS FS products, Reformatting capability for KPPs, and production rules for VIIRS Imagery) are tested and ready.
- Challenge to the science teams – Meet and exceed your CalVal plans!
 - Deliver the DAPs to NDE for L2 processing ahead of schedule so that we can get the data products out to users faster.

SNPP	8day Ave Latency
ATMS_BUFR	73.7
CrIS_C0399_BUFR	91.1
CrIS_C0431_BUFR	91.4
CrIS_C2211_BUFR	90.2
VIIRS_I1_IMG_EDR_TIPG01_KNES	66.0
VIIRS_I3_IMG_EDR_TIPB03_KNES	81.2
VIIRS_I4_IMG_EDR_TIPB04_KNES	85.9
VIIRS_I5_IMG_EDR_TIPB05_KNES	85.8
VIIRS_NCC_EDR_TIPB10_KNES	85.1
VIIRS_M14_EDR_TIPB24_KNES	85.3
VIIRS_M15_EDR_TIPB25_KNES	85.3
VIIRS_M16_EDR_TIPB26_KNES	85.3
JPSS-1	8day Ave Latency
ATMS_BUFR	31.6
CrIS_C0431_BUFR	45.6
CrIS_C2211_BUFR	44.8
VIIRS_I1_IMG_EDR_TIPG01_KNES	45.1
VIIRS_I3_IMG_EDR_TIPB03_KNES	46.7
VIIRS_I4_IMG_EDR_TIPB04_KNES	47.4
VIIRS_I5_IMG_EDR_TIPB05_KNES	48.2
VIIRS_NCC_EDR_TIPB10_KNES	47.4
VIIRS_M14_EDR_TIPB24_KNES	47.6
VIIRS_M15_EDR_TIPB25_KNES	46.1
VIIRS_M16_EDR_TIPB26_KNES	46.2

* Data to the right from JPSS-1 8-day Data Flow (Aug 4-12)



Migration to Enterprise Algorithms (History)

The JPSS Proving Ground/Risk Reduction funded the adaptation 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 the 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

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 2-4 months), the legacy products will be terminated.



Recent Progress

- JPSS Risk Reduction (Cryosphere, Clouds, and Aerosols) products went operational on July 5, 2017
 - CLASS started archiving on July 7, 2017. Working to update the search/accessibility capability by end of August.
- Ocean Color went operational on July 17, 2017
- Surface Reflectance successfully completed the Algorithm Readiness Review (ARR) in April 2017
 - Planning for the Operational Readiness Review (ORR) in August 2017
- OMPS NP and TC EDRs completed the ORR in April 2017.
 - Waiting for the BUFR toolkit readiness. SPSRB operational briefing planned for September 2017



S-NPP Data Products Operational As of Aug 2017

ATMS		CrIS	OMPS	VIIRS		
SDR	Moisture Profile	SDR	NP SDR	SDR	Cloud Optical Depth	Land Surface Temperature
TDR	Rainfall Rate	Carbon Dioxide	TC SDR	Active Fires	Cloud Particle Size Distribution	Ocean Color
Cloud Liquid Water	Snow Cover	Carbon Monoxide	Nadir Profile EDR	Aerosol Detection	Cloud Phase	Polar Winds
Ice Concentration	Snow Water Equivalent	Methane	Total Column EDR	Aerosol Optical Depth	Cloud Top Pressure	Sea Surface Temperature
Imagery	Temperature Profile	Infrared Ozone Profile		Aerosol Particle Size	Cloud Top Temperature	Snow Cover
Land Surface Emissivity	Total Precipitable Water	Outgoing Longwave Radiation		Albedo (surface)	Green Vegetation Fraction	Surface Reflectance
Land Surface Temperature	Atmospheric Vertical Temperature Profiles			Annual Surface Type	Ice Age/Thickness	Vegetation Health Index Suite
	Atmospheric Vertical Moisture Profiles			Cloud Height (Top & Base)	Ice Concentration	Vegetation Indices
				Cloud cover/layers	Ice Surface Temperature	Volcanic Ash Detection & Height
				Cloud Mask	Imagery	

Planned for Operations:
Trace Gases – Sept 2017
Cloud EDR – Oct 2017

Planned for Operations:
 Trace Gases – Sept 2017
 Ozone EDRs - Sept 2017
 Land EDRs - Dec 2017

- NDE has instituted monthly algorithm builds to facilitate quicker integration/implementation of algorithms and algorithm fixes
- The schedule (example below) and status is shared at the monthly Product IPT and Product Generation IPT meetings.
- We work with OSGS and OSPO to prioritize the algorithms and fixes on a monthly basis.
- Very interested in feedback from the Science Teams on the process and communication

MONTH	Product Readiness TIM	Install / Checkout Start	Install / Checkout Finish	Functional Test Start	Functional Test Finish	Performance Test Start	Performance Test Finish	ORR	SPSRB
1	4/25/2017	4/26/2017	4/28/2017	5/1/2017	5/5/2017	5/8/2017	5/19/2017	5/25/2017	6/21/2017
2	5/30/2017	5/31/2017	6/2/2017	6/5/2017	6/9/2017	6/12/2017	6/23/2017	6/29/2017	7/19/2017
3	6/27/2017	6/28/2017	6/30/2017	7/3/2017	7/7/2017	7/10/2017	7/21/2017	7/27/2017	8/16/2017
4	7/25/2017	7/26/2017	7/28/2017	7/31/2017	8/4/2017	8/7/2017	8/18/2017	8/24/2017	9/20/2017
5	8/29/2017	8/30/2017	9/1/2017	9/4/2017	9/8/2017	9/11/2017	9/22/2017	9/28/2017	10/18/2017
6	9/26/2017	9/27/2017	9/29/2017	10/2/2017	10/6/2017	10/9/2017	10/20/2017	10/26/2017	11/15/2017
7	10/31/2017	11/1/2017	11/3/2017	11/6/2017	11/10/2017	11/13/2017	11/24/2017	11/30/2017	12/20/2017
8	11/28/2017	11/29/2017	12/1/2017	12/4/2017	12/8/2017	12/11/2017	12/22/2017	12/28/2017	1/17/2018



User Interaction

- Encourage all Science Teams to interact with the user community (especially the Operational User community)
 - The JPSS Proving Ground supports a lot of this work especially through the Initiatives
- We are engaged with the NWS in terms of dissemination and display of more JPSS products in AWIPS
 - Challenges (and opportunities) in disseminating the data
 - Bi-weekly meetings started in June 2017 to systematically work through the data products and issues.
 - Goal is to get more products in the hands of the forecasters
 - We will need more Science Team participation to ensure the products are used properly.

New Products or Major Enhancements?

- Should be driven by an SPSRB User Request!
- Once a User Request is submitted, it is assessed by the SPIWG, which kicks-off a JPSS requirements change request. Recent successes:
 - ATMS Snowfall Rate
 - Gridded/global land products
- Major benefits of the process:
 - Organizational and budgetary commitment to implement the full product lifecycle!
 - Executed through a PSDI Project Plan enabling good project management and success



NOAA Satellite and Information Service
National Environmental Satellite, Data, and Information Service (NESDIS)

Satellite Products & Services Review Board (SPSRB)

Thursday, August 17th, 2017

SATELLITE PRODUCTS AND SERVICES REVIEW BOARD

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Welcome to the NOAA/NESDIS Satellite Products and Services Review Board

NOAA's Satellite and Information Service (NESDIS) develops and distributes environmental satellite data products and services for all NOAA line offices as well as for a wide range of Federal Government agencies, international users, state and local governments, and the general public. The environmental satellite data products and services include meteorological, climatic, terrestrial, oceanographic, and solar-geophysical areas.

The NESDIS Satellite Products and Services Review Board (SPSRB) is responsible for the oversight and guidance necessary to effectively manage the product life cycle process from product development, transition into operations, enhancements, and retirement.

The SPSRB Process Paper describes the satellite product life cycle including user requests for products and services, which are submitted and evaluated through the SPSRB request tracking system. On the third Wednesday of every month, the SPSRB holds meetings to discuss user requests and to reach decisions on declaring both developmental implementation and operational implementation of satellite products and services. Links to each of these SPSRB topics are provided in the left-side navigation menu along with other useful links including the SPEEDS database and standards for documentation and

<http://projects.osd.noaa.gov/SPSRB/>

- S-NPP is performing well thanks to the excellent work of the science teams.
- JPSS-1 KPP algorithms are tested and ready
- The CalVal plans demonstrate readiness for JPSS-1 and will provide products to users faster and at higher levels of maturity compared to S-NPP
- Processes are in place to update and algorithms for all missions
- User requests for product improvements and enhancements will be considered