UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL ENVIRONMENTAL SATELLITE, DATA,
AND INFORMATION SERVICE
Silver Spring, Maryland 20910

Joint Polar Satellite System Office

OCT 06 2014

Memorandum for: Distribution

From: Harry A. Cikanek III
Director

Subject: Deferral of Algorithm Integration Activities and Standards for Priority 3 and 4 Environmental Data Records and Termination of Listed NPOESS Heritage Algorithms

This memorandum provides programmatic guidance and direction to defer the algorithm integration and transition to operations for priority 3 and 4 algorithms until after Block 2.0 is successfully fielded. This memorandum also establishes expected standards for algorithm science verification scope of the Priority 3 and 4 Environmental Data Records (EDRs), effective through FY 2017 and directs the termination of further development on NPOESS heritage algorithms that are planned to be replaced by enterprise algorithms. The direction applies to scope allocated to the NASA JPSS Ground Project, the NESDIS Center for Satellite Applications and Research (STAR), and the JPSS Program System Engineering (PSE) team.

To ensure readiness of the critical data products, consistent with gap mitigation efforts, all Key Performance Parameter (KPP / Priority 1) data products for JPSS-1 must be ready for operational use the day following successful commissioning review and hand over of the JPSS-1 spacecraft for NOAA OSPO operations. Accordingly, updates and verification of the Priority 1 data products must be completed prior to the launch of JPSS-1. To allow adequate schedule and resources to accomplish this, the Ground Project and STAR will defer algorithm changes associated with Priority 3 and 4 EDRs performance until an appropriate interval (i.e., when most time- and cost-efficient) following IDPS Block 2.0 transition to operations (see Table 1). Reactive maintenance[1] of priority 3 and 4 EDRs shall be conducted to maintain current levels of product maturity and to avoid major impacts to operational users.

In conjunction with this deferral, my standard for the algorithm science performance requirements verification for Priority 3 and 4 EDRs will be continuity of performance represented by the current maturity of associated S-NPP EDRs. I will accept artifacts used to support S-NPP validated maturity declaration as applicable to JPSS-1 pre-launch science algorithm verification as appropriate. JPSS-1 Ground Segment pre-launch testing of these EDRs will be limited to ensuring continuity of the science and functional performance of the supporting algorithms within the new processing environments. Work involving required upgrades to algorithm science performance will continue to be performed by STAR in order to support integration activities after transition to Block 2.0 operations.

Please implement the following guidance:

STAR – Place highest priority on assuring KPP (Priority 1) data product algorithms are ready for operational use the day after commissioning JPSS-1. Stop all development work on the NPOESS-heritage data product algorithms identified to be discontinued in Table 1 below. Continue the algorithm

[1] Reactive maintenance refers to those activities, based on product trending and long-term monitoring, needed to maintain the current level of product maturity to ensure there is no degradation of product quality with time.

maintenance and development effort for all Priority 3 and 4 algorithms as allowed by funding availability per existing.

> Technical Task Agreement. Defer the delivery of algorithm change packages associated with Priority 3 and 4 EDRs to the JPSS Ground Project until the Ground Segment has completed its transition to IDPS B2.0. Continue product trending effort (e.g., long-term monitoring) and provide only those algorithm changes required to maintain current product performance when necessary to avoid major downstream impacts to operational users. Continue work on NOAA enterprise science algorithms for all JPSS Priority 3 and 4 EDRs.

JPSS Ground Project – Remove giver/receivers from ground project schedule related to the algorithm delivery and implementation for the Priority 3 and 4 EDRs until after Block 2.0 transition to operations. Following NOAA enterprise algorithm operationalization, determine and implement a plan to terminate all work, including disposition and delivery of software and documentation to NOAA, on the NPOESS heritage algorithms listed below, including the Priority 2 Ocean Color EDR. The objective of the implementation plan shall be to minimize cost and risk associated with terminating all work on the listed algorithms and dispositioning the software and documentation associated with them. The software and documentation associated with these data products shall be delivered to NOAA for archival storage.

PSE and Ground Segment Engineering – Adopt continuity of IDPS B1.2 and NDE 1.0 science performance as the standard for IDPS B2.0 and NDE 2.0 Priority 3 and 4 EDR science performance requirements verification. Implement flow down of requirements for these deferment and termination actions. Ensure that JPSS-1 Ground Segment pre-launch testing of Priority 3 and 4 EDRs is limited to ensuring continuity of the science and functional performance of the supporting S-NPP algorithms in their new processing environments. Conduct an implementation trade to determine where the land-related products, as identified in Table 1, should be processed following transition to Block 2.0. Submit a Configuration Change Request (CCR) to remove Quarterly Surface Type from the JPSS Level 1 Requirements and move into Level 3 requirements where STAR will provide as ancillary data.

JPSS Algorithm Management Team – Revise plans and schedules for JPSS data product development, calibration and validation consistent with this direction.

I expect progress reports on the implementation of this directive at each NOAA JPSS Monthly Review, beginning October 2014, initially by the Data Products and Algorithms group and ultimately by the Algorithm Management Project upon its establishment.

Table 1

Provide only reactive maintenance to NOAA enterprise algorithms within IDPS	Provide transitional reactive maintenance to NPOESS legacy algorithms within IDPS	Discontinue work and disposition IDPS code
Ozone Nadir Profile (OMPS)[6]	Active fires (VIIRS)[5]	Ocean Color (VIIRS)[4]
Total Column Ozone (OMPS) [6]	Aerosol Optical Thickness (VIIRS)[1]	
	Aerosol Particle Size Parameter (VIIRS) [1]	
	Cloud Base Height (VIIRS) [1]	
	Cloud Cover/Layers (VIIRS) [1]	
	Cloud Effective Particle Size (VIIRS) [1]	
	Cloud Optical Thickness (VIIRS) [1]	
	Cloud Mask (VIIRS)	
	Cloud Top Height (VIIRS) [1]	
	Cloud Top Pressure (VIIRS) [1]	
	Cloud Top Temperature (VIIRS) [1]	
	Ice Surface Temperature (VIIRS) [1]	
	Land Surface Temperature (VIIRS)[2]	
	Surface Type[2]	
	Quarterly Surface Type (VIIRS)[3]	
	Sea Ice Characterization (VIIRS) [1]	
	Snow Cover (VIIRS) [1]	
	Surface Albedo (VIIRS)[2]	
	Suspended Matter (VIIRS) [1]	
	Vegetation Index (VIIRS)[2]	

Notes:

1. Reactive maintenance will be maintained until the NOAA enterprise risk reduction cloud, cryosphere and aerosol algorithms are operationalized (planned spring 2016).

2. These products are not included in the enterprise risk reduction project and therefore these products are candidates for offline development by STAR. An implementation trade will be done as to where the algorithms will be processed.

3. CCR in work to propose removal of product requirement from L1RD and move into Level 3 requirements where STAR would provide this product as ancillary data.

4. The IDPS Ocean Color product will be replaced by the NOAA enterprise Ocean Color product and implemented in the NOAA/ESPC legacy system Okeanos on a best-effort basis.

5. The Active Fires algorithm is currently implemented in IDPS, but an Analysis of Alternatives is underway to determine the implementation for the new/updated algorithm.,

6. Reactive maintenance should start following the implementation (in process).of the v8 algorithms.

Distribution:

Steve Clarke – NASA/JASD
J.C. Duh – NASA/JASD
Jean Wolfe – NASA/JASD
Preston Burch – NASA/JPSS
Nick Speciale – NASA/JPSS
Dan Devito – NASA/JPSS
Garry Gaukler – NASA/JPSS
Joe Stevens – NASA/JPSS
Jim Gleason – NASA/JPSS
Al Powell – NESDIS/STAR
Mike Kalb – NESDIS/STAR
Lihang Zhou – NESDIS/STAR
Mitch Goldberg – NESDIS/JPSS
Eric Gottshall – NESDIS/JPSS
Ajay Mehta – NESDIS/JPSS
Barbara MacNeill - NESDIS/JPSS
Kim Chamberlain – NESDIS/JPSS
Wanda Harding – NESDIS/JPSS
Sarah Morison – NESDIS/JPSS
Tom Schott – NESDIS/OSD
Steve Peterson – NESDIS/OSGS
James Morris – NESDIS/JPSS
Arron Layns – NESDIS/JPSS
Chris Sisko – NESDIS/OSPO
Mike Condray – NESDIS/OSPO
Ron Mahmot – NESDIS/OSPO
Linda Stathoplos – NESDIS/OSPO
Nancy Ritchey – NESDIS/NCDC