



## NOAA JPSS Monthly Program Office

# AMP/STAR FY19 TTA

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## S-NPP CrIS MWIR Recovery Effort

In late June S-NPP CrIS successfully moved to the backup Side-B electronics. In the intervening month, the STAR science team and others have analyzed the resultant SDR data and found that the CrIS SDR Side-B data are at least provisional level with the upload of Engineering Packet v40. These data will now be available to the user community, allowing the generation of the full suite of CrIS derived products.

## New Ocean Color publication

Ocean Color EDR team member Wei Shi and Ocean Color EDR Lead Menghua Wang have authored a peer-reviewed manuscript entitled, “A blended inherent optical property algorithm for global satellite ocean color observations,” published in the journal *Limnology and Oceanography: Methods*. This paper assessed the new approach to retrieving ocean color, which combines to existing algorithms, each of which works well under certain circumstances, but not others. Combining them leads to a more robust algorithm overall.

## VIIRS Imagery supplied to Congress

The Senate Committee on Energy and Natural Resources asked NASA for satellite imagery of wildfires in Alaska during the spring of 2019. CIRA provided two videos to fulfill this request: a nearly month-long loop of VIIRS Fire Temperature RGB images (25 June-17 July 2019) from both S-NPP and NOAA-20, and a 5-day loop of GOES-17 GeoColor images (6-10 July 2019). The VIIRS Fire Temperature RGB images provide high-resolution views of the numerous hot spots and the GOES-17 GeoColor loop shows the thick smoke that blanketed most of Alaska in early July.

## The Americas Satellite Workshop

Stephanie Stevenson of the Imagery team attended the WMO RA-IV GOES-R/JPSS/GNC-A The Americas Satellite Workshop from 22-24 July 2019 and lectured on how satellite data from GOES-R and JPSS, including CIRA products, are utilized at the National Hurricane Center. Forecasters from 14 countries in the Caribbean participated in the workshop hosted at the Caribbean Institute for Meteorology and Hydrology (CIMH) in Barbados. The goals of the workshop were to highlight new capabilities of the satellites, provide feedback on useful satellite products related to challenging forecast case studies presented by the participants, and give them the tools necessary to utilize those products in the future.

# Accomplishments

- Delivery Algorithm Packages (DAPs) - Mission Unique Products: SNPP/CrIS Side-2 Calibration Table updates:
  - Engineering Packet (EP) v38 was uploaded on 6/24/2019 (based on EP37)
  - EP39 was upload on 6/28/2019 (updates: mapping angles (in-track torque null position) and Vinst values (needed for non-linearity correction), for the all detectors and over the three spectral bands (9 FOVs x 3 bands)).
  - EP40 updates: 1) optimized ILS parameters (instrument focal plane array geometry definition adjustment) for all FOVs and all three bands, 2) 0.4 ppm adjustment to Neon wavelength and 3) optimized mapping angles. Science team delivered the table update to flight/OSPO on 7/22/2019, and the table was upload on 8/1/2019.

S-NPP CrIS SDR side-2 Beta/Provisional Maturity Review was held on 7/25/2019

OMPS SDR team delivered DAP (ADR8550 Remove VIIRS SnowIce and QST tile dependency for OMPS SDR) to ASSISTT on 8/1/2019

Completed VIIRS V2 SDR reprocessing from 1/1/2012 to 3/17/2017

- DAPs - Enterprise Products:
  - NVPS Minor DAP Update (1. changed the 2-dimensional coordinates to 1-dimensional coordinate to reduce the output size; 2. developed and implemented two versions of biweekly, 16-day cycle, compositing algorithm) to NDE on 7/5/2019
  - MIRS team delivered v11.4 patch DAP (patch to two header files) to NDE on 6/6/2019, re-delivered the patch DAP which include the fix (patch to src/lib/PrePostProcess/PreClassif.f90) on 6/14/2019, and re-delivery updated patch DAP to NDE (to fix "CR-Compliance issue") on 7/9/2019
- IDPS Builds Checkouts:
  - STAR submitted data request for Block 2.1 Mx8 SOL deploy regression review/checkout (7/31//2019)

# Accomplishments – JPSS Cal Val Supports

- NOAA-20/S-NPP Operational Calibration Support:
  - S-NPP Weekly OMPS TC/NP Dark Table Updates: 07/02/19, 07/09/19, 07/16/19, 07/23/19, 07/30/19
  - NOAA-20 Weekly OMPS TC/NP Dark Table Updates: 07/02/19, 07/09/19, 07/16/19, 07/23/19, 07/30/19
  - S-NPP Bi-Weekly OMPS NP Wavelength & Solar Flux Update: 07/02/19, 07/16/19, 07/30/19
  - NOAA-20 Bi-Weekly OMPS NP Wavelength & Solar Flux Update: 07/09/19, 07/23/19
  - S-NPP Monthly VIIRS StrayLight LUTs Update: 07/09/19
  - NOAA-20 Monthly VIIRS StrayLight LUTs Update: 07/09/19
  - S-NPP Monthly VIIRS LUT Update of DNB Offsets and Gains: 07/09/19
  - NOAA-20 Monthly VIIRS LUT Update of DNB Offsets and Gains: 07/09/19
  
- S-NPP CrIS SDR Beta/Provisional Maturity Review (side-2) 07/25/19
- JPSS-2 ATMS PER 07/23-24/2019
- MIRS v11.4 + patch to two header files operational (NDE build 2.0.18) 07/18/19
- IDPS Block 2.1 Mx6 TTO 07/29/19
- *Major Algorithm Updates:*
- *VIIRS SDR:*
  - PCR067246 PRO: 474-CCR-18-4068, S-NPP, N20, J2, VIIRS SDR WUCD TEB Calibration Correction - ADR8731
  - PCR067261 Update CFG file to enable monthly use of NOAA-20 VIIRS SDR DNB Stray Light LUT - ADR8818
- *OMPS SDR:*
  - PCR067257 PRO: 474-CCR-18-4015, NOAA 20 / SNPP OMPS NP Quality Flag Update Code Change -- ADR8685
  - PCR067168 PRO: Update OMPS NP SDR and OMPS TC SDR corner geolocation – ADR8817
  - PCR067260 DPGD: 474-CCR-18-4137, NOAA 20 OMPS SDR NP & TC Out of Cycle Table Updates -- ADR8617
  - PCR067365 474-CCR-18-4138: OMPS NP Transient Smear Correction - ADR8709

# Accomplishments - Transition to Operations and AMP

- SNPP/N20:
  - S-NPP CrIS switch to Side-2 was a success, provisional maturity was achieved and effective Aug 1, 2019.
- EPS-SG project support
  - Provided product-related inputs to OPPA on the MetOp-SG L1RD, JRD12, and Conops documents.
  - Participated in the MetOp-SG MCR-SRR Dry Run #1 and provided slides on JPSS AMP Roles and Responsibilities and comments on other slides in the deck.
- Cloud
  - Completed IPR#1 - reviewed approximately 20 documents and functional requirements; IPR#2 near completion - reviewed and verified comments on approximately 35 documents.
- Other
  - Provided slides for the J3/4 Mission PDR Review
  - (J. Evans) At NWS HQ in Silver Spring, hosted a YouTube Live broadcast of a panel discussion from the NWS Satellite Applications workshop.
  - (J. Evans) Supported STAR ASSISTT (W. Chen) with VIIRS RDR data from GRAVITE to test ADL Terrain-Correction code with VIIRS imagery, to assess the degree of distortion of clouds over rough terrain.
  - Developed first draft of the JPSS-2 Product Test Plan and distributed for review.
  - Facilitated deployment of NUCAPS and VIIRS NCC data products over NWS Satellite Broadcast Network.

# Upcoming Cal/Val Maturity Reviews

## June/July/August/September Maturity Review (combined review, 9/19/2019):

- **Beta Maturity:**  
Global Gridded Surface Type (Annual offline GST product)
- **Provisional Maturity:**  
OMPS Ozone (V8Pro)  
NUCAPS CH4 product (S-NPP & NOAA-20)
- **Validated Maturity:**  
OMPS SDR (NP & TC)  
OMPS Ozone (V8TOz)  
All MiRS products (except SFR)  
NOAA-20 NUCAPS products: AVTP, AVMP, Ozone, OLR  
NUCAPS CO product (S-NPP & NOAA-20)

## November Maturity Review:

- **Validated Maturity:**  
Land Surface Temperature  
Surface Albedo  
Surface Reflectance

## December Maturity Review:

- **Validated Maturity:**  
Active Fires (M-Band)  
OMPS Ozone (V8Pro)

- JSTAR Code/LUT/Product Deliveries:

DAP to DPES:

- Aug-19: OMPS LUTs delivery (for validated maturity)
- Sep-19: TC Imagery

NOAA-20 Algorithm DAP to NDE:

- Aug-19: V8TOz – code & LUT update
- Sep-19: V8Pro – Final DAP
- Sep-19: NUCAPS – Final DAP
- Sep-19: I-band Active Fires – Initial DAP
- Dec-19: I-band Active Fires – Final DAP
- Dec-19: SST - ACSPO 2.80
- Mar-20: Vegetation Health – Final DAP
- Nov-20: Ocean Color – Final DAP

Annual Global Gridded Surface Type (GST):

- Sep-19: GST-2018



# FY19 STAR JPSS TTA Milestones

FY19 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
<b>Algorithm Updates DAPs/LTM</b>				
ATMS TDR/SDR: Reflector emissivity correction (code & PCT update)	Sep-19	Sep-19	02/11/19	
CrIS SDR: Polarization correction algorithm implementation	Sep-19	Sep-19	05/07/19	
VIIRS SDR: J2 Pre-launch sensor characterization report	Oct-18	Oct-18	10/01/18	
VIIRS SDR: GEO parameter side dependence	Mar-19	Mar-19	12/11/18	
OMPS SDR: J2 Pre-launch sensor characterization report	Jun-19	Sep-19		PSR: Jun-19
NOAA-20 EDR Final DAPs (JRR, SST)	Jun-19	Jun-19	02/12/19: ACSPO 2.61 03/11/19: JRR, LST/LSA, & VPW	
NOAA-20 EDR Final DAPs (MIRS, NUCAPS)	Sep-19	Sep-19	03/29/19: MiRS v11.4	
AST18 (Annual Surface Type)	Sep-19	Sep-19		
Updated GCOM/AMSR-2 GAASP package deliver to NDE	Jul-19	Jul-19	Jul-19	
ICVS-Application Website (Severe Weather Watch with JMAPP)	Sep-19	Sep-19		





# FY19 STAR JPSS TTA Milestones

FY19 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
<b>NOAA-20 Cal/Val</b>				
Validated Maturity: NOAA-20 CrIS SDR	Oct-18	Oct-18	10/02/18 (Review Date) 08/14/18 (Effective Date)	
Validated Maturity: NOAA-20 OMPS SDR	Dec-18	Sep-19		PSR: Jun-19
Provisional Maturity: NOAA-20 EDR Products (JRR/VPW/Trace Gas)	Oct-18	Oct-18	<b>10/02/18: Provisional Maturity:</b> Cloud Mask, Cloud Phase/Type, Cloud Height (CTT/CTP/CTH), Cloud Base Height, Polar Winds, NUCAPS (Ozone/CO/OLR), OMPS Ozone (V8TOz) <b>11/27/18: Provisional Maturity:</b> Volcanic Ash, Daytime Cloud Optical and Microphysical Properties (DCOMP) <b>03/21/19: Provisional Maturity:</b> Nighttime Cloud Optical and Microphysical Properties (NCOMP)	
Provisional Maturity: NOAA-20 EDR Products (LST/LSA/Vegetation)	Mar-19	Mar-19	03/21/19 Provisional Maturity: LST/LSA/VI/GVF/SR Validated Maturity: Vegetation Health	
Provisional Maturity: NOAA-20 EDR Products (OC)	Apr-19	Apr-19	11/27/18: Ocean Color Beta/Provisional Maturity	
Validated Maturity: NOAA-20 EDR Products (JRR/VPW)	Jun-19	Jun-19	05/16/19: Validated Maturity: Cloud products (ECM, Cloud Type/Phase, CTP/CTP/CTH/CBH, CCL, DCOMP, and NCOMP), Cryosphere products (IST, Ice Concentration, and Ice Age/Thickness), Polar Winds, Aerosol products (AOD & ADP), Volcanic Ash, and SFR Provisional Maturity: I-Band Fires, and Snow Cover	
Validated Maturity: NOAA-20 EDR Products (SST)	Jun-19	Jun-19	05/16/19	
Validated Maturity: NOAA-20 EDR Products (MIRS, NUCAPS)	Sep-19	Sep-19		



# FY19 STAR JPSS TTA Milestones

FY19 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
<b>Operational Support</b>				
S-NPP: Weekly OMPS TC/NP Dark Table Updates	Weekly	Weekly	10/02/18, 10/10/18, 10/16/18, 10/23/18, 10/30/18, 11/06/18, 11/14/18, 11/20/18, 11/27/18, 12/04/18, 12/11/18, 12/18/18, 01/02/19, 01/08/19, 01/15/19, 01/23/19, 01/29/19, 02/05/19, 02/12/19, 02/20/19, 02/26/19, 03/05/19, 03/12/19, 03/19/19, 03/26/19, 04/02/19, 04/09/19, 04/16/19, 04/23/19, 04/30/19, 05/07/19, 05/14/19, 05/21/19, 05/29/19, 06/04/19, 06/11/19, 06/18/19, 06/25/19, 07/02/19, 07/09/19, 07/16/19, 07/23/19, 07/30/19	
S-NPP: Bi-Weekly OMPS NP Wavelength & Solar Flux	Bi-Weekly	Bi-Weekly	10/10/18, 10/23/18, 11/06/18, 11/20/18, 12/04/18, 12/18/18, 01/02/19, 01/15/19, 01/29/19, 02/12/19, 02/26/19, 03/12/19, 03/26/19, 04/09/19, 04/23/19, 05/07/19, 05/21/19, 06/04/19, 06/18/19, 07/02/19, 07/16/19, 07/30/19	
S-NPP: Monthly VIIRS LUT update of DNB Offsets and Gains	Monthly	Monthly	10/16/18, 11/14/18, 12/13/18, 01/15/19, 02/12/19, 03/12/19, 04/10/19, 05/14/19, 06/11/19, 07/09/19	
S-NPP: Monthly VIIRS Stray Light LUT Update	Monthly	Monthly	05/14/19, 06/11/19, 07/09/19	5/14/19: started new set of S-NPP Stray Light LUT update
NOAA-20: Weekly OMPS TC/NP Dark Table Updates	Weekly	Weekly	10/02/18, 10/10/18, 10/16/18, 10/23/18, 10/30/18, 11/06/18, 11/14/18, 11/20/18, 11/27/18, 12/04/18, 12/11/18, 12/18/18, 01/02/19, 01/08/19, 01/15/19, 01/23/19, 01/29/19, 02/05/19, 02/12/19, 02/20/19, 02/26/19, 03/05/19, 03/12/19, 03/19/19, 03/26/19, 04/02/19, 04/09/19, 04/16/19, 04/23/19, 04/30/19, 05/07/19, 05/14/19, 05/21/19, 05/29/19, 06/04/19, 06/11/19, 06/18/19, 06/25/19, 07/02/19, 07/09/19, 07/16/19, 07/23/19, 07/30/19	
NOAA-20: Bi-Weekly OMPS NP Wavelength & Solar Flux	Bi-Weekly	Bi-Weekly	05/14/19, 05/29/19, 06/11/19, 06/25/19, 07/09/19, 07/23/19	5/14/19: started NOAA-20 bi-weekly delivery
NOAA-20: Monthly VIIRS LUT update of DNB Offsets and Gains	Monthly	Monthly	10/16/18, 11/14/18, 12/18/18, 01/15/19, 02/12/19, 03/12/19, 04/10/19, 05/14/19, 06/11/19, 07/09/19	
NOAA-20: Monthly VIIRS Stray Light LUT Update	Monthly	Monthly	10/16/18, 11/14/18, 12/18/18, 01/15/19, 02/12/19, 03/13/19, 04/16/19, 05/14/19, 06/11/19, 07/09/19	





# FY19 STAR DAP and JPSS PSDI Milestones

S-NPP Enterprise Algorithms	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
S-NPP: Enterprise Processing System (Aerosol, Volcanic Ash, Clouds, and Cryosphere)				
-- Final DAP	Nov-17	--	11/21/17	Completed
S-NPP: Vegetation Indices				
-- Initial DAP	Jan-18	--	6/17/18	Completed
-- Final DAP	Jan-18	--	2/6/18	Completed
-- Delta DAP	Jan-18	--	3/15/18	Completed
-- Operations	Aug-17	--	9/26/18	Completed
S-NPP: Land Surface Temperature and Land Surface Albedo				
-- Initial DAP	Feb-18	--	11/15/17	Passed Code Review: Feb-2018
-- Final DAP	Feb-18	--	4/2/18	Completed
-- ORR	May-18	--	11/9/18	Completed
-- Operations	Jul-18	--	7/4/2019	Completed
S-NPP: Vegetation Health (VH-1km)				
-- Initial DAP	Nov-17	--	11/13/17	Completed
-- Final DAP	Nov-17	--	11/13/17	Completed
-- ORR	Nov-17	--	10/05/18	Completed
-- Operations	Dec-17	--	01/31/19	Completed
S-NPP: Vegetation Health (VH-4km)				
-- Final DAP	Nov-17	--	11/13/17	Completed
-- ORR	Nov-17	--	10/05/18	Completed
-- Operations	Dec-17	--	01/31/19	Completed



# FY19 STAR DAP and JPSS PSDI Milestones

S-NPP Enterprise Algorithms	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
S-NPP: ATMS Snowfall Rate				
-- Final DAP	Jun-18	--	06/14/18	Completed
-- CDR	Dec-18	--	6/20/2018	Completed
-- SCR	Jan-19	--	6/20/2018	Completed
-- ARR	Feb-19	--	6/20/2018	Completed
-- ORR	Apr-19	--	11/02/19	Completed
-- Operations	Jun-19	--	01/31/19	Completed
S-NPP: OMPS Limb Profiler Products				
-- Initial DAP	TBC	TBC		
-- Final DAP	TBC	TBC		
-- EDR and SDR ORR	Dec-16	Sep-19		
-- Operations	Mar-17	Oct-19		



# FY19 STAR DAP and JPSS PSDI Milestones

NOAA-20 Algorithms	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20: ACSPO SST				
-- CDR	Oct-16	--	10/27/16	Completed
-- Initial DAP	Nov-17	--	11/16/17	Completed
-- Final DAP	Jul-18	--	7/5/18	Completed
-- SCR	Aug-18	--	Waived	Waived
-- ORR	Mar-19	--	Waived	Waived
-- Operations	Apr-19	--	11/6/18	Completed
NOAA-20: Active Fires				
-- Initial DAP	Oct-18	--	11/21/17	Completed
-- Final DAP	Oct-18	--	11/21/17	Completed
NOAA-20: OMPS Ozone: V8TOS				
-- Initial DAP	Jun-18	--	06/01/18	Completed
-- Final DAP	Jun-18	--	06/01/18	Completed
-- ORR	Jul-18	--	12/02/18	Completed
-- Operations	Aug-18	--	3/7/2017	Completed
NOAA-20: OMPS Ozone: V8TOz				
-- Initial DAP	Jun-18	--	05/04/17; 06/08/18	Completed (v3r0; v3r1)
-- Final DAP	Jun-18	--	09/27/18	Completed (LUT only)
-- ORR	Jul-18	--	12/02/18	Completed
-- Operations	Aug-18	--	3/7/2017	Completed
NOAA-20: OMPS Ozone: V8Pro				
-- Initial DAP	Jun-18	--	06/02/17	Completed (v3r0)
-- Final DAP	Apr-19	--	06/06/18	Completed (v3r2)
-- ORR	Jul-18	Sep-19		
-- Operations	Aug-18	Oct-19		



# FY19 STAR DAP and JPSS PSDI Milestones

NOAA-20 Algorithms	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
<b>NOAA-20: MiRS</b>				
-- CDR	Oct-16	--	10/27/16	Completed
-- Initial DAP	Aug-18	--	06/14/18	Completed
-- SCR	Jun-18	--	6/1/18	Completed
-- ARR	Sep-18	--	4/18/18	Completed
-- Final DAP	Dec-18	--	6/14/18	Completed
-- ORR	Feb-19	--	2/5/19	Completed
-- Operations	Mar-19	--	3/7/2017	Completed
<b>NOAA-20: NUCAPS including CrIS OLR</b>				
-- CDR	Oct-16	--	10/27/16	Completed
-- Initial DAP	Aug-18	--	07/16/18	Completed
-- SCR	Aug-18	--	01/25/19	Completed
-- Operations (Temp/H2O profiles)		--	3/7/2017	Completed
-- ARR	Sep-18	Sep-19		Dates relate to CO2 and CH4 components
-- Final DAP	Apr-19	Sep-19		Dates relate to CO2 and CH4 components
-- ORR	Jun-19	Dec-19		Dates relate to CO2 and CH4 components
-- Operations	Jul-19	Jan-20		Dates relate to CO2 and CH4 components
<b>NOAA-20: Surface Reflectance</b>				
-- CDR	Oct-16	--	10/27/16	Completed
-- Initial DAP	Aug-18	--	07/27/18	Completed
-- SCR	Oct-18	--	3/20/19	Completed
-- ARR	Nov-18	--	3/21/19	Completed
-- ORR	Feb-19	--	4/12/2019	Completed
-- Final DAP	Apr-19	--	2/15/19	Completed
-- Operations	Jun-18	--	4/23/2019	Completed



# FY19 STAR DAP and JPSS PSDI Milestones

NOAA-20 Algorithms	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20: VIIRS Polar Winds				
-- CDR	Oct-16	--	10/27/16	Completed
-- Initial DAP	Aug-18	--	07/31/18	Completed
-- SCR	Jul-18	--	07/31/18	Completed
-- Final DAP	Aug-18	--	07/31/18	Completed
-- ARR	Nov-18	--	10/02/18	Completed
-- ORR	Dec-18	--	Waived	Waived
-- Operations	Feb-19	--	3/7/2017	Completed
NOAA-20: Enterprise Processing System :Aerosol, Volcanic Ash, Clouds, and Cryosphere				
-- Initial DAP	Aug-18	--	07/31/18	Completed
-- CDR	Oct-16	--	10/27/16	Completed
-- SCR	Mar-18	--	10/25/18	Completed
-- Operations (Clouds, Aerosols)		--	3/7/2017	Completed
-- ARR	Aug-18	--	5/16/19	Completed
-- Final DAP	Jan-19	--	3/11/19	Completed
-- ORR	Aug-18	--	Waived	Waived
-- Operations	Oct-18	--	6/20/19	Completed
NOAA-20: Enterprise Processing System: Global Gridding LST, and LSA				
-- Initial DAP	Aug-18	--	08/04/18	Completed
-- CDR	Mar-18	--	10/22/18	Completed
-- TRR	Jul-18	--	3/12/2019	Completed
-- SCR	Sep-18	Aug -19		
-- ARR	Dec-18	Aug-19		
-- Final DAP	Jan-19	--	3/11/19	Completed
-- ORR	Mar-19	Nov-19		
-- Operations	Jun-19	Dec-19		





# FY19 STAR DAP and JPSS PSDI Milestones

NOAA-20 Algorithms	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20: Vegetation Health				
-- CDR	Oct-16	--	10/27/16	Completed
-- Initial DAP	Aug-18	--	Need Date	Completed
-- SCR	Oct-18	--	08/28/18	Completed
-- ARR	Feb-19	--	3/21/2019	Completed
-- Final DAP	Mar-20	--	Need Date	Completed
-- ORR	Apr-19	--	Need Date	Completed
-- Operations	May-19	--	6/4/19	Completed
NOAA-20: Green Vegetation Fraction				
-- Initial DAP	Nov-18	--	11/30/2018	Completed
-- Final DAP	May-19	--	Need Date	Completed
-- CDR	Oct-16	-	10/27/16	Completed
-- SCR	Oct-18	--	NA	Completed
-- ARR	Feb-19	--	3/21/2019	Completed
-- ORR	Apr-19	--	3/21/2019	Completed
-- Operations	Jun-19	--	6/4/19	Completed
NOAA-20: Ocean Color				
-- Initial DAP	Nov-18	--	3/21/2019	Completed
-- Final DAP	Mar-19	Nov-20		
-- CDR	Oct-16	-	10/27/2016	Completed
-- SCR	Jan-19	Dec-19		
-- ARR	Mar-19	Mar-20		
-- SRR	Apr-19	Apr-20		
-- ORR	Apr-19	Apr-20		
-- Operations	Jun-19	Jun-20		



# FY19 STAR DAP and JPSS PSDI Milestones

NOAA-20 Algorithms	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20: Vegetation Indices				
-- Initial DAP	Nov-18	--	11/30/2018	Completed
-- Final DAP	May-19	--	Need Date	Completed
-- CDR	Oct-16	-	10/27/2016	Completed
-- SCR	Dec-18	--	10/10/2016	Completed
-- ARR	Feb-19	--	3/21/2019	Completed
-- ORR	May-19	--	3/21/2019	Completed
-- Operations	Jun-19	--	6/4/2019	Completed
NOAA-20: ATMS Snowfall Rate				
-- Initial DAP	Jun-18	--	06/14/18	Completed
-- Final DAP	Dec-18	--	3/29/2019	Completed
-- CDR	Dec-18	May-19	5/16/2019	Completed
-- SCR	May-19	May-19	5/22/2019	Completed
-- ARR	Jun-19	--	5/16/2019	Completed
-- ORR	Aug-19	--	7/16/19	Completed
-- Operations	Oct-19	--	7/18/19	Completed
NOAA-20: Microwave Tropical Cyclone Products				
-- Initial DAP	TBC	Apr-19		
-- Final DAP	TBC	Jun-19		
-- CDR	Oct-16	-	10/27/2016	Completed
-- SCR	Apr-19	--	4/2/19	Completed
-- ARR	Oct-19	Oct-19		
-- ORR	Dec-19	Dec-19		
-- Operations	Feb-20	Jan-20		



# FY19 STAR DAP and JPSS PSDI Milestones

NOAA-20 Blended Product Algorithms	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20: Blended Products Blended Ozone				
-- Initial DAP	TBC	TBC		Need Update
-- Final DAP	TBC	TBC		Need Update
-- SCR	Aug-17	NA		SCR not required; already running in OPS
-- ORR	Jul-18	Sep-19		
-- Operations	Oct-18	Oct-19		
NOAA-20: Blended Products Blended SST				
-- Initial DAP	TBC	TBC		
-- Final DAP	TBC	TBC		
-- SCR	Aug-18	--	2/12/19	Completed
-- ORR	May-19	-	NA	NA
-- Operations	Jun-19	-	4/1/2019	Completed
NOAA-20: Blended Products Blended Biomass Burning				
-- Initial DAP	TBC	TBC		Need Update
-- Final DAP	TBC	TBC		Need Update
-- SCR	Oct-18	NA		Waiver Requested
-- ORR	Jun-19	NA		Waiver Requested
-- Operations	Jul-19	--	8/12/2019	Completed
NOAA-20: Blended Products Blended Snow and Ice				
-- Initial DAP	TBC	--		
-- Final DAP	TBC	--		
-- SCR	Aug-18	--	7/9/2019	Completed
-- ORR	May-19	Aug-19		
-- Operations	Jun-19	Sep-19		

# FY19 STAR DAP and JPSS PSDI Milestones

NOAA-20 Blended/Derived Algorithms	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20: Products Blended Hydro Products				
-- Initial DAP	TBC	Jul-19		
-- Final DAP	TBC	Nov-19		
-- SCR	Jun-18	--	9/20/2018	Completed
-- ARR/ORR	Dec-18	--	5/17/2019	Completed
-- Operations	Jan-19	--	6/3/2019	Completed
Enhanced TOAST with S-NPP OMPS Limb Profiles				
-- Initial DAP	TBC	TBC		Need Update
-- Final DAP	TBC	TBC		Need Update
-- CDR	Jan-17	Sep-19		
-- SCR	Apr-17	Sep-19		
-- ORR	May-17	Oct-19		
-- Operations	Jun-17	Nov-19		
Upgrade to the Multi-platform Satellite Tropical Cyclone Surface Wind Analysis Product				
-- Initial DAP	TBC	Oct-19		
-- Final DAP	TBC	Feb-20		
-- PDR/CDR	Dec-17	--	1/26/2018	Completed
-- UTRR	Apr-18	--		Waived
-- SCR	May-18	Sep-19		
-- ARR	Oct-18	Nov-19		
-- ORR	Jan-19	Feb-20		
-- Operations	May-19	Mar-20		



# FY19 STAR DAP and JPSS PSDI Milestones

NOAA-20 Blended/Derived/Other Algorithms	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
<b>Upgrades to the ADT Product</b>				
-- Initial DAP	TBC	Apr-19		
-- Final DAP	TBC	Jun-19		
-- PDR	Jul-17	--	8/23/2017	Completed
-- CDR	Jul-17	--	8/23/2017	Completed
-- SCR	Jun-18	--	2/25/19	Completed
-- ARR	Oct-18	Sep-19		No variance explanation provided
-- ORR	Apr-19	Dec-19		
-- Operations	Jun-19	Jan-20		
<b>Microwave and Diurnal Corrected Blended SST w/ AMSR-2</b>				
-- ORR	Nov-16	ON HOLD		
-- Operations	Nov-16	ON HOLD		
<b>Product Monitoring Phase IV (JPSS RR, VIIRS AF)</b>				
-- Initial DAP	TBC	TBC		Need Update
-- Final DAP	TBC	TBC		Need Update
-- SRR/ORR	Jun-18	Nov-19		
-- Operations	Jul-18	Dec-19		
<b>Product Monitoring VI (NDE J1)</b>				
-- Initial DAP	TBC	TBC		Need Update
-- Final DAP	TBC	TBC		Need Update
-- CDR	Dec-16	--	04/17/18	Completed
-- TRR	Sep-17	--	5/14/2019	Completed
-- SCR	Jun-19	--	Waived	Waived
-- ORR	Aug-19	Nov-19		
-- Operations	Sep-19	Dec-19		
<b>Interactive Multisensor Snow and Ice Mapping System V3</b>				
-- dORR	Jul-17	--	Dec-18	Completed
-- Operations	Jan-18	--	5/17/19	Completed

# JPSS PSDI Risk and Issues Summary

**Risk Matrix**

<b>LIKELIHOOD</b>	>70%	5	Yellow	Yellow	Red	Red	Red
	50-70%	4	Green	Yellow	Yellow	Red	Red
	30-50%	3	Green	Green	Yellow	Yellow	Red
	10-30%	2	Green	Green	Yellow	Yellow	Yellow
	<10%	1	Green	Green	Green	Green	Yellow
			1	2	3	4	5
			Insignificant	<1% \$ <5% time	1-5% \$ 5-10% time	5-10% \$ 10-20% time	>10% \$ >20 time
<b>CONSEQUENCE</b>							

**JPSS PSDI Risk Information**

L x C Trend	Risk #	Rank	Approach	Risk Title
	449	1	Mitigate	PDA to AWIPS DD

**Criticality**

**High**

**Med**

**Low**

**L x C Trend**

Increasing (Worsening)

Unchanged

Decreasing (Improving)

**Approach**

- M – Mitigate
- W – Watch
- A – Accept
- R – Research

**JPSS PSDI Issue Summary**

Issue #	Issue Title
602	Availability of NDE 2.0 development/test system accessible to STAR



# JPSS PSDI Issues

As of: Jun 11, 2019

R	# 602	Created: 13 Mar 2017	DATE		
PROBLEM/ISSUE		PROGRAMMATIC IMPACT	ACTION	PLANNED	COMPL
Availability of NDE 2.0 development/test system accessible to STAR		If there is no NDE 2.0 development/test system accessible by STAR (similar to SADIE for NDE 1.0), THEN delivery of DAPs or DAP fixes could be delayed or inefficient resulting in delays to project schedule and delays to getting products to users.	1. Confirm requirements for development/test system	Oct 2017	Nov 2017
			2. Investigate with STAR the root causes of short or long delays with integration	Jun 2018	Jun 2018
			3. Improve communication among JPSS, OSGS, STAR, OSPO.	Jun 2018	Jul 2018
			4. Investigate interim solutions to mitigate impacts of not having a SADIE-like systems	Jul 2018	In progress
			5. Gather requirements for a SADIE-like system to address STAR and OSPO needs.	Aug 2018	In progress
			6. Put together cost estimate to meet requirements	Sept 2018	
			7. Consult with OSGS, JPSS, and GOES-R if funding is available and worth funding (cost-benefit analysis)	Nov 2018	

SUMMARY ASSESSMENT	CURRENT STATUS -			
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	Sep	Oct	Nov	
<b>TECHNICAL</b>	G	G	G	<ul style="list-style-type: none"> <li>- 01/2018: Promoted to Issue</li> <li>- 02/14/18: ESPDS agreed to provide a status and summary of functionality of the DEV system after the 30 day test is completed.</li> <li>- 3/8/18: Met with OSGS, OSPO, and STAR on 2/23/2018. OSGS (Bethune) agree to draft requirements and gather ROM and work with JPSS, GOES-R, and OSGS on funding.</li> <li>- 4/18/18: No update</li> <li>- 5/11/18: No update</li> <li>- 6/20/18: Algorithm developers provided impact assessments of the lack of a development environment.</li> <li>- 7/11/18: No update</li> <li>- 8/7/2018: Per Brandon Bethune, the requirements are going through the ESPDS change process now to be baselined and will be part of the development environment tech refresh (build out at NSOF) later this fall. Solers is currently holding meetings with security to define the interface to STAR for and overall security controls which may alter the design. Once this is complete we will have a better schedule for the instantiation of the NSOF dev environment including STAR's access.</li> <li>- 9/12/18: No update</li> <li>- 11/13/18: No update</li> <li>- 12/10/18: No Update</li> <li>- 03/11/19: ESPDS/NDE is proposing new requirements to address STARs need in the March ECRB cycle.</li> <li>- 04/9/19: New ESPDS/NDE requirements did not pass in March - Working group to meet to determine solution.</li> <li>- 05/13/19: No Update.</li> <li>- 06/11/19: No update</li> <li>- 07/17/19: Need to move Issue to AMP Risk Registry (MIS); No Significant Update</li> <li>- 8/12/19: It was agreed upon that STAR needed to ensure their development environment has the necessary HW/SW that NDE has instead of using some other versioning and that PALs have the responsibility to perform a lot of the activities laid out by STAR and PALs have the necessary access to Dev/I&amp;T/OPS as needed. GOES-R also brought up that they did not see why it was an issue transferring DAPs to NDE when the same process is used to pass DAPs to GOES-R.</li> </ul>
<b>COST</b>	G	G	G	
<b>SCHEDULE</b>	R	R	R	
<b>BUDGET</b>	G	G	G	
<b>PRO-GRAMMATIC</b>	Y	Y	Y	



# JPSS PSDI Risks

As of: Jul 17, 2019

G	449	MITIGATE	DATE	
			PLANNED	COMPL
RISK STATEMENT		APPROACH/PLAN		
If solution to the AWIPS DD-PDA issue drives major changes on the NESDIS production/distribution, then operational use of products by NWS will be delayed and NESDIS may be required to fund major upgrades for PDA or NDE.		1. Confirm existing PDA capabilities for Polar Data	Jun 2017	Jun 2017
		2. Fully understand & document NWS AWIPS requirements for Polar Data	Dec 2018	
		3. Determine if an upgrade to PDA or NDE is necessary to meet NWS needs.	Jun 2019	
		4. Develop new solution.	Aug 2019	
		5. If changes are required on the NESDIS side, seek funding for the approved solution.	Sep 2019	

**STATUS: OPEN**

- 3/1/2017: New Risk
- 4/17/2017: John Evans is continuing to work with NWS, however; progress is slow due to NWS focusing on the distribution of KPPs to AK. Continuing to stay involved in NWS AWIPS DD meetings and John has offered to lead the integrated work team to come to a resolution to the requirement issue. Bi-weekly meetings among JPSS, OSGS, and NWS are to start 6/9.
- 6/14/2017: Started bi-weekly meetings with OSGS and the NWS, goal being to update the ConOps, develop requirements, consider technical solutions, and bring results to management for decision. A timeline for this activity is additionally being developed.
- 7/12: Biweekly meetings continue with a focus on reviewing existing requirements and CONOPs documents(both approved and unapproved) and reviewing the product priority lists from NWS.
- 8/9/2017: Biweekly meetings continue. Clear plans from NWS on dissemination of Alaska KPPs has been developed. Technical subgroups are kicking-off to review product-by-product considerations. It has been noted that because some JPSS products are so small already, no specialized, dynamic tailoring may be necessary (TBC through the subgroups).
- 9/27/2017: Last IWT meeting on 9/22 demonstrated progress in analyzing individual polar products for tailoring needs. Services sub-team also stood-up to investigate possible technical solutions to meeting NWS needs.
- 10/17/17: With both AWIPS-DD development and ESPDS development tightly constrained under current contract / task commitments, progress on new operational capabilities for polar data access has been slow. However, recent technical discussions of a prototype ( / pilot / pathfinder) data service standing in for PDA for polar data have helped to expose possible new opportunities for near-term progress. These include hosting a server in a commercial cloud or the ESPC VTLab (thus not tightly coupled to the operational PDA service), and connecting AWIPS-DD to it as a new data source (to avoid encumbering the current AWIPS-DD task connecting to PDA). An assessment of benefits vs. costs, and a clear tie back to mission requirements, will be necessary for NWS and NESDIS to authorize development effort.
- 11/08/17: No update.
- 12/13/2017: At 12/1 IWT, ESPDS presented current capabilities in PG and the possibility of a web service to meet NWS needs. Work continues to understand NWS needs for polar data and documenting requirements that would then be delivered to OSGS.
- 1/17/2018: JPSS/AMP is nearly ready to submit a CCR to the JPSS Program CCB for a requirements change to meet this need for NWS. This should kick-off an engineering and cost study.
- 2/14/2018: JPSS is not fielding any Level 1 requirements changes at this point. However, JPSS will be requesting a cost estimate from OSGS on some possible short-term and long-term solutions. Once we have the cost estimate and engineering assessment, the SPM will engage with JPSS management on a path forward.
- 3/14/18: No Update
- 4/18/18: No Update
- 5/11/18: J Evans draft NESDIS service requirements at end of April. Expect to share with NWS and OSGS for input by end of June.
- 6/13/18: Interim proposal by John Evans has been discussed at IWT meeting. Will be setting-up meeting with Benjie Spencer to discuss further the long-term planning, requirements, design, and solution.
- 7/11/18: IWT meetings are continuing. Possible implementation approaches were briefed at the JPSS Director's Forum on 7/11/2018. Overall guidance was for the IWT to continue working toward a recommendation, which then needs to be provided to OSAAP for approval/allocation/funding/prioritization.
- 8/9/2018: Near-term solution agreed-to with NWS to request NDE create thinned data products for dissemination to AWIPS. Briefed PGR IPT on 8/7, and follow-up meeting scheduled for later in Aug.
- 9/12/18: No update
- 11/13/18: No update
- 12/10/18: No update
- 03/11/19: No Update
- 04/09/19: JPSS met with OSGS and NDE to discuss and clarify NWS data delivery assumptions and other options to provide thinned data to NWS AWIPS. Group agreed to work with NWS to submit a user request for thinned products and to understand from OSGS how PDA might be scaled to support the longer-term need.
- 05/13/19: No Update.
- 06/11/19: NDE opened a CR to work on thinned products for NWS: ENTR-5508 Create Thinned JPSSRR products for NWS
- 07/17/19: **Need to combine this with AMP 17-004 in MIS; No Significant Update**
- 8/12/19: No update





# JPSS Risk Summary

## Top Risks



Status as of: 08/08/2019

Rank Risk ID	Summary	LxC Trend	Aprch	Status
1 <a href="#">AMP-18-003</a>	J2 APID Changes to Accommodate New S/C Bus	2x2 ↔	W	07/15/19: An updated version of the APID to VCID map was recently released (June 25th 2019) with a few changes to APID assignments. Additional APIDs were added and a few were reassigned. For example APID 1629 and APID 1829 have both been moved to VCID 62. This changes will require a review of relevant SRS documents to ensure JPSS-2 APIDs match what is reflected in the Map. STAR scientist will need to review the APID designations and decide appropriate steps to take.
2 <a href="#">AMP-15-006</a>	Continued Generation of IDPS EDRs	4x1 ↔	W	7/10/2019: EDR Termination letter distributed for signatures (JPSS PAL). National Ice Center should still be on track to transition to NDE products by end of July 2019.
3 <a href="#">AMP-17-004</a>	Operational Data Flow to AWIPS-II	4x1 ↔	M	2019-08-06: NWS have confirmed that they can work with PDA's data access mechanism despite its limitations (detailed previously). Will consider opening a new risk addressing the limitations of PDA's data access mechanism and efforts to address them.
4 <a href="#">AMP-18-008</a>	Data Product Requirements for OMPS-Limb	3x1 ↔	M	8/8/2019: OSPO PAL and STAR PI are working on Operational Readiness Review (ORR) slides now and planning to hold ORR in September 2019.
5 <a href="#">AMP-19-001</a>	Algorithm testing & delivery impacts due to lag between IDPS and G-ADA moving to the Cloud	2x1 ↔	W	8/8/2019: Suggest to transfer this risk to be under DPES risk
6 <a href="#">AMP-18-004</a>	NWS GFS FV3 Model Upgrade Impacts	<b>CLOSED!</b>		8/8/2019: FV3 has been in operation since June 2019, no impacts on the algorithms have been reported and suggest to close this risk while the science team continue monitoring the algorithms' performance. Risk was Closed 8/8/2019
7 <a href="#">AMP-18-006</a>	Impact on Testing Ability Due to Major Build Upgrades	1x1 ↔	W	3/6/19: Risk Owner changed from Cole to Jeff.
8 <a href="#">AMP-19-002</a>	Proxy data delay due to J2 10Hz Sampling Freq	1x1 ↔	W	8/5/19:
9 <a href="#">AMP-19-003</a>	Some IDPS and STAR algorithms cannot use APIDs with 10Hz sample freq	1x1 ↔	M	08/5/19: (IDPS comment) The only algorithm that reads the S/C APID 11 and S/C APID 30 is the common geolocation algorithm ? SRS Part 8.

<b>L I K E L I H O O D</b>	5					
	4	2, 3				
	3	4				
	2	5	1			
	1	7 8 9				
		1	2	3	4	5
		<b>CONSEQUENCES</b>				

Criticality
<b>HIGH</b>
<b>MED</b>
<b>LOW</b>

Approach
A – Accept
M – Mitigate
W – Watch
R – Research



LxC Trend
↓ – Decreasing (Improving)
↑ – Increasing (Worsening)
↔ – Unchanged
NEW – Added this month



# JPSS Top Risks



Status as of: 08/08/2019

Rank	Risk ID	Risk Statement	Approach	Status
 <p>J2 APID Changes to Accommodate New S/C Bus</p> 	AMP-18-003	<p><b>Given that:</b> J2 has a new S/C Bus manufacturer and some new APIDs compared to J1 and S-NPP</p> <p><b>There is a possibility that:</b> the SDR algorithms will need to be updated to accommodate new RDR format/structure</p> <p><b>Resulting in:</b> additional unplanned work for Ground.</p>	Watch	<p>07/15/19: An updated version of the APID to VCID map was recently released (June 25th 2019) with a few changes to APID assignments. Additional APIDs were added and a few were reassigned. For example APID 1629 and APID 1829 have both been moved to VCID 62. This changes will require a review of relevant SRS documents to ensure JPSS-2 APIDs match what is reflected in the Map. STAR scientist will need to review the APID designations and decide appropriate steps to take.</p> <p>6/4/19: Flight software simulator version 5 should be ready by the end of June. However its very likely that it will be delayed. When the simulator software version is released it will match the APIDs to VCID map. An further updates to the simulator after the release will make it out of sync with the map.</p> <p>4/4/19: 474-CCR-19-4408 for this Risk was AERB approved on 3/26/19. APID's utilized within the SRSPF are all within VCID-0. With the pending release of FSW database in June 2019, the SRSPF file might need an update if additional APID's are assigned to VCID-0.</p> <p>3/7/19: Risk Owner has been transitioned from Cole to Tomi. The next JPSS-2 S/C Bus FSW (FSW5) is expected to be released during the Summer 2019. This FSW version is expected to be the first compatible with the instruments and will likely include a better idea of the APID to VCID map.</p> <p>3/6/19: According to the MOST team, the S/C CTDB is still pretty immature, so the details we need to confirm APID to VCID mapping and content are not currently available. That being said, the MOST is committed to making sure the proper information gets into the S/C telemetry RDR and will ensure that it is all mapped to VC0.</p>



# JPSS Top Risks



Status as of: 08/08/2019

Rank	Risk ID	Risk Statement	Approach	Status
<p data-bbox="42 287 117 334"><b>2</b></p> <p data-bbox="150 297 446 344">Continued Generation of IDPS EDRs</p> <p data-bbox="54 358 104 386">↔</p> <p data-bbox="150 372 343 419"><b>Expected Closure:</b> 10/2019</p>	<p data-bbox="527 287 653 305">AMP-15-006</p>	<p data-bbox="687 287 1058 334"><b>Given that:</b> we are transitioning to production of EDRs on ESPC systems</p> <p data-bbox="687 362 1083 434"><b>There is a possibility that:</b> the IDPS-generated EDRs will continue running for an extended period of time</p> <p data-bbox="687 462 1093 509"><b>Resulting in:</b> additional maintenance and sustainment costs.</p>	<p data-bbox="1199 287 1271 305"><b>Watch</b></p>	<p data-bbox="1358 287 1856 382">8/12/2019: EDR Termination letter was signed by Vanessa (OSPO) and IDPS EDRs (other than Imagery) will no longer be distributed via PDA as of Sep 9, 2019.</p> <p data-bbox="1358 415 1885 511">7/10/2019: EDR Termination letter distributed for signatures (JPSS PAL). National Ice Center should still be on track to transition to NDE products by end of July 2019.</p> <p data-bbox="1358 544 1885 686">6/12/2019: Lowered both Program and FP/GP Consequences from 2 to 1 from 6/6/19 Risk Board meeting. Last two EDR's moved to NDE - all required products are running. National Ice Center will transition by July then can turn off IDPS. Memo will be sent to OSPO to turn off EDR's</p> <p data-bbox="1358 743 1870 939">4/4/2019: LST/LSA is now on track for the next promotion from NDE I&amp;T to NDE Ops scheduled for May 2019. The OSPO PAL and STAR have worked together to come-up with a plan to transition low res NUCAPS to using Enterprise clouds. OSPO has also released the ESPC notification notifying users that all IDPS EDRs (except Imagery) will have their distribution stopped by PDA on April 30, 2019.</p> <p data-bbox="1358 972 1885 1168">3/7/19: LST/LSA may make the next promotion from NDE I&amp;T to NDE Ops scheduled for April 2019. There remains a NUCAPS Low-Resolution Cloud product on IDPS still being used that will delay transition of all products until the September/October 2019 timeframe. This delay has no consequence on the level of this risk. The expected closure date has been changed accordingly.</p> <p data-bbox="1358 1200 1885 1248">2/25/19: LST/LSA products were put back on NDE I&amp;T for testing on 2/22/19.</p>



# JPSS Top Risks



Status as of: 08/08/2019

Rank	Risk ID	Risk Statement	Approach	Status
<div style="display: flex; align-items: center;"> <div style="background-color: #008000; color: white; padding: 2px 5px; margin-right: 10px;">3</div> <div>Operational Data Flow to AWIPS-II</div> </div> <div style="margin-top: 10px;"> </div>	AMP-17-004	<p><b>Given that:</b> AWIPS data flow issues (esp. AWIPS Data Delivery (DD) to PDA interface) are not resolved,</p> <p><b>There is a possibility that:</b> Many JPSS data products will remain inaccessible to the NWS AWIPS II system for forecaster use after NWS' June 2020 target date</p> <p><b>Resulting in:</b> under-utilization of JPSS data products by the NWS forecasting community.</p>	Mitigate	<p>2019-08-06: NWS have confirmed that they can work with PDA's data access mechanism despite its limitations (detailed previously). Will consider opening a new risk addressing the limitations of PDA's data access mechanism and efforts to address them.</p> <p>2019-07-08: NWS has confirmed AWIPS-DD ability to fetch JPSS data granules on demand from PDA. The mechanism used is brittle, complex, and unique; but it works. The focus is now on improving data flow issues (by filtering &amp; subsetting data at PDA via an industry-standard protocol; and by creating interim NDE production rules for thinned products) and on AWIPS handling (decoding and display) of data products.</p> <p>2019-06-05: No change to risk status. NWS has nearly completed software upgrades &amp; configurations needed to test automated AWIPS-DD access to polar data from PDA.</p> <p>5/1/19: No change in risk status. NWS technical staff have begun making more specific test plans (Data Operations Exercises) for AWIPS-DD access to polar data from PDA.</p> <p>4/4/19: AWIPS 19.2.1 Beta release later this month promises improved AWIPS-DD access to JPSS products from PDA. Meanwhile NWS and Raytheon, with JPSS/AMP input, have successfully configured AWIPS to parse and display several new JPSS EDR products (ATMS MiRS, VIIRS Active Fires, JPSS-RR aerosol products, and GCOM AMSR-2 MBT and Ocean -- in addition to VIIRS Imagery and CrIS/ATMS NUCAPS).</p>



# JPSS Top Risks



Status as of: 08/08/2019

Rank	Risk ID	Risk Statement	Approach	Status
<div data-bbox="40 282 117 332" style="background-color: #4CAF50; color: white; padding: 2px; display: inline-block; width: 20px; height: 20px; text-align: center; line-height: 20px;">4</div> <p data-bbox="150 297 452 344">Data Product Requirements for OMPS-Limb</p> <div data-bbox="54 354 104 386" style="display: inline-block; vertical-align: middle;">↔</div> <p data-bbox="150 372 343 419"><b>Expected Closure:</b> 10/2020</p>	AMP-18-008	<p data-bbox="687 287 1103 334"><b>Given that:</b> There are no JPSS (or NOAA) data product requirements for OMPS-L</p> <p data-bbox="687 362 1103 486"><b>There is a possibility that:</b> benefits/impacts analysis from users based on NPP data products may demonstrate the need for NOAA processing of OMPS-L from JPSS-2/3/4</p> <p data-bbox="687 515 1087 611"><b>Resulting in:</b> Additional funding needed for delivering the algorithm, product generation/distribution/archive, and calval of the products.</p>	<b>Mitigate</b>	<p data-bbox="1358 287 1875 358">8/8/2019: OSPO PAL and STAR PI are working on Operational Readiness Review (ORR) slides now and planning to hold ORR in September 2019.</p> <p data-bbox="1358 386 1875 434">7/12/2019: No change. There is still some issues with ancillary data with running OMPS-L on NDE I&amp;T.</p> <p data-bbox="1358 462 1561 481">5/1/2019: No change</p>



# JPSS Top Risks



Status as of: 08/08/2019

Rank	Risk ID	Risk Statement	Approach	Status
<p data-bbox="42 287 117 332">5</p> <p data-bbox="54 354 104 386">↔</p> <p data-bbox="150 297 475 368">Algorithm testing &amp; delivery impacts due to lag between IDPS and G-ADA moving to the Cloud</p> <p data-bbox="150 396 343 444"><b>Expected Closure:</b> 12/2020</p>	AMP-19-001	<p data-bbox="687 287 1097 334"><b>Given that:</b> IDPS will be in the cloud prior to G-ADA being in the cloud,</p> <p data-bbox="687 361 1074 436"><b>There is a possibility that:</b> algorithm change testing and implementation may take longer (not sure why?)</p> <p data-bbox="687 464 1089 511"><b>Resulting in:</b> delays to implementation of algorithm changes.</p>	Watch	<p data-bbox="1358 287 1837 334">8/8/2019: Suggest to transfer this risk to be under DPES risk</p> <p data-bbox="1358 361 1856 436">7/12/2019: No update. AMP and STAR teams have been engaged with the IPR reviews and provided feedback/inputs related to the algorithms/cal val.</p> <p data-bbox="1358 464 1566 482">5/1/2019: No Update</p> <p data-bbox="1358 509 1879 636">3/6/19: Based on limited understanding from Ground Project as of February 2019, we believe that there is a real possibility that IDPS will be migrated to the Cloud prior to G-ADA being available in the Cloud (with proper training, etc).</p> <p data-bbox="1358 664 1874 992">From John (possible consequence?): If G-ADA is on-premise but IDPS is in the cloud, differences in computing hardware may introduce small discrepancies in algorithm results (even if all codes, inputs, ancillaries, etc. are identical). So promoting algorithms from G-ADA to the cloud-based IDPS may require additional verification steps to ensure consistency of results (&amp; to assess / bound the differences). (It's also possible that differences in memory sizes, network bandwidths, or disk access speeds might also change algorithm outcomes (race conditions); but hopefully none of the algorithms are that fragile.)</p>



# JPSS Top Risks



Status as of: 08/08/2019



Rank	Risk ID	Risk Statement	Approach	Status
<p><b>6</b></p> <p>NWS GFS FV3 Model Upgrade Impacts</p> <p>↔</p>	AMP-18-004	<p><b>Given that:</b> the NWS plans to upgrade the GFS FV3 Model resolution in the second quarter of FY19</p> <p><b>There is a possibility that:</b> SDR gridding granulation of the ancillary data files could change</p> <p><b>Resulting in:</b> the failure of some EDR products.</p>	<b>Watch</b>	<p>8/8/2019: FV3 has been in operation since June 2019, no impacts on the algorithms have been reported and suggest to close this risk while the science team continue monitoring the algorithms' performance. Risk was Closed 8/8/2019</p> <p>7/12/2019: the Finite-Volume Cubed-Sphere (FV3) went into operation June 12 2019. The teams are undergoing thorough analysis of possible impacts to the products performance. Nothing significant reported so far.</p> <p>4/4/2019: Risk will be closed when FV3 goes into operations. The schedule is still TBD from NWS.</p> <p>3/7/19: The Risk Owner has been changed from Cole to Arron. Although all steps have been taken to mitigate this risk, the risk will remain open until the new GFS FV3 model is implemented. Implementation has been delayed until April 2019.</p> <p>2/25/19: At the IDPS Splinter on 2/20/19 Raytheon relayed that they had completed further GFS FV3 Model Upgrade testing. Additionally, the AMP Team Lead confirmed that all IDPS EDRs would continue to operate without issue once the upgrade is made so no further action is required on this front.</p>



# JPSS Top Risks



Status as of: 08/08/2019

Rank	Risk ID	Risk Statement	Approach	Status
 Impact on Testing Ability Due to Major Build Upgrades 	AMP-18-006	<p><b>Given that:</b> DPES has had issues installing major Block/Build updates in the past on G-ADA</p> <p><b>There is a possibility that:</b> this could occur again in the future (Block 2.2)</p> <p><b>Resulting in:</b> delays to testing of instrument code and table updates.</p>	<b>Watch</b>	3/6/19: Risk Owner changed from Cole to Jeff.  7/11/2019: No issues. Continue to Watch






# JPSS Top Risks



Status as of: 08/08/2019

Rank	Risk ID	Risk Statement	Approach	Status
<p>8</p> <p>Proxy data delay due to J2 10Hz Sampling Freq</p> 	<p>AMP-19-002</p>	<p><b>Given that:</b> APID 11 (S/C Attitude and Ephemeris) and 30 (S/C Telemetry) sampling frequencies are at 10Hz on JPSS-2</p> <p><b>There is a possibility that:</b> It will affect and delay the process of getting/producing simulated J2 data (proxy data) during JCT.</p> <p><b>Resulting in:</b> Test data production during JCT will be more difficult. "Instead of using NPP and J01 Proxy, Attitude and Ephemeris would be manufactured by using STK. To compensate for the sample freq at 10Hz, the APID 11 packet will need to be converted to 10Hz causing unwanted delays.</p>	<p><b>Watch</b></p>	<p>8/5/19:            From May 15, 2019 DFWG meeting            J02 APID 11 at 10Hz (Possible DWFG topic with APID to VCID mapping)            Flight Software User Guide and Maintenance Manual (SUMM) and Draft APID to VCID (20180625) show that APID 11 is being produced at 10 Hz            Possible CGS Impacts various entities:            C3S: None noted as of yet (OO and/or STA can filter out additional packets)            IDPS: ING Code and Configs and the Performance Data Repository            Data: Create a way to produce 10 Hz APID 11 data using NPP and N20            Tools: SOS Tardis update to speed up swap out APID 11 data with ?current time? APID 11 data            Currently takes 1-2 minutes per contact, could increase by 10X with 10 Hz APID 11 data</p> <p>From May 29, 2019 DFWG meeting</p> <p>J02 APID 11 at 10Hz            Revamped 4-orbit EAP dataset with 10 Hz APID 11 supported IDPS SWIC Demo activities            10 Hz APID 11 creation tool            Reads in two 1Hz APID 11 packets (Existing packets retain A&amp;E values)            Straight line interpolation for A&amp;E values: 9 new packets are created in between each of the two original 1 Hz packets. Results in APID 11 data every 0.1 secs or 10 Hz.            New sequence counters are used for every packet</p> <p>07/15/19: Mitigation step and improvements are being made by flight personnel to modify their system to utilize specific APIDs at 10Hz. Some CADUS and EVCDUs have been tested to include 10Hz sampling frequency for the corresponding APIDs</p>



# JPSS Top Risks



Status as of: 08/08/2019

Rank	Risk ID	Risk Statement	Approach	Status
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;">9</div> <div> <p>Some IDPS and STAR algorithms cannot use APIDs with 10Hz sample freq</p> </div> </div>	AMP-19-003	<p><b>Given that:</b> APID 11 (S/C Attitude and Ephemeris) and 30 (S/C Telemetry) sampling frequencies are at 10Hz on JPSS-2</p> <p><b>There is a possibility that:</b> Some IDPS and STAR algorithms will not be able to use any science products that has APID 11 and 30 or any APIDs with a sampling frequency of 10Hz</p> <p><b>Resulting in:</b> Delays since IDPS geolocation algorithms cannot use 10Hz APIDs. During JCT3 IDPS has to geolocate J2 RDRs with J2 S/C Diary and if the geolocation algorithm is not compatible with the 10hz freq, it will affect IDPS's ability to geolocate J2 RDRs. STAR needs to consider the effect 10Hz APIDs will have on their GEO and sensor product algorithms.</p>	Mitigate	<p>08/5/19: (IDPS comment) The only algorithm that reads the S/C APID 11 and S/C APID 30 is the common geolocation algorithm ? SRS Part 8. IDPS geolocation algorithm is common between S-NPP, and JPSS-1. Ideally, IDPS geolocation algorithm will remain unchanged for JPSS-2. IDPS common geolocation software would decimate the JPSS-2 S/C APID 11 ? taking only 1 sample from the 10 samples available. It is believed that the 10HZ will not produce more accurate samples. This would provide the same input as S-NPP and JPSS-1 to the common geolocation algorithm.</p> <p>The JPSS-2 S/C APID 30 is not used in the common geolocation processing to geolocate products, but rather as an indicator. This also will be a small IDPS common geolocation software change to only use 1 sample of the JPSS-2 S/C APID 30.</p> <p>The STAR science team TIM outcome should coincide with the above mitigation. There is no justification for increased geolocation accuracy on JPSS-2.</p> <p>07/15/19: STAR scientist will need to have a TIM to develop appropriate steps and actions for updating any algorithms that are affected by the 10Hz sampling frequency. IDPS will work with Raytheon personnel compensate for the 10hz frequency.</p>

**Color code:**

**Green:**

**Completed Milestones**

**Gray:**

**Non-FY19 Milestones**

## Accomplishments / Events:

- Worked with NASA flight project to prepare JPSS-2 ATMS pre-environmental review (PER) calibration/validation session
- Attended JPSS-2 ATMS PER from July 23 – 24, 2019
- Further analyzed the impact of out-of-order ingested science RDR data on TDR/SDR results over lunar intrusion affected region in ADL
- Recapped lunar intrusion correction algorithm using physical model predicted moon temperature
- Discussed JPSS-2 antenna subsystem testing datasets and updated beam point angle results
- Attended TGARSS annual meeting

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

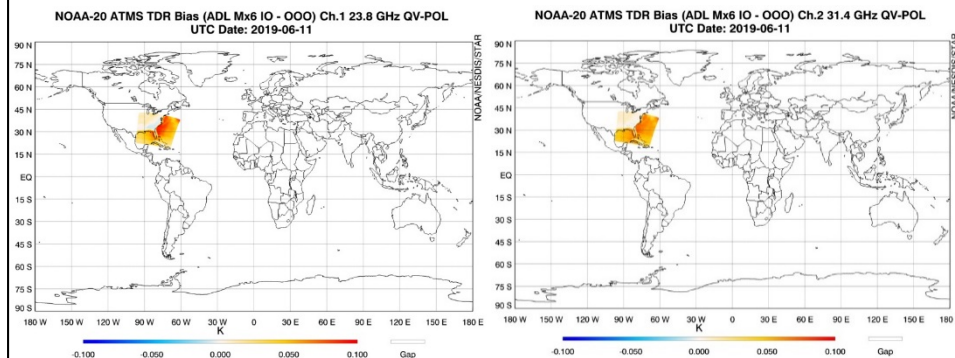
## Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20 and SNPP cross verification	Sep-19	Sep-19		
Annual ATMS TDR/SDR performance report	Aug-19	Aug-19		
J2 pre-launch test data (TVAC) review/analyze	Sep-19	Sep-19		
<b>Reflector emissivity correction DAP (PCT and code update, ADR8632/CCR3971)</b>				
Technical Interchange Meeting (TIM)	Feb-19	Feb-19		
DAP to ASSISTT	Feb-19	Feb-19	01/31/19	
DAP to DPES	Mar-19	Mar-19	02/11/19	
<b>IDPS Mx build I&amp;T deploy regression support:</b>				
Mx 5 data review/checkout	Feb-19	Feb-19	02/11/19	
Mx 6 data review/checkout	May-19	May-19	05/17/19	
Mx 7 data review/checkout	Sep-19	Sep-19		

## Highlights:

### Science RDR in-order vs. out-of-order ADL TDR bias at Channel 1 (left) and Channel 2 (right)



## Accomplishments / Events:

- On July 25, 2019, the JPSS Beta/Provisional Maturity Science Review for the Suomi-NPP CrIS SDR Side-2 data was held. The quality of the Side-2 data was demonstrated and recommended for its use in operational environments, as confirmed by the evaluation performed by the CrIS Science Team and from inputs received from NOAA/NCEP, NRL, NUCAPS Team and NPROVS Team. The NOAA Environmental Satellite Processing Center (ESPC) informed about the SNPP/CrIS SDR Side-2 data reaching the Provisional Maturity level on 7/25/2019 at 1830UTC. This represents a major milestone for the CrIS Science Team, since the first CrIS instrument on-orbit has been fully recovered, after the loss of the MWIR band, and the SNPP/CrIS SDR data product is now available to all approved users.
- On August 1st, 2019, the Engineering Packet v40 was successfully uploaded at 16:49:40 UTC. This calibration table includes new spectral and geolocation calibration parameters and was proposed to reach the provisional maturity level on July 25, 2019.
- On July 24, 2019 the ADR 9068 was submitted to report the sudden noise increase of the NOAA-20 CrIS MWIR FOV 5 on July 3, 2019. The noise increased about 30 min, and recovered within 15 minutes afterwards (around 22:45 - 23:30).
- Preparation for the J2 TVAC activities have started. Due to significant levels of FOV to FOV crosstalk observed during J2/CrIS PETVAC, TVAC activities have been rescheduled. J2/CrIS crosstalk has been corrected after replacing warm/cold flex cables.

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

- Project has completed.
- Project is within budget, scope and on schedule.
- Project has deviated slightly from the plan but should recover.
- Project has fallen significantly behind schedule, and/or significantly over budget.

## Issues/Risks:

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20 and SNPP cross verification	Sep-19	Sep-19		
Annual CrIS SDR performance report	Aug-19	Sep-19		
J2 pre-launch test data (TVAC) review/analyze	Sep-19	Jan-20+ 6months		TVAC schedule change
S-NPP Beta/Provisional review (side-2)			07/25/19	

**Highlights:** (1) Summary of the SNPP/CrIS SDR Side-2 data product quality reported during the Beta/Provisional Review.

Band	Spectral Range (cm <sup>-1</sup> )	Resolution (cm <sup>-1</sup> )	Number of Channels	NEdN* (mW/m <sup>2</sup> /sr/cm <sup>-2</sup> )	Frequency Uncertainty (ppm)	Geolocation Uncertainty* (km)	Radiometric Uncertainty @287K BB* (%)	Radiometric Stability @287K BB (%)
LWIR	650-1095	0.625	713	0.099 (0.14)	2 (10)	0.25 (5)	0.16 (0.45)	0.17 (0.40)
MWIR	1210-1750	0.625	865	0.0536 (0.084)	2 (10)	0.25 (5)	0.19 (0.58)	0.21 (0.50)
SWIR	2155-2550	0.625	633	0.00752 (0.014)	2 (10)	0.25 (5)	0.40 (0.77)	0.28 (0.64)

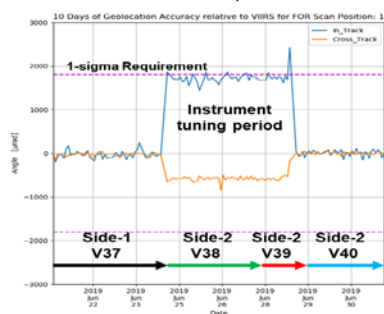
**Polarization correction algorithm implementation DAP (ADR8760)**

Milestone	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Technical Interchange Meeting (TIM)	Feb-19	Feb-19	12/19/18 06/07/19	TIM 1 TIM 2
DAP to ASSISTT	Jul-19	Jul-19	04/22/19	
DAP to DPES	Aug-19	Aug-19	05/07/19	
Turn off Spike detection and Correction Algorithm due to false alarms (ADR8819/CCR4201)			12/18/18	
Refining the threshold values for CrIS lunar intrusion detection (ADR8903/CCR4451)			03/27/19	
Turn off Truncated Spectrum CrIS Data	Sep-19	Apr-20		OSPO/User

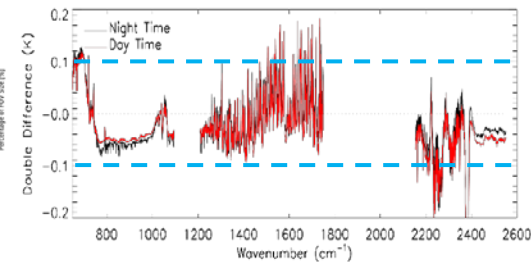
**IDPS Mx build I&T deploy regression support:**

Milestone	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Mx 5 data review/checkout	Feb-19	Feb-19	02/13/19	
Mx 6 data review/checkout	May-19	May-19	05/17/19	
Mx 7 data review/checkout	Jul-19	Aug-23		

(2) SNPP/CrIS Geolocation accuracy of Side-1 and Side-2 relative to VIIRS for June 21- 30, 2019.



(1) Radiometric difference between S-NPP/CrIS Side-2 and NOAA-20/CrIS, based on the double difference method using radiative transfer model simulations as transfer target.



Accomplishments / Events:

- Delivered for deployment in IDPS operations updated NOAA-20 and S-NPP DNB offset and gain ratio LUTs generated using new moon calibration data from July 2, 2019
- Delivered for deployment in IDPS operations updated NOAA-20 and S-NPP DNB stray light correction LUTs generated from the July 2019 data
- Calculated Local Time of Ascending Node (equator crossing) for the NOAA-20 and S-NPP satellites and verified that for both spacecraft LTAN is still well maintained within one minute from 1:25 PM
- Determined that the total solar eclipse on 7/2/19 has affected NOAA-20 RSB and DNB solar calibration at 19:40 UTC; verified that all other OBC and SDSM data were acquired correctly, and that the calibration coefficients applied in the VIIRS SDR production were not affected
- Analyzed results from the ground control point matching to estimate uncertainty of VIIRS geolocation products for both NOAA-20 and S-NPP during the latest one year on orbit: at the 3-sigma level, the uncertainty remains in the 150-200 m range for both satellites, well within the requirement of 375 m
- Created initial versions of the JPSS-2 VIIRS-SDR-RELATIVE-SPECTRAL-RESPONSE-LUT and VIIRS-SDR-DELTA-C-LUT

Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

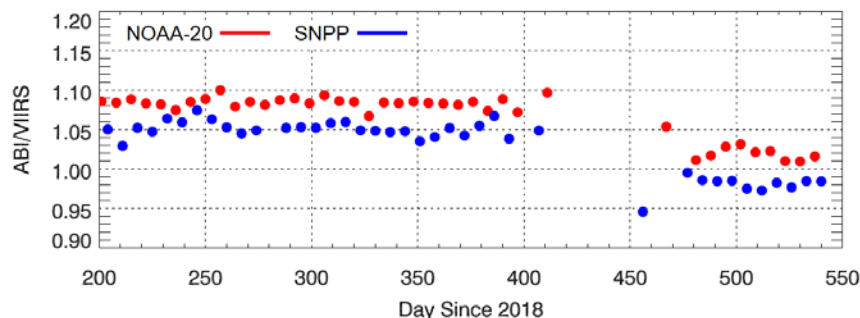
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

none

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20 and SNPP cross verification	Sep-19	Sep-19		
Annual VIIRS SDR performance report	Aug-19	Aug-19		
J2 pre-launch test data (TVAC) review/analyze	Sep-19	Sep-19		
J2 Pre-launch sensor characterization report			10/01/18	
J2 Launch-ready LUTs (initial delivery)	Sep-19	Dec-19		Mx7/8 TTO
Comprehensive solution for VIIRS Geo SCE SideB HAM mirror LUT Missing (code and LUTs, ADR8788/CCR4185)	Dec-18	Dec-18	12/11/18	
Remove COEFF-A and COEFF-B LUTs (ADR8785/CCR4148)	Mar-19	Mar-19	12/18/18	
<b>IDPS Mx build I&amp;T deploy regression support:</b>				
Mx 5 data review/checkout	Feb-19	Feb-19	02/07/19	
Mx 6 data review/checkout	May-19	May-19	05/16/19	
Mx 7 data review/checkout	Sep-19	Sep-19		

Highlights:



Time series of the ratio of GOES-16 ABI band 2 (0.67 μm) and VIIRS M5 over all sky tropical ocean estimated using ray matching over SNOs. NOAA-20 VIIRS observed TOA reflectance is lower than that of the S-NPP VIIRS by about -3.5%. The drop in ABI reflectance in April 2019 is due to a major calibration update. Data gap is mainly due to the lack of valid ray-matched ABI and VIIRS data.

# OMPS SDR

July, 2019

## Accomplishments / Events:

- Regular weekly dark deliveries for OMPS sensors were made.
- Regular bi-weekly OMPS-NP wavelength and solar flux for OMPS sensors were made.
- Delivered DR8550 to ASSISST. This significant code change will simplify the IDPS OMPS SDR codebase and remove nearly 7000 files from the IDPS runtime database. A total of ten sub-algorithms will be removed from the runtime IDPS configuration for OMPS SDR.

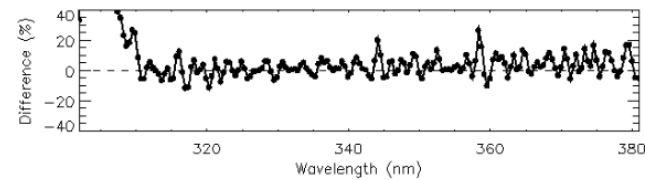
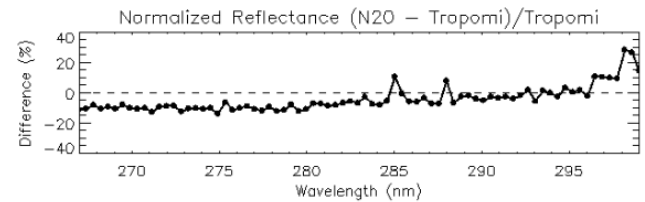
## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

## Issues/Risks:

## Highlights:



The image shows the average difference in spectra for NOAA-20 OMPS and TropOMI for collocated scenes.

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Validated Maturity	Jun-19	Sep-19		
NOAA-20 and SNPP cross verification	Sep-19	Sep-19		
Annual OMPS SDR performance report	Aug-19	Aug-19		
J2 pre-launch test data review/analyze	Sep-19	Sep-19		
J2 Pre-launch sensor characterization report	Jun-19	Sep-19		PSR changed
OMPS NM/NP Mismatch for FOVs (ADR8617/CCR4137)			11/01/18	
Update NOAA-20 OMPS Calibration Tables (ADR8816)	Dec-18	Dec-18	02/07/19	Govt. shutdown
OMPS NP Transient Smear Correction (ADR8709/CCR4138)	Dec-18	Dec-18	11/26/18	
Start N20 bi-weekly FT LUT update			05/14/19	
DAP (ADR8550, remove snow/ice & QST tile dependency)			08/01/19	To ASSISST
<b>IDPS Mx build I&amp;T deploy regression support:</b>				
Mx 5 data review/checkout	Feb-19	Feb-19	02/15/19	
Mx 6 data review/checkout	May-19	May-19	05/17/19	
Mx 7 data review/checkout	Sep-19	Sep-19		

## Accomplishments / Events:

- Completed VIIRS V2 SDR reprocessing from 1/1/2012 to 3/17/2017
- Validation of VIIRS V2 reprocessed SDR is ongoing
- VIIRS reprocessing data dissemination interface is under development (highlights)
- New round of SNPP ATMS reprocessing is on-going, which will include the antenna pattern corrections that are consistent with NOAA-20
- New round of SNPP OMPS-NP reprocessing with bi-weekly solar update is on-going, and will be finished by August 2019
- Preparation of SNPP SDR Reprocessing Maturity Review is on-going
- Preparation of a peer-review journal paper for SNPP SDR Reprocessing is on-going

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

- Project has completed.
- Project is within budget, scope and on schedule.
- Project has deviated slightly from the plan but should recover.
- Project has fallen significantly behind schedule, and/or significantly over budget.

## Issues/Risks:

None

## Highlights: SNPP VIIRS V2 Reprocessed Data Distribution System

Suomi-NPP VIIRS V2 Reprocessed Data Distribution System

Start Time: 2012/03/01 00:00:00  
End Time: 2012/03/15 00:00:00  
Ground Location: Bounding Box (Nadir)  
Latitude: 0.0 Longitude: 0.0  
Radius (km): 100 Scan Angle (degree): 50

[/sky/bzhang/VIIRS\\_SDR.REPROCESS\\_V2\\_ThuillierSolar//2012-03-01/SVI05\\_npp\\_d20120301\\_t0156139\\_e0157380\\_b01769\\_c2019040205036437524\\_ADu\\_dev.h5](/sky/bzhang/VIIRS_SDR.REPROCESS_V2_ThuillierSolar//2012-03-01/SVI05_npp_d20120301_t0156139_e0157380_b01769_c2019040205036437524_ADu_dev.h5)  
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Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Finish 2016 VIIRS V2 reprocessing	Feb-19	Feb-19	Feb-19	N/A
Finish the remaining VIIRS V2 reprocessing	July-19	July-19	July-19	N/A
Finish ATMS V2 Reprocessing	Aug-31	Aug-31		
Finish OMPS-NP V2 Reprocessing	Aug-31	Aug-31		
Develop VIIRS reprocessing data dissemination interface	Aug-31	Aug-31		
Reprocessed data maturity review	Sept-19	Sept-19		
Reprocessing paper/report	Dec-19	Dec-19		



## Accomplishments / Events:

- Provided S-NPP CrIS Side-2 switch sensor health status, performance, and SDR data quality monitoring to support CrIS calibration and validation activities
- Evaluated S-NPP CrIS Side-2 geolocation accuracy using historical Side-1 operational data, Side-2 operational data, and proposed Side-2 updated data
- Worked with STAR web master to develop VIIRS F-/H-factor trending package using dynamic display technology to improve ICVS user experience
- Transitioned VIIRS TEB daily observation vs. model simulation w.r.t ECMWF/CMC SST global bias monitoring package
- Analyzed OMPS vs GOME-2 inter-sensor comparison SNO results and improved the data quality control procedure
- Developed S-NPP/NOAA-20 missing application packets (AP) check module to better serve operational data quality monitoring requirement
- Supported JPSS/SMCD weekly/monthly reports

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

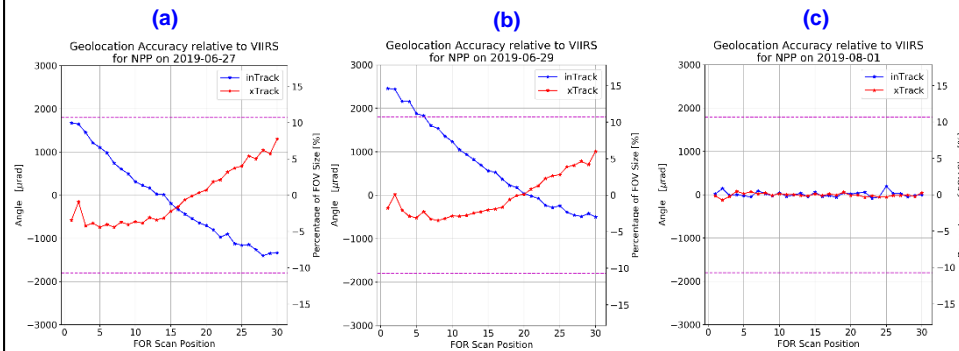
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

## Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
ICVS-Application: ICVS Severe Weather Watch (ISEW) System (Severe Weather Watch with JMAPPER) (Beta Version)	Dec-18	Dec-18	Dec-18	
ICVS User's Manual and Technical Report Version 1	Mar-19	Mar-19	Mar-19	
ICVS Module initialize and Development (each instrument on both SNPP and NOAA-20): <ul style="list-style-type: none"> <li>• Global (POES) Inter-Sensor Comparison Modules</li> <li>• VIIRS/CrIS &amp; GOES ABI Comparison Module</li> <li>• Global O-B and Double Difference Bias Modules</li> <li>• RDR/SDR Operational Data Missing Granule Modules</li> <li>• CrIS/VIIRS geolocation monitoring module implementation and improvement</li> <li>• CrIS FOV(R)-To-FOV(R) Difference modules</li> <li>• CrIS Relative (Absolute) Spectral Difference Modules</li> </ul>	Jun-19	Jun-19		
ICVS Module development and update: <ul style="list-style-type: none"> <li>• Inter-Sensor Comparison Module update</li> <li>• O-B and DD Bias Module Update</li> <li>• ICVS Geolocation Accuracy Trending Modules</li> <li>• Enterprise ICVS Cloud/Clear Flag Modules</li> <li>• ICVS SDR Spectral Analysis Modules</li> <li>• ICVS Severe Weather Watch (ISEW) Update</li> </ul>	Sep-19	Sep-19		
JPSS-ICVS System Standardization and ICVS Annual Performance Review	Sep-19	Sep-19		

## Highlights: Significantly contribute to STAR SDR Teams



**S-NPP CrIS Geolocation Accuracy w.r.t VIIRS at each FOR on**  
**(a) June 27 right after Side-2 switch,**  
**(b) June 29 after torque null position adjustment, and**  
**(c) August 1 after engineer packet version 40 is TTO**

## Accomplishments / Events:

- **Terrain-Corrected EDR Imagery checkout:** With a new Imagery JAM, Ashley Griffin, and a new QA Lead, Priyanka.Roy, the Terrain Correction Img-Geo team is regrouping a bit, preparing for a code change Algorithm Review in September. Another TC test case will be selected, to further verify the validity of the code changes. (D. Hillger, StAR; W. Chen, ASSISTT; T. Kopp, Aerospace; G. Linn and J. Dellomo, NASA Geo Team; D. Stuhmer, Raytheon; S. Finley and C. Seaman, CIRA; John Evans, NWS)
- **Visitor/Seminar:** Carl Dierking, GINA, Univ. Alaska, Fairbanks visited CIRA and presented a seminar titled “GINA Direct Broadcast Activities” on 22 July 2019. He also discussed Alaska-user interactions with CIRA/RAMMB.

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

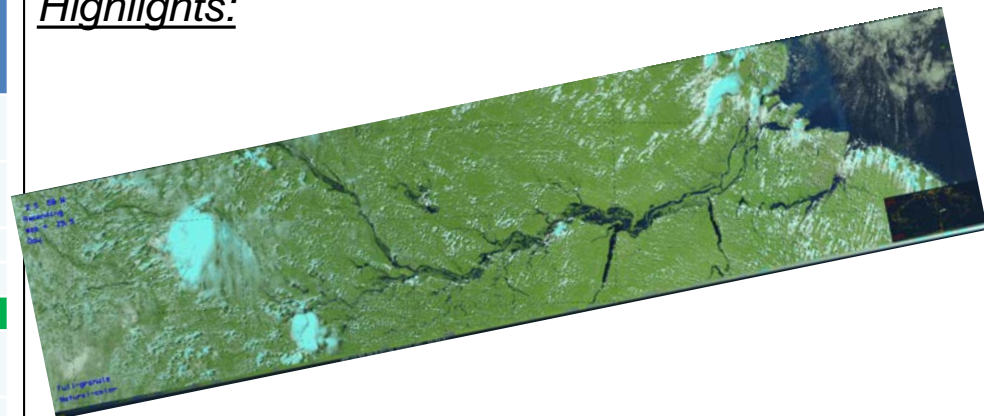
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2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

## Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20 and SNPP cross verification	Sep-19	Sep-19		
Annual VIIRS Imagery performance report	Aug-19	Aug-19		
N20 NCC LUT update	Sep-19	Sep-19		
<b>Terrain-Correction geo-locations for VIIRS Imagery EDRs (ADR8239)</b>				
Design Review	Mar-19	Mar-19	03/14/19	
Algorithm Readiness Review (ARR)	Sep-19	Sep-19		
DAP to DPES	Sep-19	Sep-19		
Run ADL locally (@ CIRA, to allow code testing/changes)	May-19	May-19	May-19	
<b>IDPS Mx build I&amp;T deploy regression support:</b>				
Mx 5 data review/checkout	Mar-19	Mar-19	02/15/19	
Mx 6 data review/checkout	May-19	May-19	05/17/19	
Mx 7 data review/checkout	Sep-19	Sep-19		

## Highlights:



A natural-color I-band RGB image of a S-NPP VIIRS granule from 2019-07-24 @ 17:17 showing much of the Amazon River. This is an Imagery product that is regularly processed and available online for validation monitoring at CIRA. The small inset image in the lower right shows the granule location on a world map.

## Accomplishments / Events:

- Cloud team is preparing for the next cloud product delivery in September.
- Cloud team addressed issues in SAPF implementation of DCOMP. DCOMP has now improved performances over snow regions.

## Overall Status:

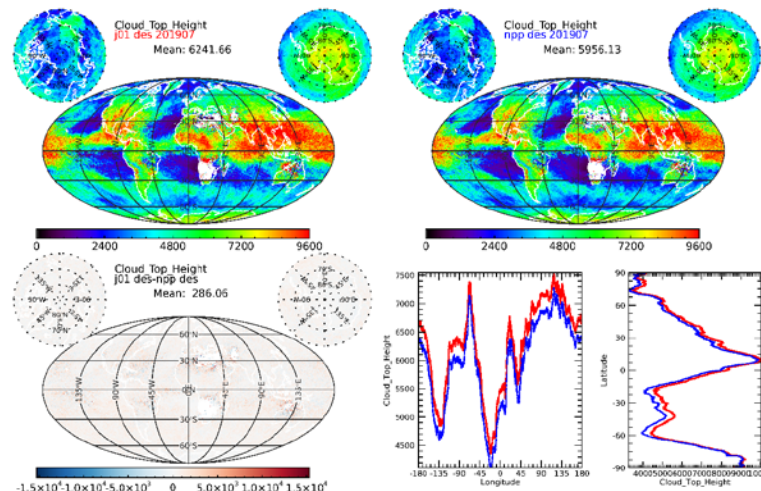
	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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## Issues/Risks:

None

## Highlights: VIIRS Monthly Mean Cloud top Height



Global cloud property monitoring is generated routinely. This figure shows global cloud top height (ACHA) in July 2019 for the descending track from N20 (top left), NPP (top right), and differences (bottom left). Longitudinal and zonal averages are shown in bottom right, where red and blue curves correspond to N20 and NPP, respectively.

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Beta/Provisional Maturity: NCOMP (N20 Cal/Val)	Feb-19	Feb-19	03/21/19	ppt ready
Provisional Maturity: DCOMP (N20 Cal/Val)	Nov-18	Nov-18	11/27/18	
Provisional Maturity: Cloud Mask, Cloud Phase (Beta & Provisional), ACHA (CTT/CTP/CTH), CBH			10/02/18	
Validated Maturity (N20 Cal/val)	May-19	May-19	05/16/19	
Final DAP (N20 Algorithm Adjustment)	Mar-19	Mar-19	03/11/19	
<b>Algorithm update DAP to ASSISTT:</b>				
<ul style="list-style-type: none"> <li>Cloud Mask: Develop new LUTs that support multi-dimension classifiers and provide full meta-data</li> <li>Cloud Phase/Type: Optimize cloud phase thresholds for NOAA-20</li> <li>ACHA: improving multilayer ACHA by analysis of calipso observed cloud behavior to support Polar Winds</li> <li>CCL: Separate CCL from ACHA processing</li> </ul>	Mar-19	Mar-19	Mar-19	
<b>Algorithm update DAP to ASSISTT:</b>				
<ul style="list-style-type: none"> <li>Cloud Mask: Implement DNB</li> <li>ACHA: Work on surface emissivity issues that are impacting 8.5 micron clear-sky BT</li> <li>CBH: Leverage GOES-RR to target characterization of overlapping cloud assess CBH performance for multi-layer cloud systems</li> <li>DCOMP9: Incorporate improved surface reflectance for DCOMP channels</li> <li>DCOMP: Implement gross phase correction for DCOMP pixels that fail (thin cirrus over stratus is a common issue)</li> <li>NCOMP: extend NCOMP cloud optical depth range to include larger values by including a neural net approach</li> </ul>	Sep-19	Sep-19		

## Accomplishments / Events:

- Two presentations at ESA Living Planet Symposium were made by team members Amy Huff and Pubu Ciren involving VIIRS aerosol products in Milan, Italy
- Revising STAR VIIRS aerosol cal/val website:
  - ✓ Add Aerosol Detection Product information
  - ✓ Add Enterprise Processing System (EPS) Aerosol Optical Depth information
  - ✓ Keep the IDPS version of the product information but make the EPS version the focus
  - ✓ Add information on episodic heavy aerosol events for blog applications
- Hired a new web developer/programmer, Ryan Theurer, to help the aerosol team with various aspects of web development
- Began working on development of the joint retrieval of aerosol index from VIIRS and TROPOMI
- Demonstrated the GOES-17 Advanced Baseline Imager (ABI) AOD and aerosol detection products to be at provisional maturity review **using VIIRS products as one of the many correlative measurements.**

## Overall Status:

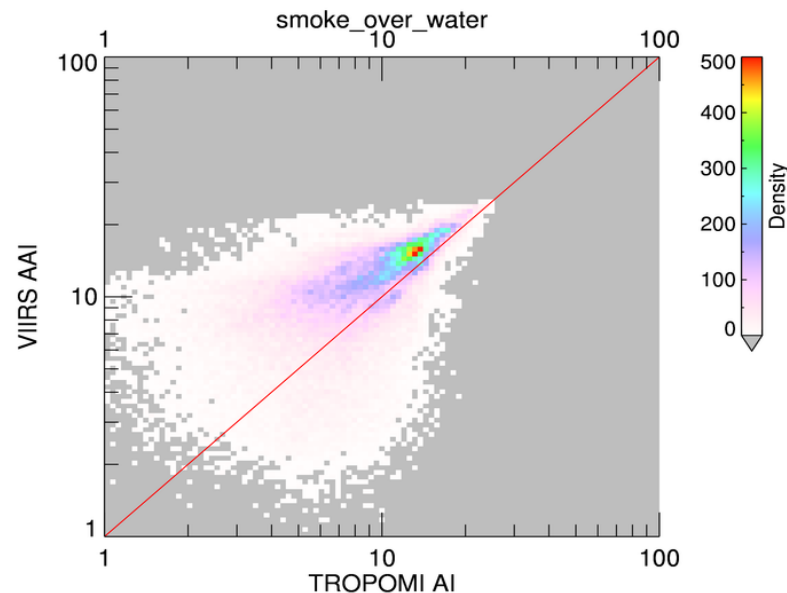
	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

- Project has completed.
- Project is within budget, scope and on schedule.
- Project has deviated slightly from the plan but should recover.
- Project has fallen significantly behind schedule, and/or significantly over budget.

## Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Validated Maturity (N20 Cal/Val)	May-19	May-19	05/16/19	
Final DAP (N20 Algorithm Adjustment)	Mar-19	Mar-19	03/11/19	
<b>Algorithm update DAP to ASSISTT:</b>				
<ul style="list-style-type: none"> <li>Revise the output quality flags (grouped based on the retrieval quality)</li> <li>AOD: Update internal tests (e.g., sea ice, heavy aerosol etc.) for SNPP and NOAA-20</li> <li>ADP: algorithm updates to the IR-visible path (thresholds and quality flag determination)</li> </ul>	Mar-19	Mar-19	Mar-19	
<b>Algorithm update DAP to ASSISTT:</b>				
<ul style="list-style-type: none"> <li>Algorithm update for heavy aerosol retrievals over dark land surface (high reflectance might trigger the retrieval over bright land)</li> <li>AOD: Update the bright surface reflectance database</li> <li>ADP: algorithm updates to improve (improve correct detection and minimize false detection) over bright surfaces using spectral surface reflectance data base</li> </ul>	Sep-19	Sep-19		
Enhancements to AerosolWatch website to add NOAA-20 data	Jun-19	Jun-19	June-19	



Comparison of VIIRS Absorbing Aerosol Index (AAI) with TROPOMI over water. Data shown for a few days in April/May 2019

## Accomplishments / Events:

- Added to list of known NOAA-20 observations of non-trivial ash clouds
- Assessed product performance in wake of large stratospheric eruption (Raikoke, Russia) (see figures)
- Continued to develop and test algorithm improvements through incorporation with CrIS measurements.

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule			X		

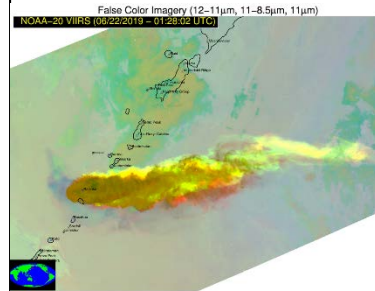
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## Issues/Risks:

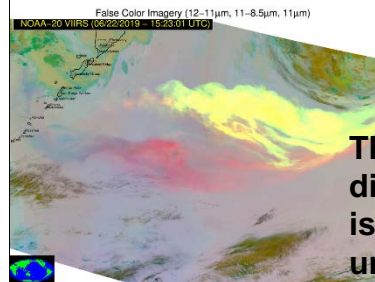
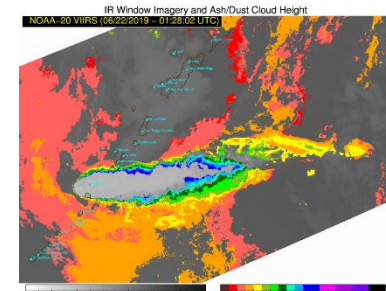
The user request task is being worked, but will require much more time to complete since we need to completely reformulate the requirements.

## Highlights:

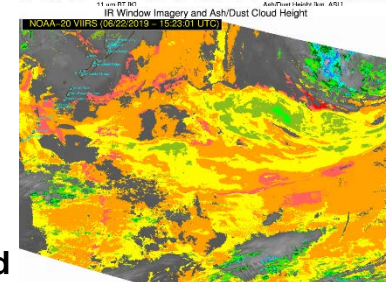
**Raikoke eruption demonstrates that a far more sophisticated approach is needed**



**Early in eruption, most of the cloud is missed**



**The height of dispersed ash is greatly underestimated**



Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Beta Maturity (N20 Cal/Val)	Nov-18	Nov-18	11/27/18	
Provisional Maturity (N20 Cal/Val)	Nov-18	Nov-18	11/27/18	
Validated Maturity (N20 Cal/Val)	May-19	May-19	05/16/19	
Final DAP (N20 Algorithm Adjustment)	Mar-19	Mar-19	03/11/19	
Incorporation of CrIS	Sep-19	Sep-19		
Comparison of volcanic ash products with validation data	Sep-19	Sep-19		
Submit user request for the VOLCAT capability (implementation)	Mar-19	Summer 2019		1-2 month delay due to shutdown

## Accomplishments / Events:

We have developed software and started comparing a subpixel snow fraction derived from observations of S-NPP and NOAA-20 VIIRS with snow fraction estimated from ABI observations onboard GOES-16 and -17. Results show that there is a good spatial correlation between VIIRS snow fraction and ABI snow fraction at all times of the day for large snow cover fraction, though some larger difference for low snow cover amounts.

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

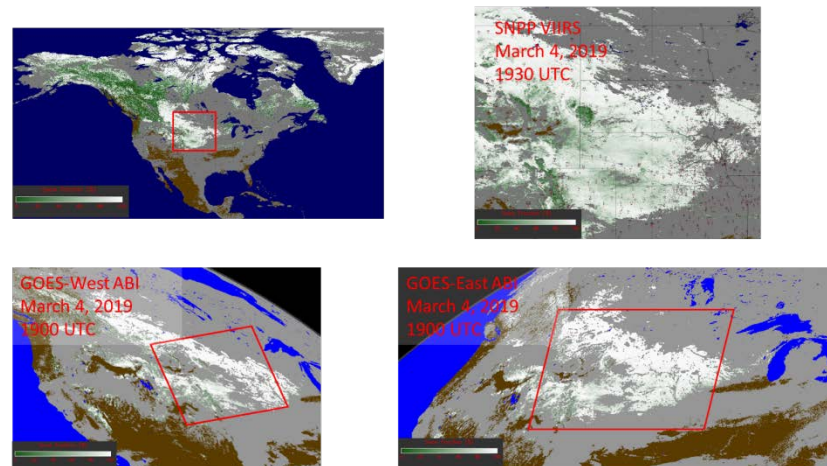
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## Issues/Risks:

None

## Highlights:

Snow Fraction with SNPP VIIRS and GOES E/W ABI



Images of snow fraction as derived from SNPP VIIRS (upper row) and GOES West and East ABI (lower row). Clouds are shown in gray, snow-free land surface is brown.

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Provisional Maturity (N20 Cal/Val)	Apr-19	Apr-19	05/16/19	
Final DAP (N20 Algorithm Adjustment)	Mar-19	Mar-19	03/11/19	
<b>Offline Products:</b>				
<ul style="list-style-type: none"> <li>Snow: Establish routine generation of global gridded binary and fractional snow cover products on a daily basis</li> <li>IST: Begin routine production of I-band IST algorithm using only the 11 um I-band channel</li> <li>Ice Concentration: Start generating an I-band resolution product with available I-band IST</li> </ul>	Sep-19	Sep-19	Apr-19	
<b>Algorithm Cal/Val:</b>				
<ul style="list-style-type: none"> <li>Snow: Compare N20 Snow with SNPP, MODIS, and IMS snow data. Provide an in-depth evaluation of the Binary Snow product over different surface cover types, topography and geographical regions</li> <li>IST: Compare N20 IST with SNPP, MODIS, IceBridge, and IABP IST</li> <li>Ice Concentration: Compare N20 ice concentration with NPP, MODIS, SAR, Landsat, SENTINEL-1&amp;2, and IceBridge data</li> <li>Ice Thickness: Validate N20 ice thickness with NPP, IceBridge, CryoSat-2, SMOS, and ICESat-2 products</li> </ul>	Sep-19	Sep-19	May-19	
<b>Algorithm Updates:</b>				
<ul style="list-style-type: none"> <li>Modify/add quality flags if needed</li> <li>Ice Concentration: Improve tie-point processing for marginal ice zone</li> <li>Ice Thickness: <ul style="list-style-type: none"> <li>Ice growing/melting and dynamic adjustment factors</li> <li>Snow depth climatology and interface temperature between ice and snow</li> <li>Use weekly or bi-weekly running mean temperature</li> </ul> </li> </ul>	Sep-19	Sep-19	May-19	

## Accomplishments / Events:

- Gave invited presentation on NOAA fire products at the NASA Regional Science meeting in Johor Bahru, Malaysia
- Gave hand-on training on VIIRS fire at the Early Career Scientist training at the Technical University of Malaysia
- Derived Fire Radiative Power time series for I-band impact study in HRRR-smoke using August 2018 data
- Continued providing I-band data support for the FIREX-AQ field campaign

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

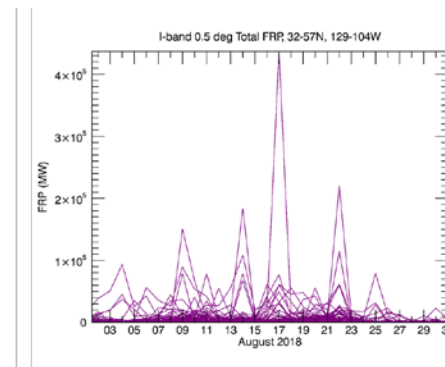
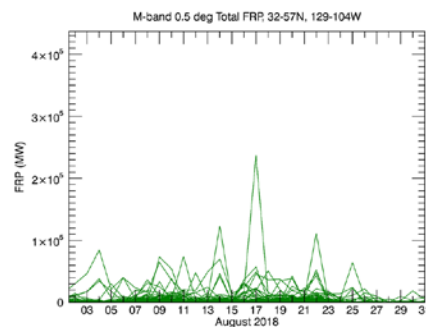
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## Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
S-NPP / NOAA-20 data analysis	Sep-19	Sep-19		
<b><i>I-Band Active Fires algorithm development and Cal/Val</i></b>				
User request for I-Band Active Fires	Mar-19	Mar-19	Feb-19	
Delta design review for I-band AF (Beta Maturity)	Apr-19	Apr-19	05/16/19	
Algorithm readiness review for I-band AF (Provisional Maturity)	Sep-19	Sep-19	05/16/19	Review panel's recommendation
I-Band AF DAP deliver to NDE	Sep-19	Sep-19		

## Highlights:



A comparison of daily total VIIRS Fire Radiative Power time series from VIIRS M-band (left) and I-band (right) data over a 0.5 degree grid. The I-band retrievals typically provide higher cumulative FRP due to more smaller fires being detected.

## Accomplishments / Events:

- The team featured Surface Reflectance validation to demonstrate the validation process at the CIRA Satellite Meteorology Summer Workshop
- Continued product performance monitoring following operational transition and LUT updates
- The team continued planning for algorithm and code adjustments for better consistency with the enterprise product suite
- The team evaluating product performance during the total solar eclipse on July 2, 2019

## Overall Status:

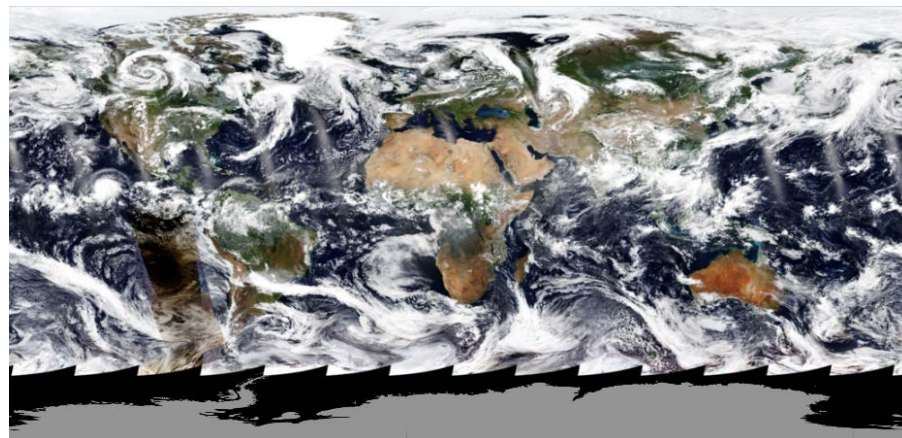
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Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

## Issues/Risks:

None

## Highlights:



NOAA-20 VIIRS true color image on July 2, 2019. The signal from the total solar eclipse can be seen off the west coast of South America

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Provisional Maturity (N20 Cal/Val)	Feb-19	Mar-19	03/21/19	Feb/Mar combined
Final DAP (N20 Algorithm Adjustment)	Apr-19	Apr-19	02/15/19	Feb patch DAP
S-NPP / NOAA-20 data analysis	Sep-19	Sep-19		
Patch delivery (fixed the Aerosol look-up tables wrong index issue)			11/21/18	
Patch delivery (fixed wrong values issue for the production_site and production_environment global attributes)			12/19/18	
Patch delivery (fixed latitude/longitude logic so that the system doesn't record -999.3 values for the last scanline global attributes)			02/15/19	



## Accomplishments / Events:

- Downloaded and processed VIIRS observations acquired in July 2019 to create daily mosaics (up to the writing of this report)
- Presented a paper titled “DERIVATION OF GLOBAL SURFACE TYPE PRODUCTS FROM VIIRS” to the IGARSS 2019 Conference held from July 28 to August 2, 2019
- Developed capabilities for systematically downloading and evaluating SNPP and J1/NOAA-20 VIIRS data from NDE.
  - Initial assessments reveal that images from the two satellites are near identical except when cloud is present and has moved or changed between the overpass time of the two satellites.

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule	X				

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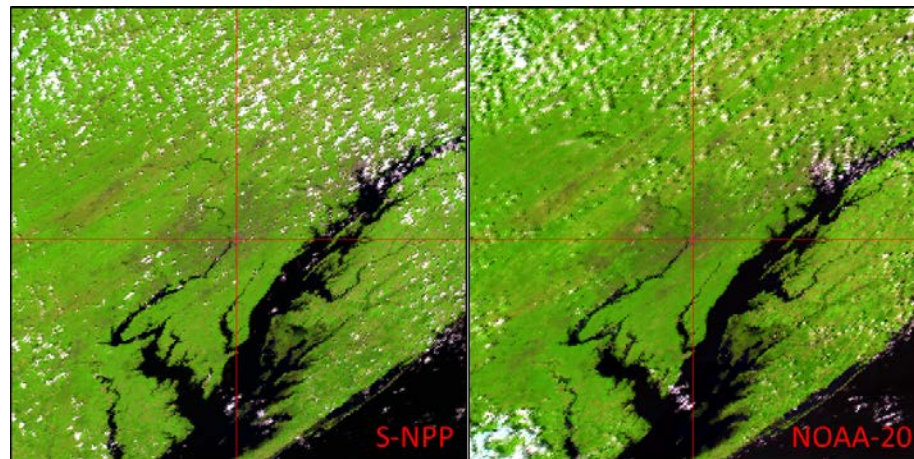
## Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Beta Maturity (N20 Cal/Val)	Jul-19	Sep-19		
Provisional Maturity (N20 Cal/Val)	Sep-19	Apr-20		
Annual performance report	Aug-19	Sep-20		
<b>AST18 (Annual Surface Type):</b>				
Complete monthly composites of global gridded VIIRS data (9 land bands + thermal bands) for VIIRS AST18 based on 2018 VIIRS data	May-19	May-19	May-19	
Generate VIIRS AST18 based on 2018 VIIRS data using SVM algorithm	Aug-19	Aug-19		
Comparison of AST18 with surface type validation data (Accuracy statistics of the new AST18 and LWM)	Sep-19	Sep-19		
Delivery of AST18 (available for users through STAR FTP)	Sep-19	Sep-19		
Communicate with EDRs and ASSISTT teams on switching to use VIIRS AST	Mar-19	Mar-19	Mar-19	

## Highlights:

VIIRS images acquired by S-NPP and NOAA-20 on June 30, 2019 over the Washington DC area are near identical over clear view surfaces, but substantial changes in cloud location and cover occurred during the 50-minute interval between the local overpass time of the two satellites.



## Accomplishments / Events:

- Finished the inter-comparison between level 3 J01 LST and SNPP LST using data in a 32-day repeating cycle. (highlights and slide 2)
- Finished the cross comparison between level 3 SNPP VIIRS LST and NASA level 3 VIIRS LST (VNP21A1). (slide 3)
- The intermediate gridding tool output filename has been updated following the discussions with the ASSIST team. The associated gridding tool code and gridded LST code have been updated and tested accordingly. The delivery package has been sent to ASSIST to be included in the upcoming DAP to NDE.
- Updated the gridded land product ATBD by including the recent updates on quality flag, and metadata etc.
- Started the kickoff meeting with ASSIST group for upcoming DAP delivery and ARR review.
- Finished the draft version of the gridded LST ARR review slide.
- Further tested the R-based validation at granule scale.

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
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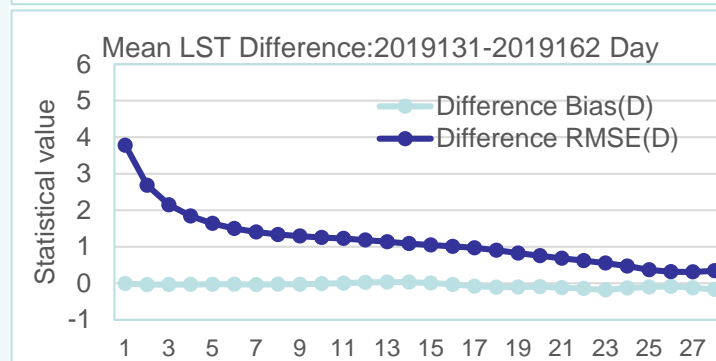
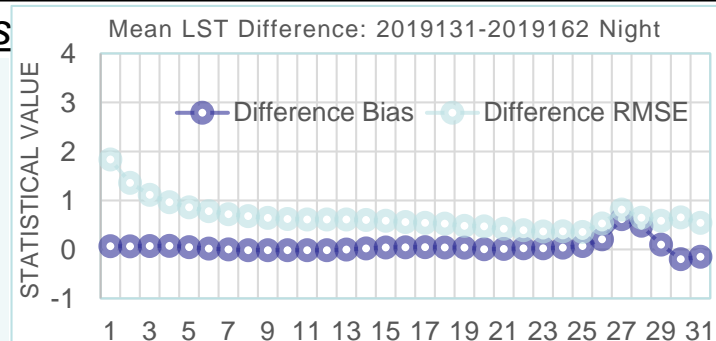
## Issues/Risks:

Schedule change due to the government shutdown

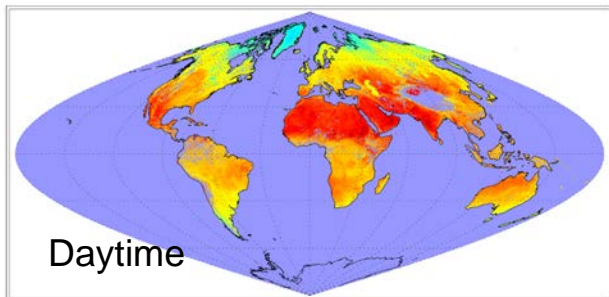
Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Operational Readiness Review (ORR)	Nov-18	Nov-18	11/16/18	
Provisional Maturity (N20 Cal/Val)	Feb-19	Feb-19	03/21/19	Impact of Shutdown
Final DAP (N20 Algorithm Adjustment)	Mar-19	Mar-19	03/11/19	Impact of Shutdown
NOAA-20 LUT update	Apr-19	Apr-19	Apr-19	
Cal/Val tool development (SNPP & J1 comparison)	Apr-19	Apr-19	Apr-19	
Deep-dive analysis software package for the anomaly watch	Sep-19	Sep-19		
<b>Global gridded LST</b>				
Critical Design Review (CDR)			10/23/18	
Unit Test Readiness Review (UTRR)	Feb-19	Feb-19	03/12/19	scheduled
Initial DAP to NDE	Mar-19	Mar-19	03/01/19	
Algorithm Readiness Review (ARR)	Jul-19	Aug-19		
Final DAP to NDE	Jul-19	Aug-19		

## Highlights

Mean LST difference between L3 NOAA20 and SNPP is calculated based on 32-day cycle data. The x-axis is the data availability and the y-axis shows the statistical results for each data availability group.



J01 mean LST : 2019131-2019162 D

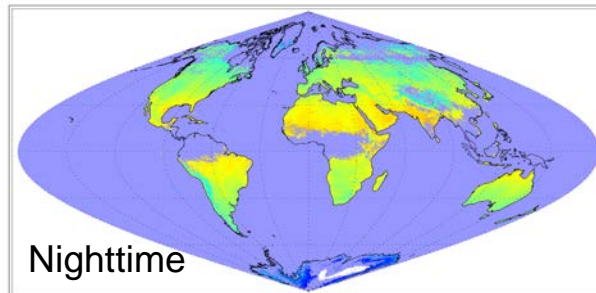


Daytime

Longitude

220 240 260 280 300 320 340

J01 mean LST : 2019131-2019162 N

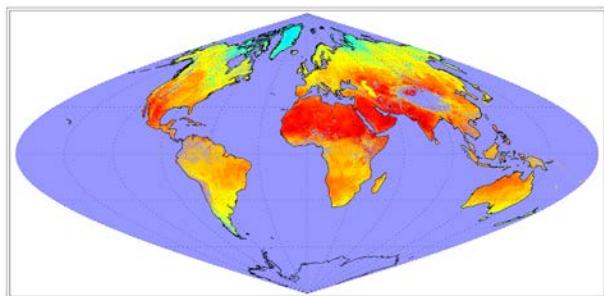


Nighttime

Longitude

220 240 260 280 300 320 340

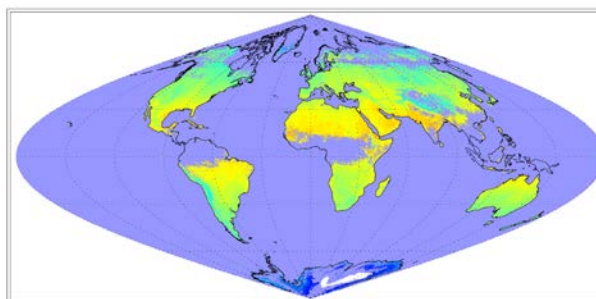
NPP mean LST : 2019131-2019162 D



Longitude

220 240 260 280 300 320 340

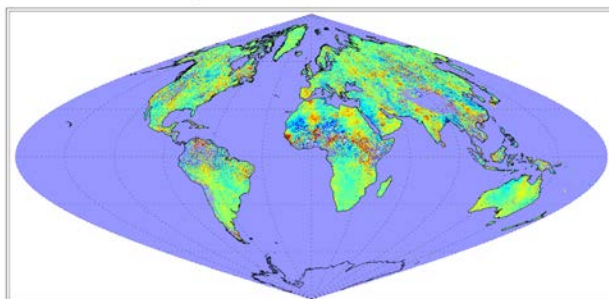
NPP mean LST : 2019131-2019162 N



Longitude

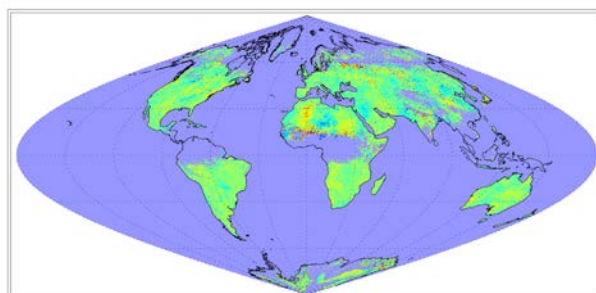
220 240 260 280 300 320 340

Enterprise LST Mean Diff: 2019131-2019162 D



Longitude

Enterprise LST Mean Diff: 2019131-2019162 N

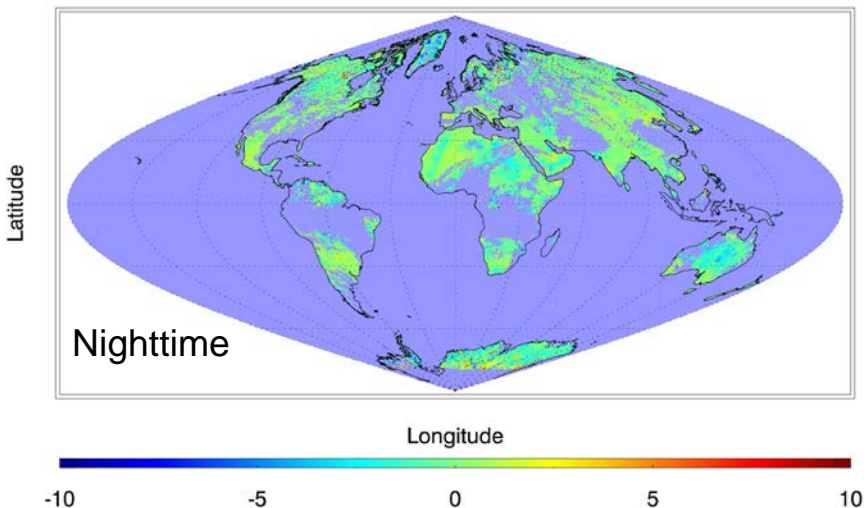


Longitude

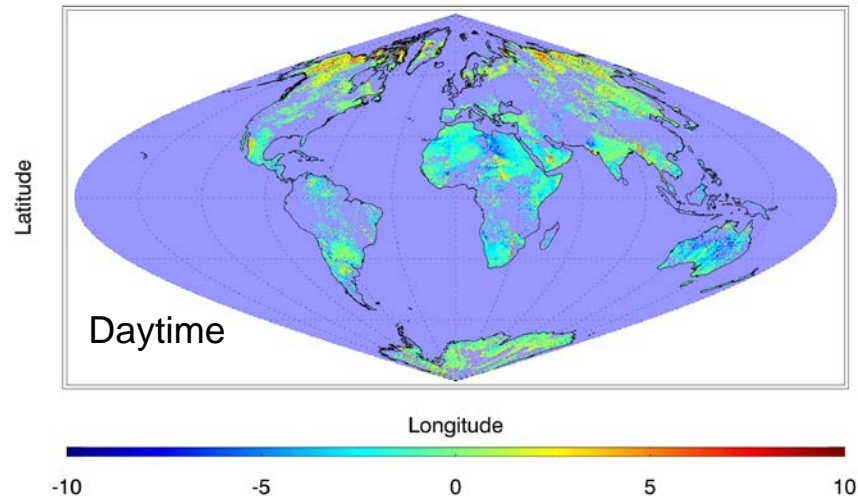
32-day global gridded data was used in the inter-comparison between NOAA20 and SNPP VIIRS LST. Left figure shows the average LST for daytime while the right figure is for nighttime. NOAA20 LST is shown on the top and SNPP LST is shown in the middle and bottom shows their difference.

# L3 SNPP VIIRS LST vs VNP21A1 LST

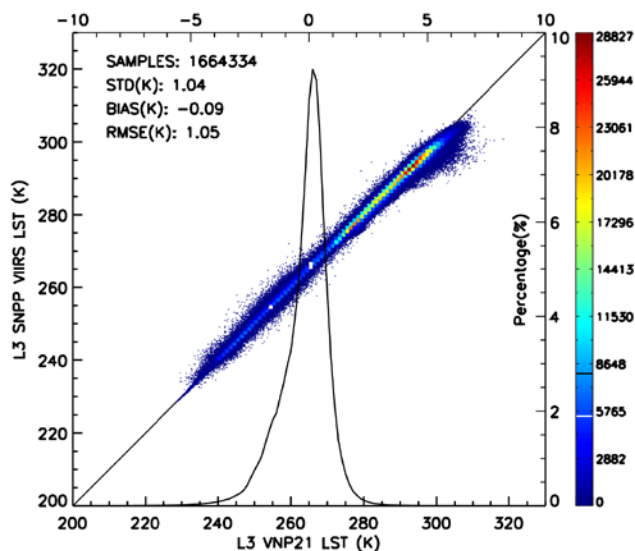
LST Difference Image (SNPP-VNP21) on 20190301 Night



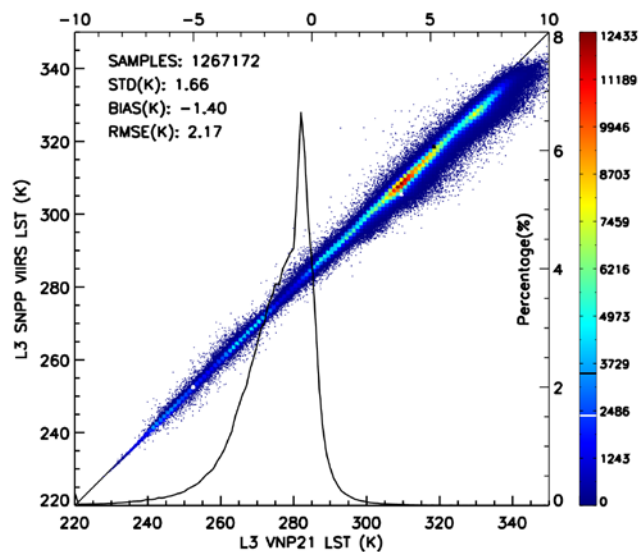
LST Difference Image (SNPP-VNP21) on 20190301 Day



20190301:Night ViewTime Diff <= 12 min



20190301:Day ViewTime Diff <= 12 min



## Accomplishments / Events:

- Updated the L3 gridded albedo code to the framework request to distinguish satellite name and dates in the gridding index files
- Updated the L3 gridded albedo ATBD to the latest version algorithm design and software configuration: including the flowchart, the quality flag setting criterions, and the filename format
- Completed the producing of one month worth of L3 gridded albedo in the framework in support of ARR.
- Analyzing the impact of ground landscape heterogeneity on the comparison result of VIIRS/MODIS 1km albedo and ground measured 30m~60m albedo using Landsat8/OLI retrieved albedo (**Highlights**)
- Worked on conversion of L1B data from .h5 format with bow-tie effect to .nc format with gap filled. The tool would be used in the local albedo monitoring system to subset input data with albedo output (**#Slide 1**)
- Updating the local monitoring tool to digest the NDE operational NPP albedo

## Overall Status:

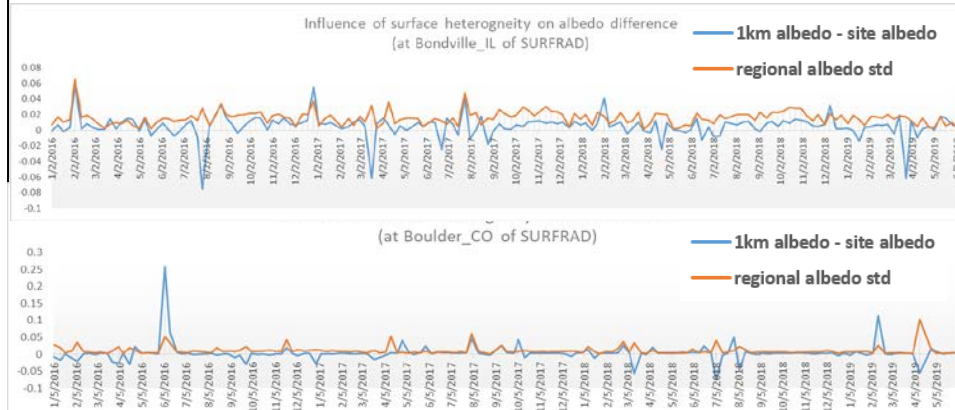
	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

- Project has completed.
- Project is within budget, scope and on schedule.
- Project has deviated slightly from the plan but should recover.
- Project has fallen significantly behind schedule, and/or significantly over budget.

## Issues/Risks:

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Provisional Maturity (N20 Cal/Val)	Feb-19	Mar-21	Done	
Final DAP (N20 Algorithm Adjustment)	Mar-19	Mar-21	Delivered to AIT	
NOAA-20 LUT update	Apr-19	Apr-19	Delivered	
New 1-km albedo climatology dataset delivery	Apr-19	Apr-19	Apr-19	Submitted
Cal/Val tool development (SNPP & J1 comparison)	Apr-19	Apr-19	Done	
Deep-dive analysis software package for the anomaly watch	Sep-19	Sep-19		
<b>Global gridded LSA</b>				
Critical Design Review (CDR)			10/23/18	
Unit Test Readiness Review (UTRR)	Mar-19	Mar-19	Done	
Initial DAP to NDE	Mar-19	Mar-19	Delivered to AIT	
Algorithm Readiness Review (ARR)	Jul-19	Aug-19		
Final DAP to NDE	Jul-19	Aug-19		

## Highlights: Surface heterogeneity significantly influence the validation result using in-situ measurements

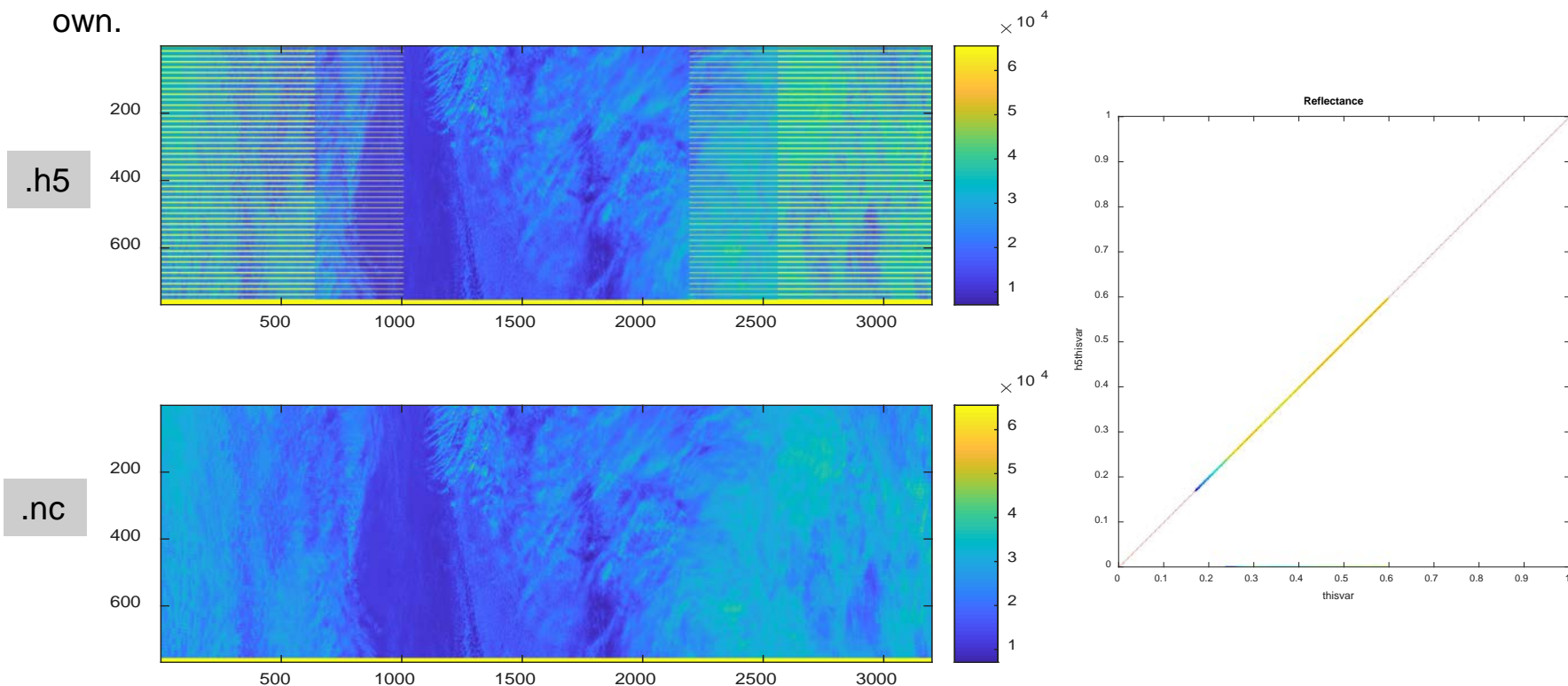


At some sites, the albedo difference between site measurement and satellite observation is inherently obvious due to the strong surface heterogeneity (e.g., Bondville\_IL is stronger than Boulder\_CO); In different seasons, the growing heterogeneity due to vegetation dynamic would increase the variation of albedo difference.

# Convert the L1B data format for albedo monitoring

After the availability of the enterprise products in SCDR, the monitoring system is supposed to adapt to the new data.

One issue is the SVM files have not been updated from HDF5 version to the netcdf version used in enterprise L2 retrieval, since The HDF5 is the default format for the JPSS files obtained from GRAVITE. SCDR only stores the original files from data sources and doesn't offer tools for conversion. HDF5 version is influenced by the bow-tie deletion effect. The netcdf version has filled those gaps. For the consistency of L1 input and L2 albedo, we need to convert the SVM files from .h5 to .nc on our own.



The gap fill was successful: the original values are maintained while the gaps are filled with the nearest neighbor pixel's value.

## Accomplishments / Events:

- Evaluated the operational SNPP VIIRS GVF with updated global maximum and minimum EVI values after 6/4/2019
- The operational SNPP GVF was found to be lower than local NDE GVF in Southeast of USA
- Prepared slides for OSPO Operational Promotion Report on the Product Enhancement for Green Vegetation Fraction from NOAA-20.
- OSPO declared the NOAA-20 GVF was operational in July 2019.
- Produced NOAA-20 GVF from July 1 to July 31, 2019 at the local computer for validation

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

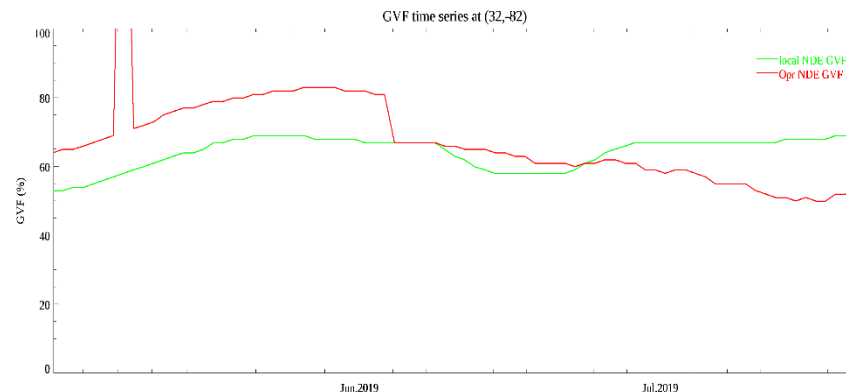
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

## Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Provisional Maturity (N20 Cal/Val)	Mar-19	Mar-19	03/21/19	
Initial DAP (N20 Algorithm Adjustment)	Nov-18	Nov-18	11/30/18	11/15/18 to ASSISTT
Final DAP (N20 Algorithm Adjustment)	May-19	May-19	05/30/19	On time
NVPS algorithms optimization and improvement	Apr-19	Apr-19		
Cal/Val tool development (SNPP & J1 comparison)	Jun-19	Jun-19		
Deep-dive analysis software package for the anomaly watch	Sep-19	Sep-19		

## Highlights:



Time series of the operational SNPP GVF was compared with those of GVF at local run and different trends were found between them after 6/4/2019

- Evaluated the operational SNPP VIIRS GVF with updated global maximum and minimum EVI values after 6/4/2019
  - The new global maximum and minimum EVI values for the SNPP GVF system, adjusted for the new SR data, have been implemented in the operational GVF production since 6/4/2019
  - The operational SNPP GVF in May, June and July 2019 were downloaded and compared with SNPP GVF at local run
  - The time series of operational SNPP GVF at 17 sites in Southeast of USA were compared with the time series of the local SNPP GVF
  - The operational SNPP GVF was found to be lower than local NDE GVF in Southeast of USA
  - We will work with OSPO to explain the difference between the local run GVF and the operational run GVF

*Time series of the operational SNPP GVF and local run GVF*

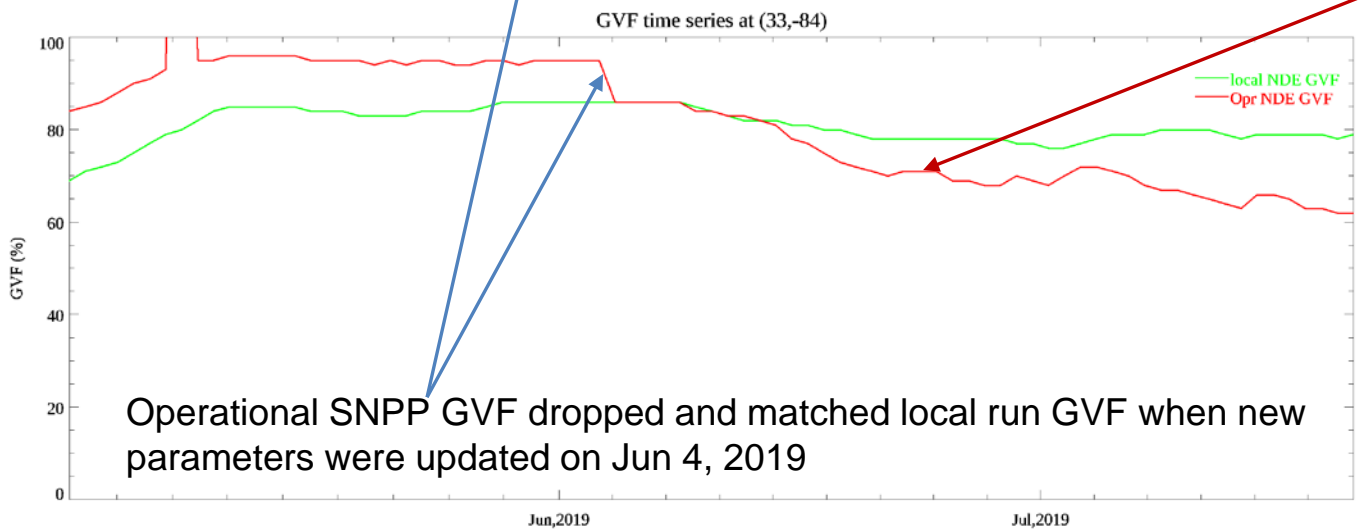
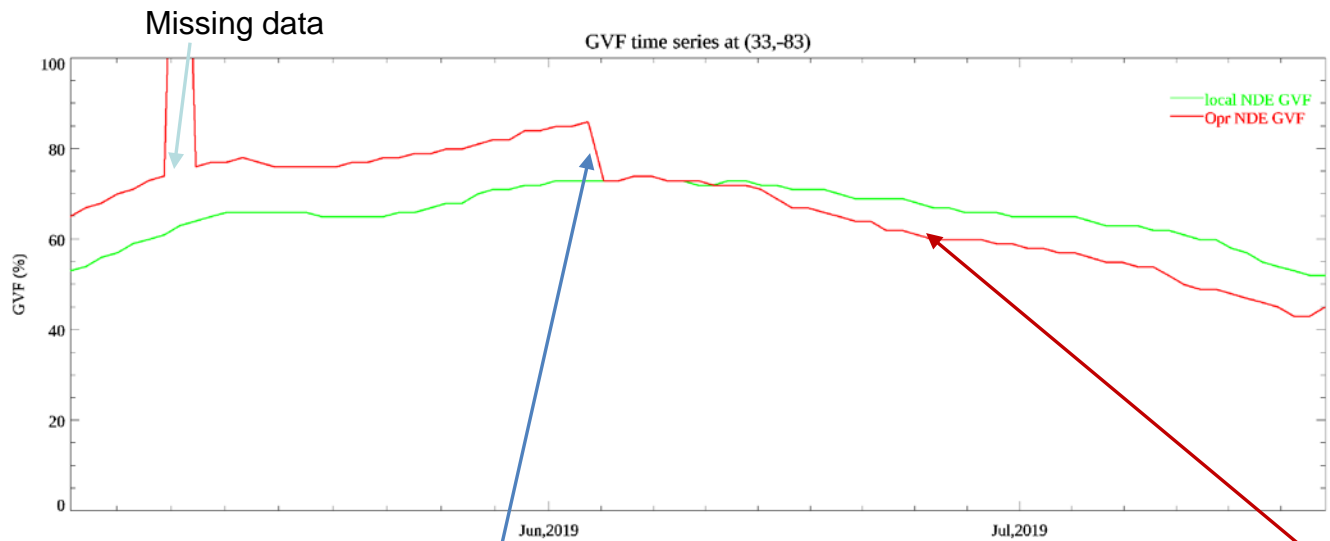




Validation sites are selected in southeast of U.S. (lat 32° - 35°, lon -82° - -84°)

Operational SNPP GVF is lower than the local run GVF after Jun 20, 2019

Operational SNPP GVF dropped and matched local run GVF when new parameters were updated on Jun 4, 2019



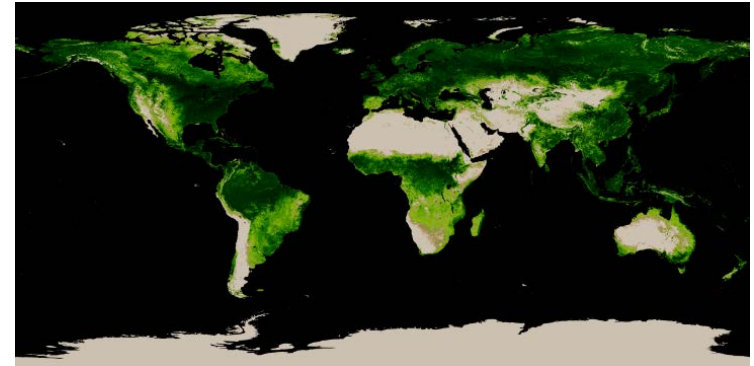
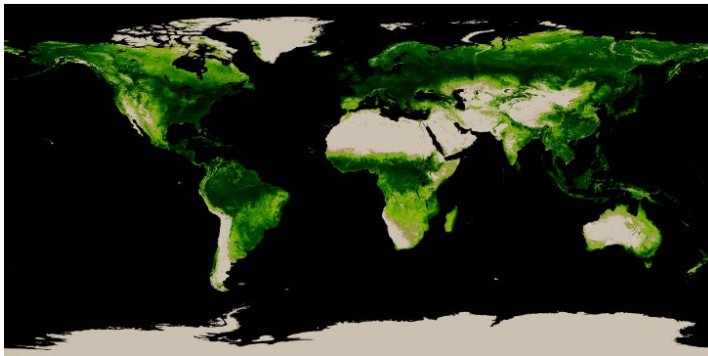
Operational SNPP GVF is lower than the local run GVF after Jun 10, 2019

Operational SNPP GVF dropped and matched local run GVF when new parameters were updated on Jun 4, 2019

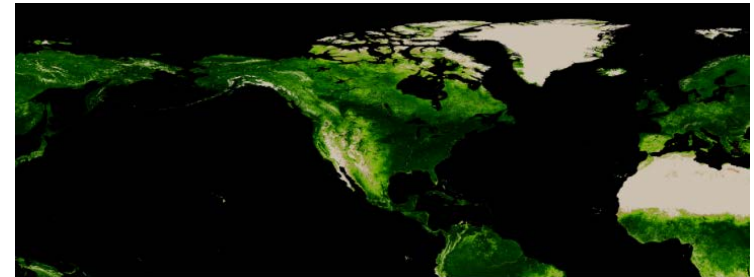
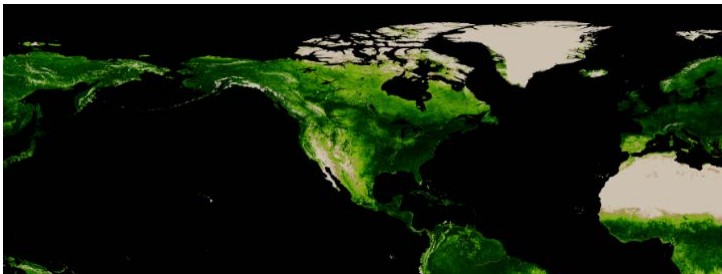
# Production of NOAA-20 VIIRS GVF at local run

- NOAA-20 GVF data were produced daily from July 1 to July 30, 2019, which will be used for the validation of the NOAA-20 GVF product

## Global GVF



## Regional GVF



*NOAA-20 Weekly GVF (June 1-7, 2019)*

*NOAA-20 Weekly GVF (July 25 – 31, 2019)*

## Accomplishments / Events:

- In order to reduce the operational time of existing two versions of NVPS VI (version 1 in operation and version 2 in testing in NDE), STAR land team further redesigned NVPS VI (version 3, refer to flow chart in highlights)
- Finished coding, debugging, and testing (results showed at additional slides) of the redesigned NVPS VI in 8-day and 16-day rolling cases
- Compared the operational time of the redesigned NVPS VI with those of previous two versions in STAR Linux environment (refer to the additional slide)

## Overall Status:

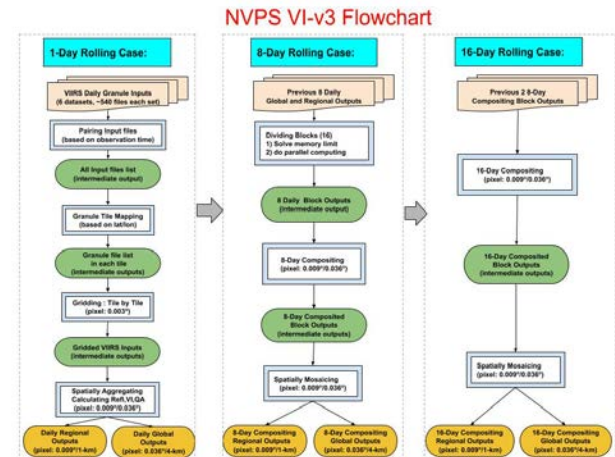
	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

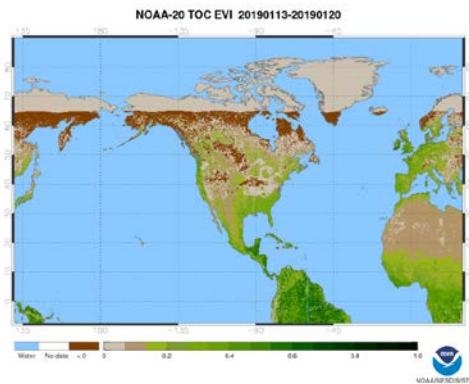
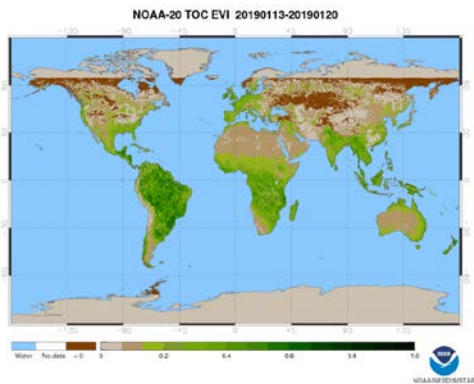
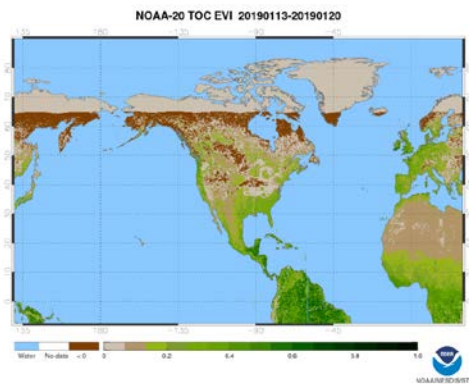
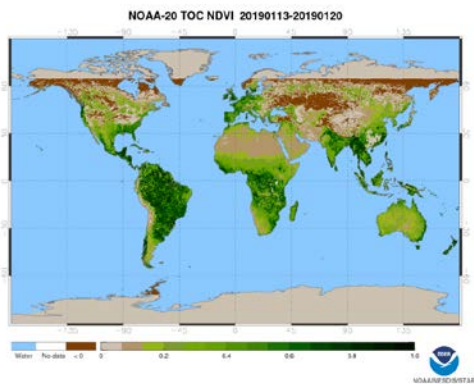
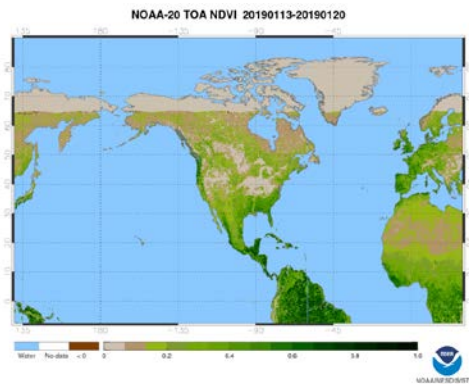
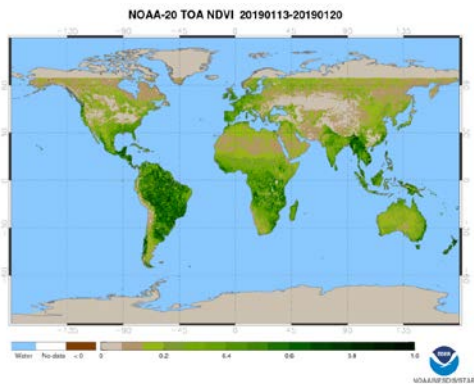
**Issues/Risks:** The government shutdown seriously impacted the NOAA-20 VIIRS VI algorithms optimization and improvement, and it will be rescheduled a month later (July, 2019)

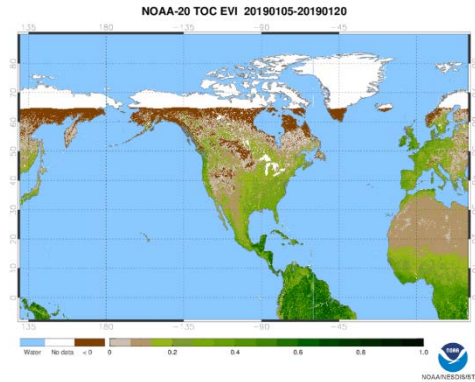
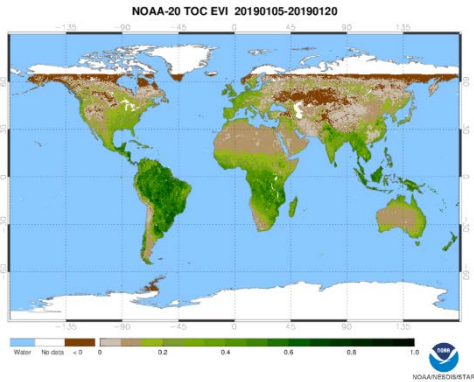
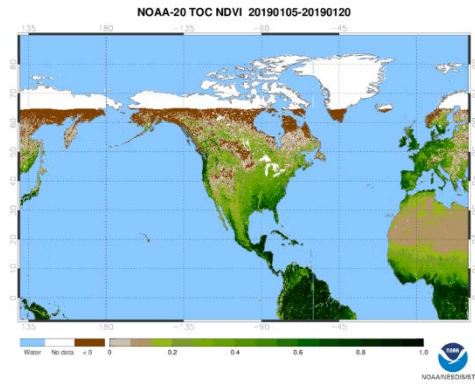
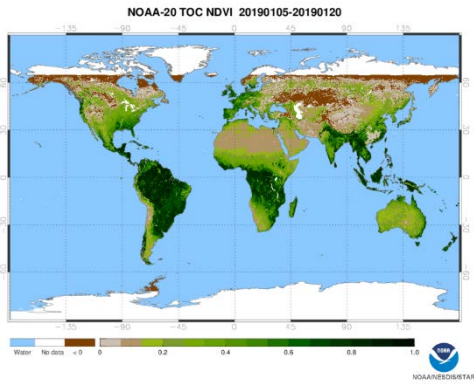
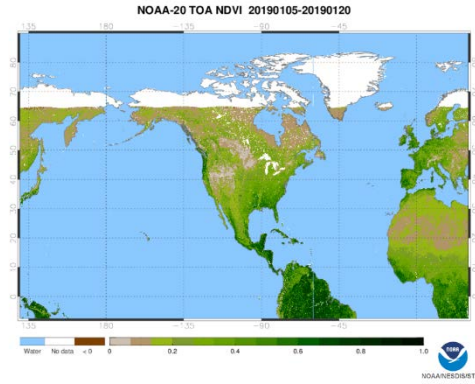
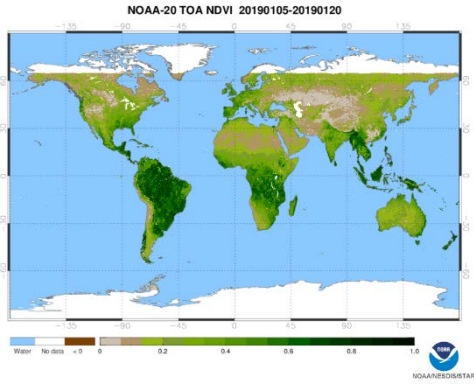
Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Provisional Maturity (N20 Cal/Val)	Mar-19	Mar-19	03/21/19	
Initial DAP (N20 Algorithm Adjustment)	Nov-18	Nov-18	11/30/18	11/15/18 to ASSISTT
Final DAP (N20 Algorithm Adjustment)	May-19	May-19	05/30/19	On time
NVPS algorithms optimization and improvement	Apr-19	Apr-19	07/31/19	Rescheduled to gov. shutdown
Cal/Val tool development (SNPP & J1 comparison)	Jun-19	Jun-19		
Deep-dive analysis software package for the anomaly watch	Sep-19	Sep-19		

## Highlights:



NVPS VI (version 3) flowchart shows the updated processes of the VI computation. The testing results in 8-day and 16-day cases are shown in the following slides (daily testing referred to last monthly version). Comparison of operational time among three versions is shown in the following slide.







# Comparison Of Operational Time Among Three Versions of NVPS VI

July, 2019

NVPS VI Versions	Operational Time (H:M:S)
NVPS VI-v1 (in operation in NDE)	9:42:34
NVPS VI-v2 (in testing in NDE)	6:59:57
NVPS VI-v3 (in testing in STAR)	4:44:49

## Accomplishments / Events:

- Updated processing admin. regions VH mean, so that users can access VH time series 40 times faster than the previous version through web
- Drafting drought trend paper
- Revising VCI de-compositing paper
- Did literature survey, and found VHI was routinely used in Global Drought Information System (GDIS), the webpage is <https://www.drought.gov/gdm/current-conditions>, and a snapshot is displayed at lower right panel
- Routine maintenance of VH data base

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

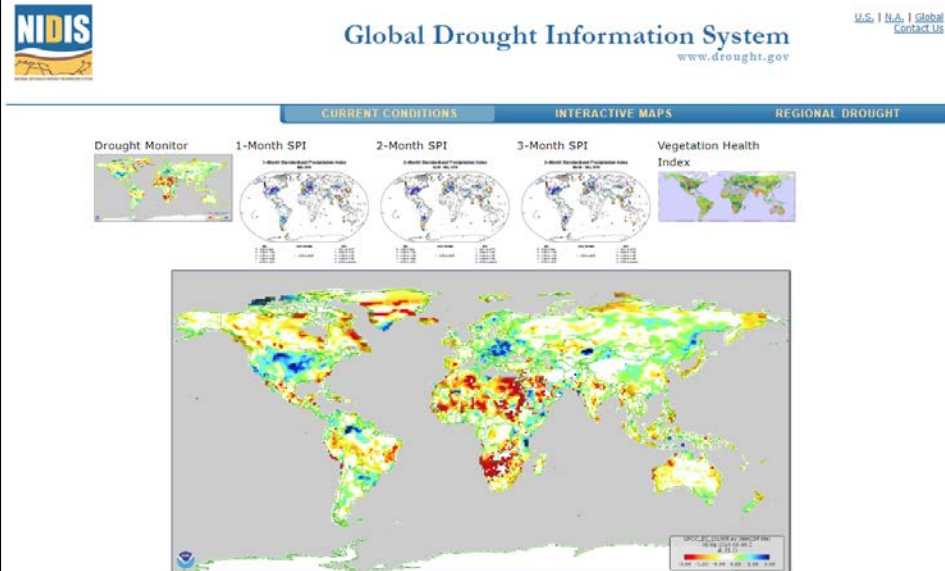
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

## Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Provisional Maturity (N20 Cal/Val)	Feb-19	Mar-19	03/21/19	Feb/Mar combined
Validated Maturity (N20 Cal/Val)	Jun-20	Jun-20	03/21/19	Review Panel recommended
S-NPP / NOAA-20 data analysis	Sep-19	Sep-19		
Cal/Val tool development (SNPP & J1 comparison)	Sep-19	Sep-19		

## Highlights: VHI Routinely Used In GDIS





## Accomplishments / Events:

- ❑ **Ocean Color Team** responded to a NOAA call for information in support of the Mexican government interested in acquiring observations and knowledge about the huge amount of Sargassum algae arriving on coastal beaches from across the Atlantic Ocean. The OC team responded by providing false color imagery that highlights the rafts of sargassum streaming across the Atlantic most of the summer. This false color imagery was created by Karlis Mikelsons in collaboration with external VIIRS cal/val team member Chuanmin Hu of U. of South Florida and was reported at a recent VIIRS OC cal/val telecon. Hu was a co-author on a recent paper published in *Science* documenting this “Sargassum Belt” phenomenon.
- ❑ Shi and Wang were authors of paper published in *Limnology and Oceanography*; Methods on “A blended inherent optical property algorithm for global satellite ocean color observations” doi: 10.1002/lom3.10320
- ❑ **Time was lost in July due to STAR IT hardware failure.** Complete, unrecoverable multiple disk failures in a RAID array meant lost time in managing data and reconstructing some lost elements.

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

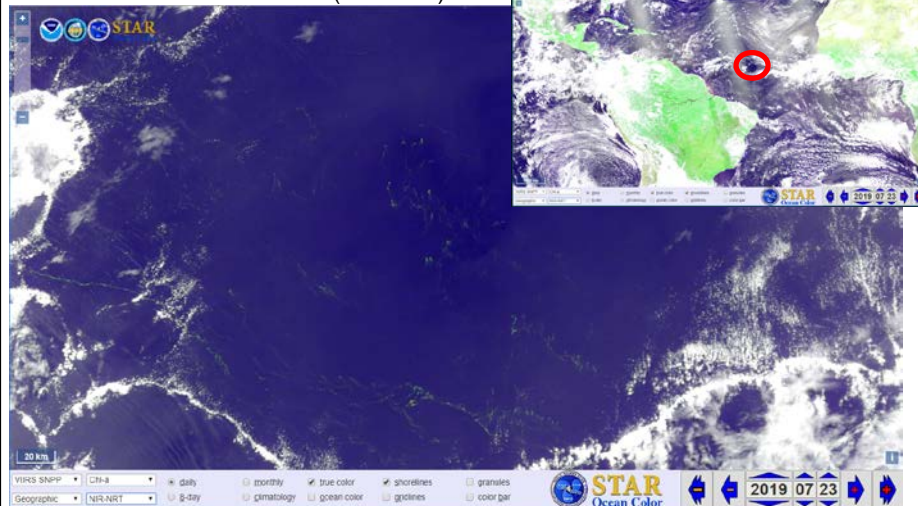
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

## Issues/Risks:

Big jumps in NOAA-20 SDR have impacted the schedule for validation of NOAA-20 MSL12 ocean color EDR

## Highlights:

Inset shows geographic location (red circle)



False color image from developmental OCView showing rafts of Sargassum algae (appear as green lines and clumps) across the Atlantic. This image from 23 July 2019

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Beta Maturity (N20 Cal/Val)	Nov-18	Nov-18	11/27/18	
Provisional Maturity (N20 Cal/Val)	Mar-19	Mar-19	11/27/18	
Init N20 DAP to CoastWatch (data)	Feb-19	Feb-19	Feb-19	
Init N20 DAP to CoastWatch (code)	Apr-19	Apr-19	03/21/19	
Vicarious calibration for VIIRS-NOAA-20 using MOBY in situ data	Dec-18	Dec-18	Dec-18	
NOAA-20 polarization effect correction validation, evaluation, and analysis	Jun-19	Jun-19		
Cal/Val team complete the fourth VIIRS cruise report and in situ data analyses (e.g., improve in situ data quality)	Jun-19	Jun-19	May-19	Published at NOAA Library in June 2019
In situ data collections including NOAA dedicated cruise in May 2018 and continue Cal/Val for VIIRS ocean color EDR, report	Aug-19	Sep-19		May 2019 Cruise has been postponed to September 2019 due to urgent ship repairs

## Accomplishments / Events:

- JPSS SST was presented at the annual Group for Hi-Res SST science team meeting in Frascati, Italy, from 3-7 June 2019.
- Ignatov overviewed JPSS and GOES-R SST at NOAA & updated GHRSSST on the NOAA monitoring system (SQUAM, iQuam)
- Gladkova presented “Towards Hi-Res Multi-Sensor Gridded ACSPO L3S SST Product”, with focus on reduced cloud leakages. Figure below shows an example of employing well-known image decomposition technique based on pyramid analysis which substantially reduces residual cloud present in individual L3U data
- A poster by Jonasson, Ignatov updated GHRSSST on VIIRS RAN2. Reprocessing of the full NPP/N20 records (“VIIRS RAN2”) continues to replace piece-meal ACSPO versions in PO.DAAC & NCEI with a consistent long-term RAN2 v2.61-based record.

## Overall Status:

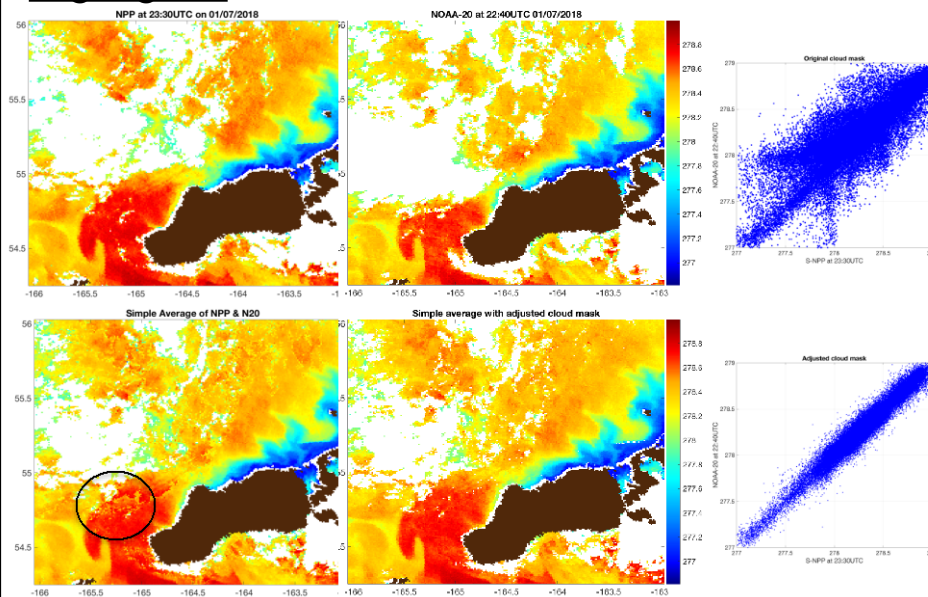
	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

## Issues/Risks:

None

## Highlights:



Milestones	Original Date	Forecast Date	Actual Completion Date
<b>NOAA-20 Calibration/Validation</b>			
Beta Maturity			04/18/18
Provisional Maturity			04/18/18
Validated Maturity	Apr-19	Apr-19	05/16/19
<b>NOAA-20 Algorithm Adjustments</b>			
Initial DAP (ACSPO 2.60)			07/05/18
Interim DAP (2.61) (update LUTs as needed)	Feb-19	Feb-19	02/12/19
ACSPO 2.70 – was not needed for N20; delivered for geo	Aug-19	May-19	05/15/2019
<b>JPSS-2 Schedule</b>			
J2 Cal/Val Plan - draft delivery	Jun-20	FY20	
J2 Cal/Val Plan - final delivery	Dec-20	FY21	
<b>Planned Algorithm Updates/Cal-Val</b>			
VIIRS RAN2 N20 archived PO.DAAC/NCEI	Jun-19	Jun-19	06/20/2019
VIIRS RAN2 NPP archived PO.DAAC/NCEI	Dec-19	FY20	On track
ACSPO 2.80 – Improved SST for data fusion	Aug-20	Aug-20	On track

## Accomplishments / Events:

The new VIIRS “tandem” winds product generated at CIMSS that uses S-NPP and NOAA-20 together was compared to radiosondes within 100 km and 1 hour collocation distance and time. The overall results indicate that the tandem winds have precision values between those for NOAA-20 and S-NPP individually. When the RMSE is normalized (NRMS) by the average radiosonde wind speed of the collocated vectors, the tandem winds have the best quality.

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

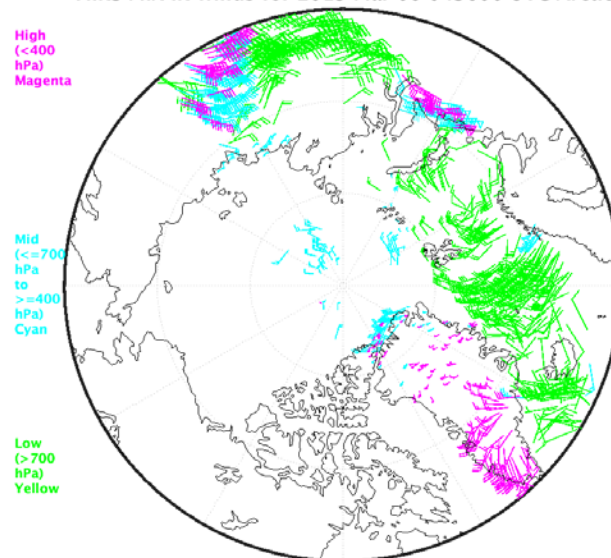
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

## Issues/Risks:

None

## Highlights:

VIIRS MIX IR Winds for 2019 Mar 06 043600 UTC Arctic



Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Beta/Provisional Maturity			10/02/18	
Validated Maturity (N20 Cal/Val)	May-19	May-19	05/16/19	
Final DAP (N20 Algorithm Adjustment)	Mar-19	Mar-19	03/11/19	
Introduce and evaluate a parallax correction in the winds algorithm (it is needed for the mixed-satellite product)	Sep-19	Sep-19		
Finalize development and begin routine processing of combined (mixed-satellite) S-NPP/NOAA-20 global winds	Sep-19	Sep-19		
Implementation of the shortwave IR (2.25 $\mu\text{m}$ ) band winds	Sep-19	Sep-19	Dec-18 (routine generation of research product)	

Accomplishments / Events

- We have made progress on land and ocean surface emissivity upgrade efforts:
  - First assessments are underway for land surface emissivity
  - Global double-difference analyses were performed to demonstrate significant temperature dependence in LWIR ocean surface emissivity channels
- We have acquired CAMS profiles to compute an improved SARTA bias correction.
- CrIS SNPP Side-2 tests, including double-differences wrt NOAA20, were completed and presented in the 25 July 2019 CrIS Side-2 SDR Provisional Maturity Review.
- New methane and nitrous oxide *a priori* have been implemented.
- Work continued on the validation of NUCAPS CO, CH4 and CO2 by the use of innovative AirCore *in situ* data in collaboration with NOAA/ESRL.
- The NUCAPS FY 2020–2025 Plan was concluded and delivered to upper management.

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Provisional Maturity: Ozone, CO, OLR			10/02/18	
N20 Provisional Maturity: CH4	Apr-19	Sep-19		VPN was slow during shutdown; sources of error (forward model, upstream retrieval steps) need more investigation
SNPP & N20 Validated Maturity: CO	Sep-19	Sep-19		Same as above
Validated Maturity: S-NPP & N20 CH4	Sep-19	Mar-20		Same as above
Validated Maturity: SNPP- N20 CO2	Apr-19	Dec-20		Same as above
DAP (N20 Algorithm Adjustment)	Apr-19	Sep-19		Same as above
DAP (N20 Algorithm Adjutment)	Apr-19	Mar-20		Same as above
DAP (N20 Algorithm Adjustment)	Apr-19	Dec-20		Same as above
Generate regression coefficients (OLR)	Apr-19	SEP-19		VPN was slow during shutdown; Task was transferred to new hire. Need more time for training on IDL programming and OLR codes
Validation with NPP CERES radiation products (OLR)	Sep-19	Sep-19		Same as above
Improve NOAA-20 CO, CH4 and CO2 retrieval algorithm	Dec-18	Dec-18		
Validation against NUCAPS SNPP trace gas EDRs, other instruments (MOPITT, AIRS, IASI) and in situ measurements (TCCON, ATom, WE-CAN, KORUS)	Sep-19	Sep-19		
Optimize NOAA-20 AVMP/AVTP/O3 retrieval algorithm	Dec-18	Dec-18		
Validation against model data and radiosondes; SNPP and J1 EDRs cross comparisons	Sep-19	Sep-19		

Overall Status:

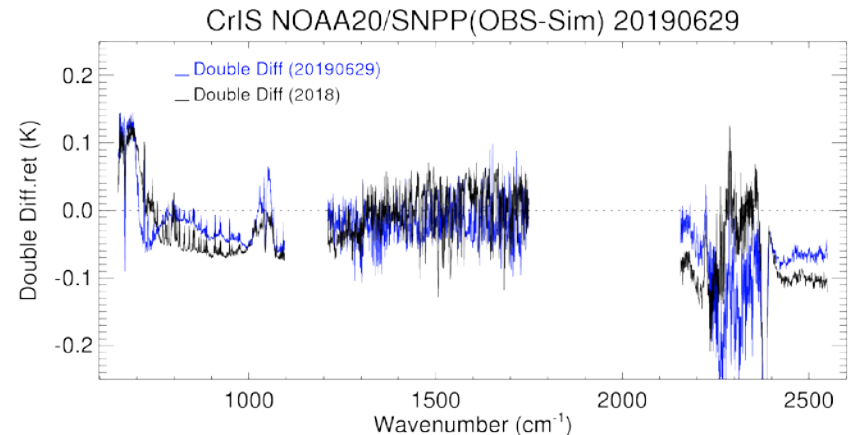
	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

- Project has completed.
- Project is within budget, scope and on schedule.
- Project has deviated slightly from the plan but should recover.
- Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

**Metop C NUCAPS delivery has been postponed to FY2020, TBD.**

Highlights



SNPP Side-2 vs NOAA 20 CrIS double-differences supporting CrIS Side-2 Provisional Maturity

## Accomplishments / Events:

- Continued MiRS rainfall rate validation activities, performing daily seasonal comparisons against both Stage IV and MRMS radar-gauge composite analyses (see results). Based on preliminary results, most requirements are being met.

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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## Issues/Risks:

None

## Highlights:

### MiRS vs. Stage IV

EDR Attribute	Requirements	Winter (DJF)		Spring (AM)		Summer (JJA) <i>June only for now</i>		Fall (SON)	
		Land	Sea	Land	Sea	Land	Sea	Land	Sea
Bias (mm/h)	0.10	0.02	0.08	0.05	0.05	0.04	0.02	0.019	0.047
STDV (mm/h)	1.0	0.5	0.62	0.72	0.63	0.8	0.95	0.6	0.8
Probability of Detection (%)	50	65.6	78	75	79.7	80	80	73.9	74.8
False Alarm Rate (%)	5.0	5.7	5.7	7.0	3.3	4.9	3.9	5.0	5.3
Heidke Skill Score	0.30	0.44	0.47	0.45	0.55	0.51	0.61	0.49	0.52

### MiRS vs. MRMS

EDR Attribute	Requirements	Winter (DJF)		Spring (AM)		Summer (JJA) <i>June only for now</i>		Fall (SON)	
		Land	Sea	Land	Sea	Land	Sea	Land	Sea
Bias (mm/h)	0.10	0.02	0.09	0.07	0.06	0.056	0.049	0.038	0.08
STDV (mm/h)	1.0	0.41	0.53	0.63	0.49	0.76	0.6	0.51	0.65
Probability of Detection (%)	50	63.5	74.3	76.7	79.8	81	80	74.6	76.5
False Alarm Rate (%)	5.0	5.2	6.4	7.4	4.3	5.5	3.3	5.6	5.1
Heidke Skill Score	0.30	0.43	0.34	0.43	0.4	0.5	0.52	0.46	0.45

Comparison of MiRS N20 rain rates with both Stage IV and MRMS validation for different seasons. JPSS requirements are shown in left hand column.

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Validated Maturity (N20 Cal/Val)	Sep-19	Sep-19		
Final DAP (N20 Algorithm Adjustment)	Mar-19	Mar-19	Mar-19	
Bias correction for NOAA-20	Mar-19	Mar-19	Mar-19	
Validation against ECMWF data and radiosondes	Sep-19	Sep-19		
Validation against other reference data for other EDRs	Sep-19	Sep-19		

## Accomplishments / Events:

- S-NPP SFR has been recalibrated utilizing the technique first developed for the NOAA-20 SFR. The performance metrics are shown in the table below. The statistics are comparable to NOAA-20 SFR.

	Corr. Coeff.	Bias	RMS
<b>Calibration</b>	0.71	-0.04	0.44
<b>Validation</b>	0.70	-0.07	0.49

- A new dynamic low SFR cutoff scheme was defined using both the 1DVAR-based SFR retrieval and the calibrated SFR values. The new approach balances probability of detection (POD) and false alarm ratio (FAR) for snowfall detection.
- Two-year of S-NPP SFR and all NOAA-20 SFR were reprocessed using the newly developed calibration technique and the new SFR low-limit scheme. The data sets have been delivered to the CPC CMORPH team for testing CMORPH2 reprocessing.

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
<b>Cost / Budget</b>		X			
<b>Technical / Programmatic</b>		X			
<b>Schedule</b>		X			

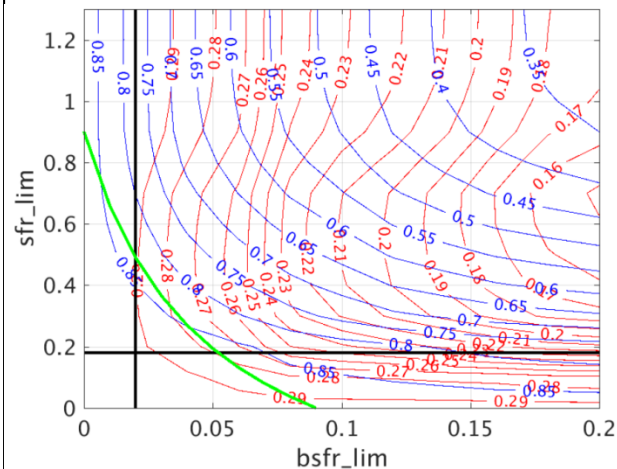
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## Issues/Risks:

None

## Highlights:

Determination of NOAA-20 SFR Low Limit



Both the 1DVAR-based SFR retrieval (bsfr\_lim) and the calibrated SFR (sfr\_lim) values are used to determine a dynamic low SFR limit (green line). The selected low limit represents optimized balance between Probability of Detection (green lines) and False Alarm Ratio (red lines)

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Validated Maturity: NOAA-20 and S-NPP SFR	Jun-20	Jun-20	05/16/2019	
Provisional Maturity: NOAA-20 SFR	Mar-19	May-19	05/16/19	
Final DAP (N20 SFR)	Mar-19	Mar-19	Mar-19	
Update radiometric bias correction coefficients	Dec-18	Dec-18	Dec-18	
Deliver updated SFR package to MiRS team (for Mar-19 DAP delivery)	Feb-19	Feb-19	Feb-19	

## Accomplishments / Events:

- S-NPP V8Pro and V8TOz CDRs in validation.
- Creating new V8Pro code delivery for NDE with significant updates – Outlier filtering, consistency with SBUV/2 for reflectivity and averaging kernels, dual adjustment tables for smooth soft calibration changes and area weighted matchup nadir mapper FOVs.
- V2Limb NDE with Mini-DAP at I&T in validation phase.
- SO<sub>2</sub> Validation leads to possible code changes.
- Testing of TOAST with V2Limb.
- Testing of BUFR for V2Limb.

## Overall Status:

	Green <sup>1</sup> (Completed)	Blue <sup>2</sup> (On-Schedule)	Yellow <sup>3</sup> (Caution)	Red <sup>4</sup> (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule			X		# SDR Schedule, code change

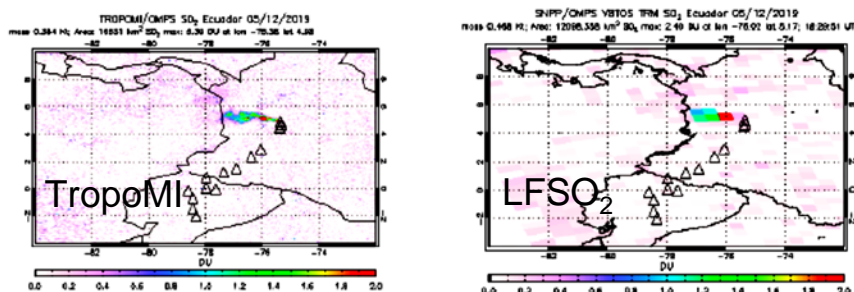
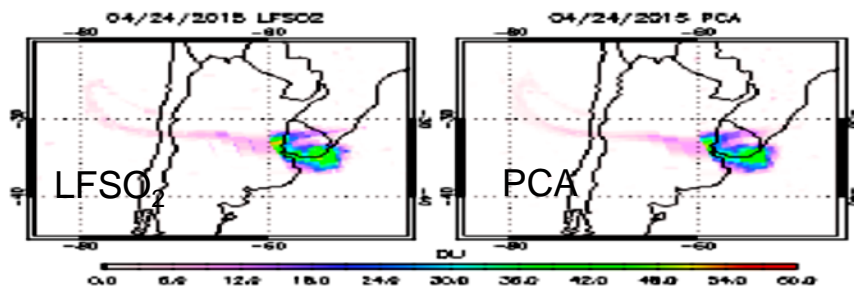
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3. Project has deviated slightly from the plan but should recover.
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## Issues/Risks:

# Code Changes for OMPS V8Pro EDR on path to maturity will not be implemented at NDE until May 2019.

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Provisional Maturity: V8TOz			10/03/18	
Provisional Maturity: V8Pro	Feb-19	Sep-19		SDR
Validated Maturity: V8TOz	Mar-19	Sep-19		SDR
Validated Maturity: V8Pro	Apr-19	Dec-19		V8Pro Code
N20 Final DAP: V8Pro	Apr-19	Sep-19		SDR LUT
Trending of ground-based comparisons	Mar-19	Aug-19		
Algorithm improvements (solar, Wavelengths, bandpasses)	Sep-19	May-20		Other V8Pro corrections
RT Tables for NOAA-20	Sep-19	Aug-19		If needed

## Modified LFSO<sub>2</sub> comparisons with NASA PCA and TROPOMI



## Accomplishments / Events:

- Continued working with NESDIS IA and JPSS, and participated in a meeting with JAXA (July 26) in Tokyo (prior to IGARSS) to discuss AMSR3 and AMSR2 progress/plans
- Engaging JPSS Program Office on budget needs/planning for AMSR-3
- Continued product cal/val; all products meeting requirements
- Updated GAASP package delivered to OSPO – August implementation on NDE anticipated
- Reprocessing continuing (2012-2015 completed) and on track for completion by September 2019.

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
GAASP emergency update DAP (fixed some typo's in the Longitude metadata in 4 of the netCDF template files)			02/11/19	
GAASP_v2-5 DAP (update to the Ocean SSW algorithm and the Precipitation algorithm, with some other minor updates)			To NDE: 03/19/19 To CSPP: 03/20/19	
Deliver updated TPW algorithm for integration into GAASP	Dec-18	Dec-18	Dec-18*	*Validation results did not warrant an update
Deliver updated CLW algorithm for integration into GAASP	Apr-19	Apr-19	Apr-19*	*As stated above
Deliver updated rain rate algorithm for integration into GAASP	Apr-19	Apr-19	Apr-19	
Updated GAASP package delivered to NDE/OSPO	Jul-19	Jul-19	Jul-19	
Reprocessing of AMSR-2 mission	Sep-19	Sep-19		

## Overall Status:

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Cost / Budget		X			
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Schedule		X			

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## Issues/Risks:

None

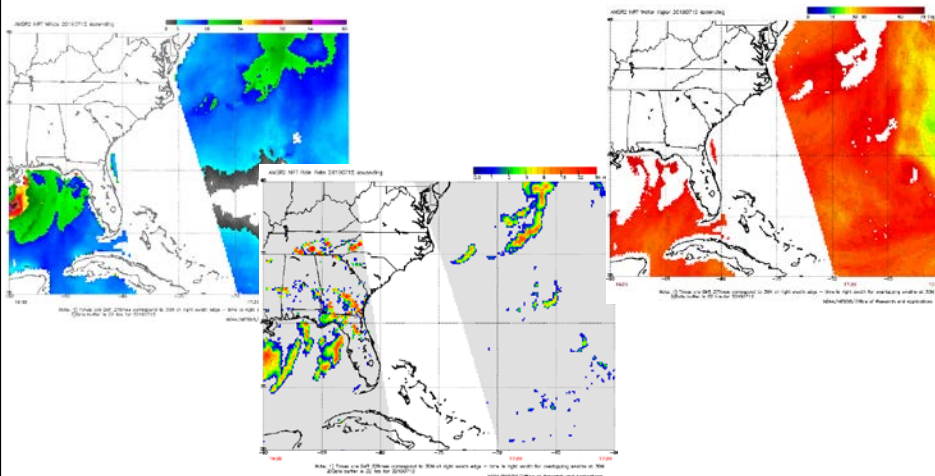
## Highlights: Tropical Storm Barry Approaching the Gulf Coast AMSR-2 Wind Speeds, Rain Rate and TPW 12 July 2019

[Barry is in lower left of images]

Ocean Wind Speed

Rain Rates

TPW





## Accomplishments / Events:

- Attended 11<sup>th</sup> GCOS Reference Upper Air Network (GRUAN) International Coordination Meeting (ICM-11) **(Highlight)**
- Attended NUCAPS bi-weekly status meetings and proposed re-start of Parallel test systems to analyze first guess regression upgrade
- Continued data collection and review of NPROVS Special (GRUAN) radiosondes for inclusion in pending "Uncertainty" paper
- Observations from the ongoing Radiosonde Inter-comparison and VALidation (RIVAL) campaign stewarded (NPROVS)
- Created AEROSE campaign "unified" dedicated radiosonde file and initiated NUCAPS collocation process for NPROVS Special
- Provided inputs at AWIPS User meeting highlighting SAL analysis)
- The EDR LTM team has been testing RabbitMQ, a message-broker software to more efficiently process EDR LTM and JSTAR Mapper images. **(Highlight)**

## Overall Status:

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Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

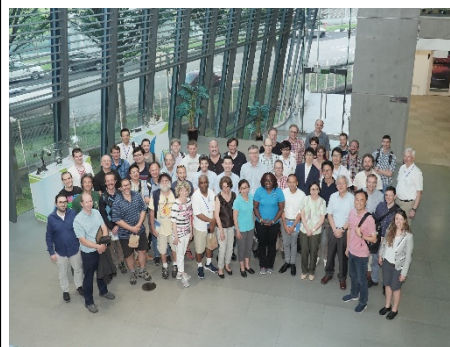
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## Issues/Risks:

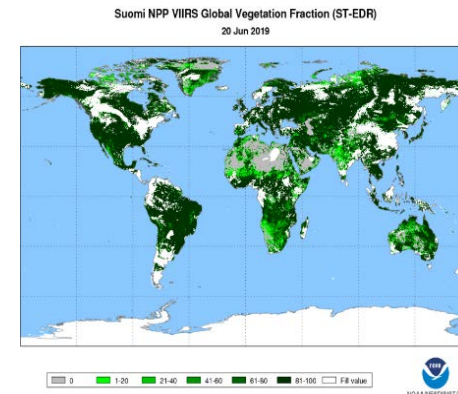
None

## Highlights:

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
<b>LTM</b>				
Complete NOAA-20 JMAPPER/EDR-LTM	Sep-19	Sep-19		
<b>NPROVS</b>				
Maintain NPROVS and support R2O transition of NOAA-20 and NUCAPS upgrades to correct identified problems for IR+MW and MW sounding	Jan-19	Jan-19	March - 19	Shutdown; upgrades pending
Maintain JPSS dedicated radiosonde program including AEROSE and RIVAL observations stored in NPROVS Special	Mar-19	March-19		Program Extended
Support NWS Raob Transition Monitoring and NUCAPS AWIPS-2 users	Sept-19	Sept -19		



**NPROVS:** The GRUAN ICM-11 was attended by over 60 international scientists with the goal to establish and maintain a network of reference geophysical observations. STAR contribution and benefit to/from GRUAN are highlighted in A. Reale Trip Report.



**LTM:** New VIIRS Surface Type Global Vegetation Fraction images as seen on the EDR LTM website. These images are now produced under the direct control of the EDR LTM team.