NOAA JPSS Monthly Program Office

AMP/STAR FY19 TTA

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June 11, 2019

Highlights from the Science Teams

April-May Maturity Review

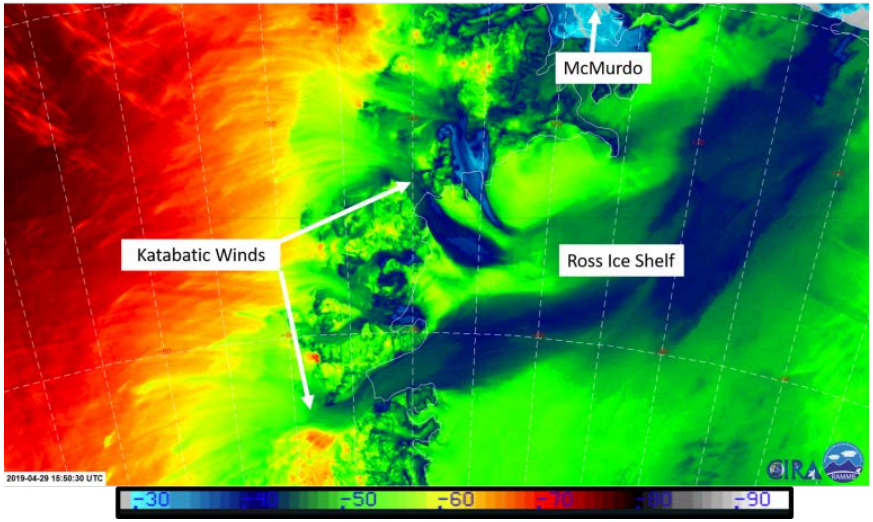
On May 16, 2019, STAR JPSS successfully conducted the May 2019 NOAA-20 Cal/Val Maturity Review. Products reviewed include:

- I-Band Active Fires
- Cloud products: Enterprise Cloud Mask (ECM), Cloud Phase/Type, Cloud Cover Layer (CCL), AWG Cloud Height Algorithms (ACHA), Cloud Base Height (CBH), Daytime Cloud Optical and Microphysical Props (DCOMP), and Nighttime Cloud Optical and Microphysical Props (NCOMP)
- Aerosol products: Aerosol Optical Depth (AOD), and Aerosol Detection Product (ADP)
- Volcanic Ash
- Cryosphere products: Snow Cover, Snow Cover, Ice Surface Temperature, Ice Concentration, Ice Age/Thickness
- VIIRS Polar Winds
- Sea Surface Temperature
- Snow Fall Rate

New VISIT Blog entry

VIIRS instruments on-board both S-NPP and NOAA-20 captured katabatic wind events from the Transcontinental Mountain Range to the Ross Ice Shelf near McMurdo station. These are winds that move downslope due to gravity and warn adiabatically as they due so. In the image below this can be seen as tongues of blue (cold) air, that become greener (warmer) as they move towards sea level.

http://rammb.cira.colostate.edu/training/visit/blog/index.php/2019/05/08/viirs-observations-of-katabatic-winds-from-the-transcontinental-mountain-range-adjacent-to-the-ross-ice-shelf-in-antarctica/



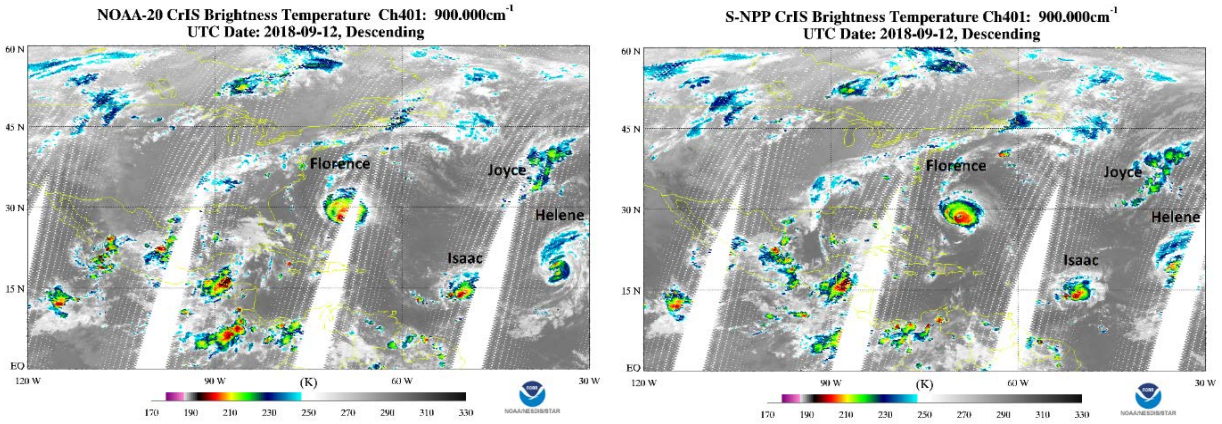
Highlights from the Science Teams

Correction Activities after the S-NPP CrIS MWIR Band Anomaly: The Zero Path Difference (ZPD) Position.

After the late March failure of the S-NPP CrIS MWIR band, problems began to occur with the LWIR bands as well. The CrIS team diagnosed that the ZPD were not properly centered in the sampling window due to the MWIR data not being present. This issue can be corrected via sending an interferogram configuration command with a proper ZPD offset. At STAR corresponding values to correct for the ZPD offset have been computed. The correction is particularly important in the event that switch to Side-2 is not successful and the instrument is commanded to switch back to operate using Side-1 electronics.

Benefits of Combining S-NPP and NOAA-20 CrIS Observations

CrIS observations from S-NPP and NOAA-20 can be combined to enhance global temporal and spatial coverage. As shown in the figure, both observations can help to fill observation gaps and provide synoptic-scale convective signatures of tropical cyclones. In this example, S-NPP CrIS observations are capable of providing spatial coverage of the large-scale structure of the tropical cyclones Florence and Isaac with no gaps, including the hurricane eye and rain bands. In the case of tropical cyclone Helene, NOAA-20 CrIS is capable of providing observations with no gaps. Combining early afternoon S-NPP and NOAA-20 CrIS measurements could also improve our knowledge about the temporal evolution of atmospheric stability, demonstrating the value of combining CrIS observations on nowcasting of convective initiation.



Highlights from the Science Teams

NUCAPS-MADIS SBCAPE paper accepted for publication

NUCAPS-MADIS SBCAPE is a data fusion product that uses near-real time NUCAPS NOAA-20 temperature and water vapor profiles and *in situ* surface temperature observations from the MADIS network. A paper titled "Near-real Time Surface-Based CAPE from Merged Hyperspectral IR Satellite Sounder and Surface Meteorological Station Data" by Callyn Bloch, Robert O. Knuteson, Antonia Gambacorta, Nicholas R. Nalli, Jessica Gartzke, and Lihang Zhou, has been accepted this same week for publication in the *Journal of Applied Meteorology and Climatology* (JAMC). This work demonstrates that the sole correction of the surface field by the use of *in situ* measurements, eliminates the negative bias typically observed in the computation of convective indexes from satellite retrievals.

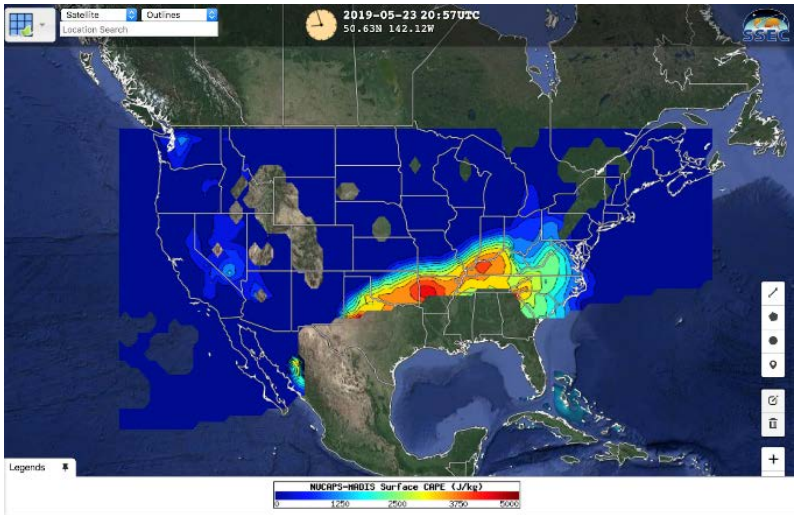
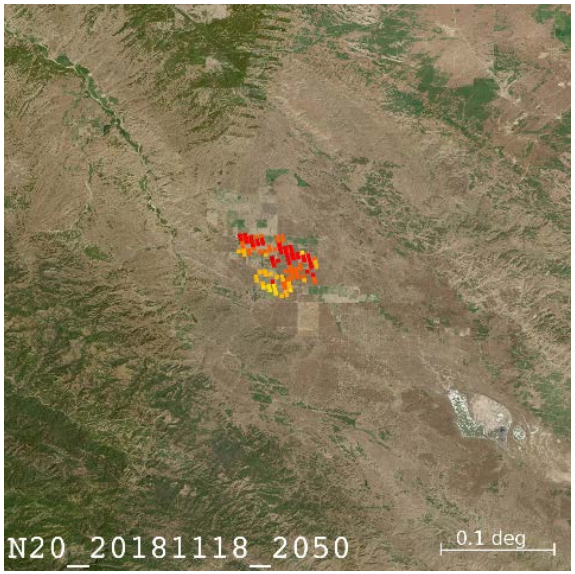


Figure. NUCAPS-MADIS SBCAPE from RealEarth during May 23 tornado watch

Active Fires Product Persistent Anomaly Flag

The Active Fires team has noted that some areas, such as large solar panel farms (pictured in the figure), oil and gas flares, and volcanoes, create persistent thermal anomalies that can be confused for fires. The team is implementing a flag to alert users to these features in the Active Fires product.



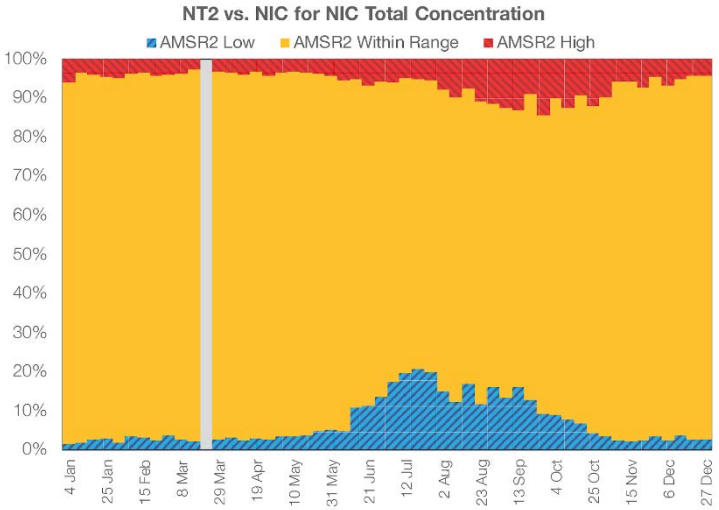
Highlights from the Science Teams

GINA Director Visit

John Pace, director of the Geographic Information Network of Alaska (GINA), part of the University of Alaska-Fairbanks, visited CIRA on 20 May 2019 to discuss collaboration opportunities. CIRA researchers involved with Alaska-region research met with Mr. Pace to discuss ongoing JPSS-PGRR research activities at CIRA that may be of relevance to GINA's activities. GINA's primary mission is to provide near real-time operational products and services for Alaska weather forecasting and to provide geospatial development and analysis services to the University of Alaska system and the state of Alaska that support education, research, and operations in service to the public.

Dedicated JPSS VIIRS Ocean Color Cal/Val Cruise delayed

Due to unexpected but necessary repairs required on the NOAA Ship *Nancy Foster*, the 5th dedicated VIIRS Ocean Color Cal/Val cruise that was supposed to sail 15-24 May 2019 has been moved to the NOAA Ship *Gordon Gunter* out of Norfolk, VA and delayed until 7-16 September 2019. Scientifically, the potential for covering coastal waters farther north up the US East Coast than previous dedicated VIIRS cruises is an opportunity for regional expansion of observations, however, the time of year introduces higher risks (probabilities) of hurricanes, storms and general cloud cover.



GCOM Ice Concentration Validation

AMSR2 sea concentration fields were compared with U.S. NIC data for 2018. Overall, the AMSR2 concentrations fall within the NIC concentration ranges 90% or more of the time in winter. During summer, AMSR2 underestimates concentration compared to NIC in up to 25% of the cases. Overestimation occurs in late summer and fall, primarily due to improper classification of water as ice.

Accomplishments

- Delivery Algorithm Packages (DAPs) - Mission Unique Products:

  CrIS SDR team delivered DAP (ADR8760/CCR4469, CrIS SDR Radiance Polarization Correction) to ASSISTT on 4/22/2019. ASSISTT team delivered the DAP to DPES on 5/7/2019

  The Second TIM for the CrIS Polarization Correction Implementation on 6/7/2019

  VIIRS SDR team started the new set (12 months) of S-NPP VIIRS DNB Stray Light Correction LUT update delivery on 5/14/2019

  NOAA-20 OMPS-NP SDR Bi-weekly N20 OSOL and WAVELENGTH Delivery started on 5/14/2019

- DAPs - Enterprise Products:

  GAASP patch DAP (fix production_environment/production_site attributes) delivered to NDE on 5/1/2019

  JRRPS v2r0 patch DAP (includes an update to ADP algorithm that fixes an issue causing excessive noise over the ocean) delivered to NDE on 5/20/2019. An updated version of the patch DAP (fixes the problems discovered after the delivery, also includes a test case that can be used to verify that the ADP issue has been resolved) re-delivered to NDE on 5/24/2019

  JRR 201903 DAP patch with fixes for LST and LSA (includes a LSA metadata bug fix and LST QC updates) delivered to NDE on 5/29/2019

  JRR 201903 Offline LSA DAP patch update (contains an updated source code file for LSAMainOffline that fixes a bug in the metadata where pixels with 0 valid retrievals were showing >4 valid retrievals) delivered to NDE on 5/30/2019

  NVPS DAP (NVPS-VI-v1.4 & NVPS-GVF-v2.3) delivered to NDE on 5/30/2019. The DAP includes updated NVPS VI & GVF codes and documentations

- IDPS Builds Checkouts:

  STAR submitted Block 2.1 Mx6 I&T deploy regression review/checkout results summary report (5/20/2019).

  STAR submitted data request for Block 2.1 Mx7 SOL deploy regression review/checkout (6/6/2019)

Accomplishments – JPSS Cal Val Supports

- NOAA-20/S-NPP Operational Calibration Support:
  - S-NPP Weekly OMPS TC/NP Dark Table Updates: 05/07/19, 05/14/19, 05/21/19, 05/29/19
  - NOAA-20 Weekly OMPS TC/NP Dark Table Updates: 05/07/19, 05/14/19, 05/21/19, 05/29/19
  - S-NPP Bi-Weekly OMPS NP Wavelength & Solar Flux Update: 05/07/19, 05/21/19
  - NOAA-20 Bi-Weekly OMPS NP Wavelength & Solar Flux Update: 05/14/19, 05/29/19
  - S-NPP Monthly VIIRS StrayLight LUTs Update: 05/14/19
  - NOAA-20 Monthly VIIRS StrayLight LUTs Update: 05/14/19
  - S-NPP Monthly VIIRS LUT Update of DNB Offsets and Gains: 05/14/19
  - NOAA-20 Monthly VIIRS LUT Update of DNB Offsets and Gains: 05/14/19
- April/May NOAA-20 Cal/Val Maturity Review (5/16/2019)
  - *Provisional Maturity:*
    - I-Band Active Fires
    - Cryosphere products: Snow Cover
  - *Validated Maturity:*
    - Cloud products: ECM, Cloud Phase/Type, ACHA, CCL, CBH, DCOMP, and NCOMP
    - Aerosol product: AOD, and ADP
    - Volcanic Ash
    - Cryosphere products: IST, Ice Concentration, Ice Age/Thickness
    - VIIRS Polar Winds
    - Sea Surface Temperature
    - Snow Fall Rate
- S-NPP/NOAA-20 products operational since 6/4/2019 (NDE 2.0.17 build)
  - S-NPP Surface Albedo
  - S-NPP Land Surface Temperature
  - NOAA-20 Green Vegetation Fraction
  - NOAA-20 Vegetation Indices
  - NOAA-20 Vegetation Health Index Suite - 1KM

Accomplishments - Transition to Operations and AMP

- SNPP/N20:
  - Blended Hydrometeorological Products (adding N-20 data) Operational Readiness Review (ORR) -5/17.
  - On April 30, 2019, all but 4 IDPS Environmental Data Records (EDRs) had their distribution stopped by OSPO on PDA. The remaining 4 are expected to have their distribution stopped in July 2019.
  - SNPP Land Surface Temperature and Albedo EDRs were transitioned to operations in NDE/PDA as of June 4, 2019. These represent the last and final EDRs that needed to transition to operations in order to replace the IDPS versions.
  - AMP (J Evans) facilitated AWIPS checkout of MiRS v11r4 product released via PDA I&T May 10.
- EPS-SG project support
  - A Layns completed a report on the estimating the sizes of the EPS-SG data products and provided to OPPA on May 31
  - AMP (A Layns, T Ibironke, L Dunlap) continue working with OPPA and OSAAP on updating/refining the draft Level 1 Requirements Document (L1RD) for the EPS-SG project. This includes gathering input from the LORWG by May 31, 2019.
  - On May 17, 2019, AMP (T Ibironke) completed the first draft of the NOAA sections of JRD-12b and provided to the group for review/comment.
- Other
  - AMP (B Guethner) co-authored a paper “Crosstalk Effect and Its Mitigation in Aqua MODIS Middle-Wave Infrared Bands” with Sun and Wang, which was published this month in Earth and Space Science, an Open on-line journal.
  - AMP (J Evans) analyzed JPSS-ESPC Requirements Document (JERD) and ESPDS System Requirements Document (SRD) to pinpoint changes needed in JERD to support enhanced PDA data capabilities for JPSS data. Led a discussion with ESPC about development of such capabilities on May 10, 2019. AMP will submit a draft CCR to Ground Project Management for pre-ERB approval.
  - AMP Team member (J Weinrich) gave presentation at the Great Alaska Aviation Gathering on Proving Ground, Aviation Initiative, and Introduction to Volcanic Hazards Initiative, Overview of NOAA 20 Products including available imagery, cloud products, Day/Night Band, links to data access, cross section, and solicitation for Pilot Reports (PIREPs) and new users.

Upcoming Cal/Val Maturity Reviews

June/July Maturity Review (7/18/2019):

- Beta Maturity:
  Global Gridded Surface Type (Annual offline GST product)
- Provisional Maturity:
  OMPS Ozone (V8Pro)
- Validated Maturity:
  OMPS SDR (NP & TC)
  OMPS Ozone (V8TOz)

August Maturity Review:

- Validated Maturity:
  OMPS Ozone (V8Pro)

September Maturity Review:

- Provisional Maturity:
  NUCAPS S-NPP & NOAA-20 CH4 product
- Validated Maturity:
  NOAA-20 NUCAPS products: AVTP, AVMP, Ozone, OLR
  NUCAPS S-NPP & NOAA-20 CO product
  All MiRS products (except SFR)

November Maturity Review:

- Validated Maturity:
  Land Surface Temperature, Surface Albedo, and Surface Reflectance

Upcoming Milestones/Deliveries

- JSTAR Code/LUT Deliveries:

  DAP to DPES:
  - Jun-19: OMPS LUTs delivery (for validated maturity)
  - Sep-19: TC Imagery

  NOAA-20 Algorithm DAP to NDE:
  - Jun-19: V8Pro – Final DAP
  - Sep-19: NUCAPS – Final DAP
  - Sep-19: I-band Active Fires
  - Dec-19: SST - ACSPO 2.80

FY19 STAR JPSS TTA Milestones

FY19 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Algorithm Updates DAPs/LTM				
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		
ICVS-Application Website (Severe Weather Watch with JMAPPER)	Sep-19	Sep-19		

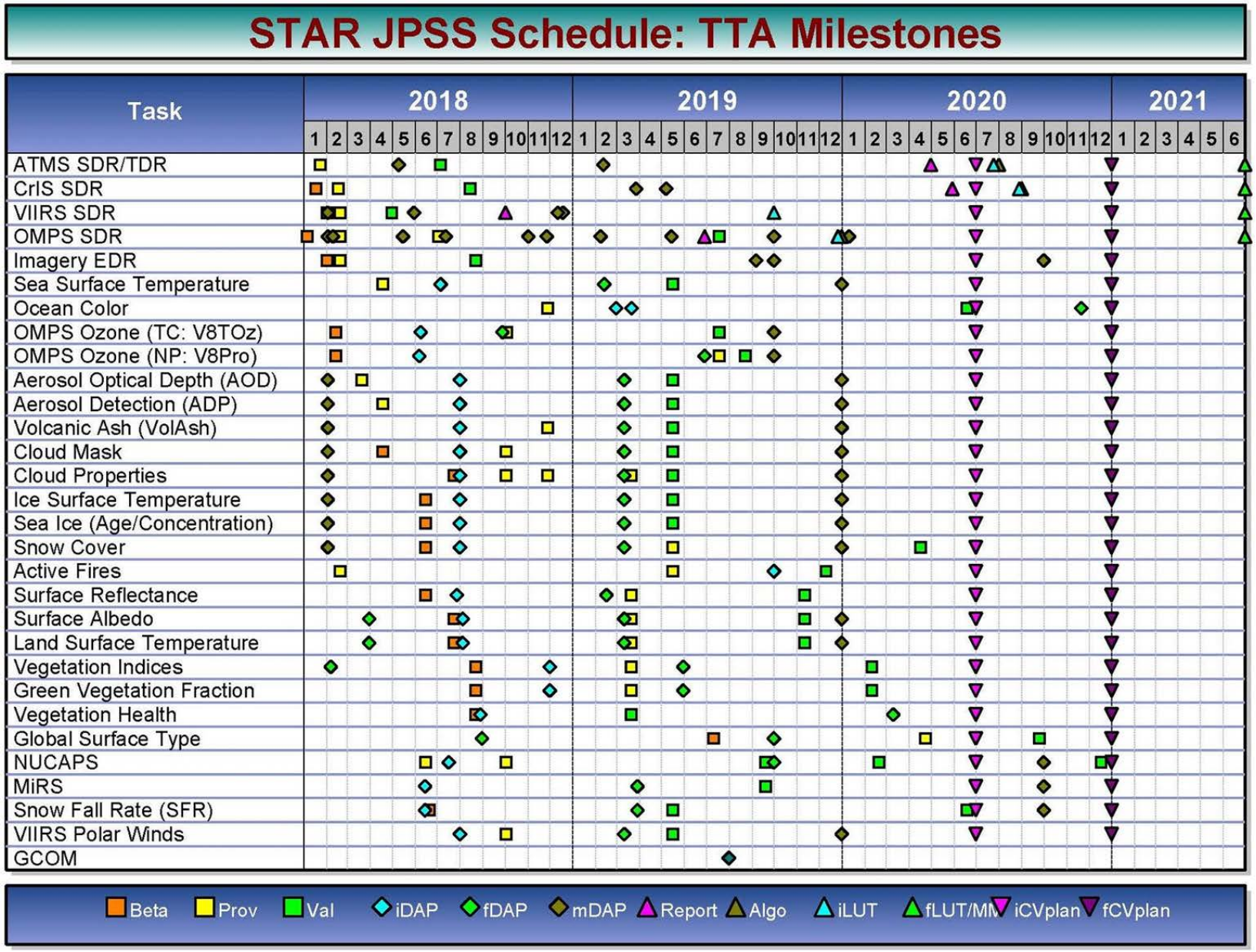
FY19 STAR JPSS TTA Milestones

FY19 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20 Cal/Val				
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	Jul-19		PSR: Jun-19
Provisional Maturity: NOAA-20 EDR Products (JRR/VPW/Trace Gas)	Oct-18	Oct-18	**10/02/18: Provisional Maturity:** Cloud Mask, Cloud Phase/Type, Cloud Height (CTT/CTP/CTH), Cloud Base Height, Polar Winds, NUCAPS (Ozone/CO/OLR), OMPS Ozone (V8TOz) **11/27/18: Provisional Maturity:** Volcanic Ash, Daytime Cloud Optical and Microphysical Properties (DCOMP) **03/21/19: Provisional Maturity**: 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
Operational Support				
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**	
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**	
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**	
S-NPP: Monthly VIIRS Stray Light LUT Update	Monthly	Monthly	**05/14/19**	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**	
NOAA-20: Bi-Weekly OMPS NP Wavelength & Solar Flux	Bi-Weekly	Bi-Weekly	**05/14/19, 05/29/19**	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**	
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**	

STAR JPSS Schedule



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	Aug-19		No Update Provided
-- Operations	Mar-17	Sep-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	Jul-19		No Update Provided
-- Operations	Aug-18	Aug-19		

FY19 STAR DAP and JPSS PSDI Milestones

NOAA-20 Algorithms	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20: MiRS				
-- 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
NOAA-20: NUCAPS including CrIS OLR				
-- CDR	Oct-16	--	10/27/16	Completed
-- Initial DAP	Aug-18	--	07/16/18	Completed
-- SCR	Aug-18	--	01/25/19	Completed
-- Operations (Temp/H20 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
NOAA-20: Surface Reflectance				
-- 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	Jun-19		
-- Operations	Oct-18	Jul-19		
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	Jul-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		No Update Provided
-- ARR	Mar-19	Mar-20		
-- SRR	Apr-19	Apr-20		
-- ORR	Apr-19	Apr-220		
-- 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	May-19		
-- 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	Jun-19		
-- Operations	Oct-19	Aug-19		
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	May-19		Waiver Requested
-- Operations	Jul-19	Jul-19		
NOAA-20: Blended Products Blended Snow and Ice				
-- Initial DAP	TBC	--		
-- Final DAP	TBC	--		
-- SCR	Aug-18	Aug-18		No Update Provided
-- ORR	May-19	May-19		No Update Provided
-- Operations	Jun-19	Jun-19		No Update Provided

FY19 STAR DAP and JPSS PSDI Milestones

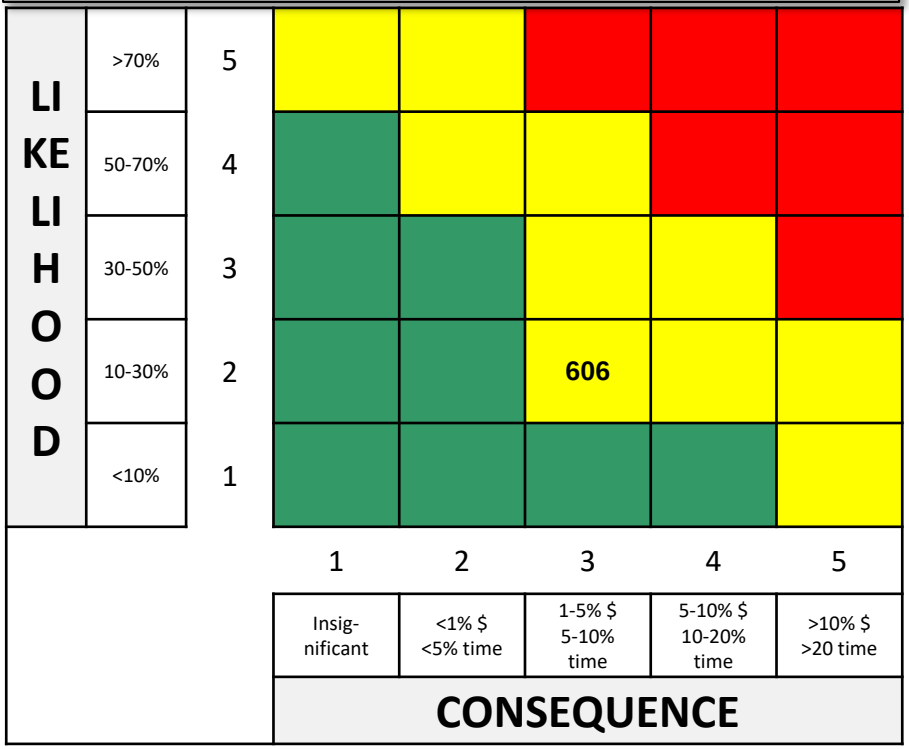
NOAA-20 Blended/Derived Algorithms	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20: Products Blended Hydro Products				
-- Initial DAP	TBC	Jul-19		
-- Final DAP	TBC	Nov-19		
-- SCR	Jun-18	--	9/20/2018	Completed
-- ARR/ORR	Dec-18	--	5/17/2019	Completed
-- Operations	Jan-19	Jun-19		
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
Upgrades to the ADT Product				
-- 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	Jul-19		
-- ORR	Apr-19	Sep-19		
-- Operations	Jun-19	Oct-19		
Microwave and Diurnal Corrected Blended SST w/ AMSR-2				
-- ORR	Nov-16	ON HOLD		
-- Operations	Nov-16	ON HOLD		
Product Monitoring Phase IV (JPSS RR, VIIRS AF)				
-- Initial DAP	TBC	TBC		Need Update
-- Final DAP	TBC	TBC		Need Update
-- SRR/ORR	Jun-18	Nov-19		
-- Operations	Jul-18	Dec-19		
Product Monitoring VI (NDE J1)				
-- Initial DAP	TBC	TBC		Need Update
-- Final DAP	TBC	TBC		Need Update
-- CDR	Dec-16	--	04/17/18	Completed
-- TRR	Sep-17	Jul-19		
-- SCR	Jun-19	Jul-19		
-- ORR	Aug-19	Nov-19		
-- Operations	Sep-19	Dec-19		
Interactive Multisensor Snow and Ice Mapping System V3				
-- dORR	Jul-17	--	Dec-18	Completed
-- Operations	Jan-18	--	5/17/19	Completed

JPSS PSDI Risk and Issues Summary

Risk Matrix



Criticality

- High
- Med
- Low

L x C Trend

- Increasing (Worsening)
- Unchanged
- Decreasing (Improving)

Approach

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

JPSS PSDI Risk Information

L x C Trend	Risk #	Rank	Approach	Risk Title
↓	606	1	M	Interactive Snow/Ice Product Operational Transition - REQUEST CLOSURE

JPSS PSDI Issue Summary

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

JPSS PSDI Risks

As of: Jun 11, 2019

Y	606	Rank 1	MITIGATE	DATE	
RISK STATEMENT			**APPROACH/PLAN**	**PLANNED**	**COMPL**
If the new version of the Interactive Snow/Ice Product (IMS) does not complete user required output file reformatting development and successful transition to operations, THEN new and enhanced data products will not be realized by the Numerical Weather Prediction (NWP) community.			1. Develop and deliver the GRIB2 reformatting software for the IMS product output.	Mar 2018	2-28-2018
			2. Integrate reformatting toolkit with the IMS algorithm on the integration string of the operational system	Jul 2018	
			3. Promote IMS enhanced algorithm to operations	Apr 2019	

STATUS: OPEN

- 7/12/2017: New Risk
- 8/9/2017: No formal schedule has been provided by the project lead on the additional development required to output the ice/snow products in GRIB2. The Satellite Product Managers will reach out to the developers to help define this timeline.
- 9/27/2017: No update
- 10/17/17: STAR (Wolf) has agreed to deliver GRIB2 code that the IMS project needs and Kevin Berberich has agreed to cover the integration work under the SMOMS contract. Expect ORR in 6 months. Vacancy for this position is expected to be filed by the end of the calendar year.
- 12/04/17: Learned NIC is providing funding to previous OSPO PAL (Helfrich) to complete and deliver the IMS V3.
- 12/13/2017: Project lead is expected in a couple months (OSPO offer made to candidate). Learned NIC is providing funding to previous OSPO PAL (Helfrich) to complete and deliver the IMS V3.
- 1/17/18: NIC has hired John Woods to work on snow/ice products. Bonnie and Arron met with him and will work with him to get up to speed.
- 2/14/18: Bonnie met with John Woods late Feb, evaluating current IMS system and users. STAR/ASSISTT developed/delivered the GRIB2 converter tool software in late Feb.
- 3/14/18: John Woods is coming up to speed as the Snow/Ice PAL and Sean Helfrich has agreed to deliver delta ORR by July 2018.
- 4/18/18: John Woods and Sean Helfrich are working towards completing IMS V3 and are preparing for the required delta ORR.
- 5/11/18: Monitoring IMS progress towards delta ORR and Operations.
- 6/20/18: Delta ORR planned for Aug and Operations planned for Sep 2018.
- 7/11/18: No update
- 8/10/18: No update. Schedule from 6/20/18 update is still valid.
- 9/12/18: Spoke with PAL and STAR lead, new date for dORR will be mid-October which will push Operations to November assuming successful dORR. Will keep watching.
- 11/13/18: dORR is scheduled for end of NOV; Operations in Jan 2019
- 12/10/18: dORR occurred 12/4; expected to TTO in Jan 2019.
- 03/11/19: IMS going to SPSRB March 2019; expected to TTO by end of month.
- 04/9/19: IMS was approved for OPS by SPSRB in March - expected to TTO by end of April.
- 05/13/19: IMS expected to TTO week of 5/13/2019.
- 06/11/19: IMS went Operational 5/14/2019. Request Risk be CLOSED!

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

	Sep	Oct	Nov
TECHNICAL	G	G	G
COST	G	G	G
SCHEDULE	R	R	R
BUDGET	G	G	G
PRO-GRAMATIC	Y	Y	Y

CURRENT STATUS -

- 01/2018: Promoted to Issue
- 02/14/18: ESPDS agreed to provide a status and summary of functionality of the DEV system after the 30 day test is completed.
- 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.
- 4/18/18: No update
- 5/11/18: No update
- 6/20/18: Algorithm developers provided impact assessments of the lack of a development environment.
- 7/11/18: No update
- 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.
- 9/12/18: No update
- 11/13/18: No update
- 12/10/18: No Update
- 03/11/19: ESPDS/NDE is proposing new requirements to address STARs need in the March ECRB cycle.
- 04/9/19: New ESPDS/NDE requirements did not pass in March - Working group to meet to determine solution.
- 05/13/19: No Update.
- 06/11/19: No update

JPSS PSDI Risks

As of: Jun 11,, 2019

G	449	Rank 6	MITIGATE	DATE	
RISK STATEMENT			**APPROACH/PLAN**	**PLANNED**	**COMPL**
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 87, 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

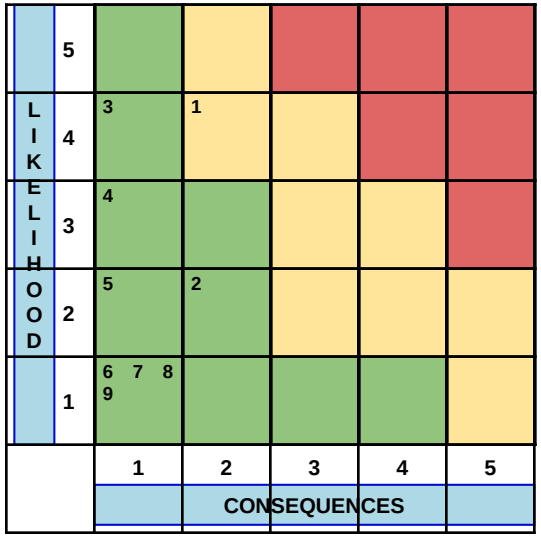
JPSS Risk Summary

Top Risks

Status as of: 06/03/2019

Rank Risk ID	Summary	LxC Trend	Aprch	Status
1 AMP-15-006	Continued Generation of IDPS EDRs	4x2 ⇔	M	4/4/2019: LST/LSA is now on track for the next promotion from NDE I&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.

Rank Risk ID	Summary	LxC Trend	Aprch	Status
2 AMP-18-003	J2 APID Changes to Accommodate New S/C Bus	2x2 ⇔	W	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.
3 AMP-17-004	Operational Data Flow to AWIPS-II	4x1 ⇔	M	2019-06-05: No change to risk status. NWS has nearly completed software upgrades & configurations needed to test automated AWIPS-DD access to polar data from PDA.
4 AMP-18-008	Data Product Requirements for OMPS-Limb	3x1 ⇔	M	4/4/2019: No change
5 AMP-19-001	Algorithm testing & delivery impacts due to lag between IDPS and G-ADA moving to the Cloud	2x1 ⇔	W	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).
6 AMP-18-004	NWS GFS FV3 Model Upgrade Impacts	1x1 ⇔	W	4/4/2019: Risk will be closed when FV3 goes into operations. The schedule is still TBD from NWS.
7 AMP-18-006	Impact on Testing Ability Due to Major Build Upgrades	1x1 ⇔	W	3/6/19: Risk Owner changed from Cole to Jeff.
8 AMP-19-002	Proxy data delay due to J2 10Hz Sampling Freq	1x1 NEW	W	
9 AMP-19-003	Some IDPS and STAR algorithms cannot use APIDs with 10Hz sample freq	1x1 NEW	M	



Criticality
HIGH
MED
LOW

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: 06/03/2019

Rank	Risk ID	Risk Statement	Approach	Status
1 ⇔ Continued Generation of IDPS EDRs **Expected Closure:** 10/2019	AMP-15-006	**Given that:** we are transitioning to production of EDRs on ESPC systems **There is a possibility that:** the IDPS-generated EDRs will continue running for an extended period of time **Resulting in:** additional maintenance and sustainment costs.	**Mitigate**	4/4/2019: LST/LSA is now on track for the next promotion from NDE I&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. 3/7/19: LST/LSA may make the next promotion from NDE I&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. 2/25/19: LST/LSA products were put back on NDE I&T for testing on 2/22/19.

JPSS Top Risks

Status as of: 06/03/2019

Rank	Risk ID	Risk Statement	Approach	Status
2 ⇔ J2 APID Changes to Accommodate New S/C Bus	AMP-18-003	**Given that:** J2 has a new S/C Bus manufacturer and some new APIDs compared to J1 and S-NPP **There is a possibility that:** the SDR algorithms will need to be updated to accommodate new RDR format/structure **Resulting in:** additional unplanned work for Ground.	**Watch**	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. 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.

JPSS Top Risks

Status as of: 06/03/2019

Rank	Risk ID	Risk Statement	Approach	Status
3 Operational Data Flow to AWIPS-II ⇔	AMP-17-004	**Given that:** AWIPS data flow issues (esp. AWIPS Data Delivery (DD) to PDA interface) are not resolved, **There is a possibility that:** Many JPSS data products will remain inaccessible to the NWS AWIPS II system for forecaster use after NWS' June 2020 target date **Resulting in:** under-utilization of JPSS data products by the NWS forecasting community.	**Mitigate**	2019-06-05: No change to risk status. NWS has nearly completed software upgrades & configurations needed to test automated AWIPS-DD access to polar data from PDA. 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. 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).

JPSS Top Risks

Status as of: 06/03/2019

Rank	Risk ID	Risk Statement	Approach	Status
4 ⇔ Data Product Requirements for OMPS-Limb **Expected Closure:** 10/2020	AMP-18-008	**Given that:** There are no JPSS (or NOAA) data product requirements for OMPS-L **There is a possibility that:** 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 **Resulting in:** Additional funding needed for delivering the algorithm, product generation/distribution/archive, and calval of the products.	**Mitigate**	4/4/2019: No change 3/4/19: STAR and ESPDS working through some issues with OMPS-L running on I&T. 2/7/19: OMPS-LP was promoted to NDE I&T string on Thursday 1/31.

JPSS Top Risks

Status as of: 06/03/2019

Rank	Risk ID	Risk Statement	Approach	Status
5 ⇔ Algorithm testing & delivery impacts due to lag between IDPS and G-ADA moving to the Cloud **Expected Closure:** 12/2020	AMP-19-001	**Given that:** IDPS will be in the cloud prior to G-ADA being in the cloud, **There is a possibility that:** algorithm change testing and implementation may take longer (not sure why?) **Resulting in:** delays to implementation of algorithm changes.	**Watch**	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). 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 (& 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.)

JPSS Top Risks

Status as of: 06/03/2019

Rank	Risk ID	Risk Statement	Approach	Status
6 ⇔ NWS GFS FV3 Model Upgrade Impacts	AMP-18-004	**Given that:** the NWS plans to upgrade the GFS FE3 Model resolution in the second quarter of FY19 **There is a possibility that:** SDR gridding granulation of the ancillary data files could change **Resulting in:** the failure of some EDR products.	**Watch**	4/4/2019: Risk will be closed when FV3 goes into operations. The schedule is still TBD from NWS. 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. 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.

JPSS Top Risks

Status as of: 06/03/2019

Rank	Risk ID	Risk Statement	Approach	Status
7 ⇔ Impact on Testing Ability Due to Major Build Upgrades	AMP-18-006	**Given that:** DPES has had issues installing major Block/Build updates in the past on G-ADA **There is a possibility that:** this could occur again in the future (Block 2.2) **Resulting in:** delays to testing of instrument code and table updates.	**Watch**	3/6/19: Risk Owner changed from Cole to Jeff.

JPSS Top Risks

Status as of: 06/03/2019

Rank	Risk ID	Risk Statement	Approach	Status
8 Proxy data delay due to J2 10Hz Sampling Freq NEW	AMP-19-002	**Given that:** APID 11 (S/C Attitude and Ephemeris) and 30 (S/C Telemetry) sampling frequencies are at 10Hz on JPSS-2 **There is a possibility that:** It will affect and delay the process of getting/producing simulated J2 data (proxy data) during JCT. **Resulting in:** 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.	**Watch**	

JPSS Top Risks

Status as of: 06/03/2019

Rank	Risk ID	Risk Statement	Approach	Status
9 NEW Some IDPS and STAR algorithms cannot use APIDs with 10Hz sample freq	AMP-19-003	**Given that:** APID 11 (S/C Attitude and Ephemeris) and 30 (S/C Telemetry) sampling frequencies are at 10Hz on JPSS-2 **There is a possibility that:** 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 **Resulting in:** 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.	**Mitigate**	

Color code:

Green: **Completed Milestones**

Gray: **Non-FY19 Milestones**

ATMS SDR

May, 2019

Accomplishments / Events:

- Studied and evaluated the potential impact of JPSS-2 ATMS V- and G-band spectral shelf testing results. Preliminary results indicate that the there is no obvious impact on sensor brightness temperature when OOB level increase from -40dB to -38dB for channel 3. There is on obvious impact on sensor brightness temperature for channel 11 when frequency stability change from 0.5 to 0.6 MHz. For channel 4 and 5, the Tb change will be no more than 0.02K change if the frequency stability changes from 5 to 7 MHz. The impact on Tb for channel 17 is not obvious when bandwidth has a 4 MHz increase
- Studied and discussed the JPSS-2 ATMS antenna pointing angle, bean width, beam efficiency, and cold calibration Earth side lobe contamination test datasets

Overall Status:

	Green[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (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.*

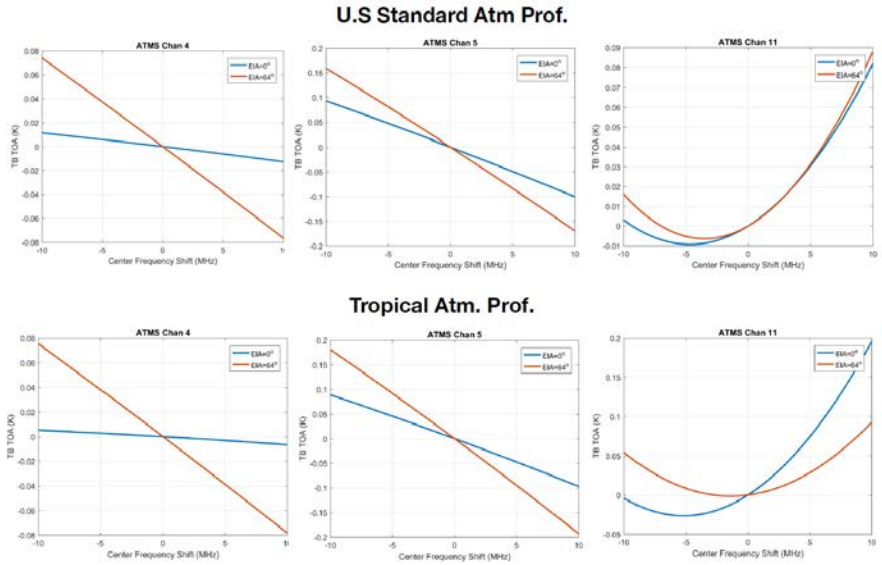
Issues/Risks:

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		
Reflector emissivity correction DAP (PCT and code update, ADR8632/CCR3971)				
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	
IDPS Mx build I&T deploy regression support:				
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:

Sensitivity of Tb to Frequency Stability



CrIS SDR

May, 2019

Accomplishments / Events:

– Derived new threshold values to optimize the spike detection and correction algorithm. Preliminary results show a false alarm reduction when the new thresholds are applied to the NOAA-20/CrIS SDR product at FSR. Further optimization is needed for the NSR product as shown in **Figure (1)**.
– Prepared tools for the Cal/Val of the SNPP/CrIS instrument in order to recover the MWIR band, using the side-2 electronics configuration (see **Figure (2)**). The Cal/Val activities are expected to initiate at the beginning of June 2019.
– The Second Technical Interchange Meeting for the CrIS Polarization Correction has been Scheduled for June 7, 2019. **Figure (3)** highlights the expected improvements in the CrIS SDR quality.
– Values to correct for the SNPP/CrS Zero Path Difference (ZPD) offset have been derived. An offset of about 108 diagnostic samples has been identified. The ZPD offset has occurred after the presence of the MWIR anomaly.
– Four ADRs were opened to address anomalies found on the CrIS SDR products:1) ADR 9018, 2) ADR 9019, and 3) ADDR 9020 open on 5/13/2019, 4) ADR 9027 open on 5/21/2019 in preparation for the recovery the MWIR band of the SNPP/CrIS instrument.
– A manuscript dedicated to the improvement of the lunar intrusion (LI) algorithm was submitted on May 7, 2019 to the IEEE TGRS Peer-review Journal.

Overall Status:

	Green[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (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.*

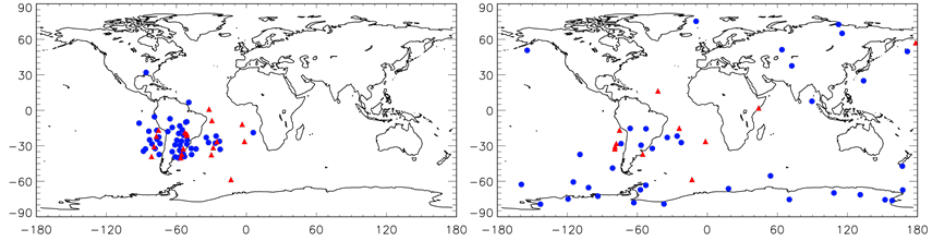
Issues/Risks:

• Loss of SNPP/CrIS MWIR band occurred on March 26, 2019. Operating the instrument under side-2 electronics configuration is expected to mitigate this anomaly. Recovery tasks are expected to initiate at the beginning of June 2019.

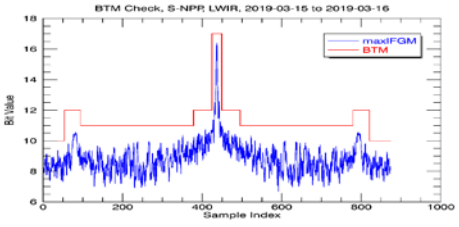
Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20 and SNPP cross verification	Sep-19	Sep-19		
Annual CrIS SDR performance report	Aug-19	Aug-19		
J2 pre-launch test data (TVAC) review/analyze	Sep-19	Sep-19		
Polarization correction algorithm implementation DAP (ADR8760)				
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:				
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	Jul-19		

Highlights:

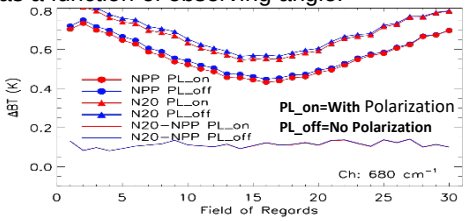
(1) Spatial distribution of spike detected pixels in both FSR SDR (left panel) and NSR SDR (right panel), after using new spike detection thresholds. Blue circles are for Earth Scenes, Red triangles are for ICT and DS views.



(2) Verification of the Bit Trim Mask Tool, in preparation for the recovery of the SNPP/CrIS MWIR band.



(3) Polarization correction slightly reduces the brightness temperature difference between real and simulated observations as a function of observing angle.



VIIRS SDR

May, 2019

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 May 4, 2019
- Delivered for deployment in IDPS operations updated NOAA-20 and S-NPP DNB stray light correction LUTs generated from the May 2019 data
- Analyzed test data from the IDPS I&T processing string to verify that the VIIRS SDR code change to improve TEB calibration during WUCD events have been implemented as planned in the IDPS Block 2.1 revision Mx6
- Prepared and presented an update on status of the NOAA-20 VIIRS reflective solar bands calibration that is used by the IDPS to generate NOAA operational SDR products
- Processed the scheduled lunar calibration data collected on May 14, 2019 for both NOAA-20 and S-NPP: derived lunar F-factors were compared with the solar F-factors to evaluate calibration quality
- Predicted NOAA-20 VIIRS lunar calibration opportunity on June 13, 2019 and provided the schedule for the VIIRS sector rotation to MOT
- Completed reprocessing of the simulated JPSS-2 VIIRS RDR files generated from the TVAC tests FP-18 and FOP: Initiated work on SDR LUTs to be developed from prelaunch test data

Overall Status:

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

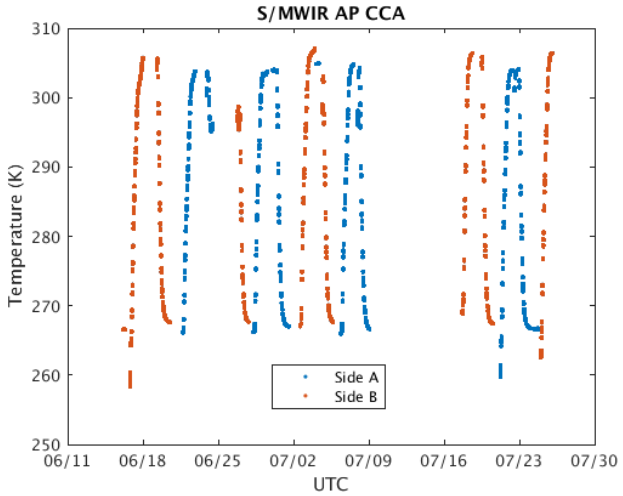
1. *Project has completed.*
2. *Project is within budget, scope and on schedule.*
3. *Project has deviated slightly from the plan but should recover.*
4. *Project has fallen significantly behind schedule, and/or significantly over budget.*

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	Sep-19		
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	
IDPS Mx build I&T deploy regression support:				
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:



S/MWIR bands electronics temperature during the JPSS-2 VIIRS prelaunch TVAC tests in the operational mode: a ~5 K offset between the primary side (A) and the redundant side (B) can be seen

OMPS SDR

May, 2019

Accomplishments / Events:

- Regular weekly dark deliveries for OMPS sensors were made.
- Regular bi-weekly OMPS-NP wavelength table deliveries were made for S-NPP.
- Delivered Bi-Weekly NOAA-20 OMPS-NP wavelength and solar table updates. S-NPP has regular updates for the LUTs ongoing for several years. Beginning May 2019 NOAA-20 now has bi-weekly updates. See image in *Highlights*.

Overall Status:

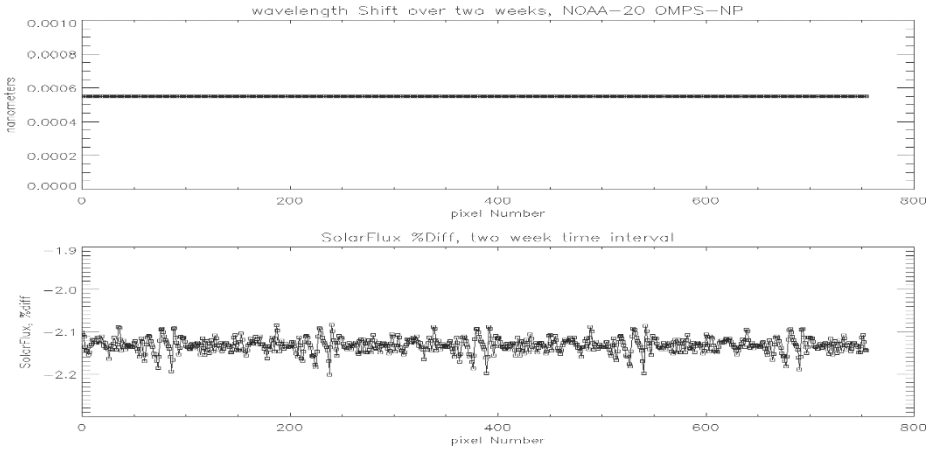
	Green[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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:

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Validated Maturity	Jun-19	Jun-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	
IDPS Mx build I&T deploy regression support:				
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		

Highlights:



Bi-weekly updates for solar and wavelength deliveries were made for NOAA-20/OMPS-NP. The plot shows the difference over two weeks in solar and wavelength.

SDR Reprocessing

May, 2019

Accomplishments / Events:

- Completed 2012, 2013, 2014 and 2016 VIIRS V2 SDR
- 2015 VIIRS V2 SDR reprocessing is on-going, the whole reprocessing will be completed by July 2019 (on schedule)
- After finishing the whole period of VIIRS V2 reprocessing, we will check missing granules
- For VIIRS reprocessing data dissemination interface development, we designed a script using OrbNav python package and finished integrating the python script into the Apache server in UMD. We will wrap the script using PHP to refine inputs and outputs.
- 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 July 2019

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		
Finish ATMS V2 Reprocessing	Jul-31	Jul-31		
Finish OMPS-NP V2 Reprocessing	Jul-31	Jul-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		

Overall Status:

	Green[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (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:

Generation of the file list corresponding to user's time and domain selection for VIIRS reprocessed Data Order

Example:
User selection: time: 2018-01-01 to 2018-03-09
domain: lon: -5~5; lat: -5~10
Generate list of files:

- npp_d20180101_t0042589_e0044231_b32016
  npp_d20180101_t1321095_e1322337_b32023
  npp_d20180101_t1322349_e1323591_b32023
  npp_d20180101_t1324003_e1325245_b32024
  npp_d20180102_t1302139_e1303380_b32037
  npp_d20180102_t1303393_e1305034_b32037
  npp_d20180102_t1305047_e1306288_b32038
  npp_d20180103_t0143170_e0144412_b32045
  npp_d20180103_t0144424_e0146066_b32045
  npp_d20180103_t1244436_e1246078_b32051
  npp_d20180103_t1246091_e1247332_b32052
  npp_d20180104_t0124214_e0125456_b32059
  npp_d20180104_t0125468_e0127110_b32059
  npp_d20180104_t0127122_e0128364_b32059
  npp_d20180105_t0105258_e0106500_b32073
  ……

ICVS

May, 2019

Accomplishments / Events:

- Observed S-NPP CrIS/ATMS GEO data anomaly and submitted DR for further investigation
- Reprocessed S-NPP CrIS lifetime data to generate CrIS O-B time series w.r.t. ECMWF forecast data
- Developed VIIRS v.s. ABI inter-sensor comparison and double difference modules to monitor NOAA-20 and S-NPP VIIRS bias and VIIRS long-term stability
- Monitored S-NPP ATMS scan drive main motor and compensate motor current variation and impact on ATMS TDR/SDR/GEO data quality
- Detected NOAA-20 CrIS corrupted RDR data and analyzed the impact on CrIS SDR data quality
- Built time series of NM wavelength registration and Solar flux over 35 macro-pixels
- Supported JPSS/SMCD weekly/monthly reports

Overall Status:

	Green[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (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.*

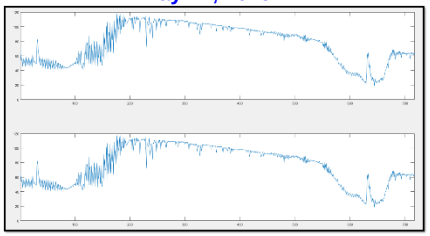
Issues/Risks:

None

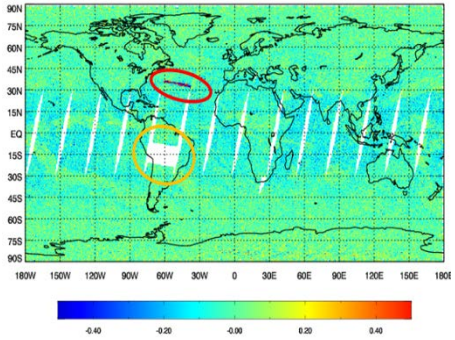
Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
ICVS-Application: ICVS Severe Weather Watch (iSEW) System (Severe Weather Watch with JMAPPER) (Beta Version)	Dec-18	Dec-18	Dec-18	
ICVS User's Manual and Technical Report Version 1	Mar-19	Mar-19	Mar-19	
ICVS Module initialize and Development (each instrument on both SNPP and NOAA-20): • Global (POES) Inter-Sensor Comparison Modules • VIIRS/CrIS &GOES ABI Comparison Module • Global O-B and Double Difference Bias Modules • RDR/SDR Operational Data Missing Granule Modules • CrIS/VIIRS geolocation monitoring module implementation and improvement • CrIS FOV(R)-To-FOV(R) Difference modules • CrIS Relative (Absolute) Spectral Difference Modules	Jun-19	Jun-19		
ICVS Module development and update: • Inter-Sensor Comparison Module update • O-B and DD Bias Module Update • ICVS Geolocation Accuracy Trending Modules • Enterprise ICVS Cloud/Clear Flag Modules • ICVS SDR Spectral Analysis Modules • ICVS Severe Weather Watch (iSEW) Update	Sep-19	Sep-19		
JPSS-ICVS System Standardization and ICVS Annual Performance Review	Sep-19	Sep-19		

Highlights: Significantly contribute to STAR SDR Teams

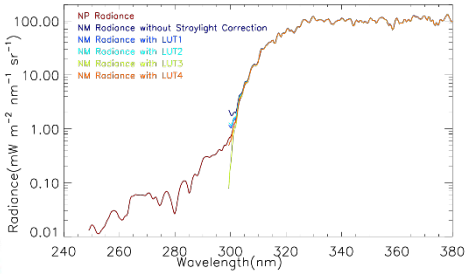
NOAA-20 CrIS Corrupted Data on May 11, 2019



N20 CrIS imaginary part radiance, 11 μm (900 cm⁻¹), Mapped, Descending, 05/11/2019

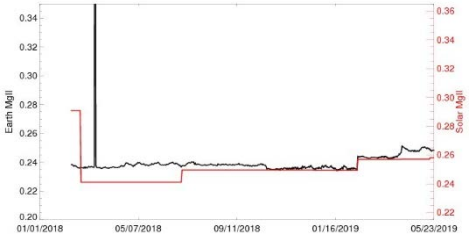


S-NPP OMPS NP and NM Radiance Spectrum with Different stray light LUT



NOAA-20 Nadir Profiler Daily Earth View and Solar MgII Index

Updated at May 24 13:01:05 2019 UTC



VIIRS Imagery

May, 2019

Accomplishments / Events:

- **Code changes for EDR Imagery Terrain Correction** are still being finalized, with ADL version issues causing differences between the code for team members working this issue. (D. Stuhmer, J. Dellomo, S. Finley, W. Chen)
- One orbit of VIIRS EDR Imagery was confirmed as “good” for the **MX6 I&T Deploy Regression** test. (S. Finley, C. Seaman)
- Good progress has been made on the **NCC LUT Algorithm Support Function (ASF),** which is being run offline at CIRA. A few run-time glitches are being addressed, such as code errors indicating that there is insufficient data in certain bins to be able to compute the output LUTs. ASF code modifications are being made to better pinpoint the source of the problem and to resolve this issue. (S. Finley, T. Kopp, D. Hillger)

Overall Status:

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

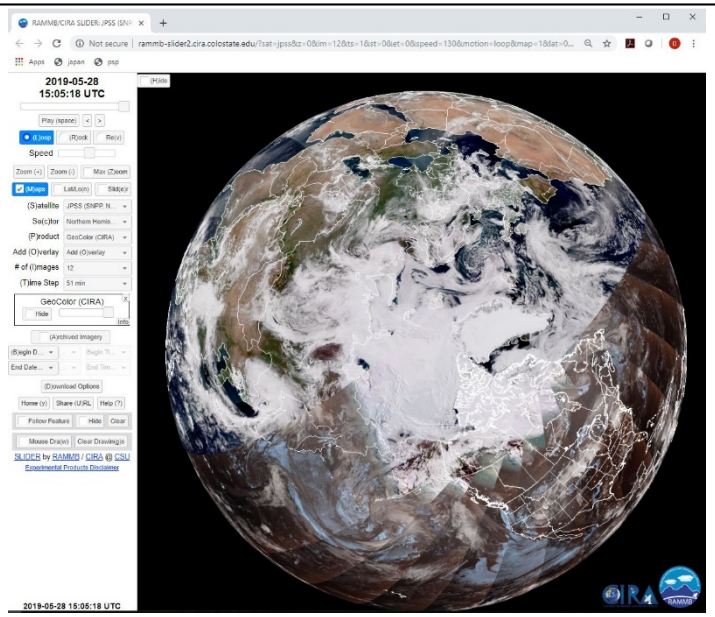
1. *Project has completed.*
2. *Project is within budget, scope and on schedule.*
3. *Project has deviated slightly from the plan but should recover.*
4. *Project has fallen significantly behind schedule, and/or significantly over budget.*

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 Imagery performance report	Aug-19	Aug-19		
N20 NCC LUT update	Sep-19	Sep-19		
Terrain-Correction geo-locations for VIIRS Imagery EDRs (ADR8239)				
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		
IDPS Mx build I&T deploy regression support:				
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:



True-color VIIRS imagery of the Northern Hemisphere from CIRA’s Polar Slider, with full illumination of the North Pole during the NH summer.

Clouds

May, 2019

Accomplishments / Events:

- Cloud products (cloud mask, type/phase, ACHA, DCOMP, NCOMP, CBH, and CCL) passed the full maturity validation review and reached validated maturity status.
- Cloud team developed a new web interface tool to visualize monthly product trends (see highlights).
- JPSS Aviation Initiative team met virtually to discuss CCL cross-sections and plans for future demo.

Overall Status:

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

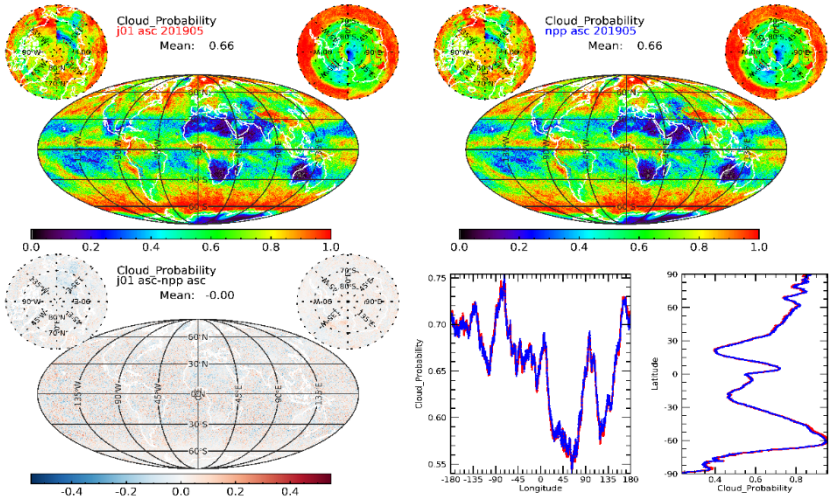
1. *Project has completed.*
2. *Project is within budget, scope and on schedule.*
3. *Project has deviated slightly from the plan but should recover.*
4. *Project has fallen significantly behind schedule, and/or significantly over budget.*

Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
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	
Algorithm update DAP to ASSISTT: ▪ Cloud Mask: Develop new LUTs that support multi-dimension classifiers and provide full meta-data ▪ Cloud Phase/Type: Optimize cloud phase thresholds for NOAA-20 ▪ ACHA: improving multilayer ACHA by analysis of calipso observed cloud behavior to support Polar Winds ▪ CCL: Separate CCL from ACHA processing	Mar-19	Mar-19	Mar-19	
Algorithm update DAP to ASSISTT: ▪ Cloud Mask: Implement DNB ▪ ACHA: Work on surface emissivity issues that are impacting 8.5 micron clear-sky BT ▪ CBH: Leverage GOES-RR to target characterization of overlapping cloud assess CBH performance for multi-layer cloud systems ▪ DCOMP9: Incorporate improved surface reflectance for DCOMP channels ▪ DCOMP: Implement gross phase correction for DCOMP pixels that fail (thin cirrus over stratus is a common issue) ▪ NCOMP: extend NCOMP cloud optical depth range to include larger values by including a neural net approach	Sep-19	Sep-19		

Highlights: VIIRS Monthly Mean Cloud Probability



Global cloud probability in May 2019 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.

Aerosol

May, 2019

Accomplishments / Events:

- Aerosol products reached Validated Maturity (5/16/2019 maturity review).
- ADP patch DAP delivered to NDE on 5/24/2019.
- Level 3 gridded AOD and other related parameters (e.g., absorption aerosol optical depth) data have been generated on a 1o x 1o grid for 2018 to be delivered to AEROCOM/AEROSAT working group for intercomparisons with global models
- Aerosol team is evaluating NOAA-20 by comparing with other correlative measurements. The NOAA-20 VIIRS AOD has slight positive bias compared to SNPP VIIRS over Ocean. This bias is being investigated for source
- Aerosol team has revised some matchup software to improve the processing speed. The tool can now provide matchup results for one month in 8 hours
- The aerosol team is also working with STAR IT team to revise, improve, enhance its VIIRS cal/val website. All parts of the website are being upgraded for efficiency and ease with which information can be found. The ADP product details on the website are new.
- The AOD to PM2.5 conversion algorithm has been substantially improved and the team is working with NCEP in assessing its performance.

Overall Status:

	Green[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (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
Validated Maturity (N20 Cal/Val))	May-19	May-19	05/16/19	
Final DAP (N20 Algorithm Adjustment)	Mar-19	Mar-19	03/11/19	
Algorithm update DAP to ASSISTT: ▪ Revise the output quality flags (grouped based on the retrieval quality) ▪ AOD: Update internal tests (e.g., sea ice, heavy aerosol etc.) for SNPP and NOAA-20 ▪ ADP: algorithm updates to the IR-visible path (thresholds and quality flag determination)	Mar-19	Mar-19	Mar-19	
Algorithm update DAP to ASSISTT: ▪ Algorithm update for heavy aerosol retrievals over dark land surface (high reflectance might trigger the retrieval over bright land) ▪ AOD: Update the bright surface reflectance database ▪ ADP: algorithm updates to improve (improve correct detection and minimize false detection) over bright surfaces using spectral surface reflectance data base	Sep-19	Sep-19		
Enhancements to AerosolWatch website to add NOAA-20 data	Jun-19	Jun-19		

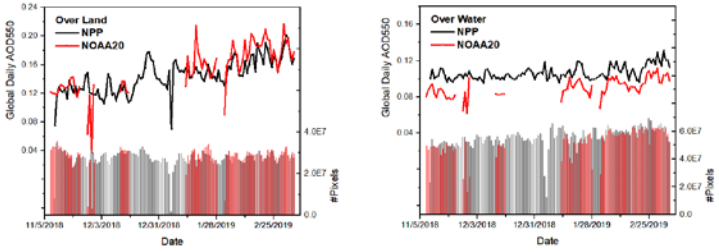


Figure 1. Global averaged high-quality AOD from S-NPP and NOAA20 VIIRS, as well as the number of daily pixels with high-quality retrievals. Left panel: over land; right panel: over water.

Volcanic Ash

May, 2019

Accomplishments / Events:

- Added to list of known NOAA-20 observations of non-trivial ash clouds
- Successfully completed the NOAA-20 validated maturity review
- Continued to develop and test algorithm improvements through incorporation with CrIS measurements.

Overall Status:

	Green[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (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 user request task is being worked, but will require much more time to complete since we need to completely reformulate the requirements.

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

Highlights:

Attribute Analyzed	JERD Threshold	NOAA-20 Performance (analysis reported here)	Meet Requirement?	Additional Comments
Height: Accuracy	3 km	0.92 – 1.74 km	Yes	Low bias
Loading: Accuracy	2 ton/km^2	1.26 – 1.60 ton/km^2	Yes	High bias
Loading: Precision	2.5 ton/km^2	0.84 – 1.22 ton/km^2	Yes	

The NOAA-20 error budget presented at the validated maturity review

Cryosphere

May, 2019

Accomplishments / Events:

NOAA-20 Snow and Ice Reach Provisional and Validated Maturity: The JPSS Cryosphere Team participated in the NOAA-20 Maturity Review on 16 May 2019. The cryosphere products reviewed were VIIRS Snow Cover, Ice Surface Temperature, Ice Concentration, and Ice Age/Thickness. The ice products were shown to exceed accuracy requirements for a large validation dataset, and were therefore recommended for Validated Maturity by the Review Board. The snow products were recommended for Provisional Maturity.

Bronze Medal for AMSR2 Products System: AMSR2 team is being awarded the 2019 U.S. Department of Commerce Bronze Medal "For developing the operational GCOM-W1 AMSR2 products system."

Overall Status:

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

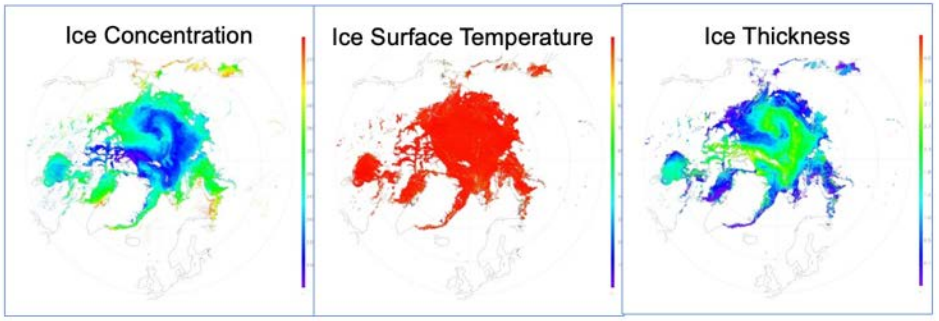
1. *Project has completed.*
2. *Project is within budget, scope and on schedule.*
3. *Project has deviated slightly from the plan but should recover.*
4. *Project has fallen significantly behind schedule, and/or significantly over budget.*

Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Provisional Maturity (N20 Cal/Val)	Apr-19	Apr-19	05/16/19	
Final DAP (N20 Algorithm Adjustment)	Mar-19	Mar-19	03/11/19	
Offline Products: ▪ Snow: Establish routine generation of global gridded binary and fractional snow cover products on a daily basis ▪ IST: Begin routine production of I-band IST algorithm using only the 11 um I-band channel ▪ Ice Concentration: Start generating an I-band resolution product with available I-band IST	Sep-19			
Algorithm Cal/Val: ▪ 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 ▪ IST: Compare N20 IST with SNPP, MODIS, IceBridge, and IABP IST ▪ Ice Concentration: Compare N20 ice concentration with NPP, MODIS, SAR, Landsat, SENTINEL-1&2, and IceBridge data ▪ Ice Thickness: ValidateN20 ice thickness with NPP, IceBridge, CryoSat-2, SMOS, and ICESat-2 products	Sep-19			
Algorithm Updates: ▪ Modify/add quality flags if needed ▪ Ice Concentration: Improve tie-point processing for marginal ice zone ▪ **Ice Thickness**: • Ice growing/melting and dynamic adjustment factors • Snow depth climatology and interface temperature between ice and snow • Use weekly or bi-weekly running mean temperature	Sep-19			

Highlights:



From left to right: VIIRS ice concentration, ice surface temperature, and ice thickness.

Active Fires

May, 2019

Accomplishments / Events:

- Presented at the May 2019 NOAA-20 Maturity meeting
- The I-band product was approved for Provisional Maturity, pending delivery of required documentation
- Worked on the implementation of the processing code to include persistent anomaly information in the product, including a placeholder for urban areas
- Worked with NOAA ESRL, NCEP EMC and OSPO on the details of operational implementation of the HRRR-smoke system at NCEP and the input VIIRS fire data

Overall Status:

	Green[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (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.*
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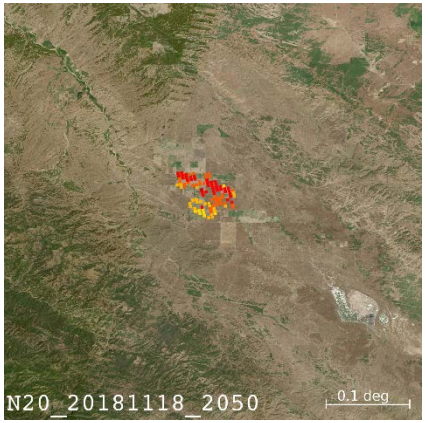
Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
S-NPP / NOAA-20 data analysis	Sep-19	Sep-19		
I-Band Active Fires algorithm development and Cal/Val				
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:

0 none
1 oil or gas
2 volcano
3 solar panel
4 urban (not defined yet)
5 unclassified



Credit: Marina Tsidulko, IMSG@STAR

year,month,day,hh, mm, lon, lat, mask,confidence, bright_i4, frp, line,sample,bowtie,persist_anomaly; nfire = 132
2018, 11, 18, 20, 50, -112.139267, 35.950317, 8, -99, 330.496033, 5.047480, 216, 2032, 0, 0
2018, 11, 18, 20, 50, -120.050804, 35.343464, 8, -99, 345.680939, 27.107536, 360, 3704, 0, 3
2018, 11, 18, 20, 50, -120.055244, 35.342693, 8, -99, 329.316742, 27.107536, 360, 3705, 0, 3
2018, 11, 18, 20, 50, -120.047211, 35.347595, 8, -99, 344.739471, 6.859485, 361, 3703, 0, 3
2018, 11, 18, 20, 50, -120.051666, 35.346828, 8, -99, 340.357239, 27.107536, 361, 3704, 0, 3

False alarm from reflection from a solar farm in California on November 18, 2018 and the persistent anomaly flag in the output text file.

Surface Reflectance

May, 2019

Accomplishments / Events:

- Supported the Unit Test Readiness Review for Phase 4 of Product Quality Monitoring, which includes Surface Reflectance
- Evaluated the selection criteria for good quality aerosols in the Surface Reflectance product
- The science team and the aerosol team agreed to relax the criteria to allow for more aerosol data to be used instead of fallback climatology

Overall Status:

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

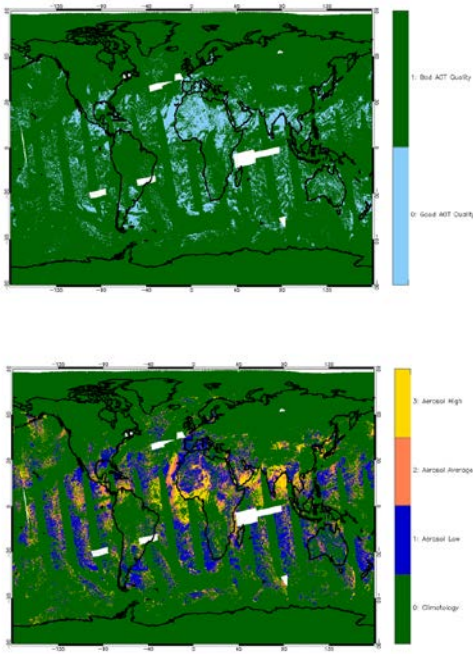
1. *Project has completed.*
2. *Project is within budget, scope and on schedule.*
3. *Project has deviated slightly from the plan but should recover.*
4. *Project has fallen significantly behind schedule, and/or significantly over budget.*

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
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	

Highlights:



Aerosol quality flag (top) and aerosol quantity (bottom) in the NOAA-20 Surface reflectance product on February 13, 2019. Green color indicates fallback climatology

Credit: Mike Wilson, IMSG@STAR

Surface Type

May, 2019

Accomplishments / Events:

- Downloaded and processed VIIRS observations acquired in May 2019 to create daily mosaics (up to the writing of this report)
- Produced a preliminary SVM classification, which will be post-processed to generate the 2018 Annual Surface Type product.
- Evaluated AST products against the Climate Change Initiative (CCI) global land cover products produced by the European Space Agency for 2014 and 2015, which are the latest available CCI products

Overall Status:

	Green[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (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:

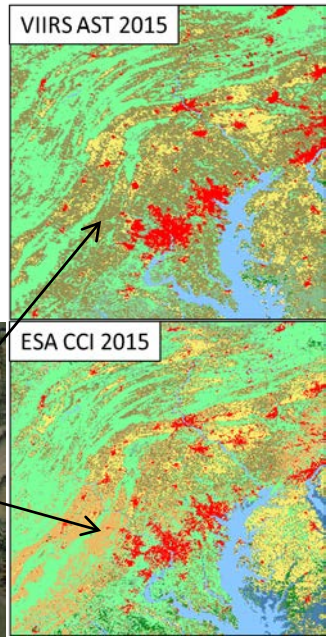
None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Beta Maturity (N20 Cal/Val)	Jul-19	Jul-19		
Provisional Maturity (N20 Cal/Val)	Sep-19	Sep-19		
Annual performance report	Aug-19	Aug-19		
AST18 (Annual Surface Type):				
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:

The European Space Agency has produced global land cover products under its Climate Change Initiative (CCI). A comparison of CCI and AST over the Washington-Baltimore-New York corridor is show to the right. After adjusting its spatial resolution and thematic types to make them consistent with the VIIRS AST product, the two had an overall agreement of 87%. Most of the differences are due to use of different thresholds to separate forests, shrublands, grasslands, and bare.

Other differences exist in defining urban and wetlands and in separating crop from crop/natural vegetation mosaics (right)



Land Surface Temperature

May, 2019

Accomplishments / Events:

- Completed and tested the software code for local generation of the enterprise Sentinel 3B LST. The quality flag with the same structure of the enterprise VIIRS LST is added into the LST output. Cloud mask might be different from the operational product due to input missing.
- The comparison has been extended from granule scale to global scale. The data on 20190430 is used as a test case for the global cross LST product comparison between enterprise LST algorithm and operational Sentinel 3 LST algorithm. The difference statistics are presented for daytime and nighttime, respectively (highlights, slide 2 & 3)
- Enterprise SNPP LST was compared with VNP21 LST, which is derived using physics-based algorithm. The comparison is extended from granule scale to global scale. The data on 20190301 is used as a case study. (slide 4 & 5)
- The data quality flag is added to the enterprise VIIRS LST output for monitoring use. The DQI is obtained from the first two bits(0-1) of the LST quality flag. The framework output has been verified.
- The gridded LST has been locally generated using the framework NRT data as input for both SNPP and NOAA20.
- Further modified the manuscript titled “Enterprise LST algorithm development and its evaluation with NOAA 20 data” following internal review comments.

Overall Status:

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

1. *Project has completed.*
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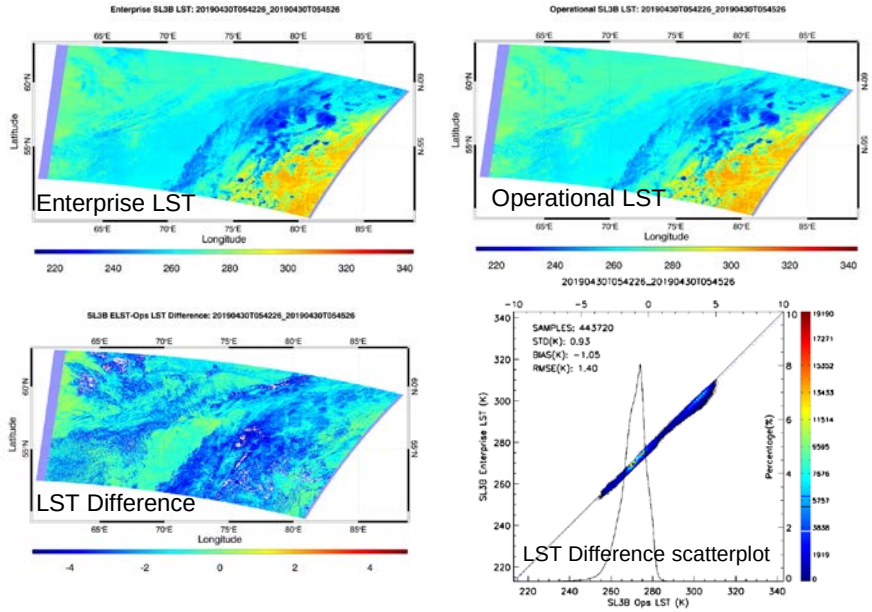
Issues/Risks:

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		
Global gridded LST				
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	Jul-19		
Final DAP to NDE	Jul-19	Jul-19		

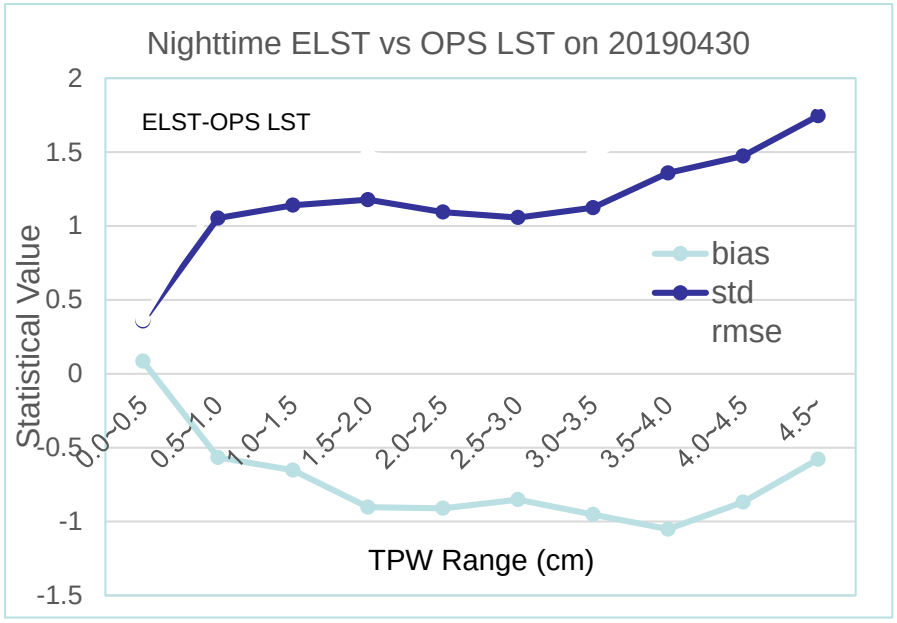
Highlights: Enterprise vs Operational Sentinel 3B LST

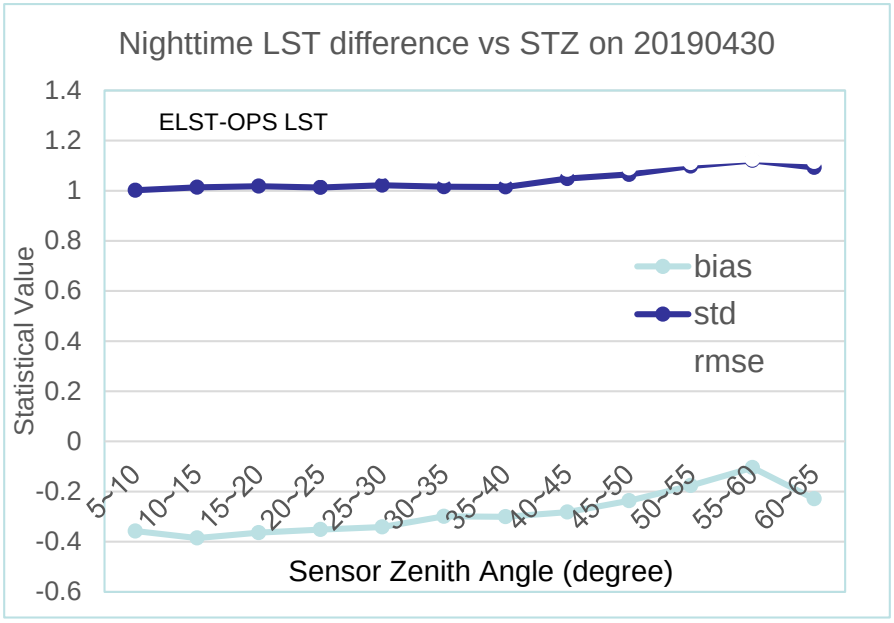


Enterprise vs Operational Sentinel 3B LST

Global Nighttime LST difference: case study for 20190430.

LST difference	Percentage
[0,1]	71.43%
(1,2]	21.05%
(2,3]	5.61%
(3,4]	1.50%
(4,5]	0.29%
5+	0.12%



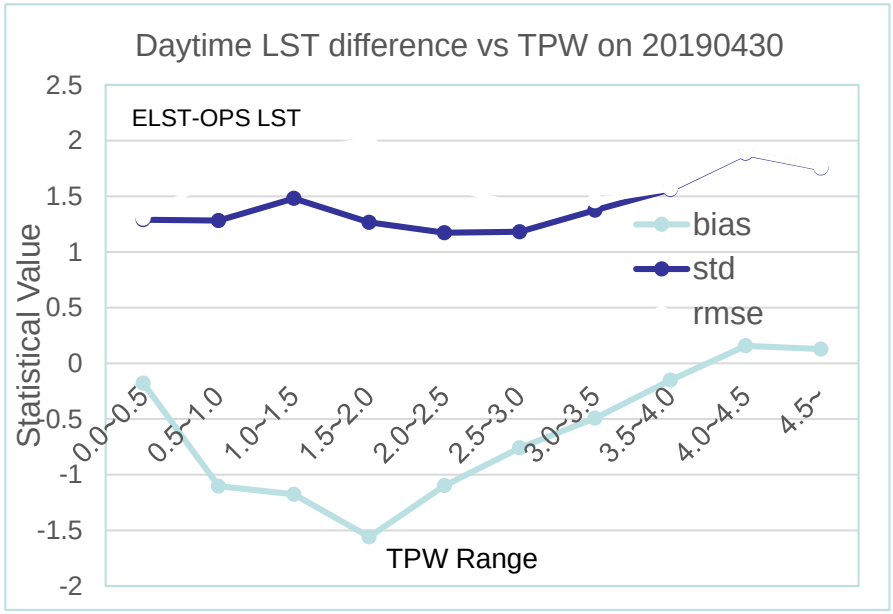


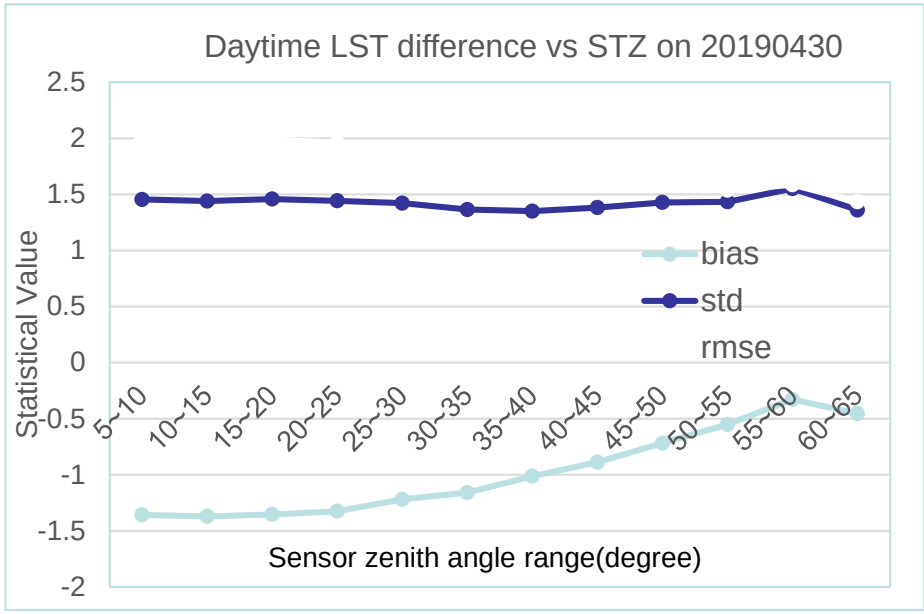
Global : samples 69004094; Bias -0.28 ; STD: 1.04

Enterprise vs Operational Sentinel 3B LST

Global daytime LST difference: case study for 20190430.

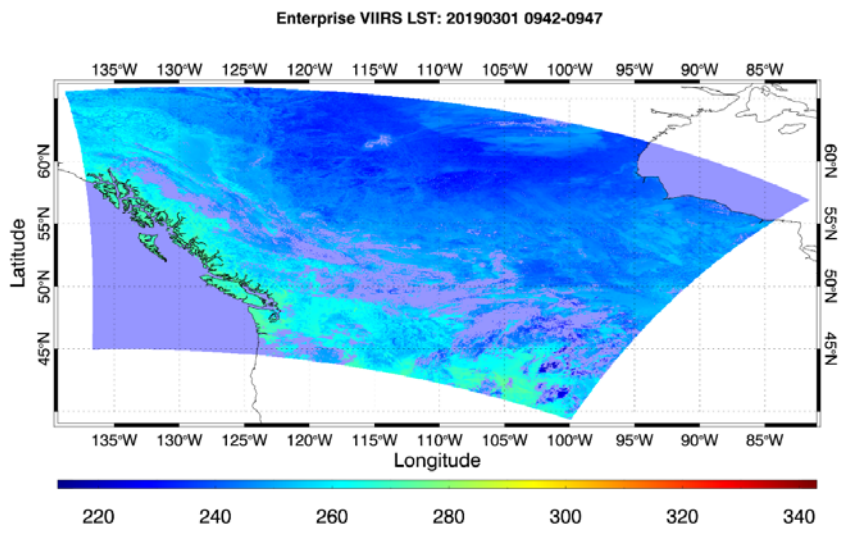
LST difference	Percentage
[0,1]	45.93%
(1,2]	31.35%
(2,3]	14.14%
(3,4]	5.50%
(4,5]	1.97%
5+	1.11%

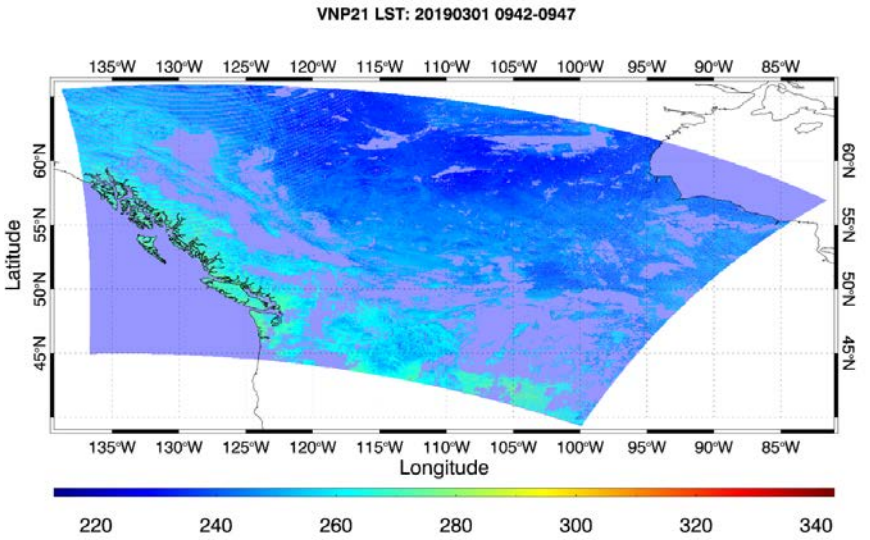


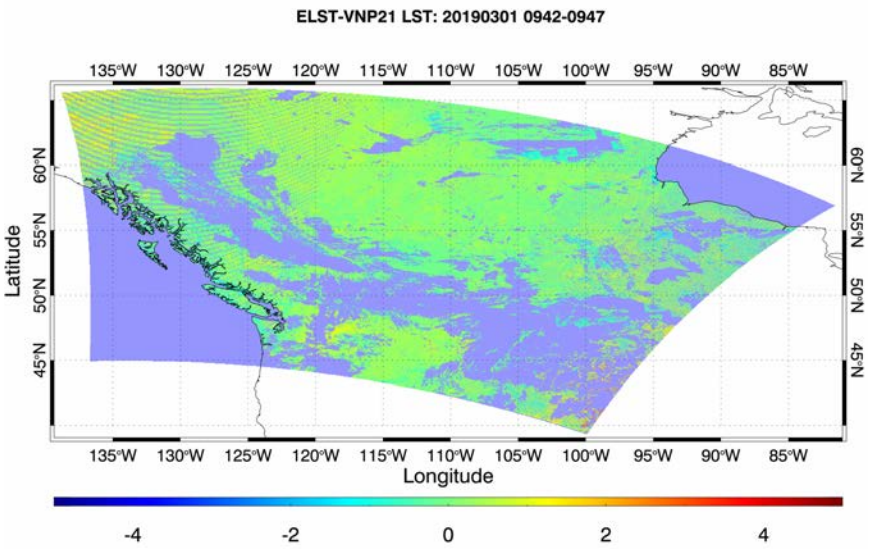


Global : samples 44980856; Bias -0.97 ; STD 1.47

Enterprise VIIRS LST vs VNP21 LST

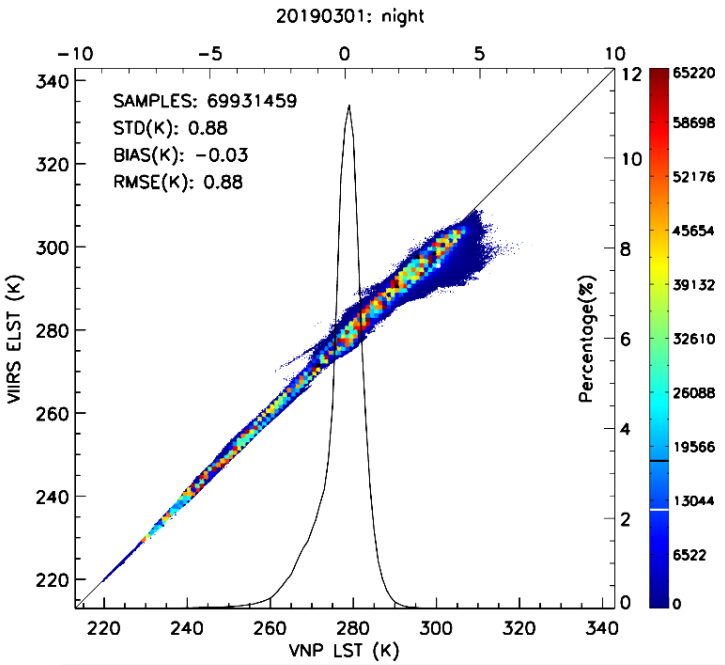


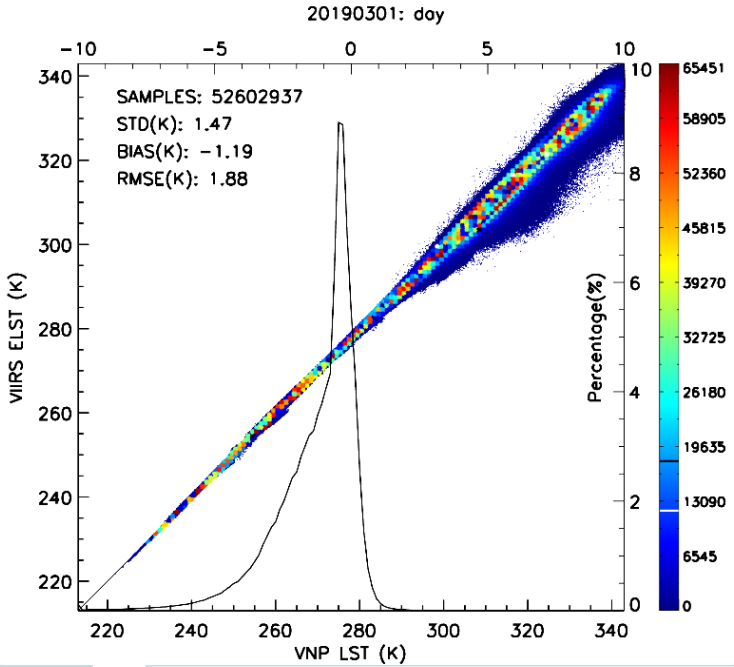




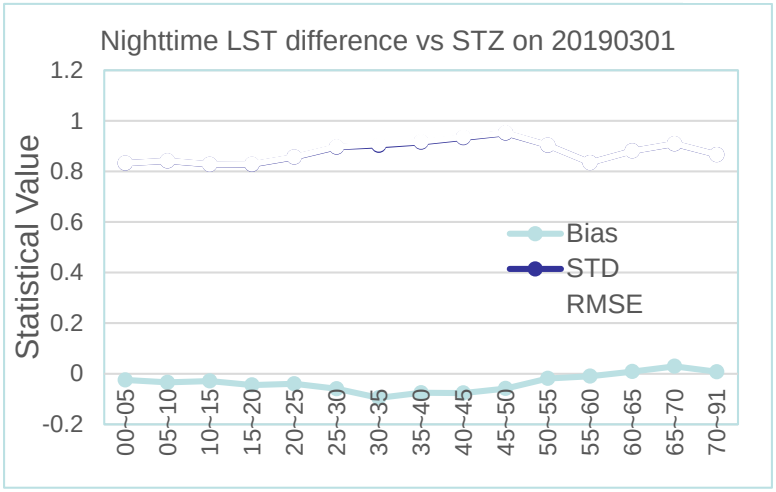
The granule level comparison between Enterprise SNPP LST and VNP21 LST at 0942-0947 UTC of 20190301.
Enterprise LST image (top left); VNP21 LST image (top right) and the difference image (bottom left)

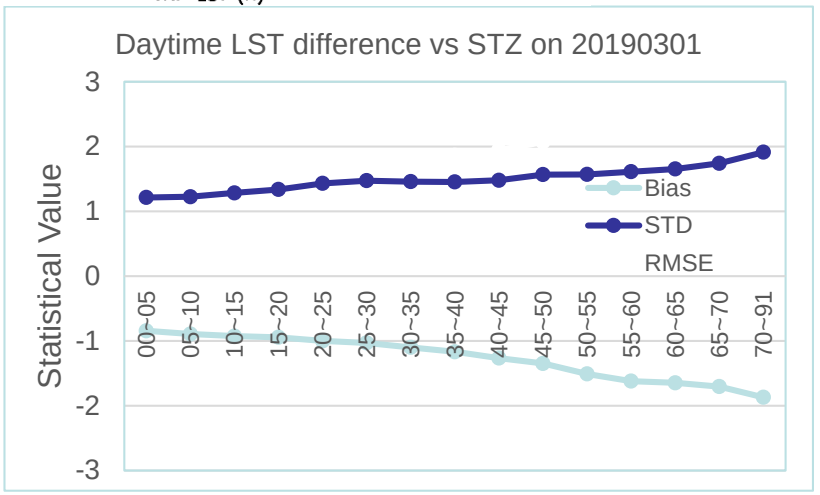
Enterprise VIIRS LST vs VNP21 LST





The global level comparison between enterprise SNPP LST and VNP21 LST with a case study for 20190301.
The statistics of the LST difference for nighttime (top left) and daytime(top right). Bottom shows the difference with respect to the sensor zenith angle.





Surface Albedo

May, 2019

Accomplishments / Events:

- Investigated the reason for the inconsistency between NDE J01 LSA and ASSIST NRT J01 LSA to support the new DAP integration
- Supported the integration and verification of the VIIRS granule albedo code update for Jul 2019 DAP, which include dealing with the extra-large-SZA retrievals, removing pure sea-water granules, updating the LUTs for NOAA-20 VIIRS sensor.
- Provided input to the monthly report of operational team
- Delivered the FY-2019 proposal to CISESS for Surface Albedo Algorithm Validation and Product Monitoring
- Conducted cross-comparison of VIIRS LSA with MODIS/VIIRS daily mean albedo produced in NASA (***Highlights & Slide #2***)
- Conducted in-situ direct validation of VIIRS LSA to prepare for the ARR(***Slide #3***)
- Completed the FY 2019 NOAA Information Technology Security Awareness Course

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		
Global gridded LSA				
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	Jul-19		
Final DAP to NDE	Jul-19	Jul-19		

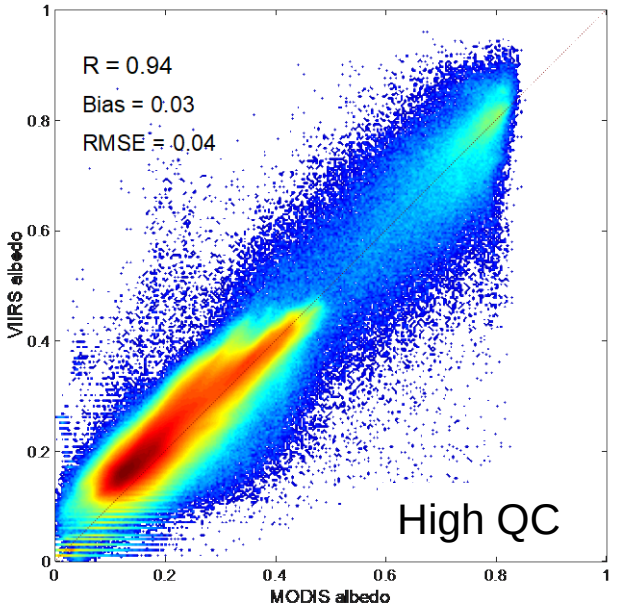
Overall Status:

	Green[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (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.*

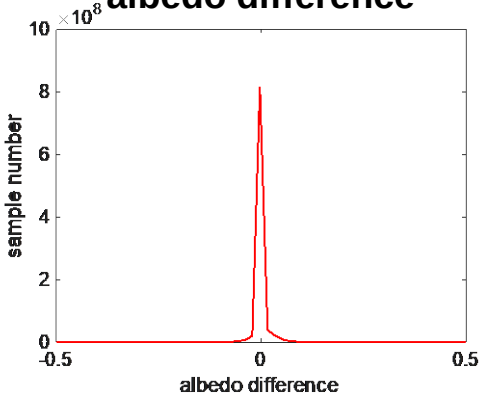
Issues/Risks:

Highlights: ***Albedo difference (VIIRS vs. VNP43)***



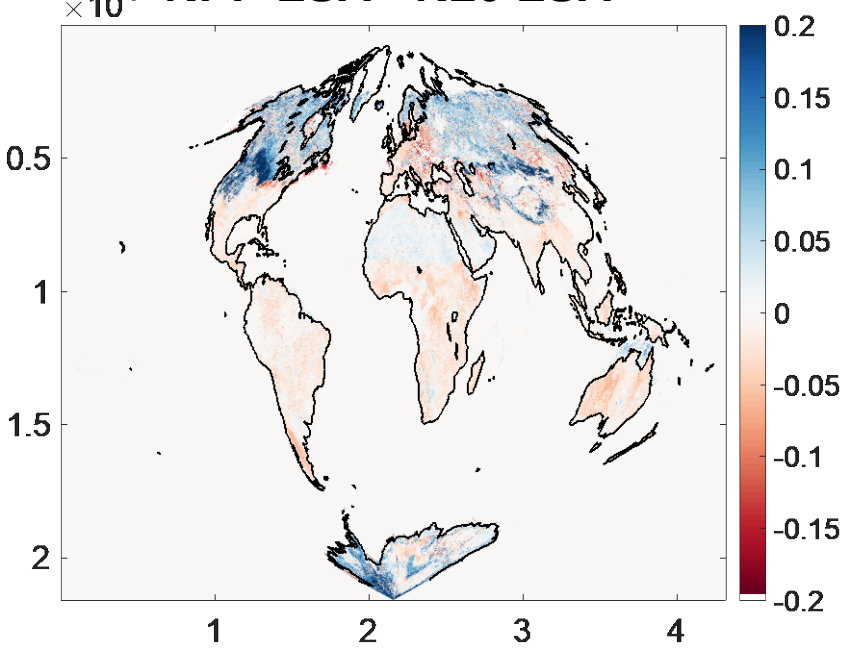
N20 VIIRS LSA vs. NPP VIIRS LSA

Distribution of albedo difference

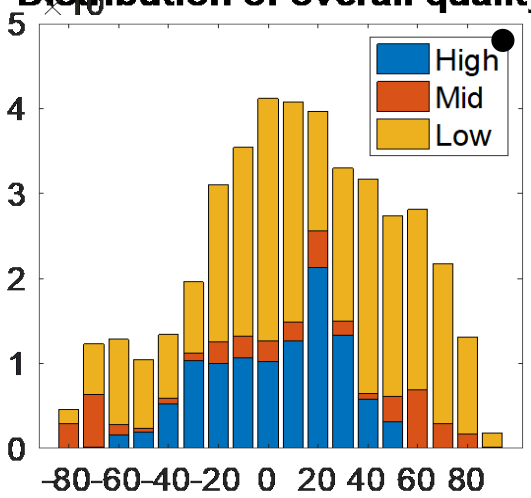


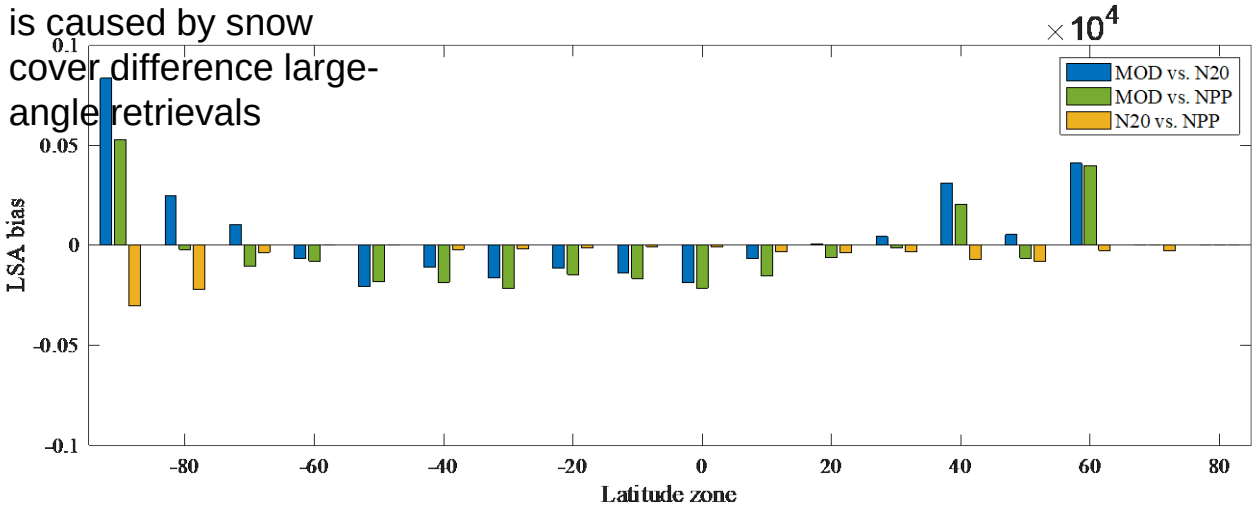
- Data: 02/15/2019
- (N20-NPP) << (MODIS-VIIRS)
- Data consistency is best over 20~30˚N due to the largest fraction of high-quality retrieval
- Difference in 40~60˚N is caused by the dominance of climatology filled values
- Difference in Antarctic is caused by snow cover difference large-angle retrievals

NPP LSA - N20 LSA



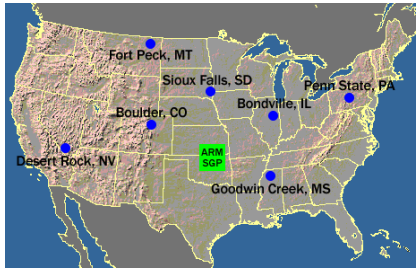
Distribution of overall quality





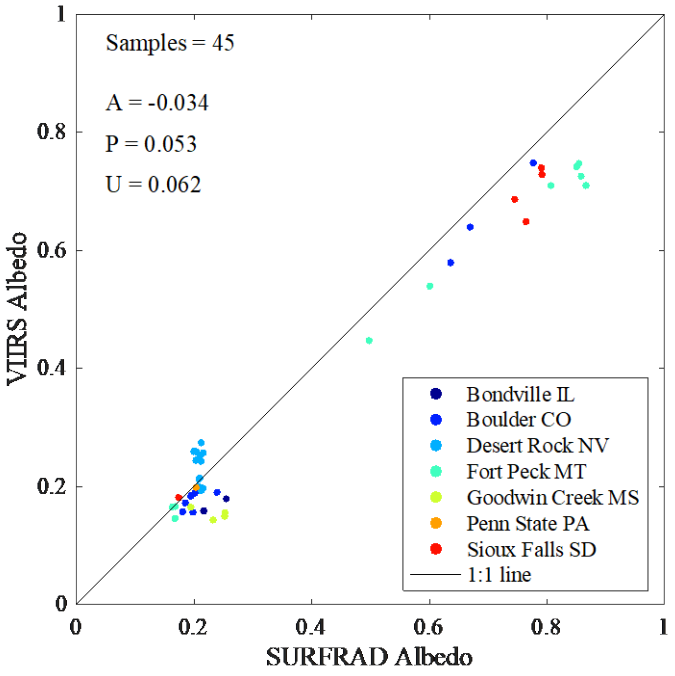
Validation of N20/NPP VIIRS LSA with SURFRAD

Monitoring & Evaluation

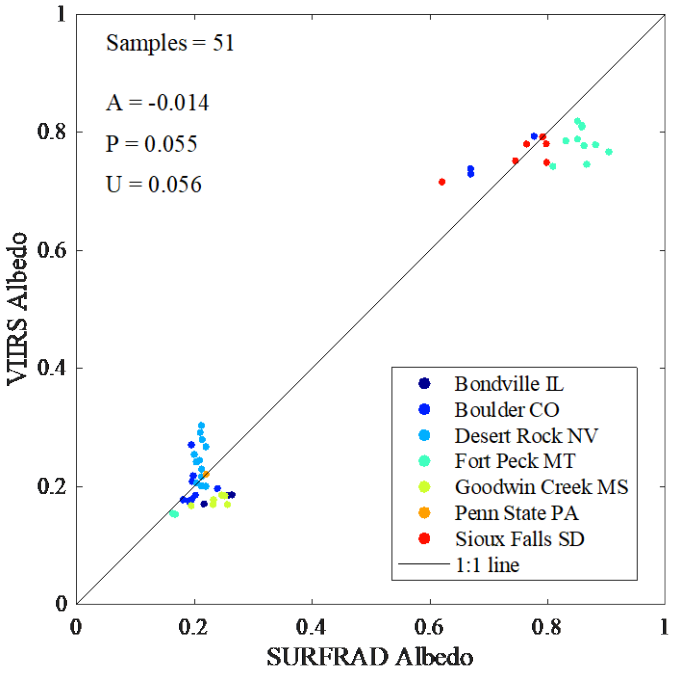


- 01/2019~05/2019
- Reflect absolute accuracy
- Direct comparison between matched-ups
- Over clear-sky observations
- Influenced by the heterogeneity in the surrounding area of the station tower

N20 VIIRS LSA vs. SURFRAD albedo



NPP VIIRS LSA vs. SURFRAD albedo



	NOAA-20		SNPP	
	Over all retrievals	Only homogeneous	Over all retrievals	Only homogeneous
A	-0.034	-0.034	-0.003	-0.014
P	0.083	0.053	0.128	0.055
U	0.09	0.062	0.127	0.056

Green Vegetation Fraction

May, 2019

Accomplishments / Events:

- Developed shell script code to download NOAA-20 surface reflectance data from PDA I&T and GITCO data from SCDR, and match them in pairs as input of the NOAA-20 GVF system
- Set up NOAA-20 GVF environment at STAR local computes and produced NOAA-20 GVF since May 11, 2019 (refer Highlights)
- Evaluated the operational SNPP VIIRS GVF derived from the new version of SR data with updated global maximum and minimum EVI values (refer additional slides)

Overall Status:

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

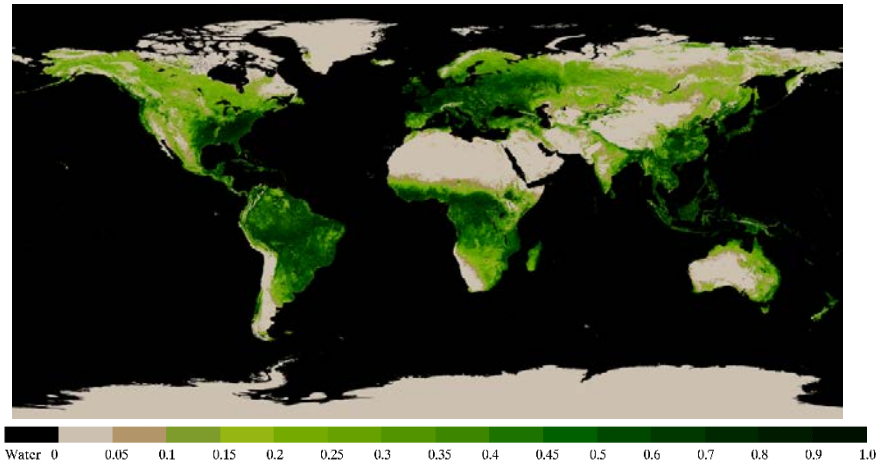
1. *Project has completed.*
2. *Project is within budget, scope and on schedule.*
3. *Project has deviated slightly from the plan but should recover.*
4. *Project has fallen significantly behind schedule, and/or significantly over budget.*

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	Jul-2019		significant code change is needed, till July 2019
Cal/Val tool development (SNPP & J1 comparison)	Jun-19	Jun-19		
Deep-dive analysis software package for the anomaly watch	Sep-19	Sep-19		

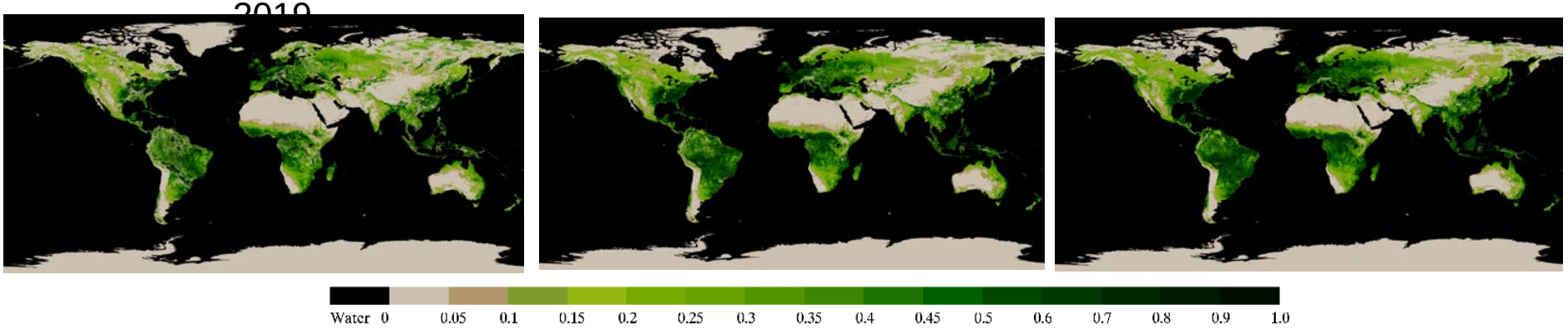
Highlights:



NOAA-20 Weekly GVF (May 19 – 25, 2019)

Production of NOAA-20 VIIRS GVF at local run

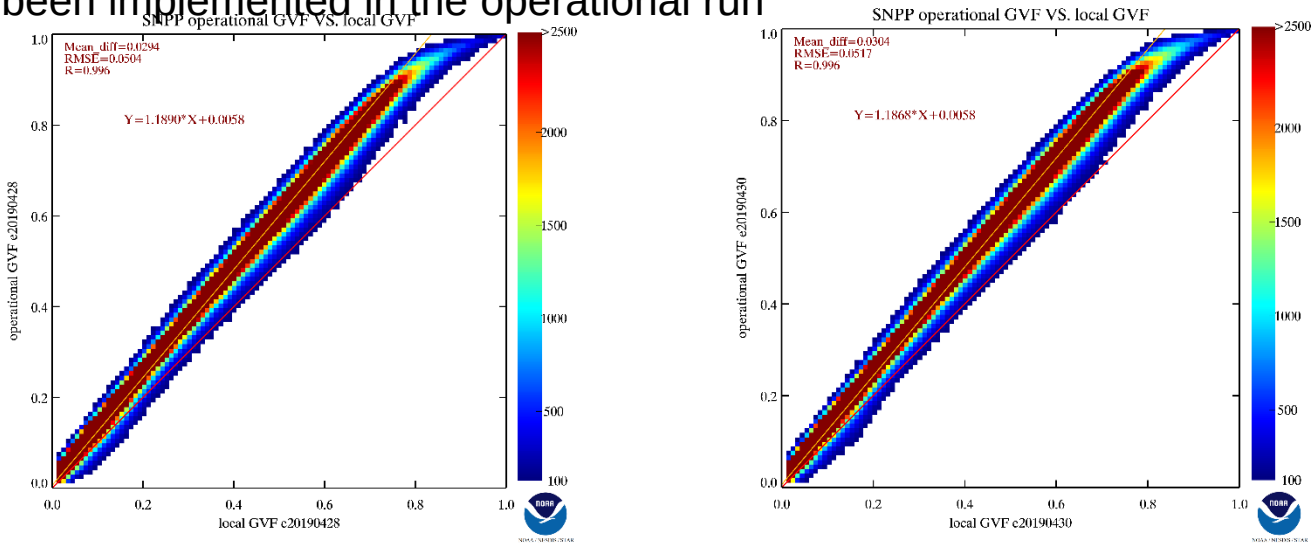
- The NOAA-20 VIIRS GVF system was tested at STAR local computes and NOAA-20 GVF data were produced daily since May 11, 2019, which will be used for the validation of the NOAA-20 GVF product
  - NOAA-20 surface reflectance data (version v1r1) were found available on PDA I&T.
  - Wrote shell script code to download NOAA-20 surface reflectance data from PDA I&T and GITCO data from SCDR and match them in pairs as input of the NOAA-20 GVF system
  - Set up NOAA-20 GVF environment at STAR local computes and created cron job for daily production of NOAA-20 GVF data at local computers
  - Daily rolling weekly NOAA-20 GVF data have been produced since May 11, 2019



NOAA-20 Weekly GVF (May 06 – 12, 2019) *NOAA-20 Weekly GVF (May 10 – 16, 2019)* *NOAA-20 Weekly GVF (May 14 – 20, 2019)*

Evaluation of the operational SNPP VIIRS GVF for SR LUT correction

- Evaluated the operational SNPP VIIRS GVF derived from the new version of SR data with updated global maximum and minimum EVI values
  - The new version of SNPP surface reflectance (v1r1) with corrected lookup table (LUT) has been produced operationally since Apr 23, 2019
  - The new global maximum and minimum EVI values for the SNPP GVF system, adjusted for the new SR data, were sent to the NDE for testing and used at local run of SNPP GVF production
  - The operational SNPP GVF was found higher than that at local run after Apr 23, 2019 because the new global maximum and minimum EVI values have not been implemented in the operational run



Scatter plot between the operational SNPP GVF and local run GVF

Vegetation Index

May, 2019

Accomplishments / Events:

- The updated NVPS VI software codes and documents have been delivered to NDE in the May DAP of 2019.
- Compared to the November DAP of 2018, the DAP has the following adjustments (refer to highlights):
  - Modified NVPS VI codes associated with metadata reading so that VI codes can match JPSS series (SNPP, NOAA-20) missions for vegetation index productions.
  - Improved implementation of latitude and longitude coordinates in NVPS VI from previous 2-dimensional to 1-dimensional to reduce storage of outputs by 30 percent.
  - Change VI operational environment setting and running driver so that local setting and driving are consistent with NDE ones.
- The updated NVPS VI has been tested on NOAA-20 reflectance and atmosphere information in period from 01/03/20190 to 01/20/2019. (refer to additional slides)

Overall Status:

	Green[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (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	Jul-2019		significant code change is needed, till July 2019
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:

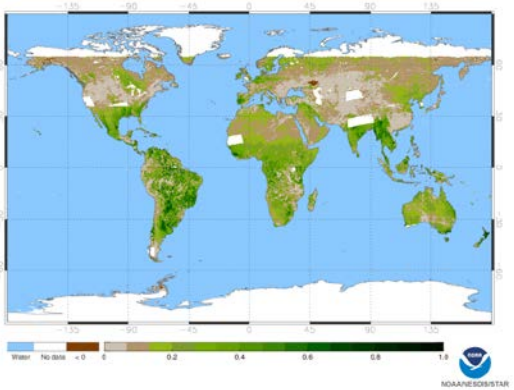
November DAP of 2018 vs. May DAP of 2019

VI codes vary with platforms (SNPP, N20)	VI codes are independent of platforms (SNPP, N20)
Latitude/Longitude coordinates in outputs are 2-Dimensional	Latitude/Longitude coordinates in outputs are 1-Dimensional to reduce output storage by 30%
Environmental variables are specified in a bash file (setenv.sh)	Environmental variables are specified in a PCF to make local running is consistent with NDE running
VI running driver only matches local operational environment	VI running driver can match both local and NDE operational environments

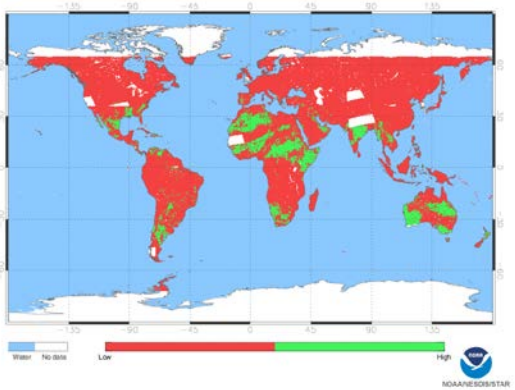
Daily Global Vegetation Index and Overall Quality Flag

May, 2019

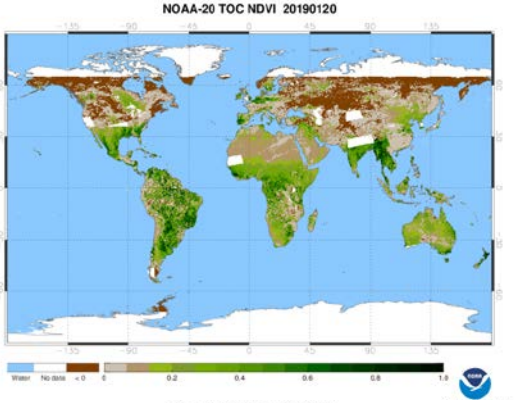
NOAA-20 TOA NDVI 20190120



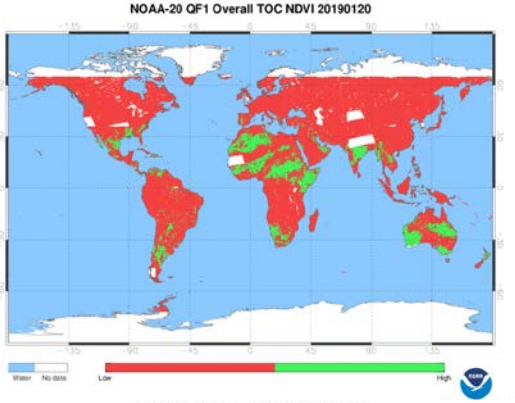
NOAA-20 QF1 Overall TOA NDVI 20190120



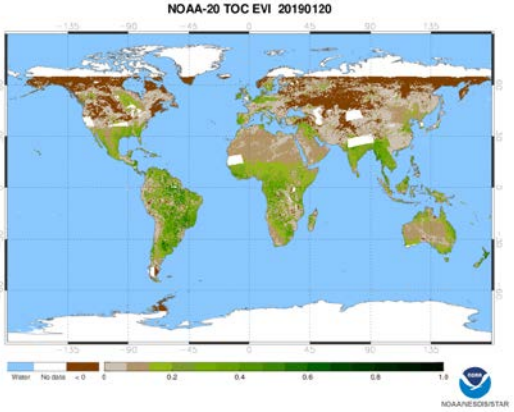
NOAA-20 TOC NDVI 20190120



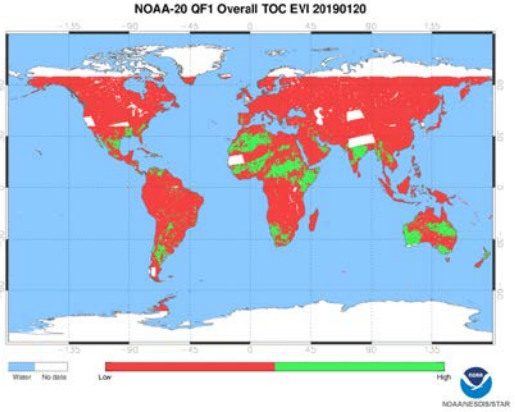
NOAA-20 QF1 Overall TOC NDVI 20190120



NOAA-20 TOC EVI 20190120



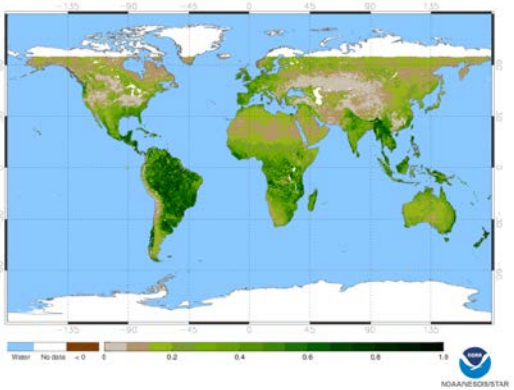
NOAA-20 QF1 Overall TOC EVI 20190120



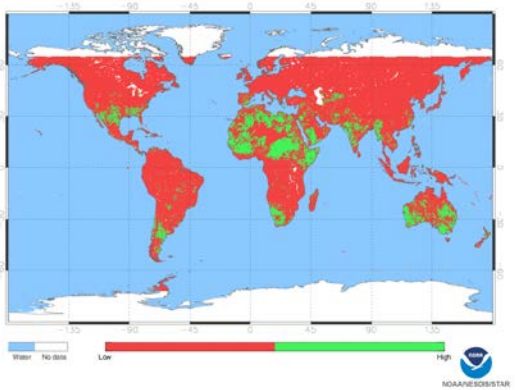
Weekly Global Vegetation Index and Overall Quality Flag

May, 2019

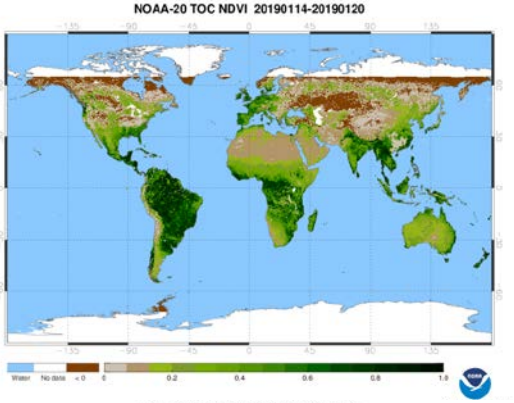
NOAA-20 TOA NDVI 20190114-20190120



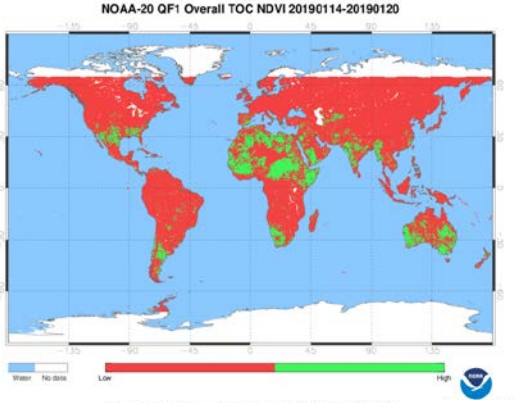
NOAA-20 QF1 Overall TOA NDVI 20190114-20190120



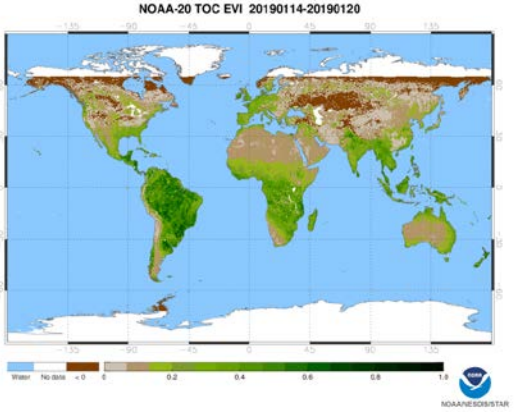
NOAA-20 TOC NDVI 20190114-20190120



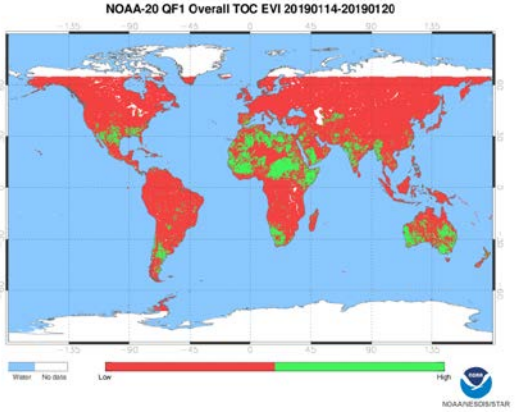
NOAA-20 QF1 Overall TOC NDVI 20190114-20190120



NOAA-20 TOC EVI 20190114-20190120



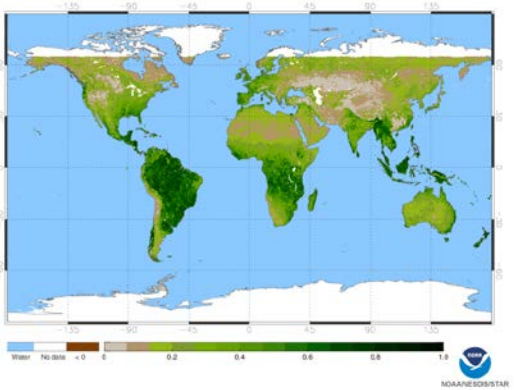
NOAA-20 QF1 Overall TOC EVI 20190114-20190120



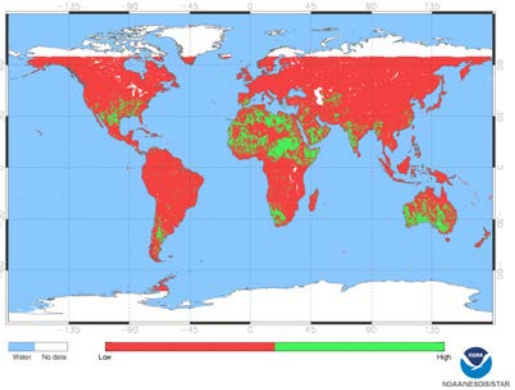
Biweekly Global Vegetation Index and Overall Quality Flag

May, 2019

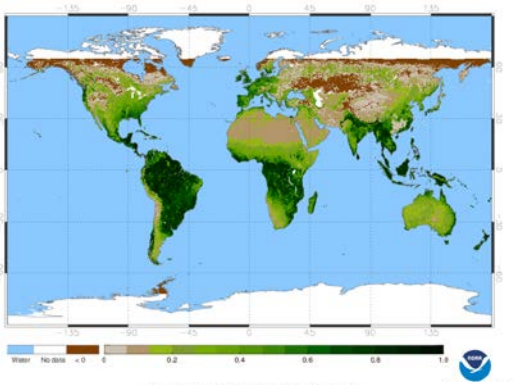
NOAA-20 TOA NDVI 20190105-20190120



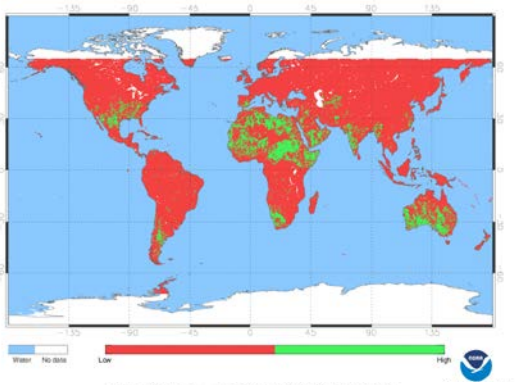
OAA-20 QF1 Overall TOA NDVI 20190105-20190120



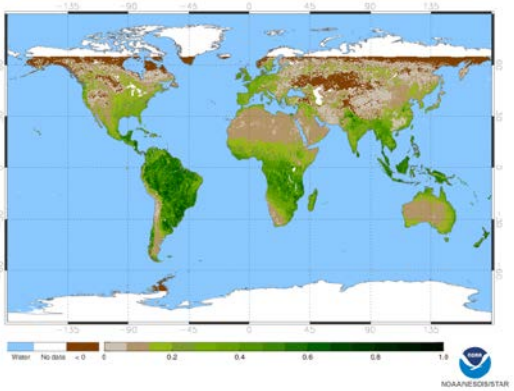
NOAA-20 TOC NDVI 20190105-20190120



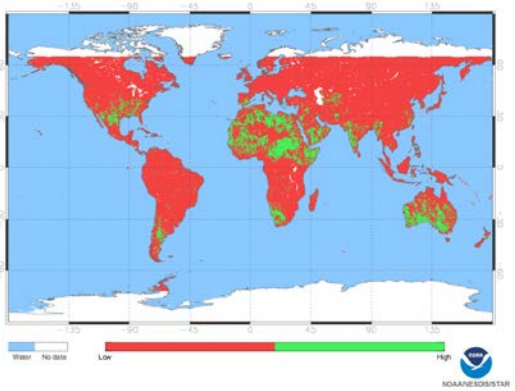
OAA-20 QF1 Overall TOC NDVI 20190105-20190120



NOAA-20 TOC EVI 20190105-20190120



OAA-20 QF1 Overall TOC EVI 20190105-20190120



Vegetation Health

May, 2019

Accomplishments / Events:

- User-Developers Interaction (preparation)
- USDA-seminar
- Admin. regions VH mean from NOAA-20:
- Developing desert mask
- Developing snow mask
- Development IDL code for crop area
- Routine maintenance of VH data base

Overall Status:

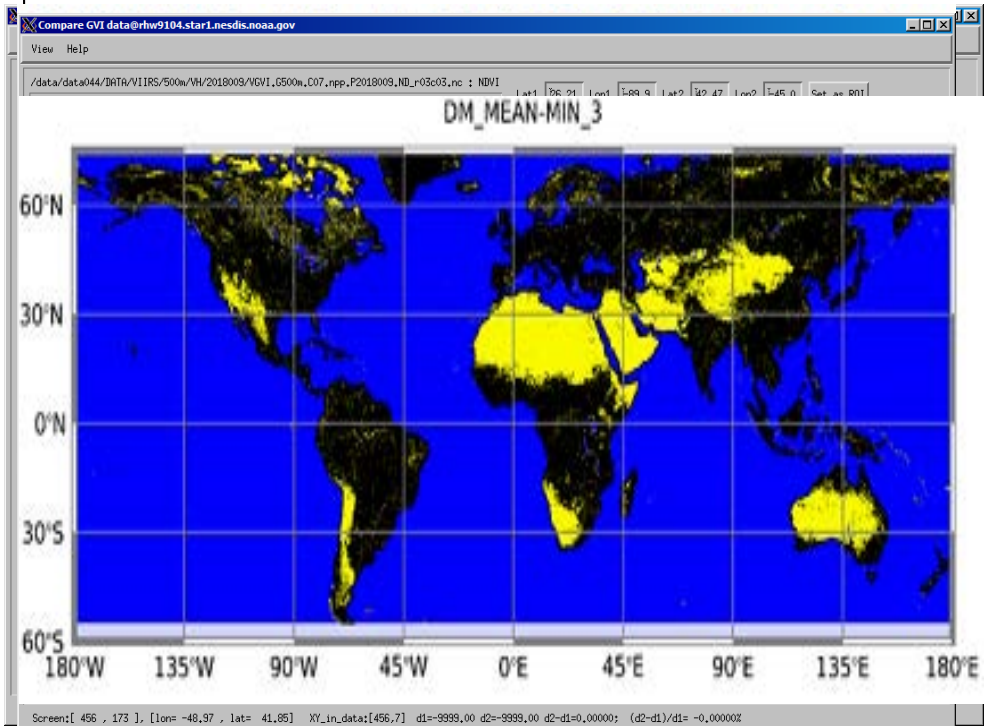
	Green[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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		



Ocean Color

May, 2019

Accomplishments / Events:

- ❑ **OC EDR team puts JAXA SGLI ocean color data from GCOM-C on the OCView online monitoring tool.**
- ❑ **Cruise report for May 2018 dedicated VIIRS ocean color cal/val cruise is complete.** Awaiting STAR approval for submission to NOAA Library.
- ❑ **Reports from external OC Cal/Val Pi's:**

- Stennis group (NRL and USM) gave update on the WavCIS Aeronet-OC observations and a quantitative study for evaluating matchup criteria.
- OSU is evaluating performance of two SeaPRISM instruments at the Eureka Aeronet-OC site and using VIIRS (SNPP and NOAA-20) to complement higher spatial resolution Landsat data for water quality monitoring of inland waters (reservoir and lake)
- CCNY reported on LISCO Aeronet-OC and also on using a new processing algorithm to derive Rrs from in situ radiometry (Groetsch et al 2017)

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	Report is complete (in May); awaiting STAR final approval
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

Overall Status:

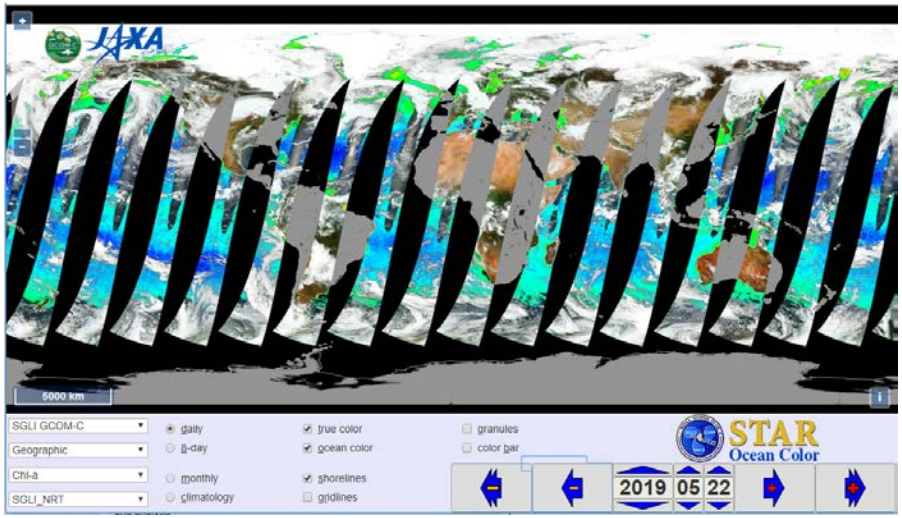
	Green[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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:



OC EDR team puts JAXA SGLI ocean color data from GCOM-C on the OCView online monitoring tool.

Sea Surface Temperature

May, 2019

Accomplishments / Events:

- N20 full provisional review held on 16 May 2019
- 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.
- Today, STAR processed 6yrs NPP (2014-2018) + 1yr N20 (2018). 1yr NPP (2012) is being processed.
- PO.DAAC received 2018 N20 and 2017-18 NPP data. Working to transition 2015-17 NPP & 1 Jan-22 Apr 2019 NPP/N20 (v2.61 became operational in NDE on 23 Apr 2019).
- Delivery of 2.80 pushed back to Dec-19, to allow full archival of 2.61 in PO.DAAC/NCEI. The v2.61 is accurate and stable. Priority is to fully archive the complete NPP & N20 RAN2 SST first, and transition "no more than one upgrade per year" mode

Overall Status:

	Green[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (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
NOAA-20 Calibration/Validation			
Beta Maturity			04/18/18
Provisional Maturity			04/18/18
Validated Maturity	Apr-19	Apr-19	05/16/19
NOAA-20 Algorithm Adjustments			
Initial DAP (ACSPO 2.60)			07/05/18
Interim DAP (2.61) (update LUTs as needed)	Feb-19	Feb-19	02/12/19
Final DAP (ACSPO 2.80)	Aug-19	Dec-19	
JPSS-2 Schedule			
J2 Cal/Val Plan - draft delivery	Jun-20	FY20	
J2 Cal/Val Plan - final delivery	Dec-20	FY21	
Planned Algorithm Updates/Cal-Val			
VIIRS RAN2 N20 archived PO.DAAC/NCEI	Jun-19	Jun-19	
VIIRS RAN2 NPP archived PO.DAAC/NCEI	Dec-19	FY20	
ACSPO 2.80 – Improved SST for data fusion	Aug-19	Dec-19	

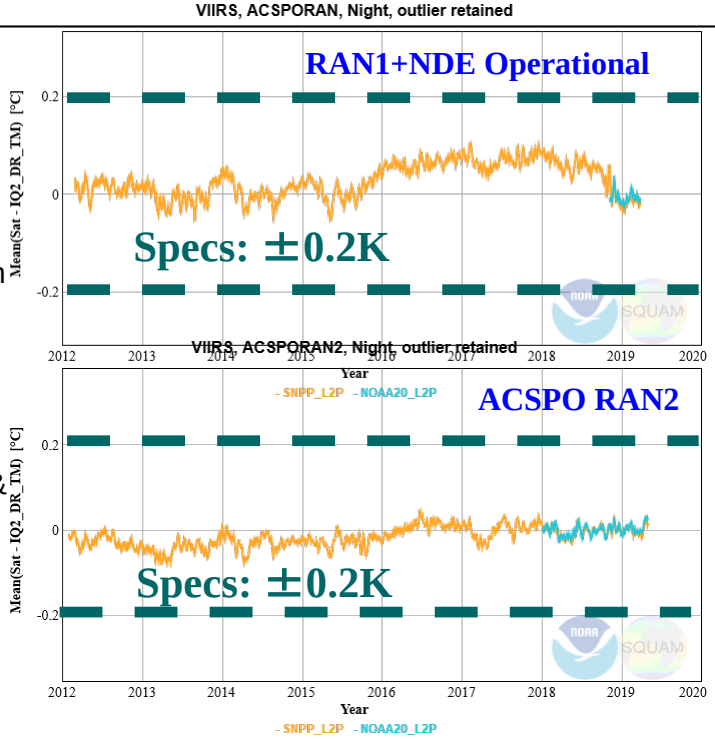
Highlights:

ACSPO v2.61 in NDE operations (23 Apr 2019)

VIIRS RAN2 with ACSPO v2.61 continues

PO.DAAC archive: 2017-18 complete (NPP & N20).

2015/16 NPP & 1 Jan – 23 Apr 2019 underway



VIIRS Polar Winds

May, 2019

Accomplishments / Events:

NOAA-20 VPW Reach Validated Maturity: The JPSS Cryosphere Team participated in the NOAA-20 Maturity Review on 16 May 2019. The VIIRS Polar Winds (VPW) were shown to meet all requirements. They were recommended for the Validated Maturity by both the Team and the Review Board.

Overall Status:

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

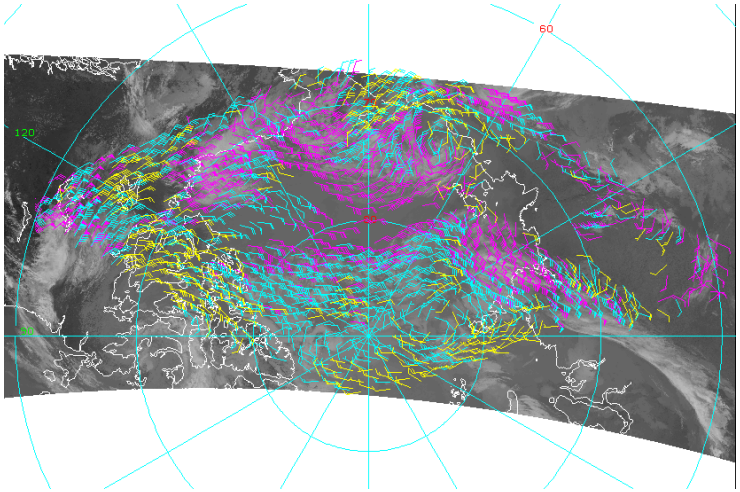
1. *Project has completed.*
2. *Project is within budget, scope and on schedule.*
3. *Project has deviated slightly from the plan but should recover.*
4. *Project has fallen significantly behind schedule, and/or significantly over budget.*

Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
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 µm) band winds	Sep-19	Sep-19		

Highlights:



NOAA-20 VIIRS winds over the Arctic, 28 Jul 2018, 1942Z

NUCAPS Products

May, 2019

Accomplishments / Events

- Nick Nalli attended the JCSDA technology workshop hold on May 29th – 31st at the NASA headquarter and presented on the future ocean surface emissivity upgrades in the SARTA and CRTM models.
- Antonia Gambacorta attended the ESA Living Planet Symposium in Milan, Italy on May 13-15th 2019 to chair the session on Earth's Radiation Budget and presented on the status of the NUCAPS OLR product.
- Antonia Gambacorta attended the MTG IRS Mission Advisory Group meeting, hold at Eumetsat in Darmstadt, Germany, on May 16-17th 2019.
- A first improvement in the regression training was performed to mitigate the current unrealistic supersaturation issue in the NUCAPS retrievals.
- The development of bulk data de-aggregation tool was completed.
- The team has started developing an improved ocean and land surface emissivity plan.

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[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (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:

- A change was detected in the early distribution Metop C files. This required a new reader to be acquired from Eumetsat.
- We have not made progress on the implementation of the new IASI SARTA RTA and related LUTs due to a change in the schedule needed by our collaborator Chris Barnet. This might require a change in the current list of deliveries of the Metop C system expected in the September 2019 DAP.

Highlights:

A paper titled "*Near-real Time Surface-Based CAPE from Merged Hyperspectral IR Satellite Sounder and Surface Meteorological Station Data"* by Callyn Bloch; Robert O. Knuteson; Antonia Gambacorta; Nicholas R. Nalli; Jessica Gartzke; and Lihang Zhou, has been accepted this same week for publication in the *Journal of Applied Meteorology and Climatology* (*JAMC*).

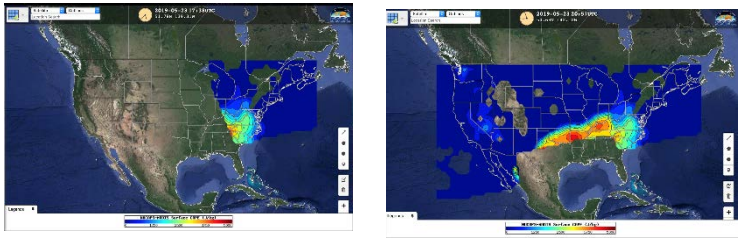


Fig.1 NUCAPS-MADIS SBCAPE from RealEarth (https://realearth.ssec.wisc.edu/) on May 23 2019 at 17:38UTC during the Tornado Warning declared in the College Park area that caused an emergency evacuation of the NCWCP building.

MiRS Products

May, 2019

Accomplishments / Events:

- Working with NDE/OSPO on verification testing for MiRS v11.4 (DAP delivered in March).
- Prepared data sets necessary for Cloud pilot validation/verification activities.
- Extended rain rate validation activity to include operational MRMS analyses (Stage IV data already used as validation). This will provide additional confidence on rainfall retrieval performance estimates. See figures.

Overall Status:

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

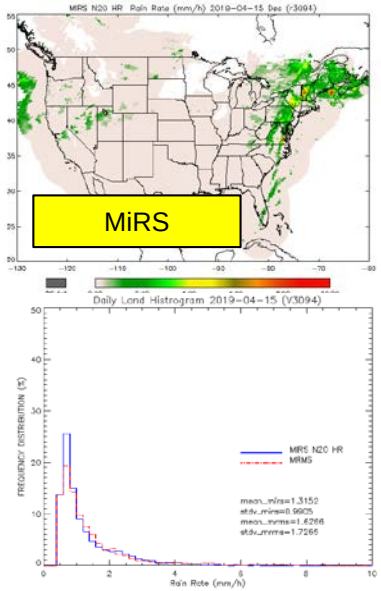
1. *Project has completed.*
2. *Project is within budget, scope and on schedule.*
3. *Project has deviated slightly from the plan but should recover.*
4. *Project has fallen significantly behind schedule, and/or significantly over budget.*

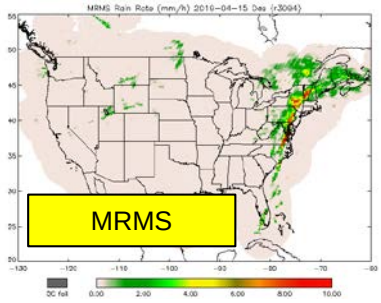
Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
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		

Highlights:





Comparison of MiRS and MRMS (radar/gauge) estimate of rain rate on 2019-04-15, along with corresponding PDFs for all rain rates > 0.5 mm/h.

Snowfall Rate

May, 2019

Accomplishments / Events:

- NOAA-20 SFR was reviewed at the JSTAR monthly maturity review meeting. Based on the validation results, the JPSS Algorithm Maturity Review panel declared NOAA-20 SFR to have reached validated maturity.
- Acquired radar precipitation data from Finland. The data will be used for validation study outside CONUS.
- Conducted calibration study to further improve the NOAA-20 SFR algorithm.

Overall Status:

	Green[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (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.*
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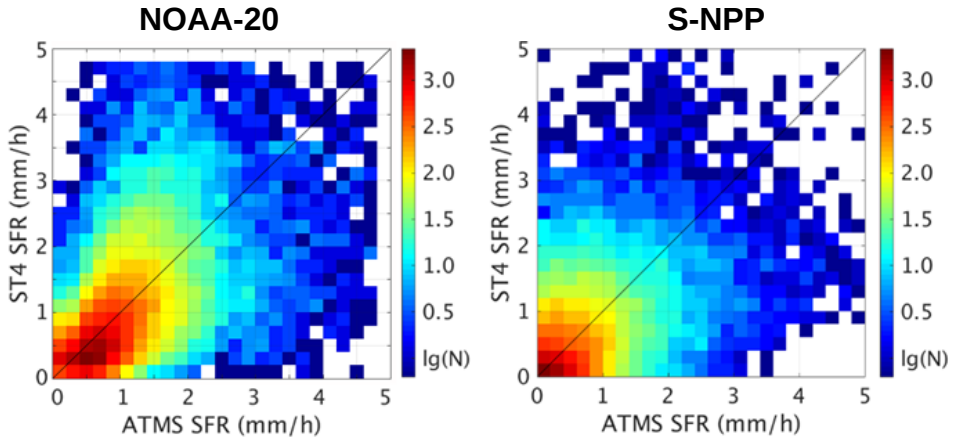
Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Validated Maturity: NOAA-20 and S-NPP SFR	Jun-20	Jun-20	05/16/201	
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	

Highlights:



(Left) NOAA-20 SFR validation against Stage IV radar precipitation, (right) S-NPP SFR validation against Stage IV. New calibration approach is applied to NOAA-20 SFR and results in better performance than S-NPP SFR.

OMPS Ozone

May, 2019

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_2 Validation leads to possible code changes.
- Testing of TOAST with V2Limb.
- Testing of BUFR for V2Limb.

Overall Status:

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

1. *Project has completed.*
2. *Project is within budget, scope and on schedule.*
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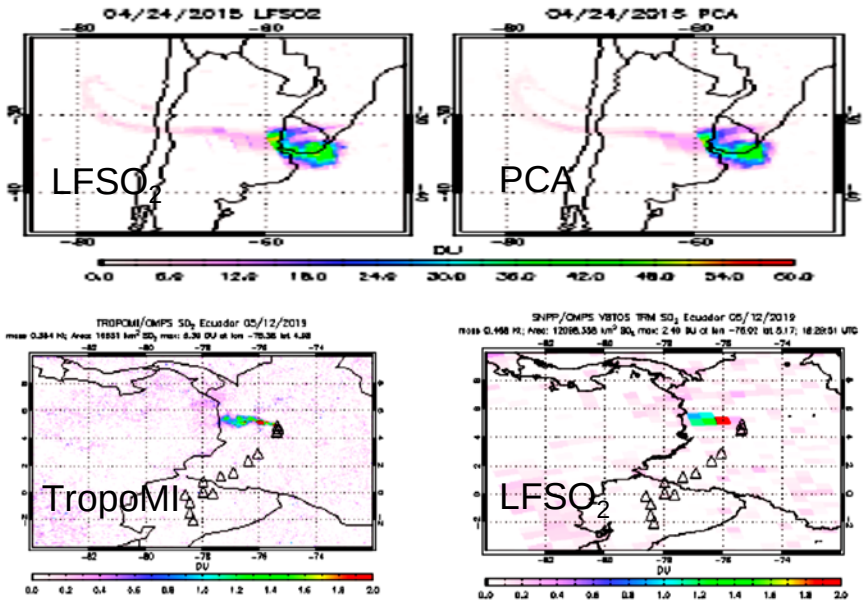
Issues/Risks:

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	Jul-19		SDR
Validated Maturity: V8TOz	Mar-19	Jul-19		SDR
Validated Maturity: V8Pro	Apr-19	Aug19		V8Pro Code
N20 Final DAP: V8Pro	Apr-19	Jun-19		
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 $LFSO_2$ comparisons with NASA PCA and TROPOMI



GCOM-W1 Products

May, 2019

Accomplishments / Events:

- Continue to provide information to NESDIS IA regarding AMSR-3 channel selections (as requested by JAXA)
- Engaging JPSS Program Office on budget needs for AMSR-3
- Continued product cal/val; all products meeting requirements
- CICS-M developing monthly product monitoring capability; details being fleshed out with EDR leads
- Reprocessing commenced in early May 2019; should be completed by September 2019.

Overall Status:

	Green[1] (Completed)	Blue[2] (On-Schedule)	Yellow[3] (Caution)	Red[4] (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:

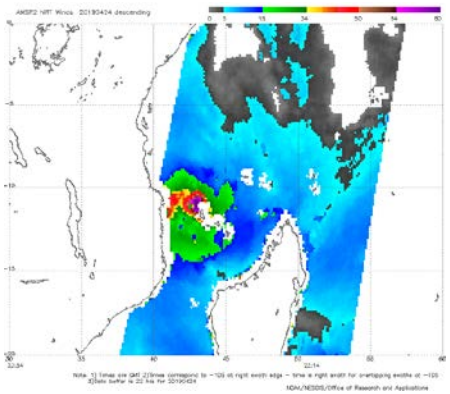
None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
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		
Reprocessing of AMSR-2 mission	Sep-19	Sep-19		

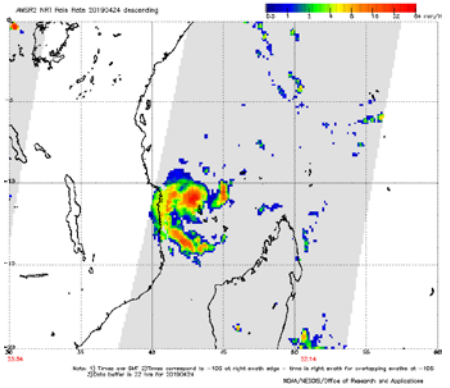
Highlights:

Typhoon Kenneth Near Mozambique: AMSR-2 Wind Speeds and Rain Rate 24 April 2019

Ocean Wind Speed



Rain Rates



NOAA Products Validation System (NPROVS) and EDR Long Term Monitoring (LTM)

May, 2019

Accomplishments / Events:

- Provided inputs on NUCAPS problem areas and proposed science maintenance plan at bi-weekly review meetings
- Initiated data collection for draft "Uncertainty" paper focused on successfully "reprocessed" NPROVS Special (GRUAN) radiosondes
- Observations from the ongoing Radiosonde Inter-comparison and VALidation (RIVAL) campaign stewarded (NPROVS)
- Transfer of AEROSE dedicated radiosonde to NPROVS underway in support Saharan Air Layer / NUCAPS analysis **(Highlight)**
- Supported NWS radiosonde inter-comparison campaign and integration of Sterling Test Site data into NPROVS (Special)
- Provided inputs at JPSS Hydrology and GSICS meetings (**Highlight)**
- An outage of a key disk forced the LTM team to create "software" backup on STAR's GitLab and reprocess thousands of lost images**.**

Overall Status:

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

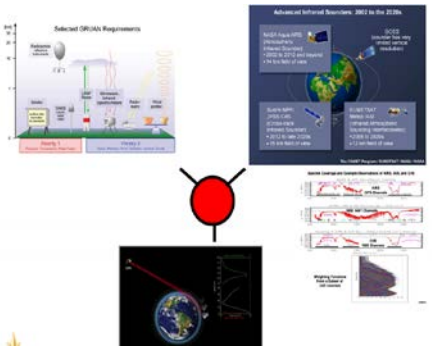
1. *Project has completed.*
2. *Project is within budget, scope and on schedule.*
3. *Project has deviated slightly from the plan but should recover.*
4. *Project has fallen significantly behind schedule, and/or significantly over budget.*

Issues/Risks:

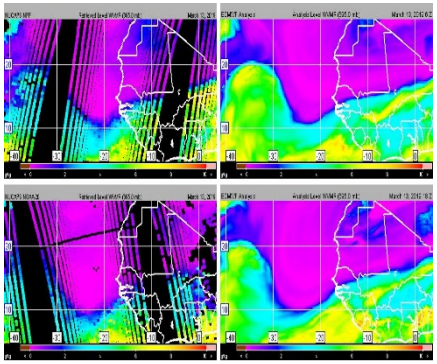
None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
LTM				
Complete NOAA-20 JMAPPER/EDR-LTM	Sep-19	Sep-19		
NPROVS				
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	Mar-19	Mar-20	Program Extended
Support NWS Raob Transition Monitoring and NUCAPS AWIPS-2 users	May-19	May-19		

Highlights:



NPROVS: Illustration of Global Space-based Inter-comparison System (GSICS) (right), GRUAN (up left) and GPSRO (low left) coordination (3G) to support geo-physical and sensor data monitoring at STAR.



NPROVS: Comparison of NUCAPS (left) and ECMWF (right) H20 vapor at 700 hPa show excellent agreement and tracking of Saharan Air Layer "dry" signature (purple) west of Africa; study continues.