



NOAA JPSS Monthly Program Office

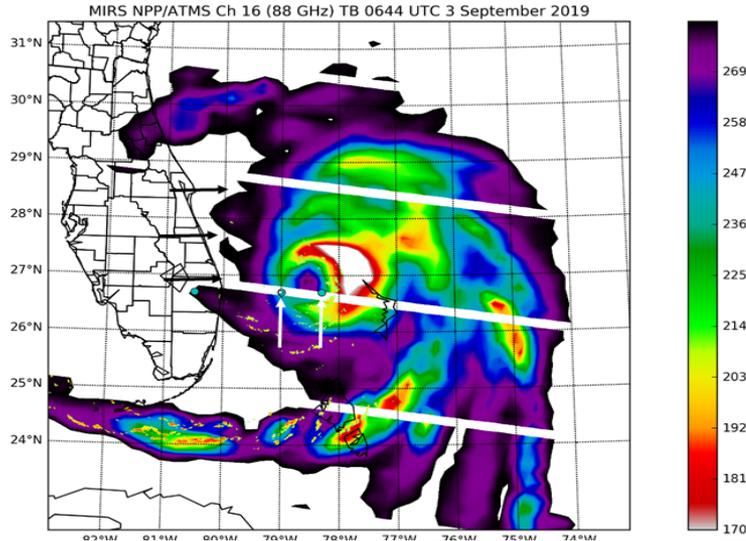
AMP/STAR FY19 TTA

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& JPSS STAR Program Managers

October 8, 2019

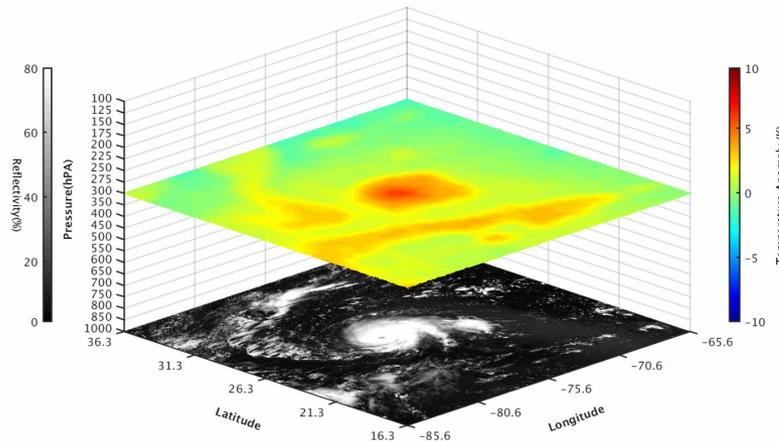
Highlights from the Science Teams

JPSS Captures Hurricane Dorian



The ATMS Channel 16 Brightness Temperature shows the powerful core of the storm.

DORIAN 2019-09-01



The ATMS Channels 5-12 are used to capture the temperature differences between the outer and the inner portions of the hurricane, known as the upper-level warm core structure. The ATMS data has been limb corrected and gap-filled. The VIIRS cloud top reflectivity at band I1 (0.64 μ m) is shown as background.

Highlights from the Science Teams

S-NPP SDR Reprocessed Data Validated Maturity Review

A validated maturity review meeting for the SNPP reprocessed SDR was held on September 17, 2019. This review meeting was a major milestone for releasing the reprocessed SNPP SDR data in a variety of applications to support NOAA's weather and climate mission goals. The SNPP reprocessing project was initiated at STAR in 2015. Its goal was to reprocess all the SNPP instruments through their life-cycle using the most recently updated and unified calibration algorithms to generate consistent SDRs.

With several year's effort, 5 years of the SNPP SDR data during the period from its launch time until March 7, 2017 for the SNPP instruments have been reprocessed using their baseline calibration algorithms. The reprocessing allows scientists to quantify the SDR quality in the time dimension, offering the opportunity for the SDRs to be used in a variety of environmental applications such as development of climate data records, identifying NWP model errors, improving climate reanalyses as input datasets, and supporting satellite CAL/VAL and GSICS programs as references.

03/20/2012 (Improvement after Reprocessing)

IDPS SDR
(poor calibration)

Reprocessed SDR
(improved
calibration)

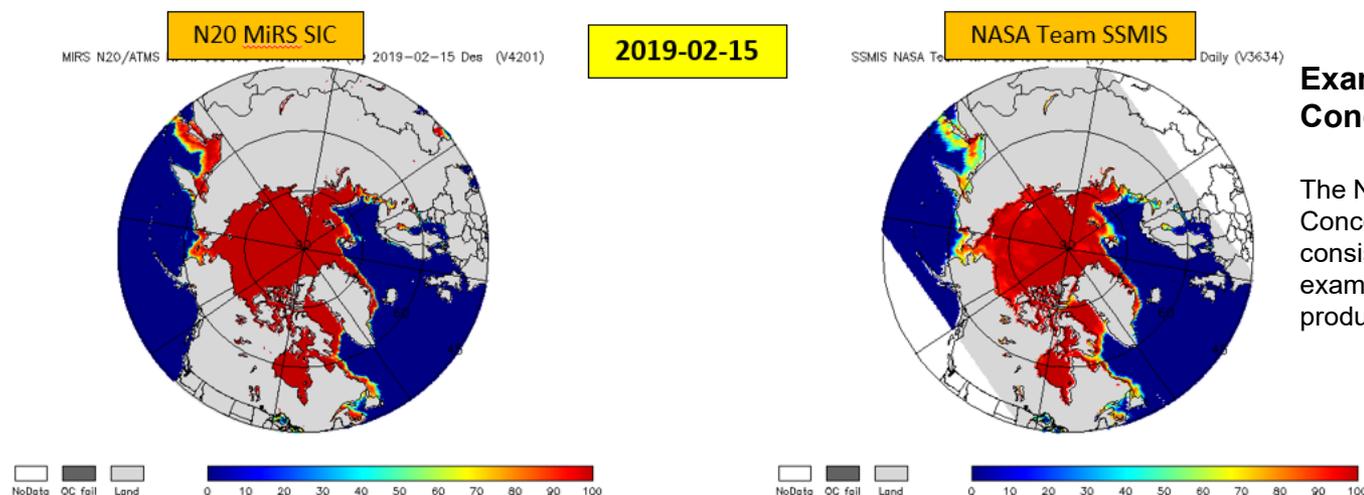
Example of improvement for the SNPP SDR Day-Night-Band.
In the original IDPS SDR the night-time lights and bright locations are not well defined due to poor calibration. Reprocessing provides a wealth of additional information.

NOAA-20 MiRS Product Maturity Review

On September 19, the MiRS suite of NOAA-20 microwave-derived products was reviewed for Validated Maturity.

The products included in this suite include moisture profile, temperature profile, rainfall rate, total precipitable water, land surface emissivity, land surface temperature, cloud liquid water, sea ice concentration, snow cover/depth, and snow-water equivalent.

Feedback from review team is expected shortly.

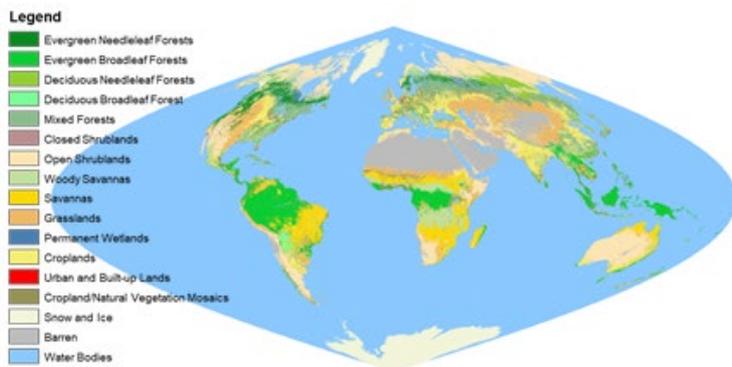


Example of Sea Ice Concentration in the Arctic.

The NOAA-20 MiRS Sea Ice Concentration (SIC) on the left is consistent with similar products, for example the NASA Team SSMIS products from DMSP F18 on the right

NOAA-20 VIIRS Surface Type Product Maturity Review

On September 19, the VIIRS global gridded surface type product was reviewed for Beta Maturity status. Reviewer feedback is expected shortly. Accurate surface type is required for numerical weather prediction models, particularly related to the surface energy budget and hydrologic cycle.



Surface Type

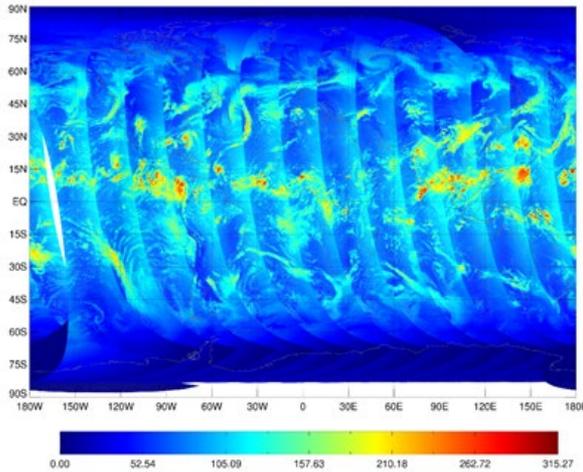
Annual Surface Type from VIIRS using the Equal Area map projection

Highlights from the Science Teams

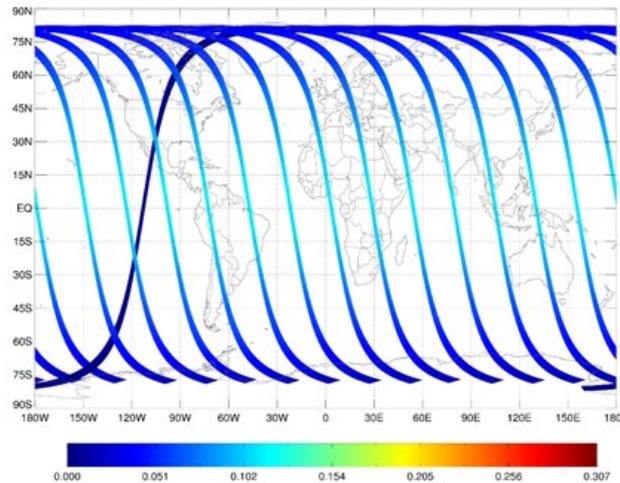
NOAA-20 OMPS SDR Product Maturity Review

On September 20, the NOAA-20 OMPS SDR products to support monitoring of Ozone were reviewed for Validated status. The Review Panel will release their findings shortly.

NOAA-20 OMPS TC Radiance $\text{mW m}^{-2} \text{nm}^{-1} \text{sr}^{-1}$ 2019/09/15 at 331.4nm



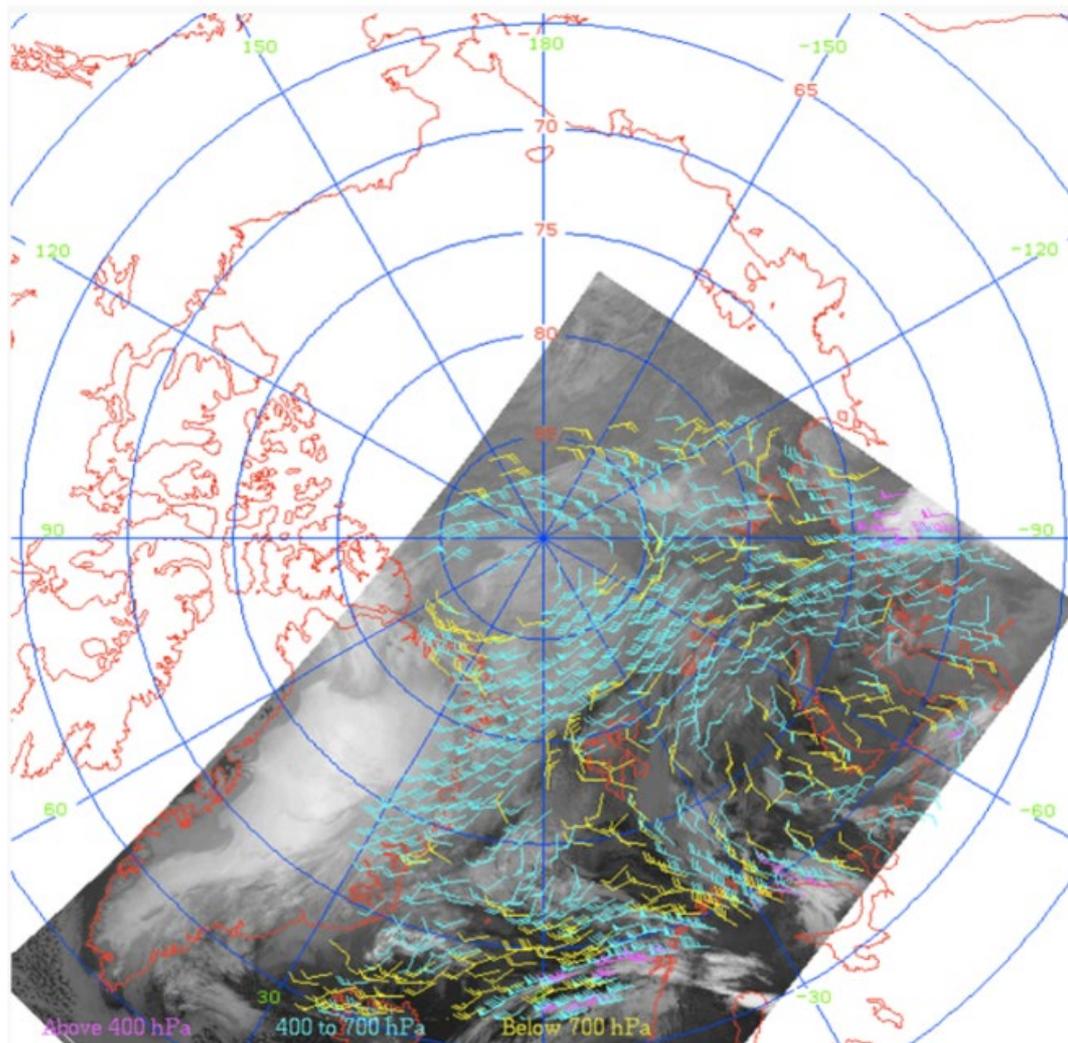
NOAA-20 OMPS NP Radiance $\text{mW m}^{-2} \text{nm}^{-1} \text{sr}^{-1}$ 2019/09/15 at 282.8nm



Example of OMPS Total Column Radiance and OMPS Nadir Profile Radiance.

The OMPS Nadir Mapper SDR used for Total Column Radiance at left has a 2800 km swath. The OMPS Nadir Profile SDR has a 250 km swath but a larger spectral range.

Highlights from the Science Teams



NOAA-20 Operational Winds Product Meet Requirements over Summer Season.

Starting 1 June through 31 August 2019, all available NOAA-20 Cloud Motion Vectors (CMV) being generated by operations (v2r1) were compared to radiosonde wind data from the International Global Radiosonde Archive provided by NOAA. Comparisons are made for all vectors that within 100 km and 1 hour of the radiosonde launch site, Results show accuracies within 6 ms^{-1} over the Arctic and 7 ms^{-1} over the Antarctic. These results confirm and extend the validation findings of the Maturity Review.

Image on left is an example of the VIIRS Polar Winds product showing high, medium and low clouds in purple, cyan and yellow respectively.

Highlights from the Science Teams

JPSS LST and LSA ARR conducted

The Land Surface Temperature (LST) and Land Surface Albedo (LSA) teams, working with the ASSIST team, conducted and passed the Algorithm Readiness Review for the development of Global Gridded LST and LSA which are composited and aggregated from their level 2 granule products. The algorithm developed for the gridded LST and LSA products is expected to be operational in NDE no later than November for NOAA-19 and NOAA-20.

Advanced Training School on Remote Sensing and Earth Observation

On September 15-20 2019, Ivan Csiszar attended the Advanced Training School on Remote Sensing and Earth Observation held in Võru, Estonia. Csiszar was an invited by Tartu University to give a lecture NS hands-on training on satellite-based fire monitoring. In addition to the basics of fire detection and characterization, Csiszar gave an update on the status of fire products from NOAA's new generation polar and geostationary missions. He also presented case studies to demonstrate capabilities of the JPSS satellites to monitor fires in Northern Europe. In particular, he demonstrated early detection capabilities of VIIRS, which provides more frequent coverage at high latitudes.

Accomplishments

- CrIS SDR team received JPSS award for recovering S-NPP CrIS SDR (SNPP/CrIS Side-2 Calibration/Validation) PICTURE
- 9/8-16/2019 successful NOAA dedicated Ocean Color cruise for in-situ data collection PICTURE
- Delivery Algorithm Packages (DAPs) - Mission Unique Products:
 - 9/3/2019 OMPS SDR DAP (ADR9093/CCR4638 NOAA-20 OMPS TC & NP LUT Updates for Validated Maturity) to DEPS. Tables updated were OMPS-NP-STRAYLIGHT_LUT_j01, OMPS-TC-STRAYLIGHT_LUT_j01, OMPS-TC-OSOL-LUT_j01, and OMPS-TC-WAVELENGTH-GND-PI_j01
 - 9/5/2019 VIIRS Terrain-Corrected EDR Imagery Algorithm Readiness Review (ARR)
 - 9/30/2019 VIIRS Terrain-Corrected EDR Imagery DAP delivered to DPES (ADR8239&ADR8656/CCR4646):
 - ADR 8239: Terrain-Correction geo-locations needed for VIIRS EDR Imagery
 - ADR 8656: VIIRS GEO SW not making internal GRC files needed for Terrain-Corrected Imagery EDRs
- DAPs - Enterprise Products:
 - 8/30/2019 OMPS Ozone team delivered V8TOS (LFSO2) update DAP to ASSISTT
 - 9/4/2019 OMPS Ozone team delivered DAP V8PRO_v3r3 to ASSISTT
 - 9/24/2019 VIIRS Global Gridding Land Surface Temperature and Albedo Algorithm Readiness Review (ARR)
 - 9/27/2019 VIIRS Surface Type team delivered Global Annual Surface Type (AST-2018) package to JSTAR. AST-2018 is now ready for users to download from STAR FTP site (<https://www.star.nesdis.noaa.gov/jpss/>)
- IDPS Builds Checkouts:
 - STAR submitted Block 2.1 Mx8 SOL deploy regression review/checkout report on 9/13/2019

Accomplishments – JPSS Cal Val Supports

- NOAA-20/S-NPP Operational Calibration Support:
 - S-NPP Weekly OMPS TC/NP Dark Table Updates: 09/03/19, 09/10/19, 09/17/19, 09/24/19
 - NOAA-20 Weekly OMPS TC/NP Dark Table Updates: 09/03/19, 09/10/19, 09/17/19, 09/24/19
 - S-NPP Bi-Weekly OMPS NP Wavelength & Solar Flux Update: 09/10/19, 09/24/19
 - NOAA-20 Bi-Weekly OMPS NP Wavelength & Solar Flux Update: 09/03/19, 09/17/19
 - S-NPP Monthly VIIRS StrayLight LUTs Update: 09/10/19
 - NOAA-20 Monthly VIIRS StrayLight LUTs Update: 09/10/19
 - S-NPP Monthly VIIRS LUT Update of DNB Offsets and Gains: 09/10/19
 - NOAA-20 Monthly VIIRS LUT Update of DNB Offsets and Gains: 09/10/19

- NDE build 2.0.19 operational on 9/17/2019
 - NOAA-20 Land Surface Temperature (LST)
 - NOAA-20 Surface Albedo (LSA)

- 9/17/2019: Reprocessed S-NPP SDRs (ATMS, CrIS, VIIRS, and OMPS) validated maturity review
- 9/19/2019: NOAA-20 Cal/Val Maturity Review
 - MiRS products (Moisture Profile, Temperature Profile, Rainfall Rate, Total Precipitable Water, Land Surface Emissivity, Land Surface Temperature, Cloud Liquid Water, Sea Ice Concentration, Snow Cover/Depth, Snow-Water Equivalent) validated maturity review
 - Annual Surface Type (AST) beta maturity review
- 9/20/2019: NOAA-20 Cal/Val Maturity Review
 - OMPS SDR (TC & NP) validated maturity review
 - OMPS EDRs: V8Pro beta maturity review; V8TOz validated maturity review

- SNPP/N20
 - NDE Release 2.0.19 was deployed to CBU and OPS 17 September.
- EPS-SG project support
 - Continued participation in the MetOp-SG team meetings, Risk meetings, and newly formed Product Working Group.
- J2 and Beyond

- Satellite Product Management
 - Briefed the SPSRB on plans for FY20 GOES-R, JPSS, and Non-NOAA plans.
- Other
 - Submitted NDE Algorithm Change Management Plan document to OSPO configuration management..
 - Several staff participated in the Joint Satellite Conference and presented papers on the status of JPSS data products in Operations, JPSS Initiatives, and the SPSRB Process.

Upcoming Cal/Val Maturity Reviews

October Maturity Review (10/24/2019):

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

November Maturity Review:

- Validated Maturity:
Land Surface Temperature
Surface Albedo
Surface Reflectance

December Maturity Review:

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

- JSTAR Code/LUT/Product Deliveries:

DAP to DPES:

NOAA-20 Algorithm DAP to NDE/CoastWatch:

- Oct-19: V8TOz – code & LUT update
- Oct-19: NUCAPS – Final DAP
- Oct-19: I-band Active Fires – Initial DAP
- Dec-19: I-band Active Fires – Final DAP
- Mar-20: Vegetation Health – Final DAP
- Nov-20: Ocean Color – Final DAP



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	Oct-19		PSR: Jun-19 New lead
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 NUCAPS: Oct-19	NUCAPS new lead
AST18 (Annual Surface Type)	Sep-19	Sep-19	09/27/19	
Updated GCOM/AMSR-2 GAASP package deliver to NDE	Jul-19	Jul-19	Jul-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	Sep-19	09/20/19	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	MIRS 09/19/19 NUCAPS: Oct-19 (scheduled)	NUCAPS New lead



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, 06/04/19, 06/11/19, 06/18/19, 06/25/19, 07/02/19, 07/09/19, 07/16/19, 07/23/19, 07/30/19, 08/06/19, 08/13/19, 08/20/19, 08/27/19, 09/03/19, 09/10/19, 09/17/19, 09/24/19	
S-NPP: Bi-Weekly OMPS NP Wavelength & Solar Flux	Bi-Weekly	Bi-Weekly	10/10/18, 10/23/18, 11/06/18, 11/20/18, 12/04/18, 12/18/18, 01/02/19, 01/15/19, 01/29/19, 02/12/19, 02/26/19, 03/12/19, 03/26/19, 04/09/19, 04/23/19, 05/07/19, 05/21/19, 06/04/19, 06/18/19, 07/02/19, 07/16/19, 07/30/19, 08/13/19, 08/27/19, 09/10/19, 09/24/19	
S-NPP: Monthly VIIRS LUT update of DNB Offsets and Gains	Monthly	Monthly	10/16/18, 11/14/18, 12/13/18, 01/15/19, 02/12/19, 03/12/19, 04/10/19, 05/14/19, 06/11/19, 07/09/19, 08/07/19, 09/10/19	
S-NPP: Monthly VIIRS Stray Light LUT Update	Monthly	Monthly	05/14/19, 06/11/19, 07/09/19, 08/07/19, 09/10/19	5/14/19: started new set of S-NPP Stray Light LUT update
NOAA-20: Weekly OMPS TC/NP Dark Table Updates	Weekly	Weekly	10/02/18, 10/10/18, 10/16/18, 10/23/18, 10/30/18, 11/06/18, 11/14/18, 11/20/18, 11/27/18, 12/04/18, 12/11/18, 12/18/18, 01/02/19, 01/08/19, 01/15/19, 01/23/19, 01/29/19, 02/05/19, 02/12/19, 02/20/19, 02/26/19, 03/05/19, 03/12/19, 03/19/19, 03/26/19, 04/02/19, 04/09/19, 04/16/19, 04/23/19, 04/30/19, 05/07/19, 05/14/19, 05/21/19, 05/29/19, 06/04/19, 06/11/19, 06/18/19, 06/25/19, 07/02/19, 07/09/19, 07/16/19, 07/23/19, 07/30/19, 08/06/19, 08/13/19, 08/20/19, 08/27/19, 09/03/19, 09/10/19, 09/17/19, 09/24/19	
NOAA-20: Bi-Weekly OMPS NP Wavelength & Solar Flux	Bi-Weekly	Bi-Weekly	05/14/19, 05/29/19, 06/11/19, 06/25/19, 07/09/19, 07/23/19, 08/06/19, 08/20/19, 09/03/19, 09/17/19	5/14/19: started NOAA-20 bi-weekly delivery
NOAA-20: Monthly VIIRS LUT update of DNB Offsets and Gains	Monthly	Monthly	10/16/18, 11/14/18, 12/18/18, 01/15/19, 02/12/19, 03/12/19, 04/10/19, 05/14/19, 06/11/19, 07/09/19, 08/07/19, 09/10/19	
NOAA-20: Monthly VIIRS Stray Light	Monthly	Monthly	10/16/18, 11/14/18, 12/18/18, 01/15/19, 02/12/19, 03/13/19,	



FY19 STAR DAP and JPSS PSDI Milestones

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



FY19 STAR DAP and JPSS PSDI Milestones

S-NPP Enterprise Algorithms	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
S-NPP: ATMS Snowfall Rate				
-- Final DAP	Jun-18	--	06/14/18	Completed
-- CDR	Dec-18	--	6/20/2018	Completed
-- SCR	Jan-19	--	6/20/2018	Completed
-- ARR	Feb-19	--	6/20/2018	Completed
-- ORR	Apr-19	--	11/02/19	Completed
-- Operations	Jun-19	--	01/31/19	Completed
S-NPP: OMPS Limb Profiler Products				
-- Initial DAP	TBC	TBC		
-- Final DAP	TBC	TBC		
-- EDR and SDR ORR	Dec-16	Dec-19		Height Adjustment error identified, Delta-DAP in preparation, ORR in preparation
-- Operations	Mar-17	Dec-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	Oct-19		Provisional Maturity Brief 9/2019
-- Operations	Aug-18	Nov-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/H2O profiles)		--	3/7/2017	Completed
-- ARR	Sep-18	Oct-19		Dates relate to CO2 and CH4 components
-- Final DAP	Apr-19	Sep-19		Completed
-- 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	--	Waived	Waived
-- Operations	Oct-18	--	6/20/19	Completed
NOAA-20: Enterprise Processing System: Global Gridding LST, and LSA				
-- Initial DAP	Aug-18	--	08/04/18	Completed
-- CDR	Mar-18	--	10/22/18	Completed
-- TRR	Jul-18	--	3/12/2019	Completed
-- SCR	Sep-18	Aug -19		
-- ARR	Dec-18	Sep-19	9/24/2019	Completed
-- Final DAP	Jan-19	--	3/11/19	Completed
-- ORR	Mar-19	Nov-19		
-- Operations	Jun-19	Dec-19		



FY19 STAR DAP and JPSS PSDI Milestones

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



FY19 STAR DAP and JPSS PSDI Milestones

NOAA-20 Algorithms	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20: Vegetation Indices				
-- Initial DAP	Nov-18	--	11/30/2018	Completed
-- Final DAP	May-19	--	Need Date	Completed
-- CDR	Oct-16	-	10/27/2016	Completed
-- SCR	Dec-18	--	10/10/2016	Completed
-- ARR	Feb-19	--	3/21/2019	Completed
-- ORR	May-19	--	3/21/2019	Completed
-- Operations	Jun-19	--	6/4/2019	Completed
NOAA-20: ATMS Snowfall Rate				
-- Initial DAP	Jun-18	--	06/14/18	Completed
-- Final DAP	Dec-18	--	3/29/2019	Completed
-- CDR	Dec-18	May-19	5/16/2019	Completed
-- SCR	May-19	May-19	5/22/2019	Completed
-- ARR	Jun-19	--	5/16/2019	Completed
-- ORR	Aug-19	--	7/16/19	Completed
-- Operations	Oct-19	--	7/18/19	Completed
NOAA-20: Microwave Tropical Cyclone Products				
-- Initial DAP	TBC	Apr-19		
-- Final DAP	TBC	Jun-19		
-- CDR	Oct-16	-	10/27/2016	Completed
-- SCR	Apr-19	--	4/2/19	Completed
-- ARR	Oct-19	Nov-19		ASSISTT testing not producing correct results
-- ORR	Dec-19	Feb-20		
-- Operations	Feb-20	Mar-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		No update received
-- Operations	Oct-18	Oct-19		
NOAA-20: Blended Products Blended SST				
-- Initial DAP	TBC	TBC		
-- Final DAP	TBC	TBC		
-- SCR	Aug-18	--	2/12/19	Completed
-- ORR	May-19	-	NA	NA
-- Operations	Jun-19	-	4/1/2019	Completed
NOAA-20: Blended Products Blended Biomass Burning				
-- Initial DAP	TBC	TBC		Need Update
-- Final DAP	TBC	TBC		Need Update
-- SCR	Oct-18	NA		Waiver Requested
-- ORR	Jun-19	NA		Waiver Requested
-- Operations	Jul-19	--	8/12/2019	Completed
NOAA-20: Blended Products Blended Snow and Ice				
-- Initial DAP	TBC	--		
-- Final DAP	TBC	--		
-- SCR	Aug-18	--	7/9/2019	Completed
-- ORR	May-19	Aug-19		No update received Note, PAL left NOAA, received no updates since July
-- Operations	Jun-19	Sep-19		

FY19 STAR DAP and JPSS PSDI Milestones

NOAA-20 Blended/Derived Algorithms	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20: Products Blended Hydro Products				
-- Initial DAP	TBC	Jul-19		
-- Final DAP	TBC	Nov-19		
-- SCR	Jun-18	--	9/20/2018	Completed
-- ARR/ORR	Dec-18	--	5/17/2019	Completed
-- Operations	Jan-19	--	6/3/2019	Completed
Enhanced TOAST with S-NPP OMPS Limb Profiles				
-- Initial DAP	TBC	TBC		Need Update
-- Final DAP	TBC	TBC		Need Update
-- CDR	Jan-17	Nov-19		Waiting for updated Limb DAP
-- SCR	Apr-17	Nov-19		
-- ORR	May-17	Dec-19		
-- Operations	Jun-17	Dec-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	Nov-19		Integration time is longer than expected
-- ARR	Oct-18	Jan-20		
-- ORR	Jan-19	Apr-20		
-- Operations	May-19	May-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	Nov-19		
-- ORR	Apr-19	Dec-19		
-- Operations	Jun-19	Jan-20		
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	--	5/14/2019	Completed
-- SCR	Jun-19	--	Waived	Waived
-- 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 Risk Summary

Top Risks



Status as of: 10/10/2019

Rank Risk ID	Summary	LxC Trend	Aprch	Status
1 AMP-18-003	J2 APID Changes to Accommodate New S/C Bus	2x2 ↔	W	09/09/19: J2 GPS APIDs are currently not included in the J2 S/C TLM RDR, and all other Virtual Channel 0 APIDs are included in the S/C TLM RDR. Investigating the size of APID 133 and APID 144 to determine true size of J2 S/C TLM RDR (30 bytes vs. 38 bytes).
2 AMP-15-006	Continued Generation of IDPS EDRs	4x1 ↔	W	7/10/2019: EDR Termination letter distributed for signatures (JPSS PAL). National Ice Center should still be on track to transition to NDE products by end of July 2019.
3 AMP-18-008	Data Product Requirements for OMPS-Limb	3x1 ↔	M	8/8/2019: OSPO PAL and STAR PI are working on Operational Readiness Review (ORR) slides now and planning to hold ORR in October 2019.
4 AMP-19-001	Algorithm testing & delivery impacts due to lag between IDPS and G-ADA moving to the Cloud	2x1 ↔	W	8/8/2019: Suggest to transfer this risk to be under DPMS risk
5 AMP-18-006	Impact on Testing Ability Due to Major Build Upgrades	1x1 ↔	W	9/5/2019: No issues. Continue to Watch
6 AMP-19-002	Proxy data delay due to J2 10Hz Sampling Freq	1x1 ↔	W	9/9/19: Data from the simulator has been received and bit busted by the SEI&T team. This includes the J2 APID 11 and J2 APID 30 and APID 37.
7 AMP-19-003	Some IDPS and STAR algorithms cannot use APIDs with 10Hz sample freq	1x1 ↔	M	9/9/19: The TIM to discuss the 10Hz APID 11 was held between IDPS, STAR and Raytheon personnel. It was determined that J2 simulation data is needed to make a concrete decision on the correct action to take. Another TIM will be planned for the first quarter of 2020. IDPS Geolocation algorithm is planning to use only 1 sample of the 10/Hz APID.

L I K E L I H O O D	5					
	4	2				
	3	3				
	2	4	1			
	1	5 6 7				
		1	2	3	4	5
CONSEQUENCES						

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: 10/16/2019

Rank	Risk ID	Risk Statement	Approach	Status
 <p>J2 APID Changes to Accommodate New S/C Bus</p> 	AMP-18-003	<p>Given that: J2 has a new S/C Bus manufacturer and some new APIDs compared to J1 and S-NPP</p> <p>There is a possibility that: the SDR algorithms will need to be updated to accommodate new RDR format/structure</p> <p>Resulting in: additional unplanned work for Ground.</p>	Watch	<p>09/09/19: J2 GPS APIDs are currently not included in the J2 S/C TLM RDR, and all other Virtual Channel 0 APIDs are included in the S/C TLM RDR. Investigating the size of APID 133 and APID 144 to determine true size of J2 S/C TLM RDR (30 bytes vs. 38 bytes).</p> <p>07/15/19: An updated version of the APID to VCID map was recently released (June 25th 2019) with a few changes to APID assignments. Additional APIDs were added and a few were reassigned. For example APID 1629 and APID 1829 have both been moved to VCID 62. This changes will require a review of relevant SRS documents to ensure JPSS-2 APIDs match what is reflected in the Map. STAR scientist will need to review the APID designations and decide appropriate steps to take.</p> <p>6/4/19: Flight software simulator version 5 should be ready by the end of June. However its very likely that it will be delayed. When the simulator software version is released it will match the APIDs to VCID map. An further updates to the simulator after the release will make it out of sync with the map.</p> <p>4/4/19: 474-CCR-19-4408 for this Risk was AERB approved on 3/26/19. APID's utilized within the SRSPF are all within VCID-0. With the pending release of FSW database in June 2019, the SRSPF file might need an update if additional APID's are assigned to VCID-0.</p>



JPSS Top Risks



Status as of: 10/16/2019

Rank	Risk ID	Risk Statement	Approach	Status
<p data-bbox="42 287 117 334">2</p> <p data-bbox="150 297 446 344">Continued Generation of IDPS EDRs</p> <p data-bbox="54 358 104 386">↔</p> <p data-bbox="150 372 343 419">Expected Closure: 10/2019</p>	<p data-bbox="527 287 653 305">AMP-15-006</p>	<p data-bbox="687 287 1058 334">Given that: we are transitioning to production of EDRs on ESPC systems</p> <p data-bbox="687 362 1083 434">There is a possibility that: the IDPS-generated EDRs will continue running for an extended period of time</p> <p data-bbox="687 462 1089 509">Resulting in: additional maintenance and sustainment costs.</p>	<p data-bbox="1199 287 1271 305">Watch</p>	<p data-bbox="1358 287 1885 382">10/16/2019: Distribution of EDRs from IDPS to PDA has stopped (Sep 9, 2019). IDPS EDRs, however; will continue to be generated until the foreseeable future - until AFTER IDPS moves to the Cloud.</p> <p data-bbox="1358 411 1885 458">9/5/2019: Distribution of EDRs from IDPS should stop September 9, 2019. All products and users are ready.</p> <p data-bbox="1358 486 1885 586">7/10/2019: EDR Termination letter distributed for signatures (JPSS PAL). National Ice Center should still be on track to transition to NDE products by end of July 2019.</p> <p data-bbox="1358 615 1885 762">6/12/2019: Lowered both Program and FP/GP Consequences from 2 to 1 from 6/6/19 Risk Board meeting. Last two EDR's moved to NDE - all required products are running. National Ice Center will transition by July then can turn off IDPS. Memo will be sent to OSPO to turn off EDR's</p> <p data-bbox="1358 819 1885 1019">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.</p>



JPSS Top Risks



Status as of: 10/16/2019

Rank	Risk ID	Risk Statement	Approach	Status
<div data-bbox="42 285 117 334" style="background-color: #4CAF50; color: white; padding: 2px; display: inline-block; width: 20px; height: 20px; text-align: center; line-height: 20px;">4</div> <p data-bbox="150 297 452 344">Data Product Requirements for OMPS-Limb</p> <div data-bbox="54 358 104 386" style="display: inline-block; vertical-align: middle;">↔</div> <p data-bbox="150 372 343 419">Expected Closure: 10/2020</p>	AMP-18-008	<p data-bbox="687 287 1105 334">Given that: There are no JPSS (or NOAA) data product requirements for OMPS-L</p> <p data-bbox="687 362 1105 486">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</p> <p data-bbox="687 515 1089 611">Resulting in: Additional funding needed for delivering the algorithm, product generation/distribution/archive, and calval of the products.</p>	Mitigate	<p data-bbox="1358 287 1870 334">10/16/2019: Operational Readiness Review (ORR) is now scheduled for October 2019.</p> <p data-bbox="1358 362 1875 436">8/8/2019: OSPO PAL and STAR PI are working on Operational Readiness Review (ORR) slides now and planning to hold ORR in September 2019.</p> <p data-bbox="1358 465 1875 512">7/12/2019: No change. There is still some issues with ancillary data with running OMPS-L on NDE I&T.</p> <p data-bbox="1358 541 1561 564">5/1/2019: No change</p>



JPSS Top Risks



Status as of: 10/16/2019

Rank	Risk ID	Risk Statement	Approach	Status
<p data-bbox="42 287 117 332">5</p> <p data-bbox="54 354 104 386">↔</p> <p data-bbox="150 297 475 368">Algorithm testing & delivery impacts due to lag between IDPS and G-ADA moving to the Cloud</p> <p data-bbox="150 396 343 444">Expected Closure: 12/2020</p>	AMP-19-001	<p data-bbox="687 287 1097 334">Given that: IDPS will be in the cloud prior to G-ADA being in the cloud,</p> <p data-bbox="687 361 1070 436">There is a possibility that: algorithm change testing and implementation may take longer (not sure why?)</p> <p data-bbox="687 464 1089 511">Resulting in: delays to implementation of algorithm changes.</p>	Watch	<p data-bbox="1358 287 1837 334">8/8/2019: Suggest to transfer this risk to be under DPES risk</p> <p data-bbox="1358 361 1856 436">7/12/2019: No update. AMP and STAR teams have been engaged with the IPR reviews and provided feedback/inputs related to the algorithms/cal val.</p> <p data-bbox="1358 464 1566 482">5/1/2019: No Update</p> <p data-bbox="1358 509 1879 636">3/6/19: Based on limited understanding from Ground Project as of February 2019, we believe that there is a real possibility that IDPS will be migrated to the Cloud prior to G-ADA being available in the Cloud (with proper training, etc).</p> <p data-bbox="1358 664 1870 992">From John (possible consequence?): If G-ADA is on-premise but IDPS is in the cloud, differences in computing hardware may introduce small discrepancies in algorithm results (even if all codes, inputs, ancillaries, etc. are identical). So promoting algorithms from G-ADA to the cloud-based IDPS may require additional verification steps to ensure consistency of results (& to assess / bound the differences). (It's also possible that differences in memory sizes, network bandwidths, or disk access speeds might also change algorithm outcomes (race conditions); but hopefully none of the algorithms are that fragile.)</p>



JPSS Top Risks



Status as of: 10/16/2019

Rank	Risk ID	Risk Statement	Approach	Status
 Impact on Testing Ability Due to Major Build Upgrades 	AMP-18-006	<p>Given that: DPES has had issues installing major Block/Build updates in the past on G-ADA</p> <p>There is a possibility that: this could occur again in the future (Block 2.2)</p> <p>Resulting in: delays to testing of instrument code and table updates.</p>	Watch	9/5/2019: No issues. Continue to Watch 7/11/2019: No issues. Continue to Watch 3/6/19: Risk Owner changed from Cole to Jeff.



JPSS Top Risks



Status as of: 10/16/2019

Rank	Risk ID	Risk Statement	Approach	Status
<p data-bbox="42 282 117 332">7</p> <p data-bbox="150 297 469 344">Proxy data delay due to J2 10Hz Sampling Freq</p> <p data-bbox="54 354 104 386">↔</p>	<p data-bbox="527 287 653 305">AMP-19-002</p>	<p data-bbox="687 287 1064 382">Given that: APID 11 (S/C Attitude and Ephemeris) and 30 (S/C Telemetry) sampling frequencies are at 10Hz on JPSS-2</p> <p data-bbox="687 411 1097 486">There is a possibility that: It will affect and delay the process of getting/producing simulated J2 data (proxy data) during JCT.</p> <p data-bbox="687 515 1097 715">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.</p>	<p data-bbox="1199 287 1267 305">Watch</p>	<p data-bbox="1358 287 1885 358">9/9/19: Data from the simulator has been received and bit busted by the SEI&T team. This includes the J2 APID 11 and J2 APID 30 and APID 37.</p> <p data-bbox="1358 401 1870 582">8/5/19: From May 15, 2019 DFWG meeting J02 APID 11 at 10Hz (Possible DWFG topic with APID to VCID mapping) Flight Software User Guide and Maintenance Manual (SUMM) and Draft APID to VCID (20180625) show that APID 11 is being produced at 10 Hz Possible CGS Impacts various entities:</p> <ul style="list-style-type: none"> <li data-bbox="1358 611 1870 658">C3S: None noted as of yet (OO and/or STA can filter out additional packets) <li data-bbox="1358 658 1769 705">IDPS: ING Code and Configs and the Performance Data Repository <li data-bbox="1358 705 1850 758">Data: Create a way to produce 10 Hz APID 11 data using NPP and N20 <li data-bbox="1358 758 1870 805">Tools: SOS Tardis update to speed up swap out APID 11 data with ?current time? APID 11 data <li data-bbox="1358 805 1850 858">Currently takes 1-2 minutes per contact, could increase by 10X with 10 Hz APID 11 data <p data-bbox="1358 915 1702 933">From May 29, 2019 DFWG meeting</p> <p data-bbox="1358 962 1870 1268">J02 APID 11 at 10Hz Revamped 4-orbit EAP dataset with 10 Hz APID 11 supported IDPS SWIC Demo activities 10 Hz APID 11 creation tool Reads in two 1Hz APID 11 packets (Existing packets retain A&E values) Straight line interpolation for A&E values: 9 new packets are created in between each of the two original 1 Hz packets. Results in APID 11 data every 0.1 secs or 10 Hz. New sequence counters are used for every packet</p>



JPSS Top Risks



Status as of: 10/16/2019

Rank	Risk ID	Risk Statement	Approach	Status
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; background-color: #4CAF50; color: white; padding: 2px 5px; margin-right: 5px;">8</div> <div style="margin-right: 5px;">↔</div> <div> <p>Some IDPS and STAR algorithms cannot use APIDs with 10Hz sample freq</p> </div> </div>	AMP-19-003	<p>Given that: APID 11 (S/C Attitude and Ephemeris) and 30 (S/C Telemetry) sampling frequencies are at 10Hz on JPSS-2</p> <p>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</p> <p>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.</p>	Mitigate	<p>9/9/19: The TIM to discuss the 10Hz APID 11 was held between IDPS, STAR and Raytheon personnel. It was determined that J2 simulation data is needed to make a concrete decision on the correct action to take. Another TIM will be planned for the first quarter of 2020. IDPS Geolocation algorithm is planning to use only 1 sample of the 10/Hz APID.</p> <p>08/5/19: (IDPS comment) The only algorithm that reads the S/C APID 11 and S/C APID 30 is the common geolocation algorithm ? SRS Part 8. IDPS geolocation algorithm is common between S-NPP, and JPSS-1. Ideally, IDPS geolocation algorithm will remain unchanged for JPSS-2. IDPS common geolocation software would decimate the JPSS-2 S/C APID 11 ? taking only 1 sample from the 10 samples available. It is believed that the 10HZ will not produce more accurate samples. This would provide the same input as S-NPP and JPSS-1 to the common geolocation algorithm.</p> <p>The JPSS-2 S/C APID 30 is not used in the common geolocation processing to geolocate products, but rather as an indicator. This also will be a small IDPS common geolocation software change to only use 1 sample of the JPSS-2 S/C APID 30.</p> <p>The STAR science team TIM outcome should coincide with the above mitigation. There is no justification for increased geolocation accuracy on JPSS-2.</p> <p>07/15/19: STAR scientist will need to have a TIM to develop appropriate steps and actions for updating any algorithms that are affected by the 10Hz sampling frequency. IDPS will work with Raytheon personnel compensate for the 10hz frequency.</p>

Color code:

Green:

Completed Milestones

Gray:

Non-FY19 Milestones

Accomplishments / Events:

- Finished updating ATMS calibration algorithm bugs caused by different science RDR ingestion order over lunar intrusion affected regions.
- Monitored and verified IDPS Block 2.1 Mx7 transition to operation due to the implementation of ATMS reflector emission correction and antenna pattern correction coefficients updates in this version.
- Updated Advanced Radiance Transformation System (ARTS) to support cloud computing pilot project
- Evaluated NOAA-20 and S-NPP ATMS TDR/SDR bias using ATMS reprocessing data by latest calibration algorithms

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			

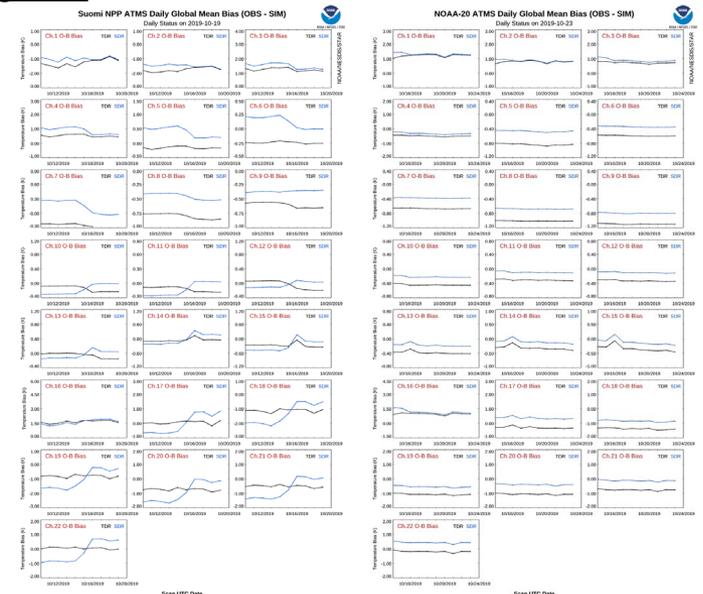
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

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	Feb-20		SJASTM: Feb-20
J2 pre-launch test data (TVAC) review/analyze	Sep-19	Jan-20		TVAC: Oct-19 TVAC + 3m
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	08/20/19	

Highlights: S-NPP (left) and NOAA-20 (right) O-B w.r.t. ECMWF Forecast Field



Accomplishments / Events:

- CrIS Team members participated in the 2019 Joint Satellite Conference in Boston, Massachusetts from September 28 to October 4, 2019. A summary of these presentations is reported below:
 - Y. Chen et al., "Recent Improvements for CrIS SDR Data Quality". This work presents recent implementations that improve the quality of the CrIS SDR data products, including:
 - 1) optimization of the spike detection and correction algorithm (**Figure (1)**),
 - 2) improvement of the lunar intrusion detection algorithm and
 - 3) implementation of the polarization correction algorithm.
 - D. Tremblay et al., "Post-launch noise assessment of CrIS onboard the NOAA-20 satellite". The work reports the on-orbit noise performance of the CrIS instruments and discussed the developed noise methodologies, including the Principal Component Analysis (PCA), as shown in **Figure (2)**.
 - F. Iturbide-Sanchez et al., "Capabilities of Present and Next Generation of Space-based Infrared Hyperspectral Sounders". This presentation discusses present and future capabilities of current LEO and GEO infrared (IR) hyperspectral sounders, including IR sounders on-board small satellites, and the justification for a US GEO IR sounder system.
- The SDR Generator software built by Harris was installed. This is a tool developed for the processing of CrIS TVAC data. The CrIS STAR Team is expected to perform an independent evaluation of J2/CrIS TVAC 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			

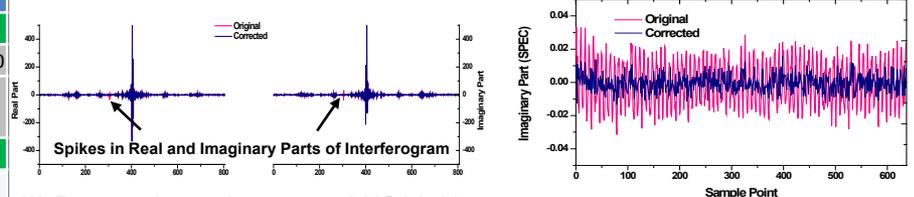
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

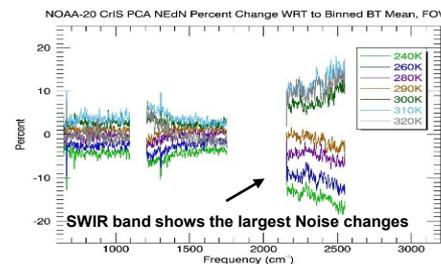
Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20 and SNPP cross verification	Sep-19	Sep-19		
Annual CrIS SDR performance report	Aug-19	Feb-20		SIASTM: Feb-20
J2 pre-launch test data (TVAC) review/analyze	Sep-19	Apr-20		TVAC: Jan-20 TVAC + 3m
S-NPP Beta/Provisional review (side-2)			07/25/19	

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	Aug-23	08/20/19	

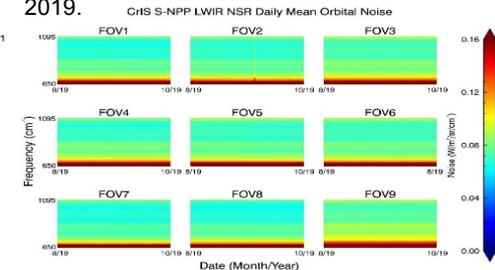
Highlights: (1) Detection of spikes is based on interferogram asymmetry. Measured Interferograms (left) and Imaginary Part of the spectrum (right), before (red) and after (blue) spike detection and correction.



(2) Percent change in computed NOAA-20 CrIS PCA Noise as a function of Earth Scene brightness temperatures for FOV1, after changing from 61 to 101 eigenvalues.



(3) Orbital average noise time series for CrIS S-NPP Side-2 SDR data after reaching Provisional Maturity Level on August 1st, 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 Oct. 28, 2019
- Analyzed recovery from the S-NPP VIIRS onboard computer lockup on 10/31/19: while a data gap began at 3:48 UTC, production of correctly calibrated VIIRS SDR was restored for all bands by 8:25 UTC
- Coordinated and verified predictions for the NOAA-20 VIIRS lunar calibration on 11/7/19
- Performed cross-calibration between S-NPP and NOAA-20 VIIRS using scheduled lunar collections: results for bands M1 to M4 do not show any noticeable signs of radiometric response degradation
- Created an initial version of the JPSS-2 VIIRS-SDR-DNB-LGS-GAINS-LUT and tested it using RDR files generated from the FOP (Flight Operations) and FP-18 (Day in the Life) pre-launch data
- Reanalyzed the latest solar calibration measurements from VIIRS instruments on NOAA-20 and S-NPP: verified that all OBC and SDSM data were acquired correctly
- Processed NOAA-20 and S-NPP VIIRS SNO and extended SNO comparisons with Aqua MODIS to monitor radiometric consistency between the two VIIRS instruments
- Processed VIIRS observations from the Saharan desert sites: Libya 4, Sudan 1, and Libya 1

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			

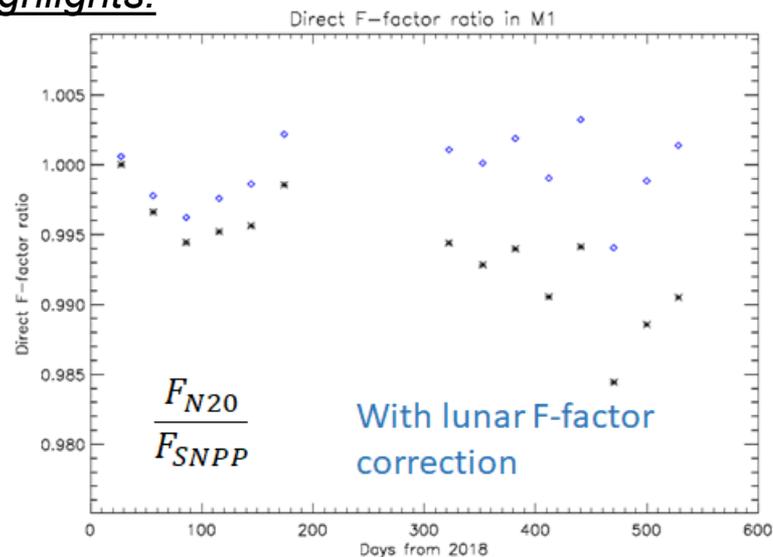
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4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

none

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20 and SNPP cross verification	Sep-19	Sep-19	Sep-19	
Annual VIIRS SDR performance report	Aug-19	Feb-20		SIASTM: Feb-20
J2 pre-launch test data (TVAC) review/analyze	Sep-19	Sep-19	Sep-19	
J2 Pre-launch sensor characterization report			10/01/18	
J2 Launch-ready LUTs (initial delivery)	Sep-19	Dec-19		Mx7/8 TTO
Comprehensive solution for VIIRS Geo SCE SideB HAM mirror LUT Missing (code and LUTs, ADR8788/CCR4185)	Dec-18	Dec-18	12/11/18	
Remove COEFF-A and COEFF-B LUTs (ADR8785/CCR4148)	Mar-19	Mar-19	12/18/18	
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	08/20/19	

Highlights:



NOAA-20 and S-NPP VIIRS lunar cross-calibration results for band M1

OMPS SDR

October, 2019

Accomplishments / Events:

- Refined NOAA-20 OMPS NP day-1 calibration to improve solar calibration accuracy
- Initialized preliminary analysis of J2 TVAC for OMPS
- Further validated NOAA-20 OMPS NP data quality using TomRad simulations and 32-day average inter-sensor differences from SNPP OMPS NP data, in coordination with the ICVS team
- Analyzed latitude-dependent bias features of NOAA-20 OMPS NP radiance and N-values, in coordination with the ICVS team
- Made regular weekly/biweekly deliveries for OMPS dark table, SNPP/NOAA-20 OMPS-NP wavelength and solar flux
- Provided a report to support to the CCR 19-4638/DR9093 regarding NOAA-20 OMPS TC and NP stray light correction and solar wavelength and flux correction
- Reviewed the OMPS OAD document change (474-00081)
- Understood impacts of OMPS SDR data on EDR N-values retrievals

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			

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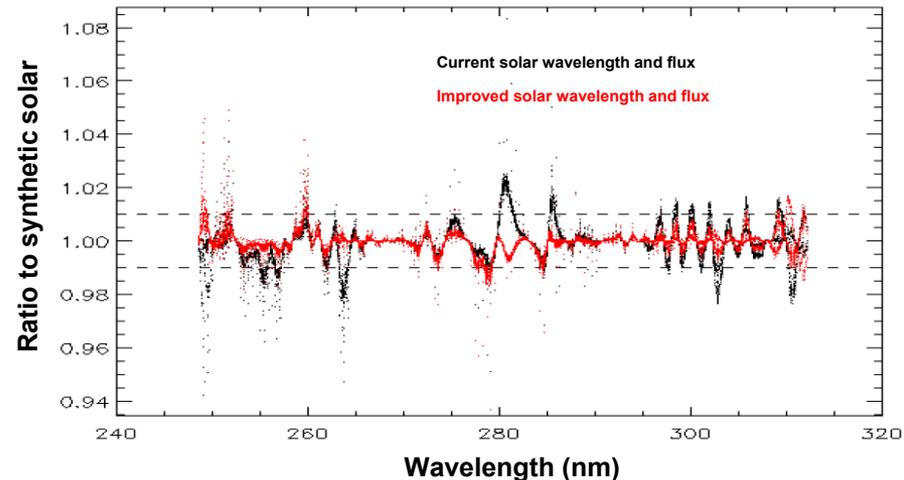
Issues/Risks:

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Validated Maturity	Jun-19	Sep-19	09/20/19	
NOAA-20 and SNPP cross verification	Sep-19	Sep-19	09/20/19	
Annual OMPS SDR performance report	Aug-19	Feb-20		SJASTM: Feb-20
J2 pre-launch test data review/analyze	Sep-19	Dec-19		Priority change
J2 Pre-launch sensor characterization report	Jun-19	Jan.-20		PSR and priority changed
NOAA-20 OMPS NP Validated Review	Sept-19	Jan.-20		RFA from EDR
OMPS NM/NP Mismatch for FOVs (ADR8617/CCR4137)			11/01/18	
Update NOAA-20 OMPS Calibration Tables (ADR8816)	Dec-18	Dec-18	02/07/19	Govt. shutdown
OMPS NP Transient Smear Correction (ADR8709/CCR4138)	Dec-18	Dec-18	11/26/18	
Start N20 bi-weekly FT LUT update			05/14/19	
DAP (ADR8550, remove snow/ice & QST tile dependency)			08/01/19	To ASSISTT
DAP (ADR9093, NOAA-20 OMPS TC & NP LUT updates for Validated Maturity)			08/19/19 09/03/19	To ASSISTT To DPES

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	08/22/19	

Highlights:



Ratio of newly calibrated solar flux to synthetic solar indicates irradiance calibration uncertainty less than 1-2% for most of the channels. Further validation is needed

Accomplishments / Events:

- Completed the SNPP reprocessed data maturity review (highlights)
- The development of web interface for VIIRS reprocessed data dissemination is under test
- New round of SNPP OMPS-NP reprocessing with bi-weekly solar update is on-going, and will be finished by Nov. 30, 2019
- New round of SNPP ATMS reprocessing with bi-weekly solar update is on-going, and will be finished by Nov. 30, 2019
- Preparation of a peer-review journal paper for SNPP SDR Reprocessing is ongoing
- Transition of the reprocessed SNPP SDR data to NCEI/CLASS is ongoing

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Finish 2016 VIIRS V2 reprocessing	Feb-19	Feb-19	Feb-19	N/A
Finish the remaining VIIRS V2 reprocessing	July-19	July-19	July-19	N/A
Compared cloud mask produced by VIIRS V2 reprocessed data and CLASS data	Aug-19	Aug-19	Aug-19	N/A
Reprocessed data maturity review	Sept-17	Sept-17	Sept-17	N/A
Develop VIIRS reprocessing data dissemination interface	Nov-19	Nov-19		
Perform OMPS-NP, ATMS V2 Reprocessing	Nov-19	Nov-19		
Reprocessing paper/report	Mar-20	Mar-20		

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			

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Issues/Risks:

None

Highlights: SNPP Reprocessing Data Validated Maturity Review

Summary from Review Panel

- The review team acknowledges all the science teams for their efforts and hard work in preparing for this review and calibrating/validating work for the SNPP reprocessed SDR products.
- Project supports NOAA mission goals with clearly identified users
- All the reprocessed ATMS, CrIS, VIIRS, and OMPS SDRs meet validated maturity requirements

Path Forward

- Documentation: For each instrument (e.g., ReadMe) as well as the entire project
- User engagement:
 - Complete webpage for user access to the reprocessed datasets
 - Communicate with users for feedbacks (through emails and attending conferences)
- Publish results on impact studies
- Reprocess SNPP again using latest calibration algorithms
- Reprocess NOAA-20 when it is long enough and calibration algorithms are not updated any more
- Reprocess future JPSS satellites
- Reprocess EUMETSAT-ESA SG satellites if required

Accomplishments / Events:

- Built NOAA-20 and S-NPP OMPS NP inter-sensor comparison trending products to support OMPS SDR maturity review
- Add thermal IR bands monitoring into VIIRS v.s. ABI comparison package to build NOAA-20/S-NPP SDR double difference trending time series
- Designed and developed ICVS dynamic website to provide better user experience and improve ICVS interaction capability
- Updated CrIS O-B w.r.t. ECMWF forecast field package by latest CRTM to improve CrIS SDR data quality monitoring accuracy and stability
- Updated NOAA-20 and S-NPP spacecraft monitoring parameter according to NASA flight project user's request
- Kept transitioning ICVS severe event watch hurricane 3D warm core structure processing package to STAR JMAPPER project for near real time implementation
- 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			

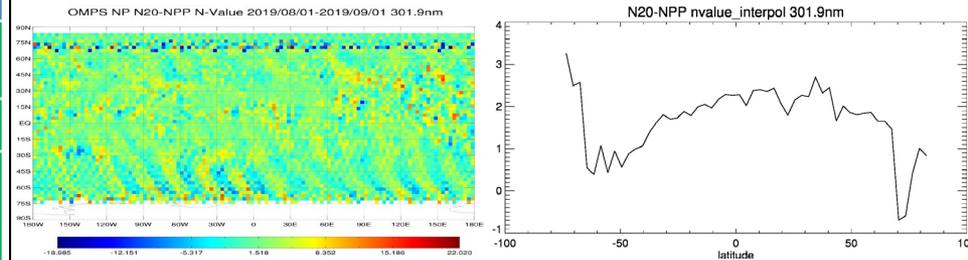
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Issues/Risks:

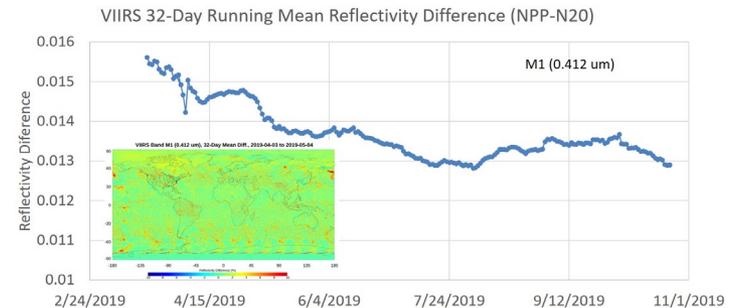
None

Highlights: Significantly contribute to STAR SDR Teams

OMPS NP N20-NPP N-Value



NOAA-20 vs. S-NPP VIIRS M1 32-day mean difference time series



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 Modules' initialization or improvement (each instrument on both SNPP and NOAA-20): <ul style="list-style-type: none"> 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	Sept-19	SNPP CrIS MW band electronic circuits switch from side 1 to 2; support N20 OMPS NM validated review; more efforts on SNO analysis
ICVS Module development and update: <ul style="list-style-type: none"> 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	Dec-19		Support to N20 OMPS NP review; more efforts on inter-sensor analysis; prepare for 2019 Joint Satellite Conference
JPSS-ICVS System Standardization and ICVS Annual Performance Review	Sep-19	Feb-20		SJASTM: Feb-20

Accomplishments / Events:

- **Terrain-Corrected EDR Imagery ARR:** Additional support for terrain-corrected (TC) imagery has been produced and documented. Examples of VIIRS Imagery both before and after TC is applied show that surface features remain stable (within mapping uncertainty) between views from overlapping orbits of JPSS, whereas non-TC imagery has shifts on the order of several km, with the most shift at higher-elevation locations. (J. Evans, W. Chen, C. Seaman)
- **NCC LUT update:** Plots of the new NOAA-20 DNB-to-NCC LUTs show the most changes at about 90 degree zenith angles (near the day-night terminator) compared to the current LUTs used for NOAA-20. The new LUTs, however, need more work to be extended to 180 degrees in order to be applied operationally. (S. Finley, C. Seaman)

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			

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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	Oct-19	Part of TC analysis
Annual VIIRS Imagery performance report	Aug-19	Feb-20		SJASTM: Feb-20
N20 NCC LUT update	Sep-19	Dec-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	09/05/19	
DAP to DPES	Sep-19	Sep-19	09/30/19	
Run ADL locally (@ CIRA, to allow code testing/changes)	May-19	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	08/21/19	



Quantifying parallax shifts

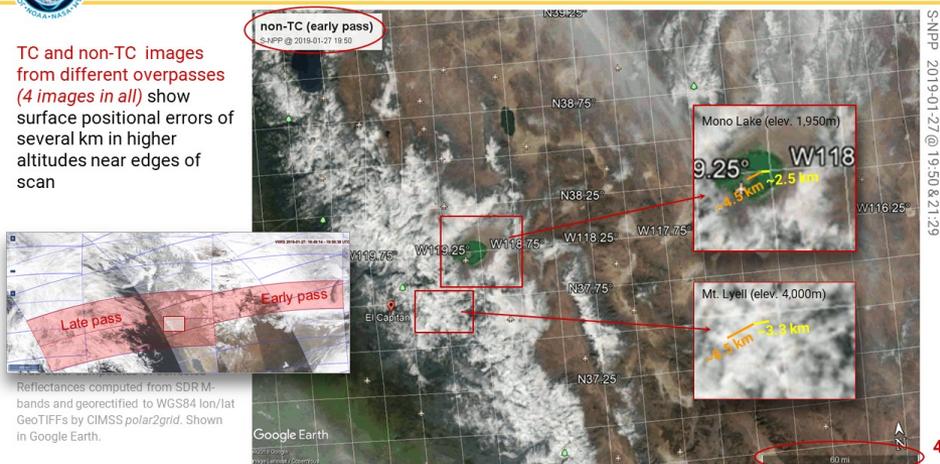


Figure: Example of the application of terrain-corrected (TC) EDR Imagery to surface features at differing elevations, showing the stability of those features between views from different orbits/view-angles compared to those same features in non-TC Imagery.

Clouds

October, 2019

Accomplishments / Events:

- Cloud team is testing the new cloud mask (ECM) and cloud height (ACHA) codes in the FRAMEWORK environment.
- GOES-16/17 ABI data being used as test data for the new ECM codes.
- A VIIRS LUT for the new ECM has been developed and will be tested.

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			

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Issues/Risks:

None

Highlights: Using NUCAPS Cloud Fraction

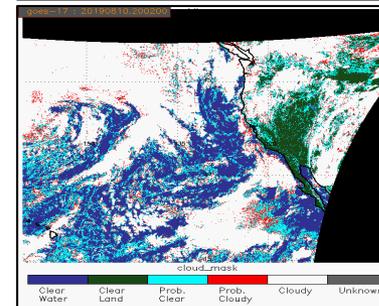
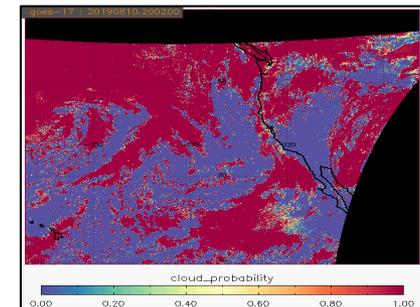
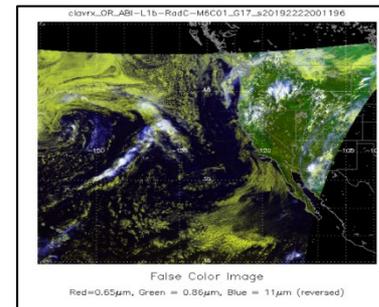


Figure 1. a) RGB, b) Cloud Probability, c) Enterprise Cloud Mask (ECM) for a GOES-17 ABI CONUS granule on August 10, 2019 20:01 UTC. The new ECM uses not only 1D, but 2D and 3D classifiers (tests). All thresholds now are located at the LUT. This will help to make changes and implement them to the Ops much faster than make code changes. For the 4-level ECM calculation, thresholds between Confidently Clear and Probably Clear, Probably Cloudy and Confidently Cloudy were changed depending on the surface type.

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: <ul style="list-style-type: none"> 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-20		NDE maintenance schedule delay
Algorithm update DAP to ASSISTT: <ul style="list-style-type: none"> 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 DCOMP: 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	Oct-20		NDE maintenance schedule delay

Accomplishments / Events:

- Presented a talk at the Joint Satellite Conference on applying VIIRS EPS ADP algorithm to S5P TROPOMI. Results are very encouraging
- Presented a talk on a new algorithm to derive surface particulate matter concentration from VIIRS AOD and its validation.
- Presented a talk at Pecora21 conference on trends in fire activity and air quality using VIIRS. In this talk VIIRS AOD images corresponding to smoke from fires were shown

Overall Status:

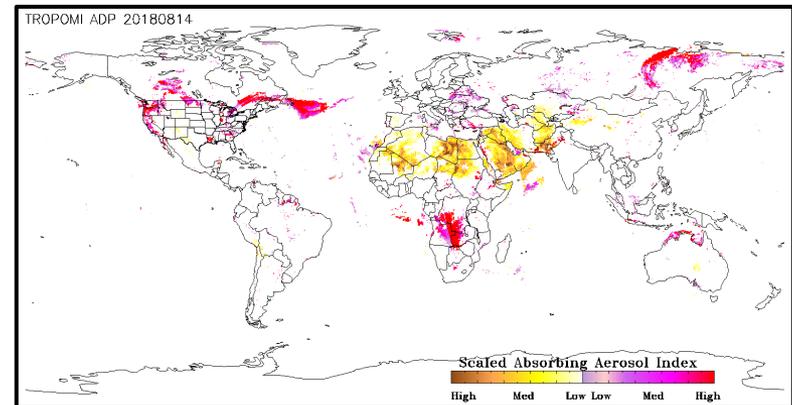
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Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
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:				
<ul style="list-style-type: none"> 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:				
<ul style="list-style-type: none"> 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	Mar-20		The work is ongoing . Delay is due to delay in generating the bright surface reflectance dataset
Enhancements to AerosolWatch website to add NOAA-20 data	Jun-19	Jun-19	June-19	



Aerosol Detection Product (ADP) for S5P TROPOMI for August 14, 2018

Accomplishments / Events:

- Added to list of known NOAA-20 observations of non-trivial ash clouds
- Completed FY19 cal/val activities, including continuous assessment and comparisons to validation data
- Concluded that the combined VIIRS/CrIS utilized in VOLCAT is much more accurate than the current VIIRS EDR. The VIIRS volcanic ash EDR badly underestimates the height of well dispersed high level volcanic clouds, whereas the VIIRS/CrIS approach is much more consistent with validation 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		

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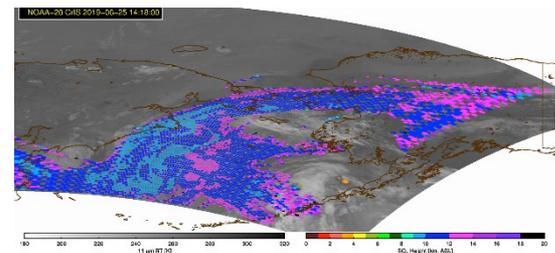
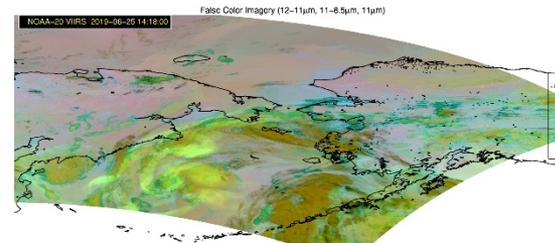
Issues/Risks:

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

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	9/30/19	
Comparison of volcanic ash products with validation data	Sep-19	Sep-19	9/30/19	
Submit user request for the VOLCAT capability (implementation)	Mar-19			Still TBD as JPSS, GOES-R, and STAR determine the best way forward

Highlights:

CrIS volcanic cloud height mapped to VIIRS



Accomplishments / Events:

- NOAA-20 VIIRS Arctic sea ice concentration was compared to the concentration estimated on the National Ice Center (NIC) ice charts. Visual inspection shows good agreement between the two ice concentration estimates. (See figure)
- JPSS cryosphere products were well advertised at the 2019 Joint Satellite Conference, held September 30 through October 4, 2019 in Boston, MA.
- NOAA OISST fields were examined as a possible replacement ocean mask to remove erroneous ice that did not get flagged by the automated weather filters and climatological ocean mask in the AMSR2 sea ice characterization algorithm.

Overall Status:

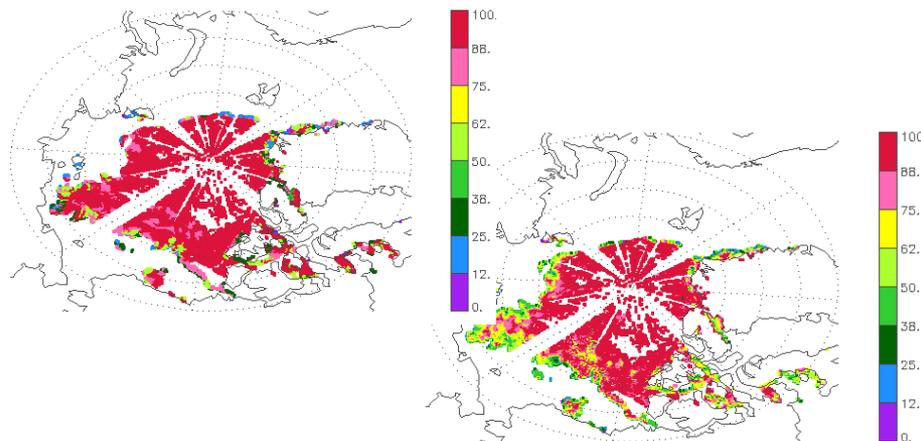
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Issues/Risks:

None

Highlights:



NIC ice concentration (left) and VIIRS ice concentration (right), August 23, 2018.

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:				
<ul style="list-style-type: none"> ▪ 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	Sep-19	Apr-19	
Algorithm Cal/Val:				
<ul style="list-style-type: none"> ▪ 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: Validate N20 ice thickness with NPP, IceBridge, CryoSat-2, SMOS, and ICESat-2 products 	Sep-19	Sep-19	May-19	
Algorithm Updates:				
<ul style="list-style-type: none"> ▪ Modify/add quality flags if needed ▪ Ice Concentration: Improve tie-point processing for marginal ice zone ▪ Ice Thickness: <ul style="list-style-type: none"> • 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	Sep-19	May-19	

Accomplishments / Events:

- Submitted and emergency update of the M-band fire product
- The update adds a flag of potential persistent anomaly to the QF mask in the netCDF4 file and an additional column to the text file
- The update is to ensure that the new operational version is in production as the HRRR-smoke model transitions for NCEP operations
- Ivan Csiszar gave the presentation “Active fire monitoring and applications from NOAA's new generation operational satellites” in the special session “New Generation of NOAA Operational Satellites to support Land, Arctic, and Coastal Waters Applications” at the Pecora 21 / ISRSE 39 meeting in Baltimore, MD

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		OSPO / NDE implementation

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

Issues/Risks:

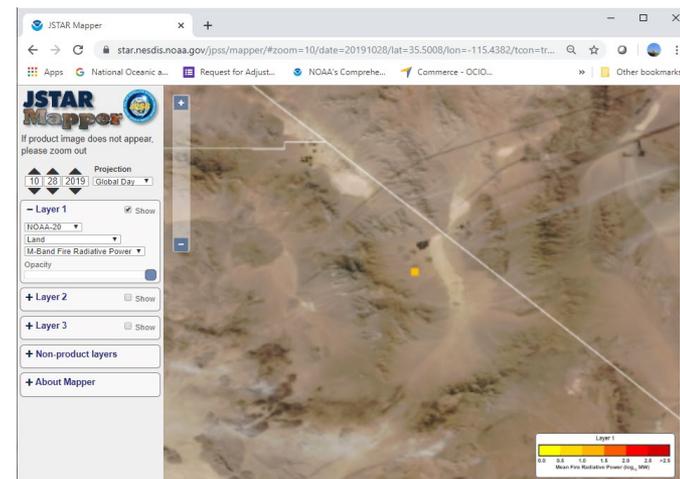
Delay in OSPO / NDE's readiness to implement I-band algorithm

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
S-NPP / NOAA-20 data analysis	Sep-19	Sep-19	Sep-19	
<i>I-Band Active Fires algorithm development and Cal/Val</i>				
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	Mar-20		Initial DAP delivered to ASSIST. Final DAP forthcoming

Highlights:

<https://www.star.nesdis.noaa.gov/jpss/mapper/>

**NOAA-20
October 28,
2019
19:59 UTC**



A recent example of a false fire detection from reflected solar radiation from a solar farm. This detection is now flagged by the updated M-band algorithm

Accomplishments / Events:

- The team met with OSPO to review the metadata generated for long-term quality monitoring
- It was agreed that OSPO should generate daily aggregates of statistics of most metadata to enable the detection of anomalies
- The team continues evaluation options for algorithm improvements in the operational products, such as thin cirrus correction and adjacency corrections

Overall Status:

	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget			X		Temporary funding delay
Technical / Programmatic			X		Large data volume for validated analysis
Schedule			X		Delay validated review

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: delay in preparation for validated review. Low impact on product performance.

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	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:

Generic flowchart of the Surface Reflectance retrieval algorithm. Highlighted are corrections considered to be added to the operational processing system.

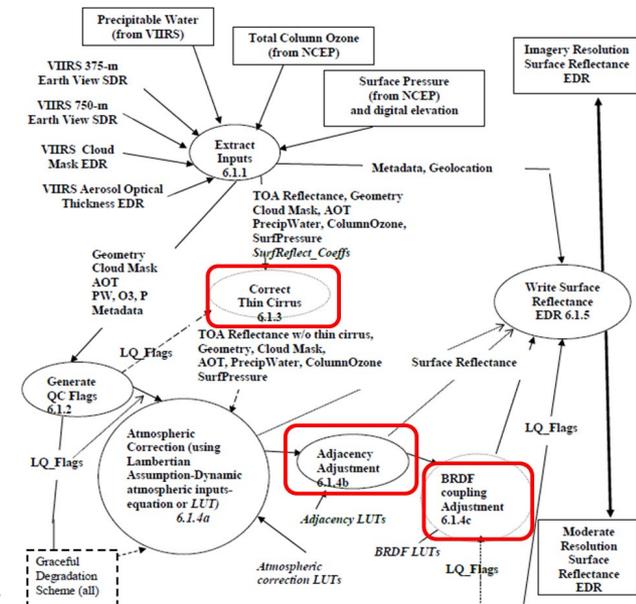


Figure 1. Surface Reflectance EDR processing architecture.

Credit: Bob Yu (STAR), Heshun Wang (UMD)

Accomplishments / Events:

- Downloaded and processed S-NPP and NOAA-20 VIIRS observations acquired in October 2019 to create daily mosaics (up to the writing of this report)
- Developed a prototype daily surface type product by combining the 2018 AST map and daily snow cover maps produced by the Interactive Multisensor Snow and Ice Mapping System (IMS) to reflect daily changes in surface cover conditions due to snow cover change (see Highlights in the lower right Quad)
- Presented the surface type products and the above prototype study at the Joint Pecora21-ISRSE38 Conference:
 - Chengquan Huang, Rui Zhang, Ben DeVries, Xiwu Zhan, and Ivan Csizar. 2019. Use of VIIRS to Monitor Sub-Annual Surface Type Dynamics Driven by Seasonal and Shorter Term Changes in Snow Cover and Surface Inundation, Pecora21-ISRSE38, Baltimore, MD, Oct. 6-11, 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				

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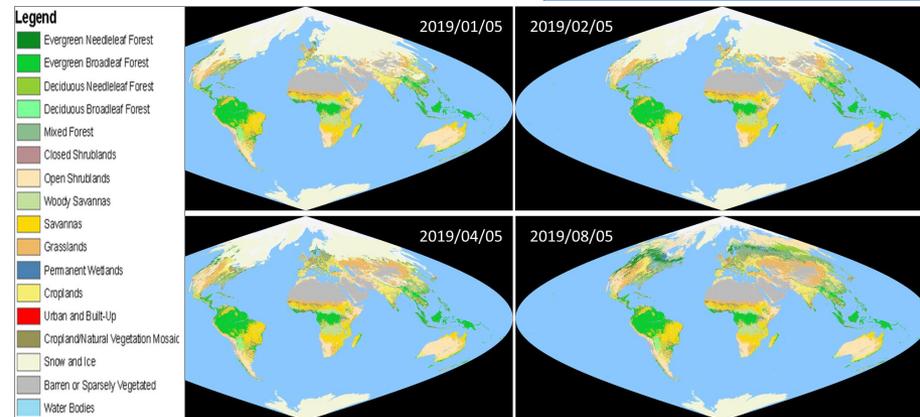
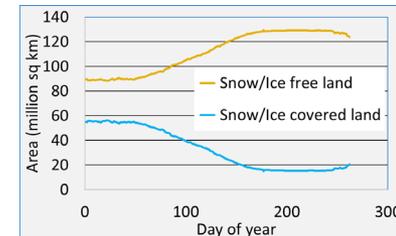
Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Beta Maturity (N20 Cal/Val)	Jul-19	Sep-19	09/19/19	
Provisional/Validated Maturity	Sep-20	Sep-20		
Annual performance report	Aug-19	Feb-20		SJASTM: 2/20
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	Aug-19	
Comparison of AST18 with surface type validation data (Accuracy statistics of the new AST18 and LWM)	Sep-19	Sep-19	Sep-19	
Delivery of AST18 (available for users through STAR FTP)	Sep-19	Sep-19	Sep-19	
Communicate with EDRs and ASSISTT teams on switching to use VIIRS AST	Mar-19	Mar-19	Mar-19	

Highlights:

Daily surface cover condition maps (below) derived by integrating the 2018 AST product with IMS snow cover maps show large changes in land areas with and without snow/ice cover during the first three seasons of 2019 (right).



Accomplishments / Events:

- The issue with geometry data in the LST output has been fixed. The test results have been verified.
- Further did the inter-comparison between L3 J01 VIIRS LST and SNPP VIIRS LST for the time period from Sep. 3- Oct. 4, 2019. The result has been included in the gridded LST product operational promotion briefing.(slide2)
- Updated the L3 LST product validation for both SNPP and NOAA 20 using ground measurements from SURFRAD and BSRN for the time period from Feb.1 to Oct. 15, 2019.(highlights, slide 3-5)
- Performed the algorithm study about the split window channel selection using the simulation data.
- Attended the Pecora/ ISRSE 38 conference in Baltimore, MD from Oct. 7 to Oct. 11, 2019. Gave a presentation titled on "Enterprise LST Product Status and Its Readiness to Users".
- Submitted an abstract to the annual CESESS meeting
- Fulfilled a user request on the enterprise LST over Évora site for time period from 2016 to 2018.
- Provided the L3 VIIRS LST sample data to users in soil moisture group for them to get familiar with the new L3 data e.g. format and projection etc.

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	Sep-19	
Validated maturity review	Nov-19	Nov-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	Aug-19	09/24/19	Scheduled in Sep.
Final DAP to NDE	Jul-19	Aug-19	09/30/19	Scheduled in Sep.

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			

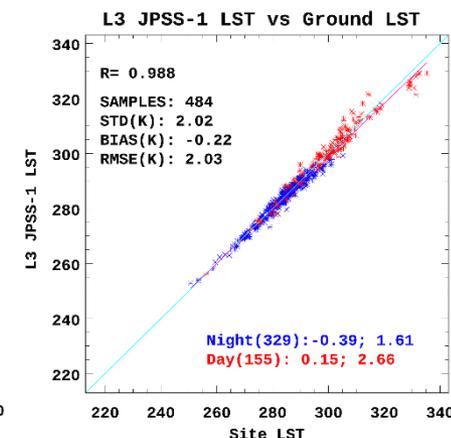
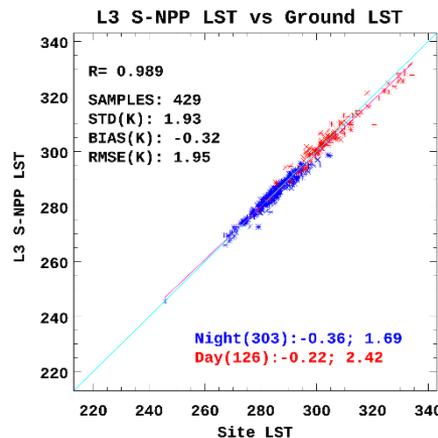
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Issues/Risks:

Schedule change due to the government shutdown

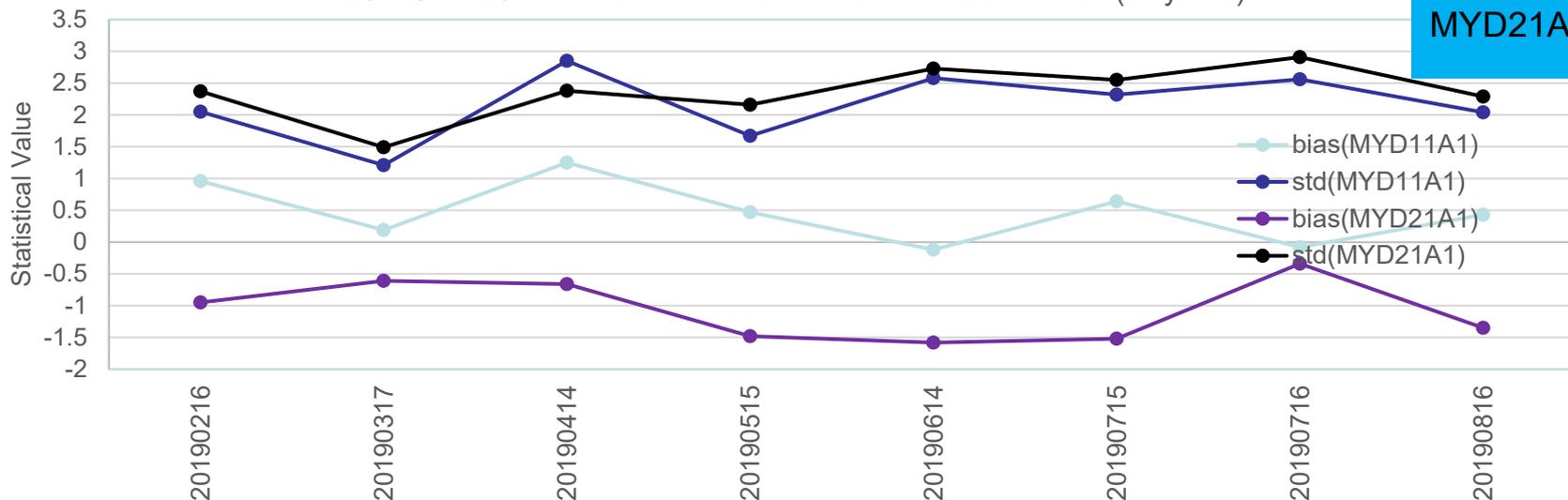
Highlights:

Ground data validation of L3 SNPP VIIRS LST and NOAA 20 VIIRS LST for the time period of Feb. 01, 2019 to Oct. 15, 2019.

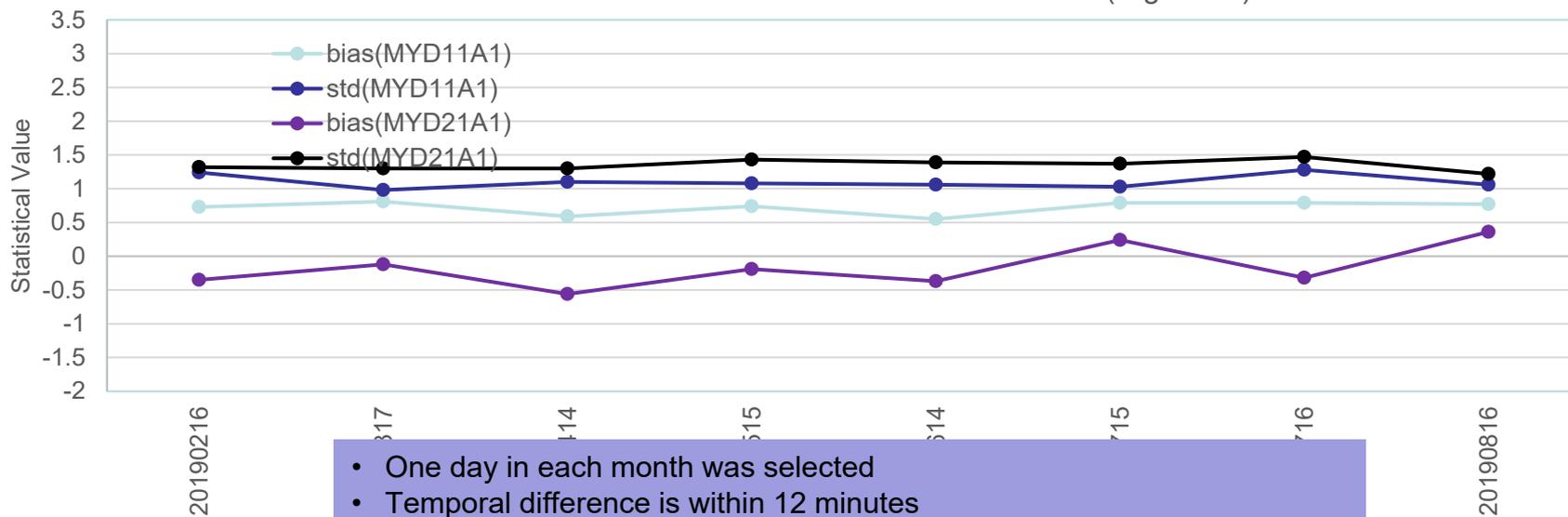


L3 NOAA20 VIIRS LST vs AQUA MODIS LST

L3 NOAA 20 VIIRS LST vs MYD11A1 and MYD21A1 LST(Daytime)



L3 NOAA 20 VIIRS LST vs MYD11A1 and MYD21A1 LST(Nighttime)



- One day in each month was selected
- Temporal difference is within 12 minutes
- Statistics reflects the global mean difference
- Day night is separated (top: day, bottom: night)

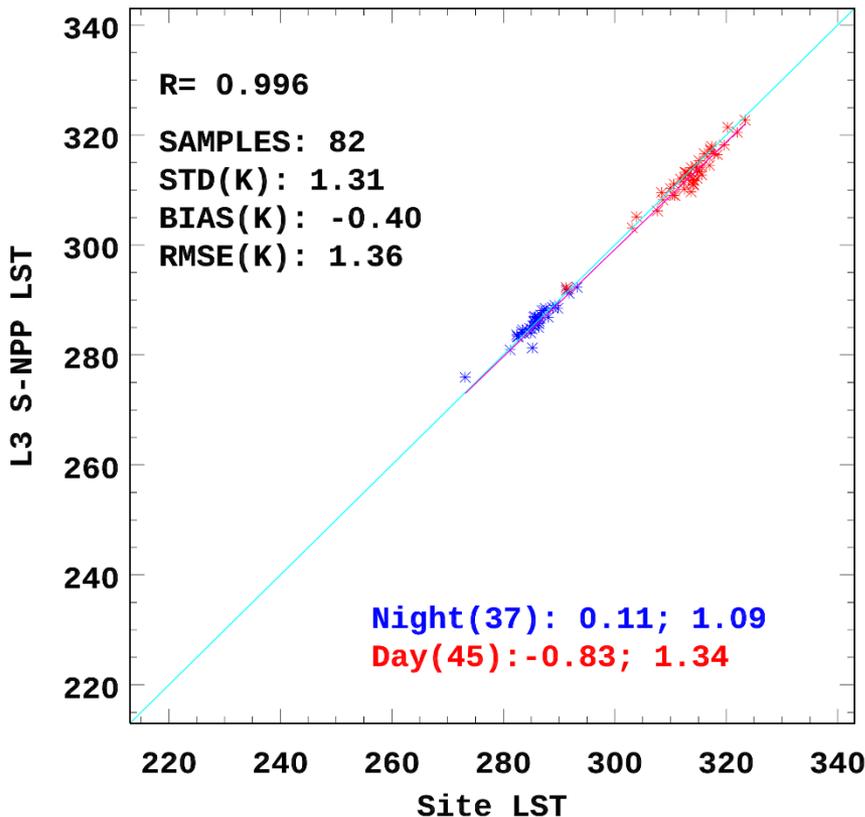
- BSRN data
 - Two sites over Netherland and Namibia.

Feb.01-Oct.15 2019

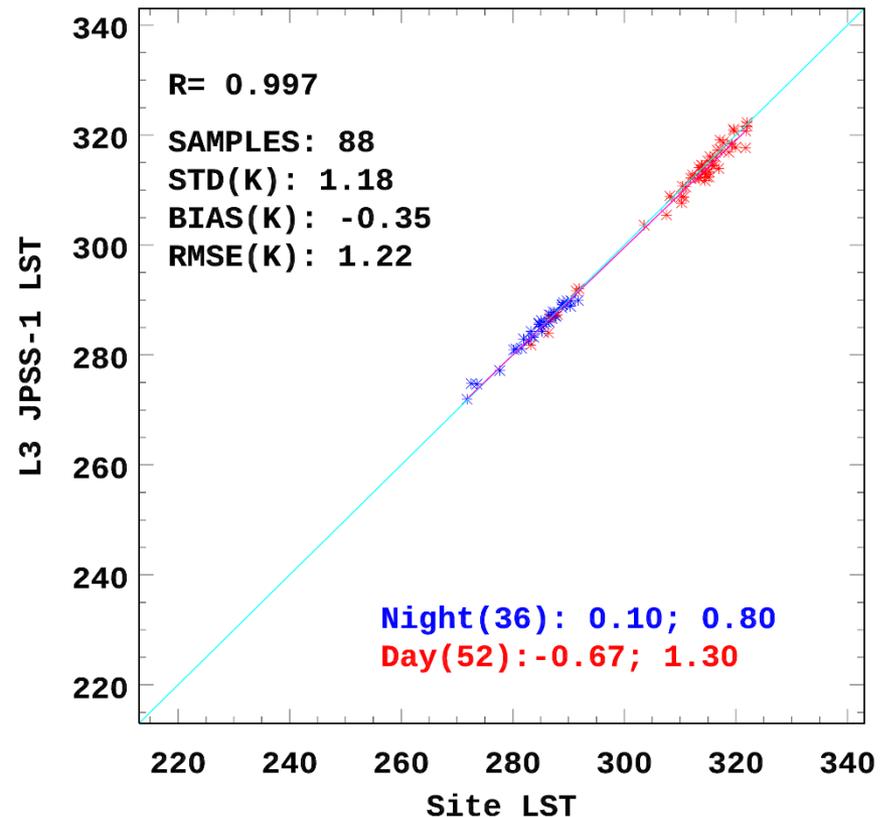
S-NPP VIIRS

NOAA 20 VIIRS

L3 S-NPP LST vs Ground LST



L3 JPSS-1 LST vs Ground LST



S-NPP SURFRAD site wide validation results

siteName	count	bias	std	count(d)	bias(d)	std(d)	count(n)	bias(n)	std(n)
BON	56	-0.28	1.76	0	-3.39	NaN	54	-0.44	1.58
DRA	87	-2.33	1.77	23	-2.64	2.53	64	-2.22	1.42
FPK	62	-0.36	1.37	27	-0.95	1.57	35	0.10	1.00
PSU	47	1.04	1.09	7	0.97	2.21	40	1.06	0.80
SXF	80	0.60	1.26	30	0.31	1.58	50	0.77	1.00
TBL	82	-0.23	1.70	22	0.43	2.20	60	-0.47	1.42

S-NPP BSRN site wide validation results

siteName	count	bias	std	count(d)	bias(d)	std(d)	count(n)	bias(n)	std(n)
CAB	3	1.44	1.18	2	0.77	0.34	1	2.78	NaN
GOB	79	-0.47	1.27	43	-0.90	1.32	36	0.04	1.01

SURFRAD site wide validation results

siteName	count	bias	std	count(d)	bias(d)	std(d)	count(n)	bias(n)	std(n)
BON	75	-0.30	1.91	9	1.36	3.70	63	-0.46	1.32
DRA	96	-2.22	1.73	24	-2.62	2.60	72	-2.08	1.32
FPK	72	-0.12	1.69	37	-0.15	2.08	35	-0.09	1.18
PSU	53	0.99	1.26	13	0.72	1.82	40	1.08	1.03
SXF	82	0.69	1.35	25	0.30	1.98	57	0.87	0.94
TBL	93	0.00	1.81	31	1.29	2.09	62	-0.65	1.22

BSRN site wide validation results

siteName	count	bias	std	count(d)	bias(d)	std(d)	count(n)	bias(n)	std(n)
CAB	10	-0.10	1.29	6	-0.68	1.05	4	0.76	1.21
GOB	78	-0.39	1.17	46	-0.66	1.34	32	0.02	0.72

Accomplishments / Events:

- Inter-compared S-NPP and NOAA-20 VIIRS albedo through 16-day aggregation to mitigate the influence orbital difference on direct retrievals
- Launched the monitoring system of the enterprise VIIRS albedo and checked the quality of the updated operational data since Sep 19, 2019
- Investigated the influence of SNPP/JPSS1 snow mask difference on albedo
- Examined the possibility to improve the product validity through loosening the cloud mask restrictions
- Tested the LUTs for visible and near-infrared albedo retrieval
- Discussed the design flow of blended albedo product from SNPP/JPSS1
- Joined the AMS Joint Satellite Conference and presented the VIIRS albedo product performance report in the meeting

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			

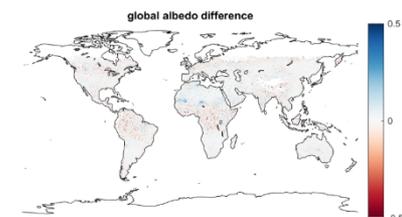
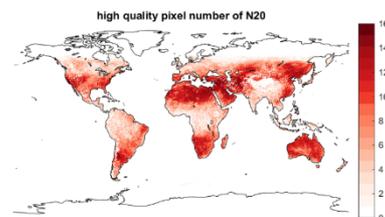
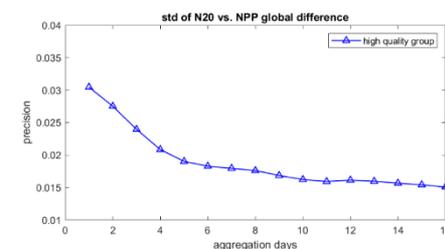
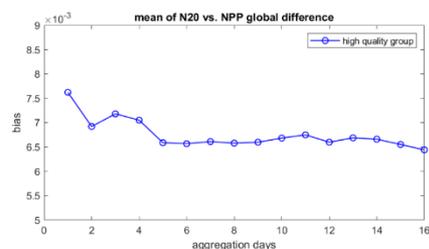
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Issues/Risks:

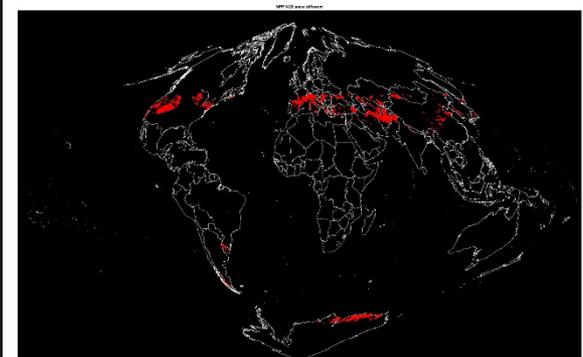
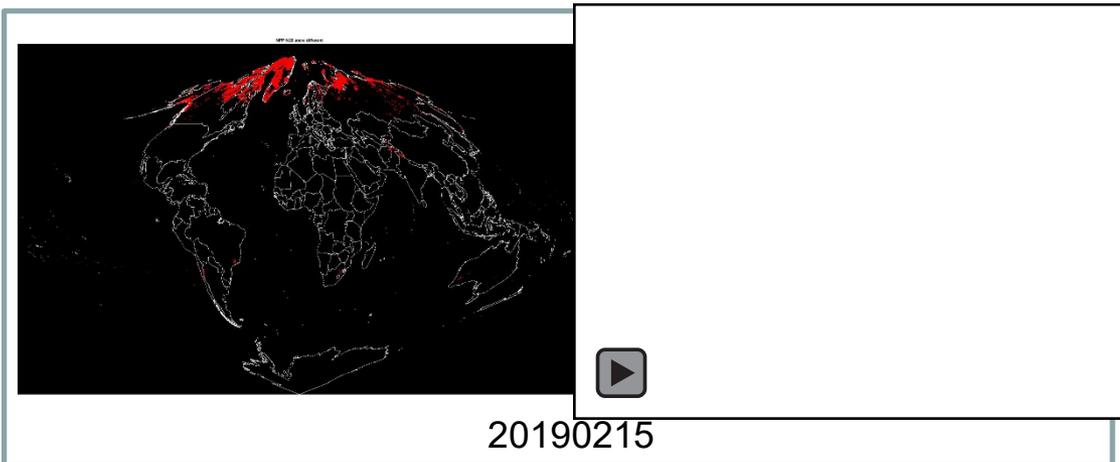
Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Provisional Maturity (N20 Cal/Val)	Feb-19	Mar-21	Done	
Final DAP (N20 Algorithm Adjustment)	Mar-19	Mar-21	Delivered to AIT	
NOAA-20 LUT update	Apr-19	Apr-19	Delivered	
New 1-km albedo climatology dataset delivery	Apr-19	Apr-19	Apr-19	Submitted
Cal/Val tool development (SNPP & J1 comparison)	Apr-19	Apr-19	Done	
Deep-dive analysis software package for the anomaly watch	Sep-19	Sep-19	Done	
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	Aug-19	09/24/19	
Final DAP to NDE	Jul-19	Aug-19	09/30/19	

Highlights:

The SNPP-NOAA20 bias and std have been decreased over direct retrievals through temporal aggregation

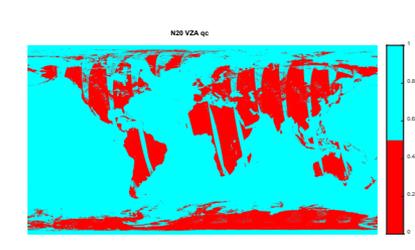
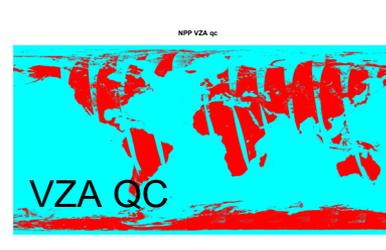
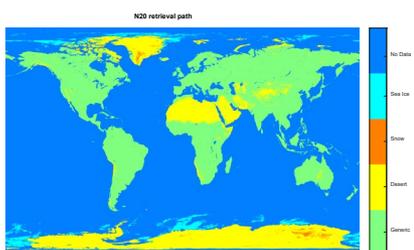
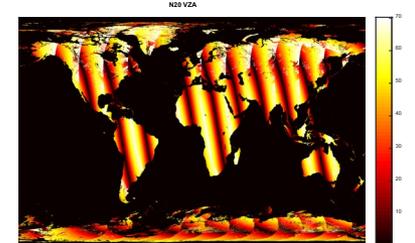
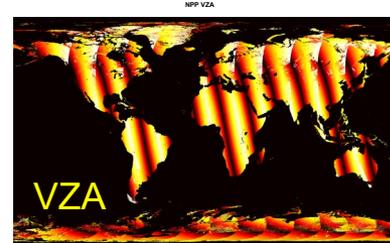
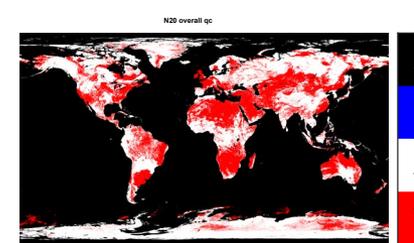
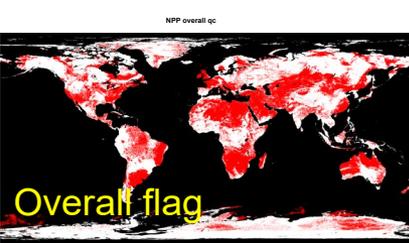
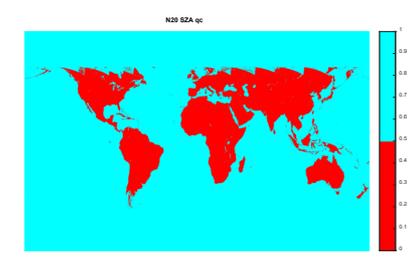
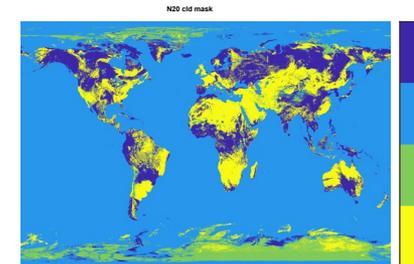
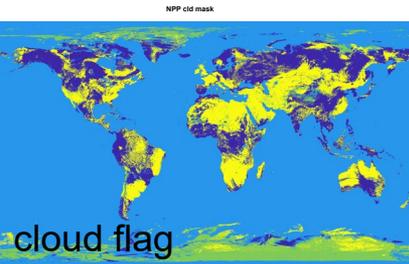
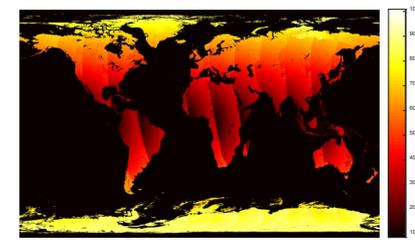
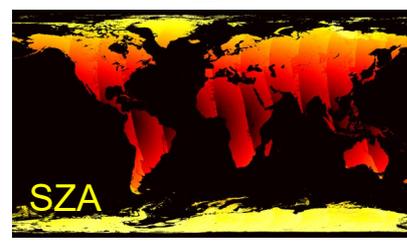
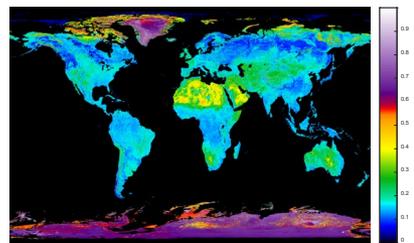
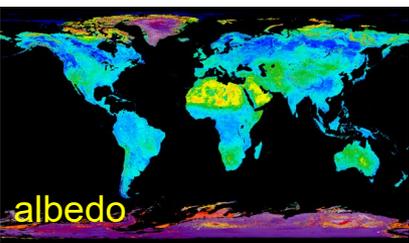


	20190215	20190628	20190920
Projection	1km Sin	1km Sin	5km Equal Lat/Lon
Snow mask data source	IDPS	Framework	NDE
N_diff (Number of high quality (clear sky & SZA<60 & VZA< 60) cell with snow difference)	101760	159274	42414
Fraction of N_diff in high quality snow grid cells	47%	18%	68%
Fraction of N_diff in high quality grid cells	0.15%	0.33%	1.94%
N_diff1 with NPP snow-free and N20 snow	31007	88339	24502
N_diff2 with NPP snow and N20 snow-free	70753	70935	17912



Local monitoring for Enterprise albedo

Global monitoring contents for both NOAA-20 and S-NPP albedos: Albedo, quality flags (overall quality, cloud, retrieval paths), reflectance, solar zenith angle, view zenith angle

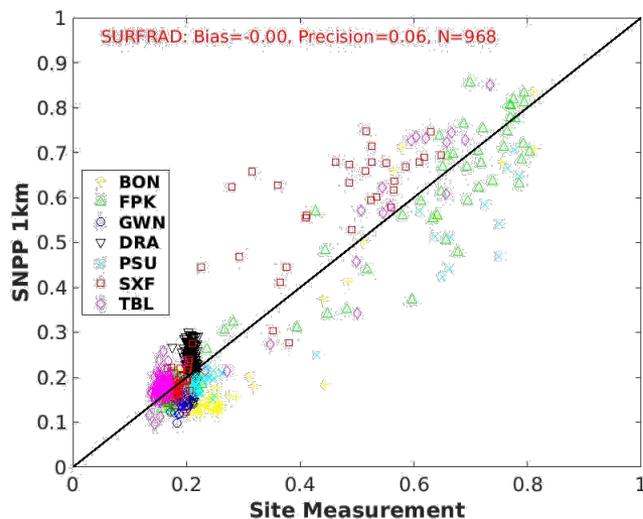


Tested the influence of different cloud setting

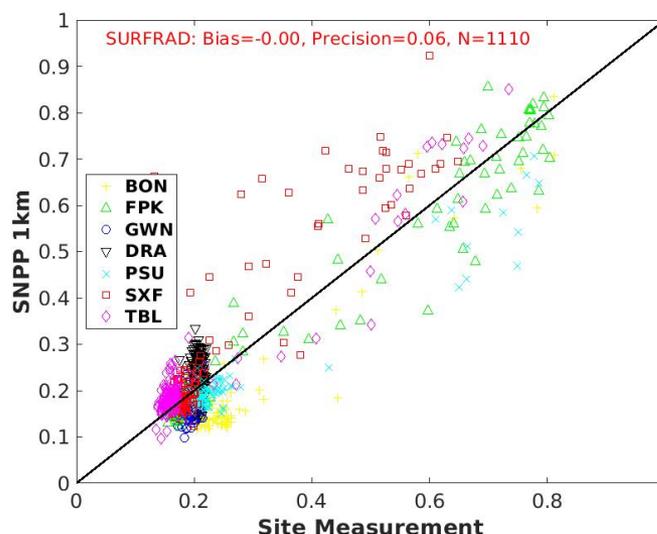
1. The current product conducts direct retrieving on confidently clear pixels without considering the cloud mask quality. Here tested the direct retrieving on both confidently clear and probably clear pixels with good quality over the 2013.
2. Results suggest that update would slightly increase the number of direct retrievals while keeping the current accuracy over SURFRAD stations.
3. The new cloud setting would be considered in testing over globe in the cross-comparison with MODIS

L2

Confident clear

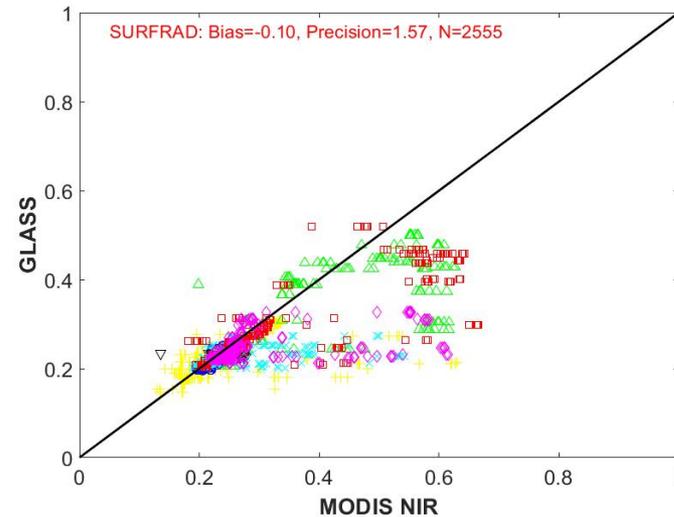
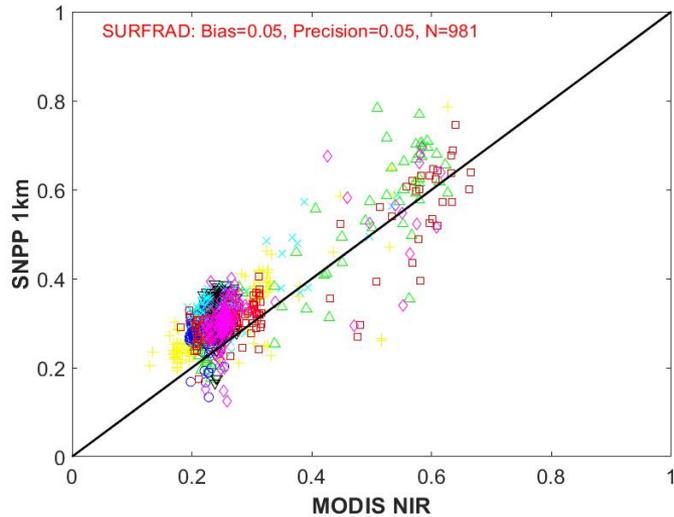
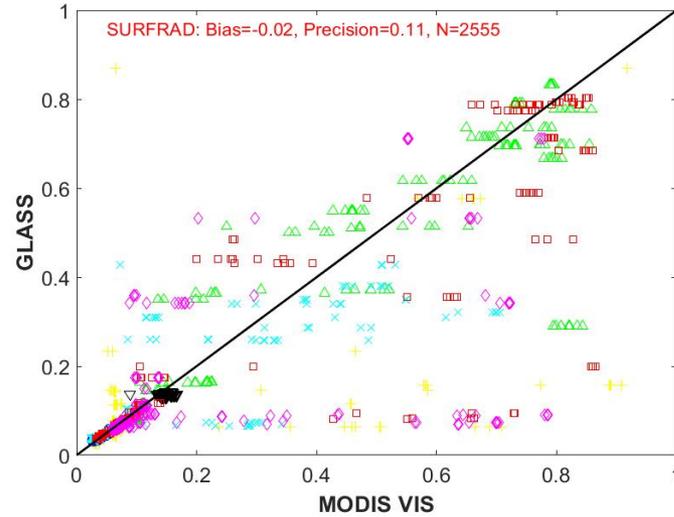
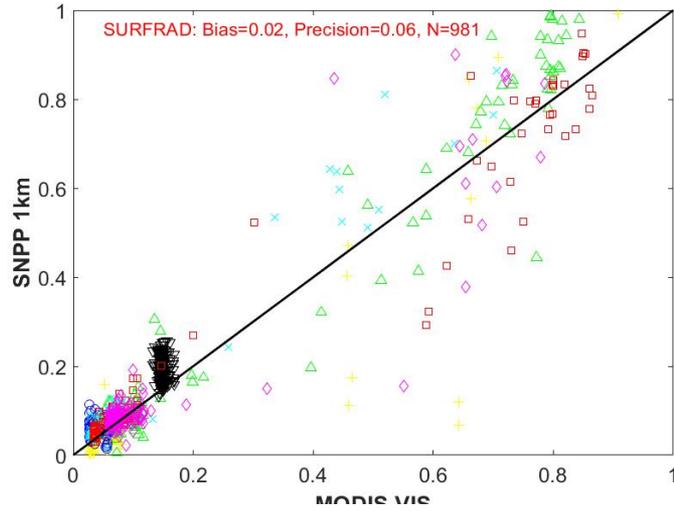


Confident clear + probably clear with Good QC



Preliminary validation of VIS and NIR albedo LUTs

Cross-compared with SNPP and GLASS visible and near-infrared albedo retrievals over the SURFRAD sites



Accomplishments / Events:

- Verified NDE I&T GVF testing data produced from the new GVF code with correct parameters
- The correct GVF parameters has been promoted to NDE operational machine and ran success on Oct 2, 2019.
- Verified the operational S-NPP and NOAA-20 GVF data and compared with local GVF data
- Produced S-NPP and NOAA-20 GVF from Oct 1 to Oct 30, 2019 at the local computer for validation

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			

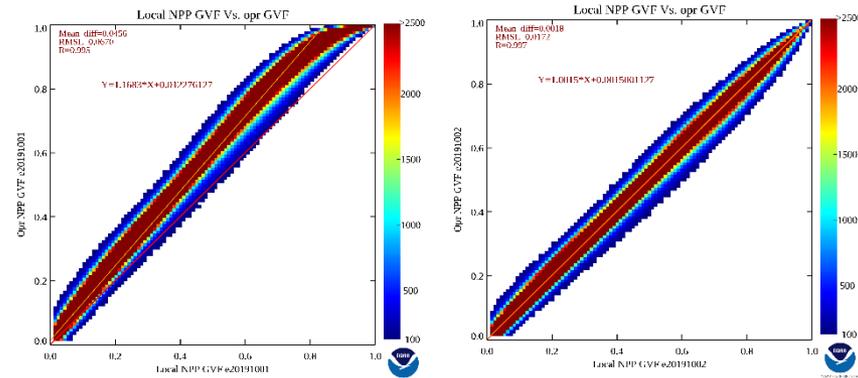
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

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	Apr-19	9/26/2019	On time
Cal/Val tool development (SNPP & J1 comparison)	Jun-19	Jun-19	Jun-19	
Deep-dive analysis software package for the anomaly watch	Sep-19	Sep-19	9/26/2019	On time

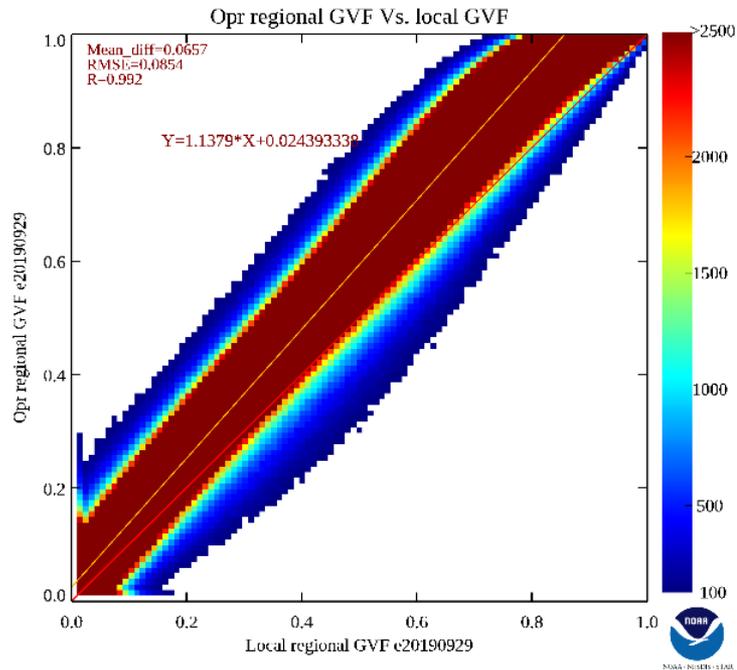
Highlights:



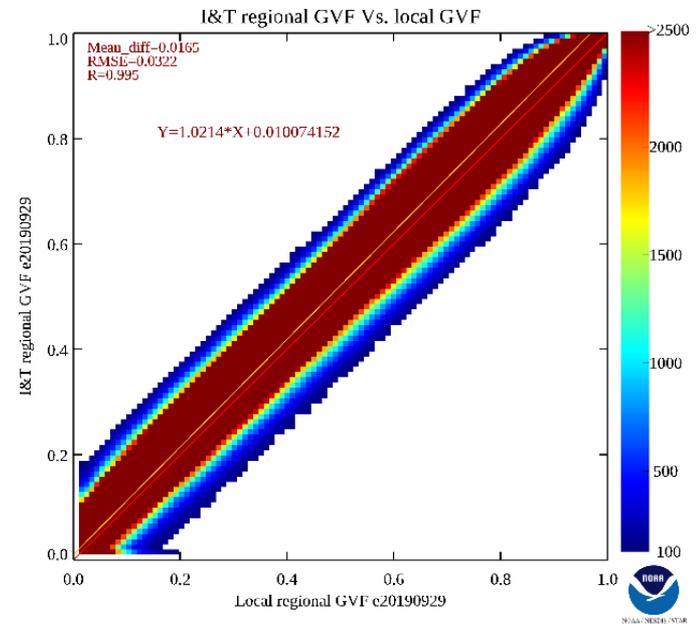
- The Operational GVF is higher than local GVF before parameter correction on 10/1/2019 (Left figure)
- The Operational GVF is consistent with local GVF after parameter correction on 10/2/2019 (Right figure)

Verifying NDE I&T NPP GVF testing data

- NDE has put the updated GVF parameters (the global maximum and minimum EVI values) on test starting from 9/29/2019
- I&T regional 1-km GVF are compared with STAR local regional GVF data
- For comparison, the operational regional 1-km GVF (using the old GVF parameters) are also compared with STAR local regional GVF data

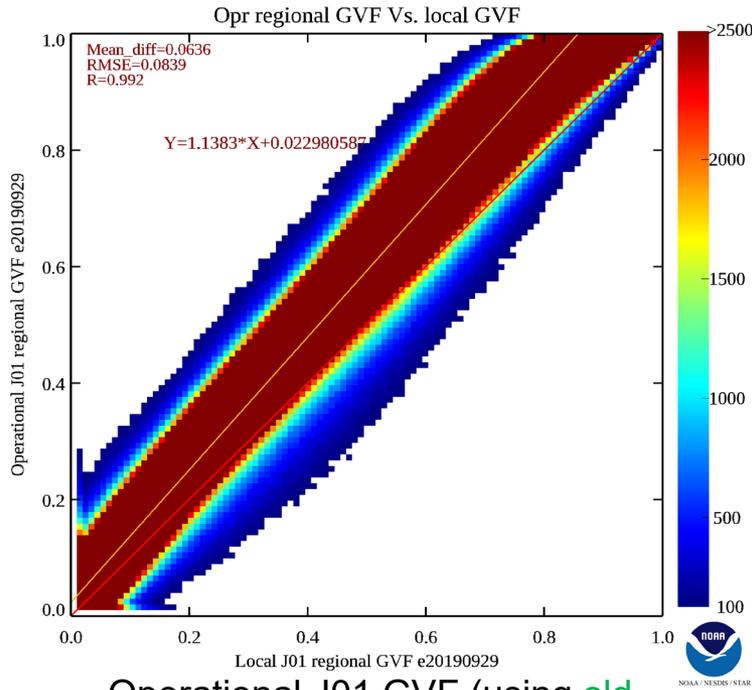


Operational NPP GVF (using **old** parameters) is higher than local GVF

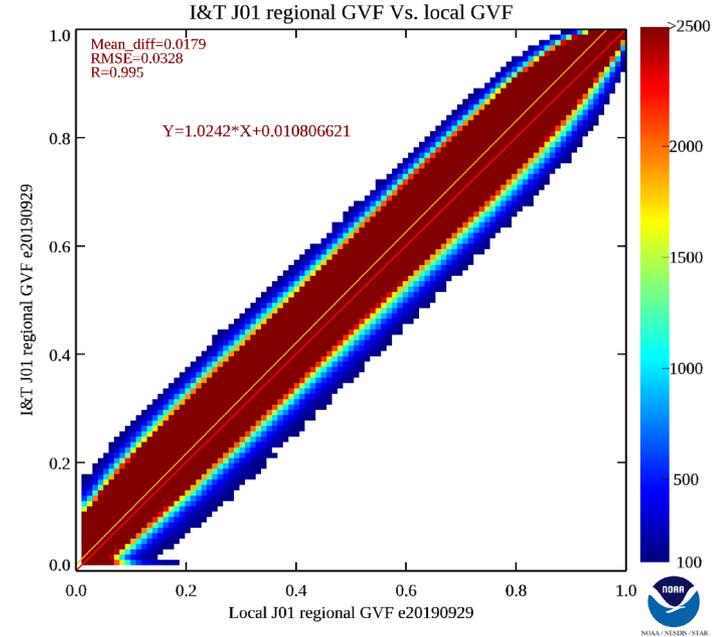


I&T NPP GVF (using **new** parameters) is close to local GVF

Verifying NDE I&T J01 GVF testing data



Operational J01 GVF (using **old** parameters) is higher than local GVF

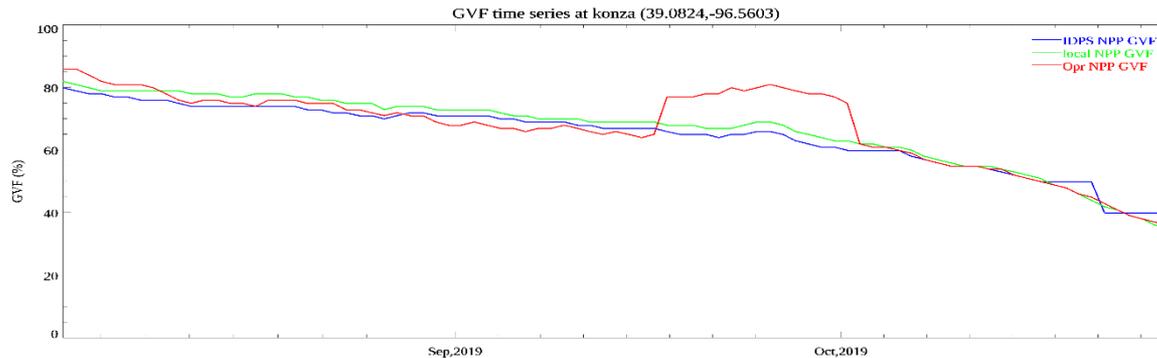
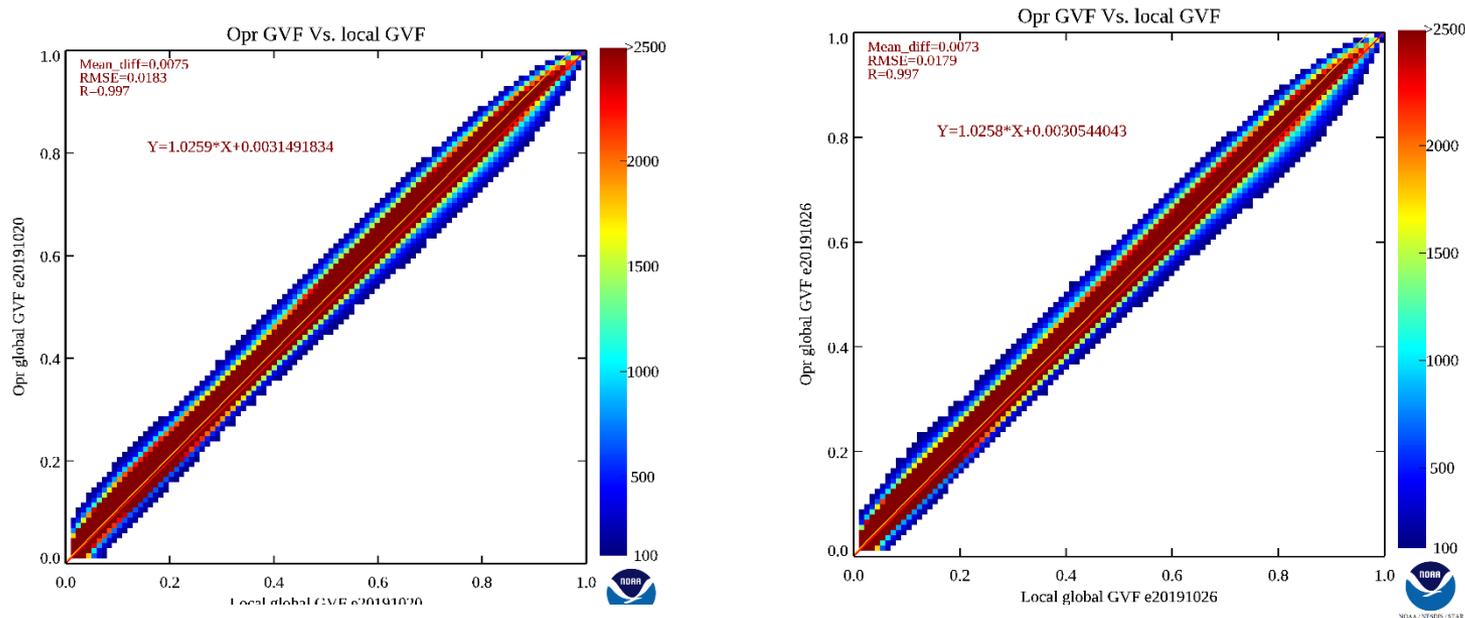


Operational J01 GVF (using **new** parameters) is close to local GVF

- The operational NPP/J01 regional GVF (using the **old** parameters) is higher than the local NPP/J01 regional GVF, which is expected.
- I&T NPP/J01 regional GVF is close to local NPP/J01 regional GVF, which indicates that the new GVF parameters were implemented successfully at the I&T testing environment

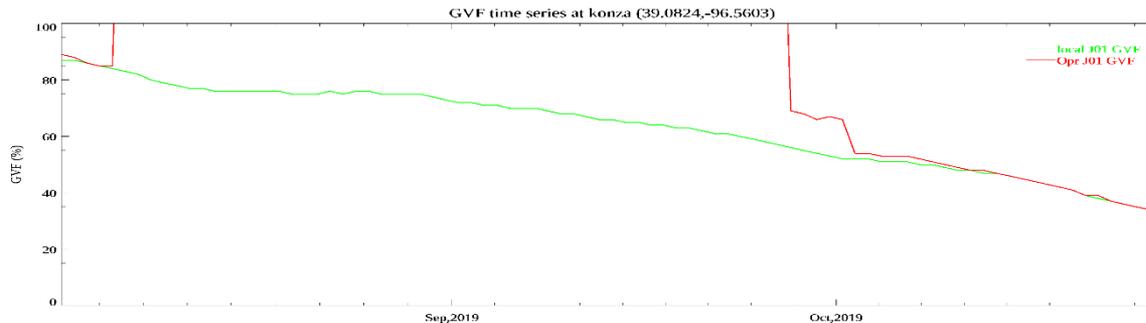
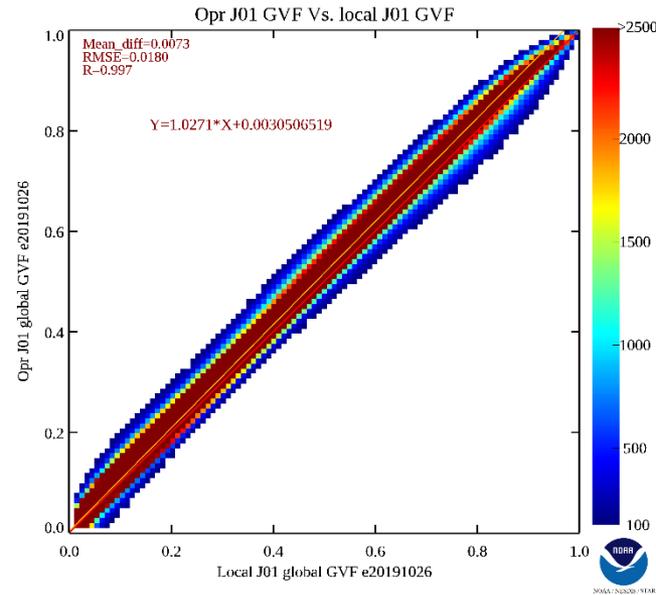
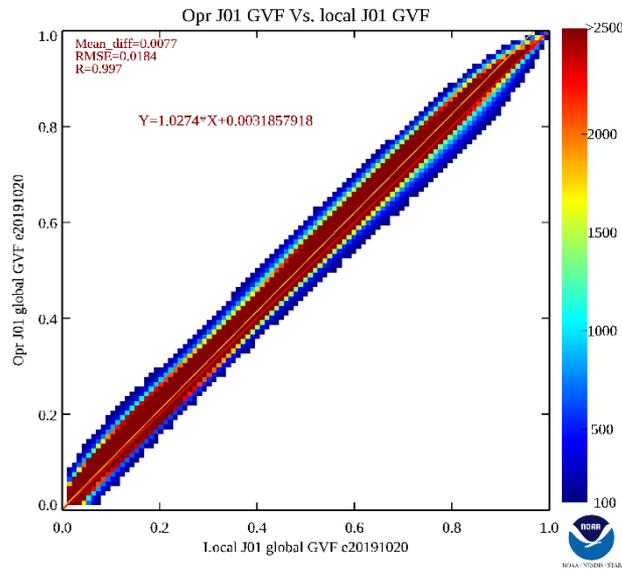
Verifying the operational S-NPP GVF data

- OSPO has put the updated GVF parameters (the global maximum and minimum EVI values) in operational run starting from 10/02/2019
- Operational NPP GVF are compared with STAR local GVF data
- Operational NPP GVF is close to local NPP GVF after 10/02/2019



Verifying the operational J01 GVF data

- OSPO has put the updated GVF parameters (the global maximum and minimum EVI values) in operational run starting from 10/02/2019
- Operational J01 GVF are compared with STAR local GVF data
- Operational J01 GVF is close to local J01 GVF after 10/02/2019



Accomplishments / Events:

- Diagnose and resolve issue with biweekly VI products (described in additional slides)
- Correct scale factors (make consistent with netCDF4 convention) and wording in VI output products
- Verify and deliver code with biweekly VI product, scale factor, and wording fixes
- Began work on NVPS vs NASA VI for validation
- Verified consistency between NDE and STAR VIs

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)

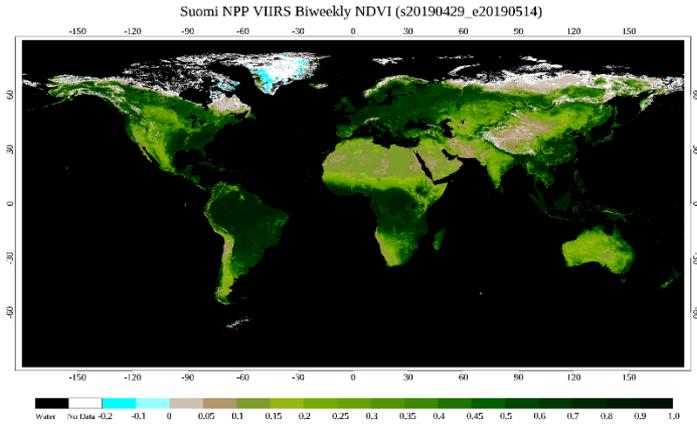
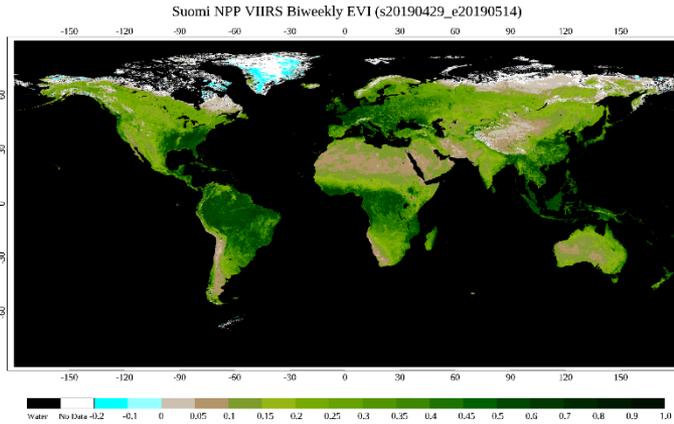
Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Provisional Maturity (N20 Cal/Val)	Mar-19	Mar-19	03/21/19	
Initial DAP (N20 Algorithm Adjustment)	Nov-18	Nov-18	11/30/18	11/15/18 to ASSISTT
Final DAP (N20 Algorithm Adjustment)	May-19	May-19	05/30/19	On time
NVPS algorithms optimization and improvement	Apr-19	Apr-19	07/31/19	Rescheduled due to gov. shutdown
Cal/Val tool development (SNPP & J1 comparison)	Jun-19	Jun-19	Jun-19	
Deep-dive analysis software package for the anomaly watch	Sep-19	Sep-19	9/26/2019	On time

Highlights:

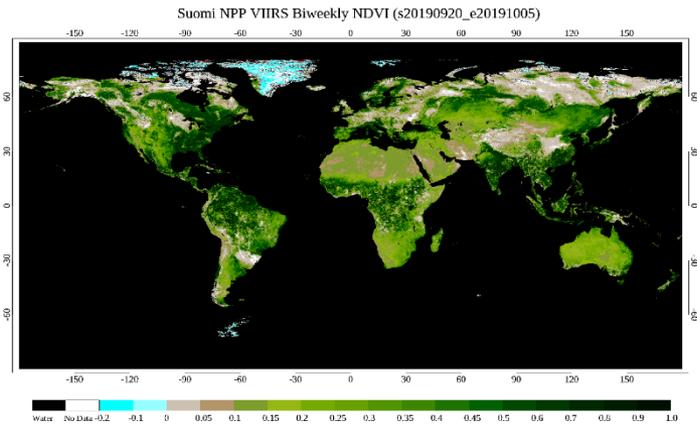
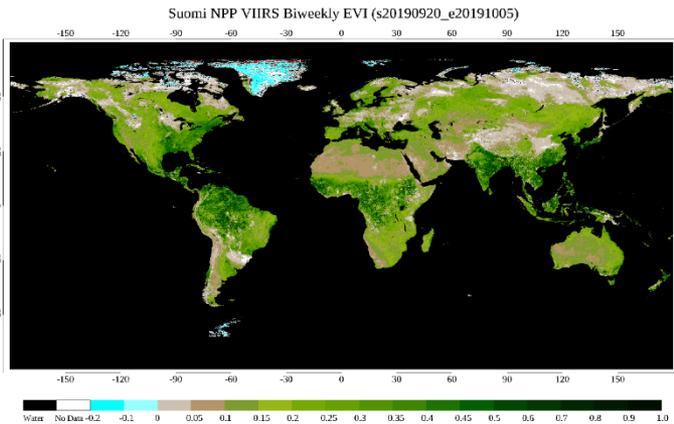
Verified

1. VI, reflectance and Sun-view angle attributes (scale factor, offset and minimum values) are corrected
2. Composite period (DLY, WKL, BWKL) is added on intermediate SR file names
3. Two weeks of weekly SR data are moved into subdirectory for NDE environment
4. NVPS VI code is ready for delivery

Correct:



Incorrect (beginning 6/4/2019):



Created or modified the following files:

1. VI_CODE_NDE/code/BiWeeklyComposite/move_prev_weeklysr_into_subdirectory.sh
2. VI_CODE_NDE/code/BiWeeklyComposite/move_prev_dailysr_into_subdirectory.sh
3. VI_CODE_NDE/run/run_nvps_vi.sh
4. VI_CODE_NDE/gen_viirs_vi_pcf.sh
5. VI_CODE_NDE/VIIRS_VI_J01.pcf

\

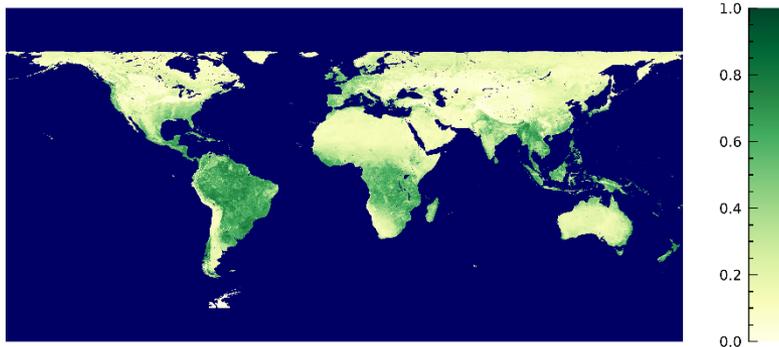
VI_CODE_NDE/code/BiWeeklyComposite/move_prev_weeklysr_into_subdirectory.sh:

```
# only copy two previous weekly_sr (i.e 1st-14th of 16 daily sr ) into workshop
for sft in `seq -15 7 -8`
do
    prev_yyyymmdd1=$(date +%Y%m%d -d"${yyyymmdd} +${sft} days")
    prev_yyyymmdd7=$(date +%Y%m%d -d"${prev_yyyymmdd1} +6 days")
    weeklysr_list=${VIIRS_NVPS_WORKDIR}/temp.${prev_yyyymmdd1}-${prev_yyyymmdd7}.weeklysr.list.txt
    grep "INPUT=VI-SR-${platform_name}_s${prev_yyyymmdd1}_e${prev_yyyymmdd7}" $PCF | awk -F=" " '{print
$2}' > $weeklysr_list 2>/dev/null
    if [ ! -s $weeklysr_list ]
    then
        continue
    fi

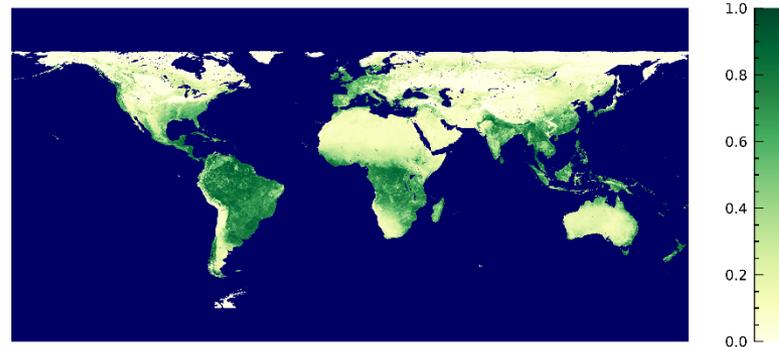
    mkdir -p $WEEKLY_SR_DIR/${prev_yyyymmdd1}-${prev_yyyymmdd7}
    rm -fr $WEEKLY_SR_DIR/${prev_yyyymmdd1}-${prev_yyyymmdd7}/*
    for base in $(cat $weeklysr_list )
    do
        mv $VIIRS_NVPS_WORKDIR/$base $WEEKLY_SR_DIR/${prev_yyyymmdd1}-${prev_yyyymmdd7} 2>
/dev/null
        if [ $? -ne 0 ]
        then
            echo "File not found: $VIIRS_NVPS_WORKDIR/$base " >&2
            exit 1
        fi
    done
done
done
```

Test results from updated code

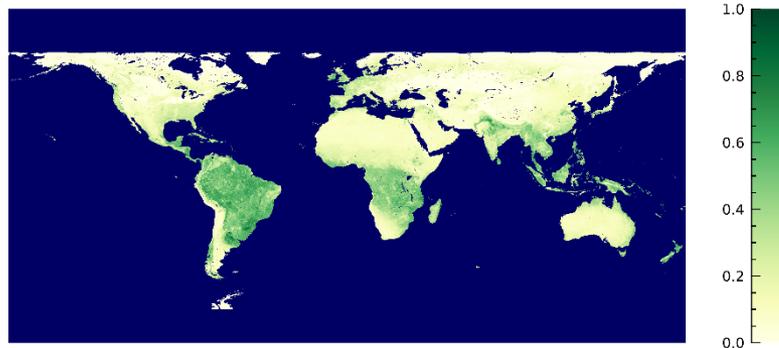
J01 TOA NDVI, 16 days beginning 16 January 2019



J01 TOC NDVI, 16 days beginning 16 January 2019



J01 TOC EVI, 16 days beginning 16 January 2019



Accomplishments / Events:

- Improved IDL interactive tool “TSviewer” per request of Task Monitor
- Discussed the issue of TCI time series which may be affected by Equator Crossing Time (ECT) on group meeting
- Generated seasonal products for austral summer and boreal summer, 1982-2019
- Attended the Pecora 21 conference and made an oral presentation
- Generated AVHRR NDVI climatology with year information (highlighted)

Overall Status:

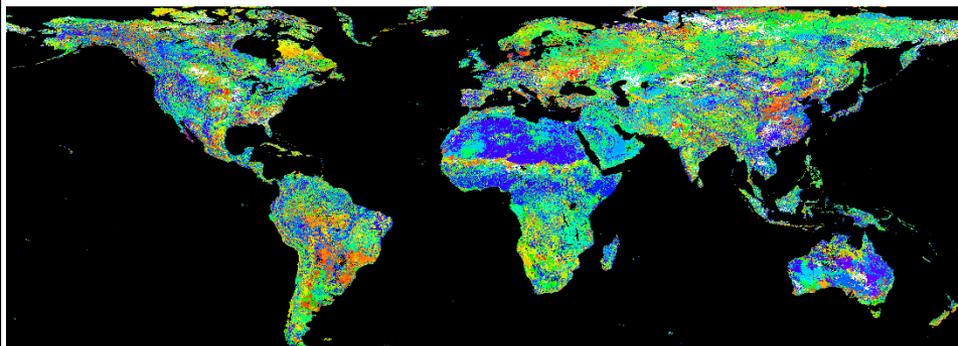
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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: Year (1982-2017) Contribution to AVHRR Climatology



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	Sep-19	
Cal/Val tool development (SNPP & J1 comparison)	Sep-19	Sep-19	Sep-19	

Accomplishments / Events:

- ❑ The 5th Annual NOAA Dedicated VIIRS Ocean Color Cal/Val cruise was a great success. *The seas and skies post-Dorian cooperated fully to provide the most effective cruise yet in terms of number of clear-sky matchups of satellite overpasses and in situ observations.*

The Ocean Color Cal/Val Science Team embarked upon the annual dedicated VIIRS Cal/Val cruise, September 7-18, 2019 aboard NOAA Ship Gordon Gunter. During the roundtrip cruise track from Newport, RI in Narragansett Bay to within lower Chesapeake Bay, the team collected water samples and deployed instrumentation at 26 stations capturing various measurements crucial to Ocean Color product quality assurance. During 24 of those stations, the team successfully collected 'matchup' measurements for both VIIRS NPP and NOAA 20 satellites. Bad weather only marred a few days of the trip and the assembled science team, representing over 14 agencies or academic research institutions, were treated to terrific weather and perfect coastal ocean color sampling conditions around features such as the Gulf Stream and high chlorophyll features at the mouths of various eastern US estuaries.

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			

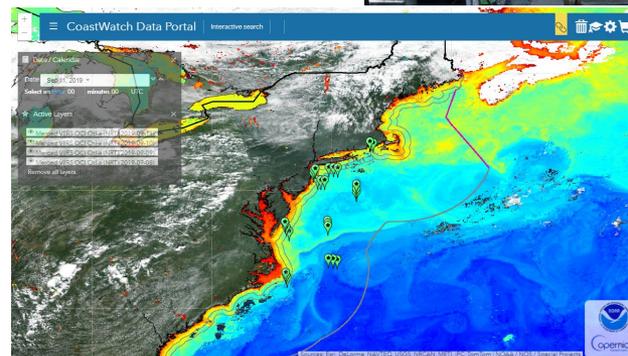
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3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

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

Highlights:

Right: Radiometry instruments deployed during a clear day on aft deck of NOAA Ship Gordon Gunter, *Cruise ID #GU-19-03*



Left: Dedicated VIIRS OC cal/val cruise station locations plotted over a MSL12 VIIRS Ocean Color composite of cruise days using the CoastWatch Data Portal.

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	Jun-19	
Cal/Val team complete the fourth VIIRS cruise report and in situ data analyses (e.g., improve in situ data quality)	Jun-19	Jun-19	May-19	Published at NOAA Library in June 2019
In situ data collections including NOAA dedicated cruise in May 2018 and continue Cal/Val for VIIRS ocean color EDR, report	Aug-19	Sep-19	9/8-16/2019	May 2019 Cruise has been postponed to September 2019 due to urgent ship repairs

Accomplishments / Events:

- NOAA web-based *in situ* Quality Monitor (*iQuam*) system serves quality-controlled *in situ* SST for the use in satellite Cal/Val
- Redesign of the *iQuam* back end is underway. Current based on IDL code and shell scripts, it cannot handle the increased data flow. As a result, the frequency of data refresh had to be changed from twice-daily to once-a-day.
- The new back end, based on using Python scripts and database, will improve the completeness and stability of *in situ* data used in satellite Cal/Val at NOAA. It will also more fully satisfy the needs of multiple national and international users of *iQuam* data.
- The ongoing development do not affect the front end and are seamless to *iQuam* users.
- All project milestones and deliverables are on schedule.

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			

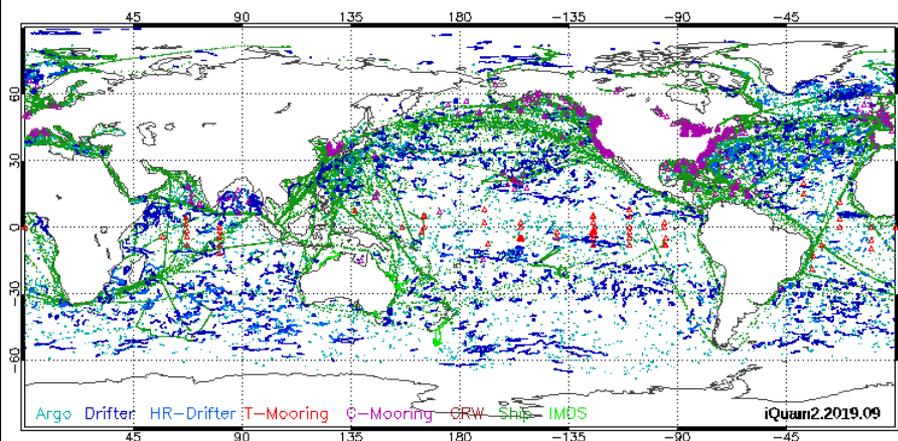
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

Highlights:

www.star.nesdis.noaa.gov/sod/sst/iquam



The interface of the *iQuam* web based system. Ongoing redesign of the back end does not affect the front end and is seamless to *iQuam* users.

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 (ACSP0 2.60)			07/05/18
Interim DAP (2.61) (update LUTs as needed)	Feb-19	Feb-19	02/12/19
ACSP0 2.70 – was not needed for N20; delivered for geo	Aug-19	May-19	05/15/2019
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	06/20/2019
VIIRS RAN2 NPP archived PO.DAAC/NCEI	Dec-19	FY20	On track
ACSP0 2.80 – Improved SST for data fusion	Aug-20	Aug-20	On track

Accomplishments / Events:

Progress on Parallax Correction for Polar Winds:

We are testing a post-processing procedure to adjust location of cloud features that are being tracked for wind derivation from VIIRS. This parallax correction is particularly important when combining data from different satellites, such as S-NPP and NOAA-20.

Overall Status:

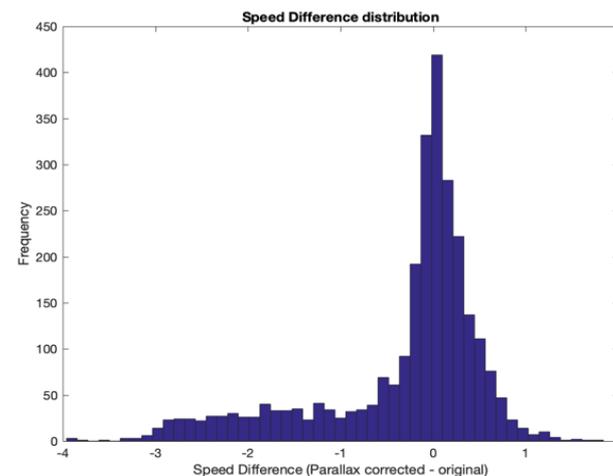
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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:



The largest adjustments to wind speed with the parallax correction is to reduce the speed.

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	09/30/19	
Finalize development and begin routine processing of combined (mixed-satellite) S-NPP/NOAA-20 global winds	Sep-19	Sep-19	09/01/19	
Implementation of the shortwave IR (2.25 μ m) band winds	Sep-19	Sep-19	Dec-18 (routine generation of research product)	

Accomplishments / Events

- The Validated Maturity Science Review for NOAA-20 NUCAPS Algorithms was presented and successfully completed on Monday, October 28, 2019.
- Presentation included validation results for NOAA-20 atmospheric vertical temperature and moisture (water vapor) profiles (AVTP and AVMP, respectively), ozone profiles to achieve validated maturity; NOAA-20 outgoing longwave radiation (OLR) for validated maturity; S-NPP/NOAA-20 carbon monoxide (CO) for validated maturity; NOAA-20 Methane (CH4) for provisional maturity.
- The most significant results from the candidate operational version (V2.5.2.2) of NUCAPS presented at the review include: 1) Consistent products from S-NPP and NOAA-20; 2) S-NPP/NOAA-20 products that are comparable qualitatively and quantitatively with model analysis fields, and other correlative satellite products (e.g. MOPITT, AIRS, TROPOMI); 3) S-NPP and NOAA-20 products meeting the JERD Accuracy, Precision, and Uncertainty (APU) requirements; 4) Products that are better or equal to the product accuracy from the currently running operational version.
- One of the team members attended and presented NUCAPS validation results at the 22nd international TOVS Study Conference (ITSC-22) held at Saint-Sauveur, Canada.

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			

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

Issues/Risks:

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

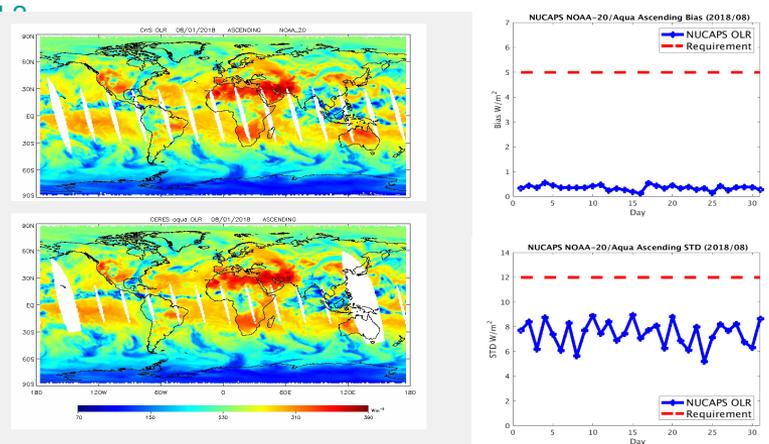
Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Provisional Maturity: Ozone, CO, OLR			10/02/18	
N20 Provisional Maturity: CH4	Apr-19	Oct-19	10/28/19	VPN was slow during shutdown; sources of error (forward model, upstream retrieval steps) need more investigation
SNPP & N20 Validated Maturity: CO	Sep-19	Oct-19	10/28/19	Same as above
N20 Validated Maturity: T/Q/O3/OLR	Sep-19	Oct-19	10/28/19	
Validated Maturity: S-NPP & N20 CH4	Sep-19	Feb-20		Same as above
Validated Maturity: SNPP- N20 CO2	Apr-19	Dec-20		Same as above
DAP (N20 Algorithm Adjustment)	Apr-19	Oct-19	11/1/2019	Same as above
DAP (N20 Algorithm Adjustment)	Aug-19	Aug-20		Same as above
Generate regression coefficients (OLR)	Apr-19	SEP-19	Aug-19	
Validation with NPP CERES radiation products (OLR)	Sep-19	Sep-19	Aug-19	
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	Oct-19	Completed with AirCore and TCCON
Optimize NOAA-20 AVMP/AVTP/O3 retrieval algorithm	Dec-18	Dec-18	Oct-19	
Validation against model data and radiosondes; SNPP and J1 EDRs cross comparisons	Sep-19	Sep-19	Oct-19	Completed with ECMWF model

Highlights

NUCAPS Maturity Review

<https://drive.google.com/open?id=1sLvSCr4V2IDpZzKTAPB9Jlmmkmo>

Quality



NUCAPS CrIS NOAA-20 OLR Validation –Monthly OLR

Accomplishments / Events:

- Work progressed on development of a geophysically-dependent radiometric bias correction as an alternative to the current operational static correction which varies only with frequency and scan position, not location. The geophysically dependent corrections include dependence on estimated TPW, CLW, and Tskin. Tests show a perfect prediction of the bias as well as a machine learning-based prediction can have a positive impact on temperature and water vapor profile retrievals (see highlights).
- Work also progressing on development of an experimental version of MiRS optimized for retrievals near tropical cyclones, allowing simultaneous retrieval of temperature anomaly structure and rainfall patterns. Current efforts focused on updating a priori background statistics for tropical conditions.

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			

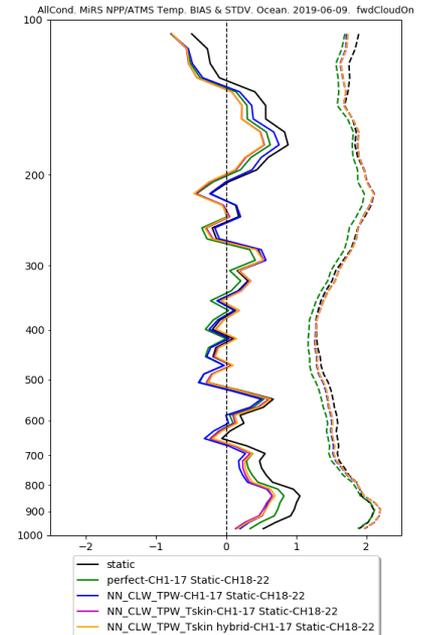
1. Project has completed.
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3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

Highlights:

MiRS ATMS global over ocean temperature profile retrieval bias (solid) and standard deviation (dashed) for various retrieval experiments. Shown are static operational (black), perfect geophysically-dependent bias correction (green), and various neural network predictions of geophysically-dependent bias correction (blue, magenta, orange). The geophysically-dependent experiments generally show smaller bias and standard deviation.



Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Validated Maturity (N2O Cal/Val)	Sep-19	Sep-19	09/19/19	
Final DAP (N2O 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	Sep-19	
Validation against other reference data for other EDRs	Sep-19	Sep-19	Sep-19	

Accomplishments / Events:

- NOAA-19, Metop-A, and Metop-B SFR have been recalibrated using a new technique developed for NOAA-20 and S-NPP SFR. Validation study was also conducted against the NCEP Stage IV radar and gauge precipitation analysis. Below is the validation metrics for the three satellites:

	Corr Coeff	Bias (mm/hr)	RMS (mm/hr)
NOAA-19	0.67	-0.01	0.52
Metop-A	0.65	0.01	0.53
Metop-B	0.67	0.01	0.56

- A webinar was given to several Weather Forecast Offices in the NWS Western Region about the SFR and a radar-satellite blended mSFR products along with the water vapor products. The Glasgow, Montana WFO successfully used the mSFR product to track the heavy snow band in the recent heavy snowstorm in the northern Plains.

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

Overall Status:

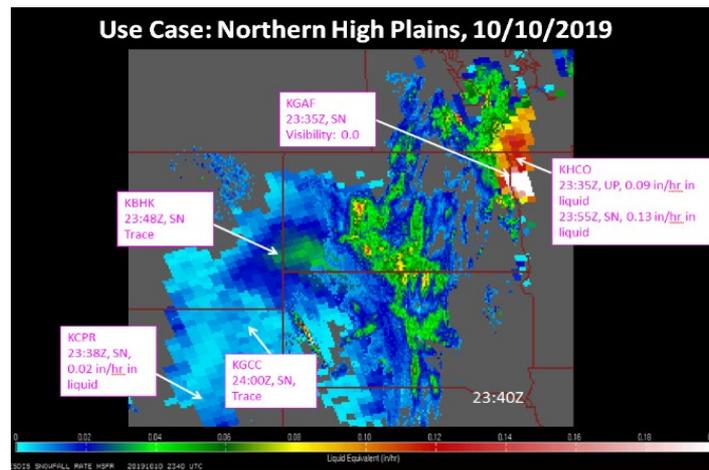
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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

Issues/Risks:

None

Highlights:



The radar (MRMS) and satellite (SFR) blended snowfall rate product on October 10, 2019 23:40Z. The finer resolution pixels are MRMS and the coarse resolution pixels SFR. Ground observations are in magenta. As shown by the ground observations, large areas of snowfall not detected by radar was captured by the SFR product.

Accomplishments / Events:

- Preparing Provisional Briefing for S-NPP V8Pro and Validated Briefing for V8TOz EDRs.
- Provided DAP with 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.
- ORR in preparation for V2Limb at NDE I&T. Height error found and Delta DAP in preparation.

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Provisional Maturity: V8TOz			10/03/18	
Provisional Maturity: V8Pro	Feb-19	Sep-19	09/20/19	SDR
Validated Maturity: V8TOz	Mar-19	Sep-19	09/20/19	SDR
Validated Maturity: V8Pro	Apr-19	Jan-20		V8Pro Code
N20 Final DAP: V8Pro	Apr-19	Sep-19	09/04/19 10/07/19	To ASSISTT To NDE
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

Overall Status:

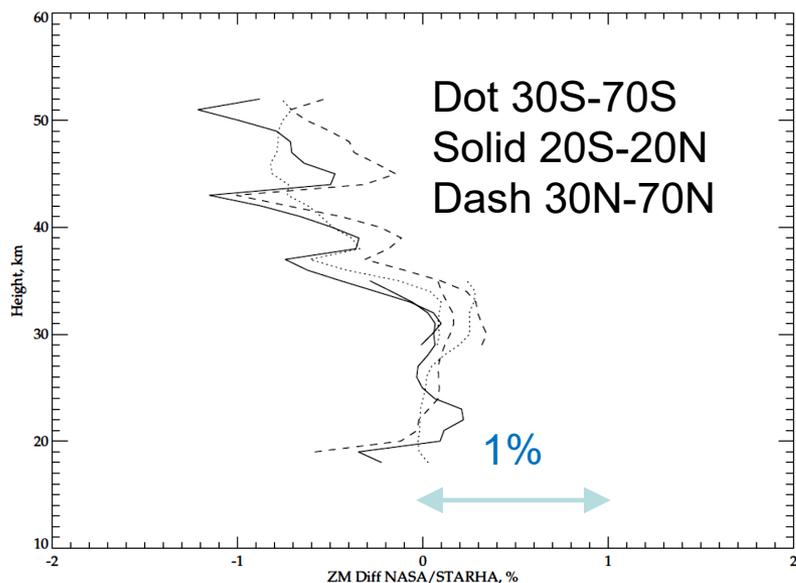
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule			X		# SDR Schedule, code change

1. Project has completed.
2. Project is within budget, scope and on schedule.
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:

Code Changes for OMPS V8Pro EDR on path to maturity will not be implemented at NDE until Dec 2019. Adjustments for SDR changes TBD.

OMPS Limb Profile Zonal Mean Retrieval Differences, NASA versus STAR for August 10, 2019



Accomplishments / Events:

- Activities continue with NESDIS IA and JPSS to discuss AMSR3 and AMSR2 progress/plans
- Engaging JPSS Program Office on budget needs/planning for AMSR-3
- Continued product cal/val; all products meeting requirements
- Reprocessing taking longer than anticipated; will be completed by November 2019.
- Planning for participation in the JAXA GCOM PI meeting on January 20, 2020

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

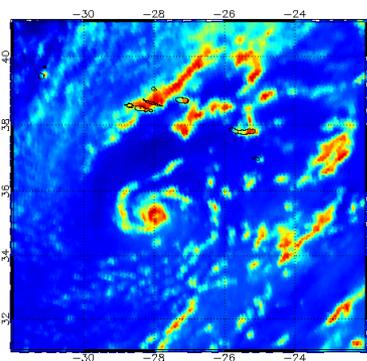
Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
GAASP emergency update DAP (fixed some typo's in the Longitude metadata in 4 of the netCDF template files)			02/11/19	
GAASP_v2-5 DAP (update to the Ocean SSW algorithm and the Precipitation algorithm, with some other 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	Aug-19	Bug fix for wind flag
Reprocessing of AMSR-2 mission	Sep-19	Nov-19		Processing taking longer

Hurricane Pablo October 26, 2019

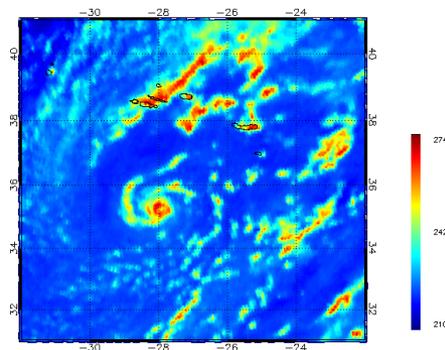
Highlights:

From the NHC 5pm 10/25/2019 TS Pablo discussion "A tropical cyclone has formed within a larger extratropical cyclone in the northeastern Atlantic. This is not unique and has occurred several times in the past, primarily during the latter part of the hurricane season...."

AMSR-2 36.5GHz H-pol
Date: 20191026-22:30 UTC Storm Name: PABLO
AMSR2 L1B file: GW1AM2_201910261325_079B.L1SNBTBR_2220220.h5



AMSR-2 36.5GHz V-pol
Date: 20191026-20:30 UTC Storm Name: PABLO
AMSR2 L1B file: GW1AM2_201910261325_079B.L1SNBTBR_2220220.h5



Accomplishments / Events:

- Provided results for NUCAPS NOAA-20 Review Meeting supporting upgrade of sounding EDR to Validated Maturity status. (**Highlight**)
- Observations from the ongoing Radiosonde Inter-comparison and VALidation (RIVAL) campaign stewarded (NPROVS Special)
- FY19 funds for JPSS dedicated radiosonde program, although received by DOE-ARM were not spent within Period of Performance; field supply shortage remains in lieu of FY20 funds (December)
- Provided preliminary review of experimental Artificial Intelligence (AI) sounding EDR
- Provided inputs for NPROVS Enterprise Validation for Wind EDR (AEOLUS, GOES, Radiosonde ...)
- The EDR LTM team developed scripts to check for daily gaps and an operational directory (including routine backup) for all JSTAR mapper code and images; new polar wind images created (**Highlight**)

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			

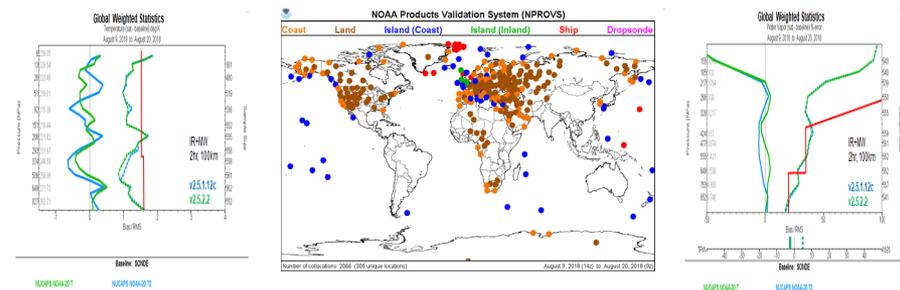
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
LTM: Complete NOAA-20 JMAPPER/EDR-LTM	Sep-20	Sep-20		
NPROVS: Maintain NPROVS and support R2O transition of "Validated" NOAA-20 sounding EDR	Sept-19	Dec-19		Shutdown; upgrades pending
NPROVS: Maintain JPSS dedicated radiosonde program including AEROSE and RIVAL	Mar-19	March-20		RIVAL Program Extended
NPROVS: Support NWS Raob Transition Monitoring, Field campaigns	Sept-19	Dec-19		Delay receiving NWS field data

Highlights:



NPROVS 1: NOAA-20 NUCAPS sounding results are shown for Temperature (Left) and H2O Vapor (Right), for Bias (left plots) and RMS (right plots) based on collocations with global conventional radiosonde within 2 hours of satellite overpass (Middle). The **Blue** and **Green** plots are the **Provisional** and **Validated** maturity system, respectively. The Validated system appears improved (overall smaller differences) compared to Provisional and meets (*marginally meets*) JPSS requirements (**Red**) for Temperature (*and H2O vapor*).