



NOAA JPSS Monthly Program Office

AMP/STAR FY18 TTA

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July 10, 2018

Highlights from the Science Teams

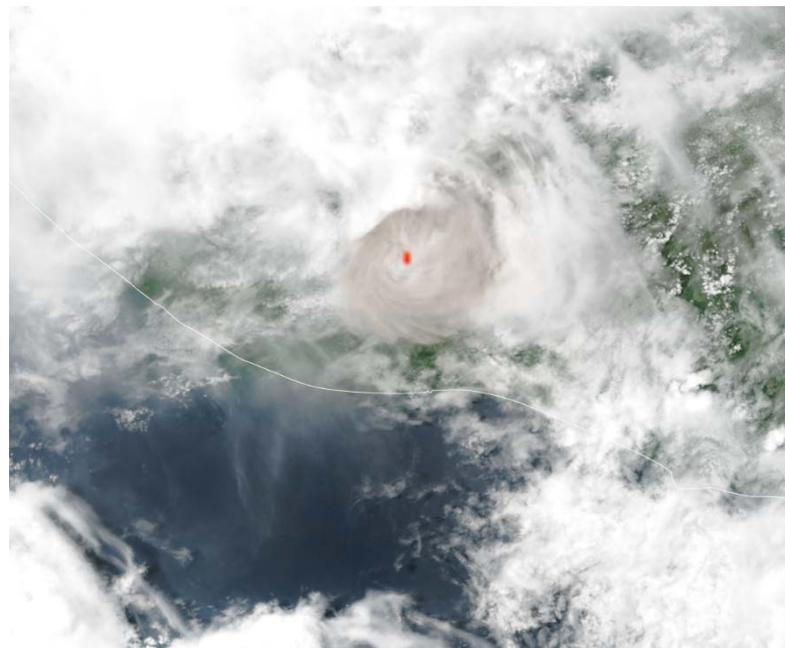
May/June NOAA-20 Maturity Review

In this meeting two SDR products – ATMS and VIIRS – were up for the highest Maturity Level – Validated. These are the first NOAA-20 products to have been reviewed at the Validated Maturity Level. Additionally several EDR product groups were reviewed – the NUCAPS Sounding products (water vapor, temperature, and ozone profile) were reviewed at the Provisional level. NUCAPS Trace Gases, Cryosphere (Sea Ice and Snow Cover products), and Surface Reflectance Products were reviewed at the Beta Level. All products were found to have reached the expected maturity levels by the review panel.



VIIRS sees Volcan de Fuego eruption

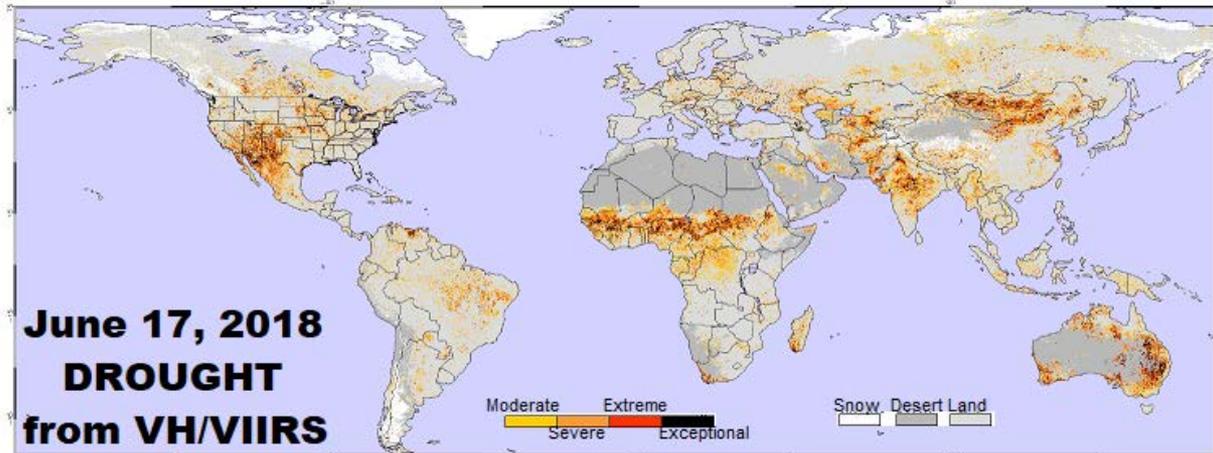
As seen in this true color Suomi NPP VIIRS image on June 3, 2018 over the area around Volcán de Fuego in Guatemala. Fire Radiative Power retrievals from the operational VIIRS Active Fire product are shown as red overlay. The image was extracted from the JSTAR Mapper system.



CALCON 2018

A STAR VIIRS SDR team member presented an invited talk on “Suomi-NPP VIIRS Sensor Data Record Reprocessing Improvements and Status” at CALCON conference (Logan, Utah, June 18-21, 2018).

The presentation mainly focused on Reprocessing versions 1 and 2 describing radiometric and geometric data quality improvements for DNB, RSB, and TEB, data processing, storage, and distribution. On demand reprocessing that has been developed for version 2 reprocessing was also discussed. The figure below shows the improved F factor with no annual oscillation and implemented in version 2 baseline reprocessing.



Lecture on NOAA Vegetation Health Product at the United States Department of Agriculture

On June 20, 2018, Vegetation Health team lead Felix Kogan gave an invited one-hour lecture informing the USDA on development of the 38-year blended VH data record and its use, including updates on the use of NOAA-20 data.

After the lecture, the VH team had a one-hour discussion with the analysis team from USDA’s World Agricultural Outlook Board (WAOB) and Foreign Agricultural Service (FAS), who are the primary forecasters of world crop production largely to review the current state of droughts in the world.

New NOAA-20 VIIRS Imagery Website

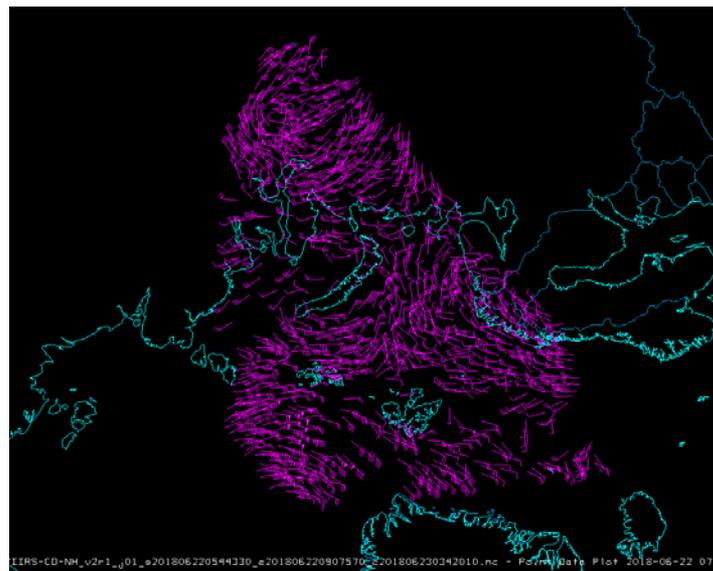
A new website displaying random granules of NOAA-20 VIIRS at full resolution for the 5 I-bands is available at http://rammb.cira.colostate.edu/ramsdisk/online/noaa-20_viirs.asp. A similar site has been showing S-NPP VIIRS Imagery for many years. With the NOAA-20 I-bands now working, the M-bands and DNB Imagery will follow in the near future. This VIIRS Imagery is being monitored for quality control and Imagery validation, as a part of the Imagery Team ongoing activities.

NOAA-20 VIIRS Active Fires ORR

On June 19, 2018, the Active Fires team briefed the SPSRB on the readiness of the NOAA-20 VIIRS Active Fire product to be declared operational. Based on the information on product quality, readiness for production within NDE, and user readiness, SPSRB approved the team's request to promote the product to operational status. Actual operational implementation of the product is expected in July.

19th GHRSSST Meeting

The SST Team participated in the 19th GHRSSST Meeting <https://www.ghrsst.org/meetings/19th-international-ghrsst-science-team-meeting-ghrsst-xix/>. Four scientists attended and made 5 oral presentations and presented 6 posters. The team met with major ACSPO international users and discussed skipping ACSPO v2.50 due to a long delay in implementation and going directly to ACSPO 2.60.



A first look at NOAA-20 VIIRS polar winds shows that the product is performing as expected.

Accomplishments

- Held the May/June Monthly N20 Cal Val Maturity Review on 6/15/2018, reviewed the maturity readiness for the following:
 - ATMS TDR/SDR (Validated)
 - VIIRS SDR (Validated)
 - Surface Reflectance (Beta)
 - Binary Snow Cover (Beta)
 - Fraction Snow Cover (Beta)
 - Ice Surface Temperature (Beta)
 - Ice Concentration (Beta)
 - Ice Age/Thickness (Beta)
 - NUCAPS Products:
 - Atmospheric Vertical Temperature Profile (Provisional)
 - Atmospheric Vertical Moisture Profile (Provisional)
 - IR Ozone Profile (Beta)
 - Outgoing Longwave Radiation (Beta)
 - Trace Gas Products (CO/CO2/CH4) (Beta)
- S-NPP Snowfall Rate (SFR) CDR/SDR/Provisional Review and NOAA-20 SFR Beta Review on 6/20/2018
- VIIRS DAP to DPES (ADR8197&ADR8575/CCR18-3966) on 6/12/2018
 - ADR8197: VIIRS SDR Update for J1 Radiance Limits
 - ADR8575: M6 Rollover Algorithm not distinguishing good, bad, ambiguous data reliably
- MiRS V11.3 DAP (with NOAA-20 extension) delivered to NDE and OSPO on 6/14/2018
- MiRS V11.3 DAP delivered to U. Wisconsin for integration into CSPP Direct Broadcast package on 6/15/2018
- A patch to one of the lookup tables used to generate JPSSRR Cloud Mask was delivered to NDE on 6/7/2018
- NOAA-20 NUCAPS DAP (v2.1.12c) delivered to NDE on 6/22/2018
- OMPS Ozone EDR DAPs:
 - V8TOS (v3) DAP to NDE on 6/1/2018
 - V8TOz (v3r1) DAP to NDE on 6/8/2018
 - V8Pro (v3r2) DAP to NDE on 6/6/2018
- Launched the EDR-LTM Alaska Watch site and added the Dust RGB and Natural Color Imagery to the website
- STAR SDRs and Imagery teams supported IDPS Block 2.1 Mx3 SOL Deploy Regression test, provided data request for review/checkout on 7/3/2018
- Algorithm checking/testing for upcoming GFS FV3 Model Upgrade (checked NUCAPS/GCOM for 0.5 degree sample data)



Accomplishments – JPSS Cal Val Supports

- NOAA-20/S-NPP Operational Calibration Support:
 - S-NPP Weekly OMPS TC/NP Dark Table Updates: 06/05/18, 06/12/18, 06/19/18, 06/26/18
 - NOAA-20 Weekly OMPS TC/NP Dark Table Updates: 06/05/18, 06/12/18, 06/19/18, 06/26/18
 - S-NPP Bi-Weekly OMPS NP Wavelength & Solar Flux Update: 06/05/18, 06/19/18
 - NOAA-20 Monthly VIIRS StrayLight LUTs Update: 06/20/18
 - S-NPP Monthly VIIRS LUT Update of DNB Offsets and Gains: 06/20/18
 - NOAA-20 Monthly VIIRS LUT Update of DNB Offsets and Gains: 06/20/18

- NOAA-20 Active Fires:
 - On June 13 briefed SPSRB to declare the NOAA-20 product operational, SPSRB approved the request

Upcoming Cal/Val Maturity Reviews

July, 2018:

- Beta Maturity:
 - Cloud Property Algorithms (Cloud Phase/Base/Height, DCOMP, NCOMP)
 - Land Surface Temperature, and Surface Albedo
- Provisional Maturity: OMPS NP SDR (ReadMe); OMPS Ozone EDRs (V8Pro & V8TOz)

August, 2018:

- Beta Maturity: Green Vegetation Fraction; Vegetation Index; Vegetation Health
- Validated Maturity: VIIRS Imagery; CrIS SDR; NUCAPS (S-NPP trace Gas: CO/CO₂/CH₄)

September, 2018:

- Provisional Maturity:
 - Polar Winds; Volcanic Ash; Clouds (all products); Cryosphere (all products)
 - NUCAPS Products (Ozone/CO/CO₂/CH₄/OLR)

October, 2018:

- Validated Maturity: OMPS (TC & NP) SDR; OMPS Ozone EDRs; (*Pending on Mx3 TTO*)
- Beta Maturity: Ocean Color

- JSTAR Code/LUT Deliveries:

DAP to DPES:

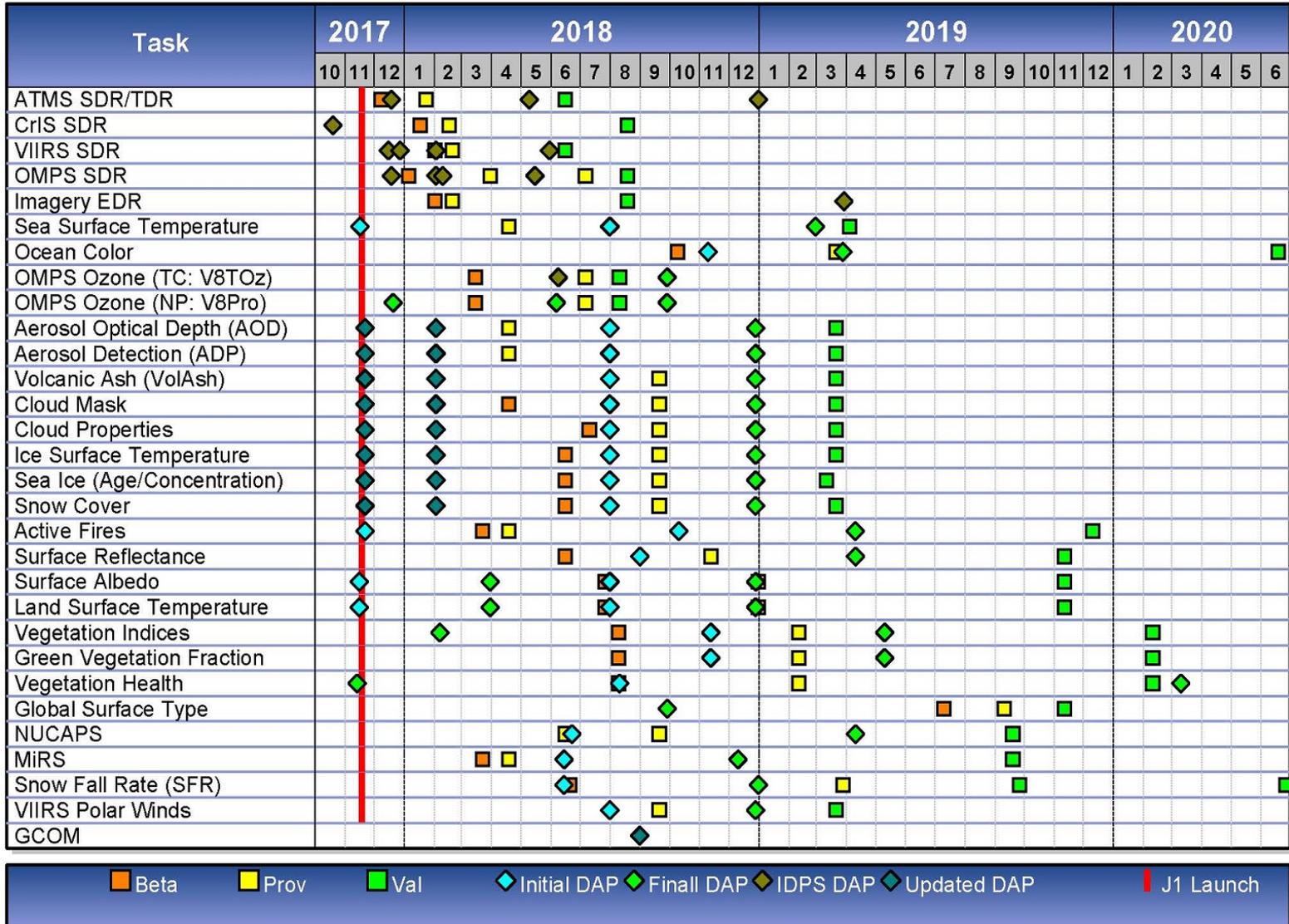
- Jul-18: OMPS TC/NP SDR Quality Flags (ADR8684/8685)
- Jul-18: STAR delivery for CrIS Engineering package update (v115, ADR8654/8708)
- Jul-18: VIIRS LUT update to reduce SDSM uncertainty
- Aug-18: VIIRS SDR: Blackbody Warm-up Cooldown (WUCD) correction
- Sep-18: OMPS NM/NP Mismatch for FOVs (LUTs update only, ADR8617)
- Oct-18: OMPS NP Transient Smear Correction (ADR8709)

NOAA-20 Algorithm DAP to NDE:

- Jul-18: VIIRS Polar Winds
- Jul-18: EPS algorithms (Clouds, Cryosphere, Aerosol, Volcanic Ash, LST/LSA)
- Jul-18: Sea Surface Temperature
- Aug-18: Surface Reflectance, Vegetation Health
- Nov-18: Ocean Color, Vegetation Index, Green Vegetation Fraction

JPSS Schedule

STAR JPSS Schedule: TTA Milestones



FY18 STAR JPSS TTA Milestones

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
S-NPP Enterprise Algorithms Deliveries				
S-NPP: Enterprise Processing System (Aerosol, Volcanic Ash, Clouds, and Cryosphere) updated DAP to NDE	Nov-17	Nov-17	11/21/17	
S-NPP: Enterprise Algorithm DAP to NDE: Vegetation Indices (final DAP)	Jan-18	Jan-18	Init DAP: 06/26/17 Final DAP: 02/06/18	
S-NPP: Enterprise Algorithm DAP to NDE: Land Surface Temperature (final DAP)	Feb-18	Mar-18	Init DAP: 11/15/17 Final DAP: 04/02/18	Passed Code Review: Feb-2018
S-NPP: Enterprise Algorithm DAP to NDE: Land Surface Albedo (final DAP)	Feb-18	Mar-18	Init DAP: 11/15/17 Final Dap: 04/02/18	Passed Code Review: Feb-2018
S-NPP: Enterprise Algorithm DAP to NDE: Vegetation Health (VH-1km) final DAP Vegetation Health (VH-4km) updated DAP	Nov-17	Nov-17	11/13/17	

FY18 STAR JPSS TTA Milestones

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20 Algorithm Updates DAPs				
NOAA-20: ACSPO 2.5 DAP (capable of processing NOAA-20 VIIRS data) to NDE	Nov-17	Nov-17	11/16/17	
NOAA-20: Active Fires DAP (compatibility with NOAA-20 VIIRS data) to NDE	Nov-17	Nov-17	11/21/17	
NOAA-20: MiRS DAP (NOAA-20 algorithm adjustments) to NDE	Aug-18	Aug-18	06/14/18	
NOAA-20: NUCAPS DAP (NOAA-20 algorithm adjustments) to NDE	Aug-18	Aug-18	06/22/18	
NOAA-20: VPW DAP (NOAA-20 algorithm adjustments) to NDE	Aug-18	Aug-18		
NOAA-20: Enterprise Processing System DAP (NOAA-20 algorithm adjustments: Aerosol, Volcanic Ash, Clouds, Cryosphere, LST, and LSA) to NDE	Aug-18	Aug-18		



FY18 STAR JPSS TTA Milestones

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20 Cal/Val				
NOAA-20 SDRs and KPPs reach Beta Maturity (ATMS: L+20D; CrIS: L+68D; VIIRS: L+60D; OMPS: L+68D; VIIRS Imagery: L+70D)	Jan-18	Jan-18	12/08/17: ATMS TDR/SDR Beta 01/17/18: CrIS SDR Beta 02/01/18: VIIRS SDR Beta 01/05/18: OMPS NM & NP SDR Beta 02/01/18: VIIRS Imagery Beta	
NOAA-20 SDRs and KPPs reach Provisional Maturity (ATMS: L+36D; VIIRS Imagery & other SDRs: L+90D)	Feb-18	Feb-18	01/23/18: ATMS TDR/SDR Provisional 02/16/18: CrIS SDR Provisional 02/19/18: VIIRS SDR Provisional 02/19/18: VIIRS Imagery Provisional 04/18/18: OMPS TC: delta review	02/20/18: SDRs/Imagery Provisional Maturity Review
NOAA-20 SDRs and KPPs reach Validated Maturity (ATMS: L+6M; CrIS: L+9M; VIIRS: L+6M; OMPS: L+9M; VIIRS Imagery: L+9M)	Sep-18	Sep-18	06/15/18: ATMS TDR/SDR Validated 06/15/18: VIIRS SDR Validated	
NOAA-20: Day 1 EDR products Maturity Review	Sep-18	Sep-18	03/22/18: Beta Review: Active Fires, MiRS, OMPS Ozone 04/18/18: Enterprise Cloud Mask (Beta), Aerosol Optical Depth (P), Aerosol Detection (Provisional), Sea Surface Temperature (P), Active Fires (Provisional), MiRS (Provisional) 06/15/18: Surface Reflectance (Beta), Cryosphere Products: Snow, Sea Ice, IST (Beta) NUCAPS Products: AVMP, AVTP (Provisional) Ozone/OLR/CO/CO2/CH4 (B) 06/20/18: Snowfall Rate (Beta)	



FY18 STAR JPSS TTA Milestones

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Routine Cal/Val Maintenance				
SDR Reprocessing: Perform life cycle reprocessing with Block 2.0 algorithm (ATMS BUFR)	Apr-18	Apr-18	Feb-18	
Update Package for ICVS-GRAVITE For NOAA-20	Sep-18	Sep-18	1 st version: Mar-18	
EDR LTM for NOAA-20	Sep-18	Sep-18		
Images of the Month	Monthly	Monthly	Oct-17, Nov-17, Dec-17, Jan-18, Feb-18, Mar-18, Apr-18, May-18, Jun-18	
NOAA-20 ATMS First Light Image			11/30/17	
NOAA-20 VIIRS First Light Image (reflected solar bands (RSB))			12/14/17	
NOAA-20 VIIRS First Light Image (day/night band (DNB))			12/14/17	
NOAA-20 VIIRS First Light Image (thermal emissive bands (TEB))			01/05/18	
NOAA-20 CrIS First Light Image			01/05/18	
NOAA-20 OMPS NM First Light Image			01/05/18	
NOAA-20 OMPS NP First Light Image			01/05/18	

FY18 STAR JPSS TTA Milestones

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Operational Support				
S-NPP: Weekly OMPS TC/NP Dark Table Updates	Weekly	Weekly	10/03/17, 10/11/17, 10/17/17, 10/24/17, 10/31/17, 11/07/17, 11/14/17, 11/21/17, 11/28/17, 12/05/17, 12/12/17, 12/19/17, 01/02/18, 01/09/18, 01/16/18, 01/23/18, 01/30/18, 02/06/18, 02/13/18, 02/27/18, 03/06/18, 03/13/18, 03/20/18, 03/27/18, 04/03/18, 04/10/18, 04/17/18, 04/24/18, 05/01/18, 05/08/18, 05/15/18, 05/22/18, 05/29/18, 06/05/18, 06/12/18, 06/19/18, 06/16/18	
S-NPP: Bi-Weekly OMPS NP Wavelength & Solar Flux Table Update	Bi-Weekly	Bi-Weekly	10/03/17, 10/17/17, 10/31/17, 11/14/17, 11/28/17, 12/12/17, 01/03/18, 01/16/18, 01/30/18, 02/13/18, 02/27/18, 03/13/18, 03/27/18, 04/10/18, 04/24/18, 05/08/18, 05/22/18, 06/05/18, 06/19/18	
S-NPP: Monthly VIIRS Stray Light LUT Update	Monthly	Monthly	10/19/19, 11/18/17, 12/17/17, 01/15/18, 02/14/18, (12-months recycling old files)	Re-use old files
S-NPP: Monthly VIIRS LUT update of DNB Offsets and Gains	Monthly	Monthly	10/03/17, 10/31/17, 11/29/17, 12/27/17, 01/24/18, 02/21/18, 03/28/18, 04/24/18, 05/22/18, 06/20/18	
NOAA-20: Weekly OMPS TC/NP Dark Table Updates	Weekly	After L+90	12/19/17, 01/10/18, 01/17/18, 01/23/18, 01/30/18, 02/06/18, 02/13/18, 02/27/18, 03/06/18, 03/13/18, 03/20/18, 03/27/18, 04/03/18, 04/11/18, 04/17/18, 04/24/18, 05/01/18, 05/08/18, 05/15/18, 05/22/18, 05/29/18, 06/05/18, 06/12/18, 06/19/18, 06/26/18	12/19/17: 1 st Dark delivery; 01/10/18: start of weekly J1 Dark
NOAA-20: Bi-Weekly OMPS NP Wavelength & Solar Flux Table Update	Bi-Weekly			No need now
NOAA-20: Monthly VIIRS Stray Light LUT Update	Monthly	After L+90	02/27/18, 03/29/18, 04/25/18, 05/23/18, 06/20/18	
NOAA-20: Monthly VIIRS LUT update of DNB Offsets and Gains	Monthly	After L+90	02/13/18, 02/21/18, 03/29/18, 04/25/18, 05/22/18, 06/20/18	
NOAA-20: Monthly VIIRS LUT update of F-PREDICTED and DNB-LGS-GAINS		After L+90	03/20/18, 04/24/18	

Color code:

Green:

Completed Milestones

Gray:

Non-FY18 Milestones

Accomplishments / Events:

- Update calibration algorithm code and associated PCT to include reflector emissivity correction
- ATMS SDR/TDR validated maturity review
- Update milestone plan
- Fixed bugs in the comparison between ATMS TDR and CRTM simulations using RO data

Overall Status:

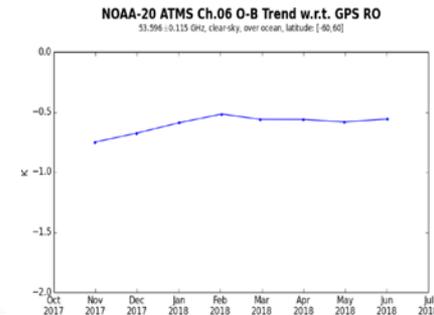
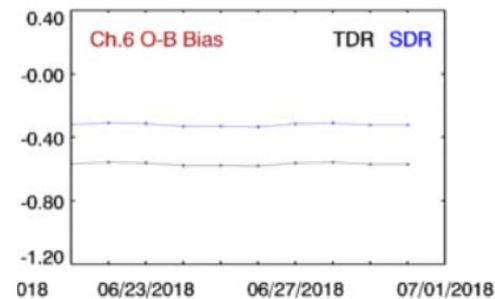
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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

Issues/Risks:

None

Highlights:



NOAA-20 ATMS TDR/SDR vs CRTM simulations using ECMWF data (left) and ATMS TDR vs CRTM simulations using RO (right).

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Dec-17	Dec-17	12/08/17	L+20D
Provisional Maturity	Dec-17	Dec-17	01/23/18	V6 PCT Implemented
Validated Maturity	May-18	May-18	06/15/18	Scheduled 6/15
J1/N20 PCT updates	10/30/17 (V5, ADR8506/CCR3669) 12/18/17 (V6, ADR8521/CCR3702) 05/09/18 (V7, ADR8458/CCR3916)			
J1/N20 PCT update (based on the Pitch Maneuver)	Apr-18	Apr-18	05/01/28	To ASSISTT: 04/26/18
Planned Algorithm Update				
DAP to ASSISTT (science team to ASSISTT)	May-18	Nov-18	The code and PCT updates will change both TDR and SDR values. Any change in TDR may impact weather forecasting.	
SNPP/J1 earth scene reflector emissivity correction in IDPS (PCT & code update) (ASSISTT to DPES AIT)	Jun-18	Jan-19	Need more time to generate sample data sets for users to test and investigate the impact.	

Accomplishments / Events:

- Continued the assessment and analysis of both CrIS on-orbit data and special post-launch tasks (PLT) data
- Continued to monitor, assess, and improve NOAA-20 CrIS SDR data quality
- Continued to work on the implementation of the polarization correction algorithm for S-NPP and NOAA-20 in ADL
- Working on refining calibration coefficients for NOAA-20 CrIS SDR to meet the Validated Maturity
- Based on calibration and validation results, team recommended to update nonlinearity coefficient for MWIR FOV9 (increasing 6%), small adjustment for ILS parameter for SWIR FOV5 position, and small adjustment for geolocation mapping angles
- Testing the proposed Engineering Packet v115 in offline ADL code, and verifying these results before finalizing the contents in EP v115

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			

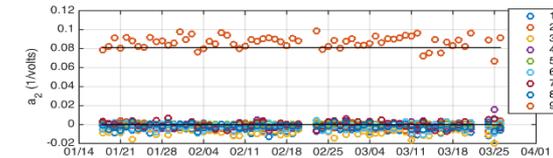
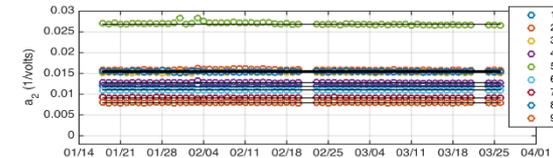
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Issues/Risks:

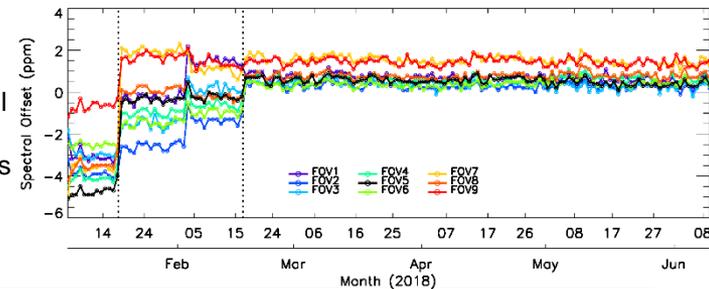
None

Highlights:

NOAA-20 a_2 estimates from daily FOV2FOV differences, suggesting that a 6% increasing for MWIR FOV9



NOAA-20 SWIR spectral shift suggesting small adjustment is needed for FOVs 7 and 9



FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Jan-18	Jan-18	01/17/18	V113 uploaded
Provisional Maturity	Feb-18	Feb-18	02/16/18	V114 uploaded
Validated Maturity	Aug-18	Aug-18	L+9M	
Engineering packet update for JPSS-1 operations	01/05/18 01/18/18 02/16/18	01/05/18 01/18/18 02/16/18	V112: 01/03/18 v113:01/17/18 V114:02/16/18	
RDR generator software package development: (1) STAR NL correction coefficient generator; (2) STAR ILS parameter generator; (3) STAR CITS unpacker to generate level 1a product; (4) STAR CITS_geolocation to generator geolocation data; (5) STAR RDR generator	Mar-18	Jun-18	06/29/18	
DAP Deliveries	10/19/17 (ADR8489,8490,ADR8491/CCR3656) 02/14/18 (ADR8519/CCR3726) 03/06/18 (ADR8629/CCR3851); 03/20/18 (update) 04/05/18 (ADR8653/CCR3908) 04/20/18 (ADR8631/CCR3922)			

Accomplishments / Events:

- Analyzed DNB new moon calibration from June 13, 2018 and updated offset and gain ratio LUTs for NOAA-20 and S-NPP
- Generated NOAA-20 DNB stray light correction LUT from June 2018 data
- Analyzed lunar calibration data acquired without roll maneuvers on June 23, 2018: NOAA-20 moon image's shift towards the Earth limb was larger than ever observed by both VIIRS instruments
- Presented VIIRS SDR performance during Validated Maturity Review on June 15, 2018

Overall Status:

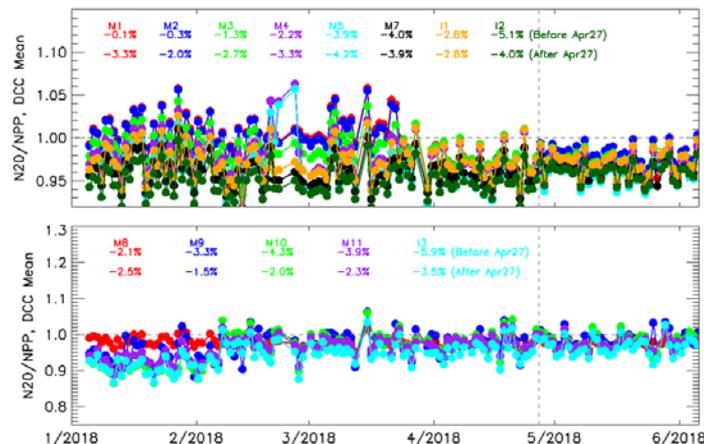
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Technical / Programmatic		X			
Schedule		X			

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Issues/Risks:

none

Highlights:



Comparisons between S-NPP and NOAA-20 VIIRS observations of Deep Convective Clouds reflectance presented during the Validated Maturity Review

FY18 TTA Milestones	Original Date	Forecast Date	Actual Date	Variance Explanation
N20 Post-Launch Cal/Val				
1st set of LUT updates for operations	Dec '17	Dec '17	Jan '18	CCR 3555
Beta Maturity	Jan '18	Jan '18	Feb '18	CCR 3742
2nd set of LUT updates for operations	Feb '18	Feb '18	Feb '18	CCR 3738
Provisional Maturity	Feb '18	Feb '18	Feb '18	CCR 3912
Validated Maturity	May '18	May '18	Jun '18	Review 6/15
Planned Algorithm Updates				
M6 rollover flagging correction	Sep '18	Jun '18	May '18	CCR 3966
LWIR FPA temperature flagging	Sep '18	Jun '18	May '18	CCR 3965
LUT update to reduce SDSM uncertainty	Jul '18	Jul '18		
WUCD calibration correction	Aug '18	Aug '18		
Identify algorithm updates based on JPSS-2 pre-launch test data: Pre-launch sensor characterization report	Sep '18	Sep '18		

Accomplishments / Events:

- Regular weekly dark deliveries for OMPS sensors were made.
- Regular bi-weekly OMPS-NP wavelength table deliveries were made for S-NPP.
- Verified suitability of May 24 special collections for use in future nominal operations. The special collections were done to improve the OMPS-NP and OMPS-TC FOV alignment.
- Delivered updated OMPS-TC straylight table for S-NPP. The new straylight tables reduces fitting residuals in ozone retrieval algorithms at high solar zenith angles.

Overall Status:

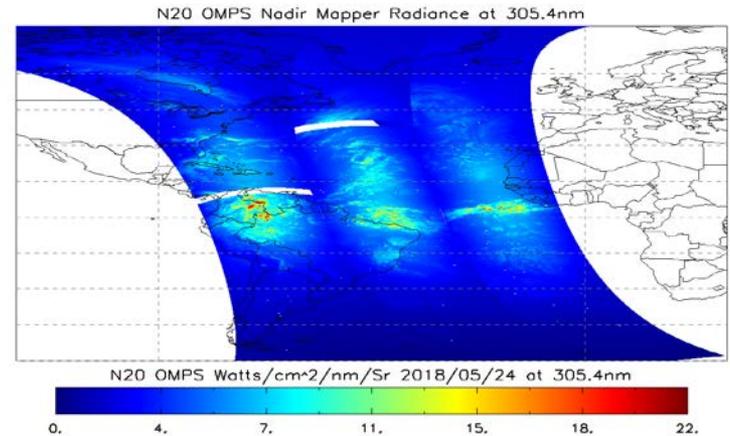
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Cost / Budget		X			
Technical / Programmatic				X	Waiting for code change in IDPS, MX2 TTO July 2,2018!
Schedule				X	Waiting for code change in IDPS, MX2 TTO July, 2 2018.

1. Project has completed.
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Issues/Risks:

OMPS-NP is Red, the necessary code change will be in MX02.

Highlights:



Total ozone from NOAA-20 OMPS-TC from May 24 Special Collections, the future OMPS Nominal Measurement Mode.

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Jan-18	Jan-18	01/26/18	
Provisional Maturity	Feb-18	Jul-18	OMPS TC delta review: 04/18/18	Review: 02/20/18 Pending Mx2 TTO
Validated Maturity	Aug-18	Aug-18	L+9M	
LUT update for JPSS-1 operations (1 st delivery)	Dec-17	Dec-17	12/18/17	L+42D
Weekly Dark Cal for JPSS-1 operations OMPS-NP-DARKS-GND-PI OMPS-TC-DARKS-GND-PI	Feb-18	Feb-18	01/08/18	Started weekly update on 1/8/2018
NOAA-20 OMPS NP OSOL & Wavelength LUT update (ADR8508/CCR3770)	Feb-18	Feb-18	02/01/18	
NOAA-20 OMPS SDR LUT updates	01/23/18 (ADR8576/CCR3760,ADR8577/CCR3761, NM & NP FAM LUTs update) 02/15/18 (ADR8594/CCR3821, TC SDR LUT and GND-PI updates)			
OMPS NP code update (ADR8615/CCR3829)		07/02/18	02/16/18	
Update S-NPP OMPS TC Straylight Table	05/15/18 (ADR8527/CCR3906)			

Accomplishments / Events:

- Solved the technical issues regarding applying NAGG for aggregation ATMS reprocessing data
- Generated two-month of aggregated ATMS reprocessing data
- Delivered the above data to NCEI/CLASS for testing
- Modified the ATMS README file
- Finished a summary of preliminary assessment of ATMS reprocessing data
- Development of web application to handle multiple/large data requests on UMD server

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

FY18 TTA Milestones	Original Date	Forecast Date	Actual Comp Date	Variance Explanation
Development of reprocessing data distribution website	Apr-18	Apr-18	Feb-28-18	
Analyze the quality of reprocessed data	Apr-18	Apr-18	Mar-31-18	
Prepare BUFRed reprocessed data for NWS reanalysis projects (NCEP/GMAO)	Apr-18	Apr-18	Feb-28-18	
Prepare ATMS user Manuel for using ATMS reprocessed data as pilot dataset to archive in CLASS	May-18	May-18	May-18-18	
Finalize the aggregation package to be used for producing the aggregated reprocessed ATMS data to archive in CLASS	May-18	May-18	May-18-18	
Complete the preparation of aggregated reprocessed ATMS data to be transitioned to CLASS	Jun-18	Jun-18	Jun-18	
Complete the reprocessing of OMPS SDR data	Aug-18	Aug-18		
Development of reprocessing data review website	Aug-18	Aug-18		

Highlights: STAR aggregated ATMS reprocessing data (left) can produce same format and content as CLASS aggregation (right)

Beam time are exactly same

	0	1	2
0	1839298437198252		
1	1839298437018072	1839298437036090	1839298437054108
2	1839298439684737	1839298439702755	1839298439720773
3	1839298442351400	1839298442369418	1839298442387436
4	1839298445018072	1839298445036097	1839298445054116
5	1839298447684745	1839298447702763	1839298447720781
6	1839298450351409	1839298450369427	1839298450387445
7	1839298453018072	1839298453036090	1839298453054108
8	1839298455684737	1839298455702755	1839298455720773

Beam geolocation has very small shift ~5th digit after decimal point

	0	1	2
0	0.91247046	1.00902028	1.0974364
1	1.0650282	1.1624454	1.2515782
2	1.2209917	1.3193929	1.4081186
3	1.372548	1.4714668	1.5606297
4	1.5301358	1.6289954	1.7177088
5	1.6817908	1.7807043	1.8694695
6	1.8394216	1.9373584	2.025741
7	1.9895033	2.0876272	2.1770093

Accomplishments / Events:

- Support to STAR SDR teams for NOAA-20 CalVal teams
- Maintained SNPP and NOAA-20 ICVS
- Implemented the time series of relative responsivity change into NPP&N20 CrIS RDR modules
- Implemented the FOV2FOV and FOR2FOR BT difference for NPP&N20 CrIS SDR&FSR modules
- Supported to VIIRS SDR maturity review
- Fixed some ICVS/VIIRS calculation and plot issues
- Improved VIIRS ocean clear-sky mask detection
- Finished a quasi-automatic module monitoring OMPS NM O-B
- Improved OMPS NM radiance simulation module using Tomrad
- Generated 6 combinations of VIIRS RGB images
- Initialized 3D animation for hurricane from ATMS and VIIRS data
- Supported JPSS/SMCD weekly reports and JPSS ICVS FY19 Plan

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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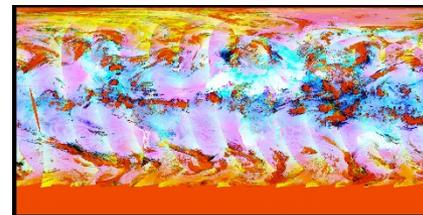
Issues/Risks:

None

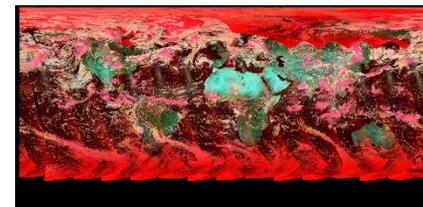
FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 Post-launch Monitoring/Trending Package	Dec-17	Dec-17	Dec-18	
CrIS SDR Data Quality Trending	Dec-17	Dec-17	Dec-17	
First version of ICVS-GRAVITE package	Mar-18	Mar-18	Mar-18	
OMPS SDR Quality Trending Phase I	Jun-18	Jun-18	May-18	
SNPP/J1 cross-comparison package initialized	Dec-17	Jun-18	Jun-18	Change Personnel
Geolocation Accuracy Trending Initialized	Mar-18	Jun-18	Jun-18	Change Personnel
ICVS-Application Website (Severe Weather Watch with JMAPPER)	Mar-18	Jul-18		Initialized Module
JPSS-ICVS Monitoring/Trending Enhancement (On-going work)	Sep-18	Aug-18		
Update (2 nd version) Package for ICVS-GRAVITE	Sep-18	Sep-18		Standard schedule
ICVS System Maintenance Manuals and Technical Reports	Sep-18	Aug-18		

Highlights: VIIRS RGB Images & CrIS Relative Responsivity Change

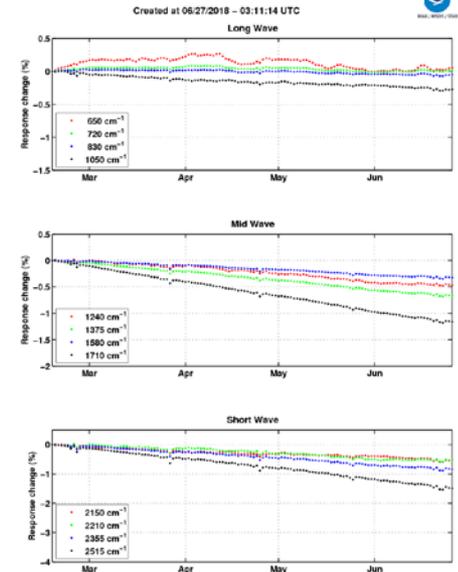
Dust RGB (R:M16-15, G:M15-14, B:M15)
Heavy Dust Storms in Hot Pink



Snow/Cloud RGB M3-10-11
Snow and sea ice in hot red; High/low cloud discrimination



CrIS Relative Responsivity Change



Accomplishments / Events:

- Combined Imagery and Geo Teams and ASISSTT are making progress on Terrain Correction geo-location:
 - ASISSTT is again able to apply M-band GRC (Grid Row Column) file to create TC imagery.
 - Awaiting creation of I-Band GRC file by Geo Team.
- **New VIIRS Imagery display of random granules for validation monitoring:**
 - I and M bands now available:
http://rammb.cira.colostate.edu/ramsdisk/online/noaa-20_viirs.asp
 - Working on addition of DNB granules.

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.
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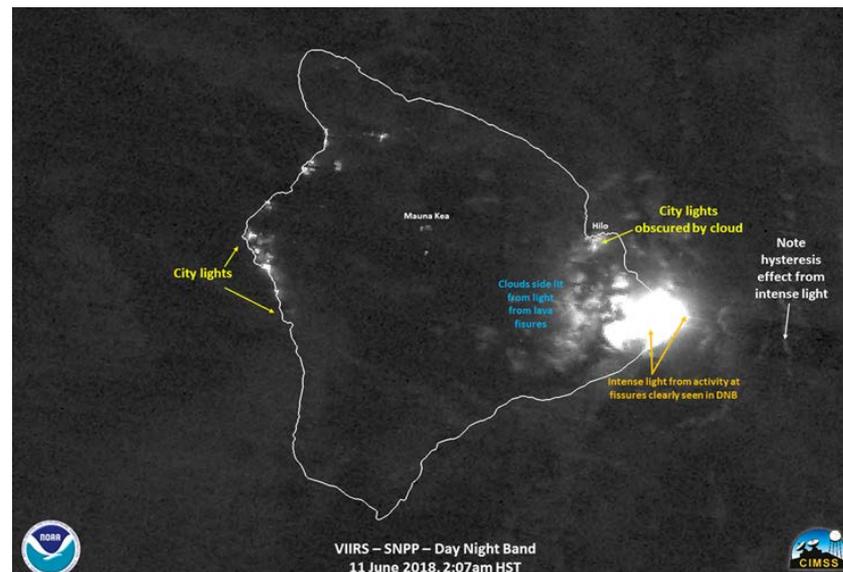
Issues/Risks:

None

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Jan-18	Jan-18	02/01/18	
Provisional Maturity	Feb-18	Feb-18	02/19/18	Review: 02/20/18
Validated Maturity	Aug-18	Aug-18	L+9M	
Algorithm Update/Testing				
NCC LUT update (DAP from science team to ASSISTT)	Sep-18	Mar-19	Provisional + 1 year	
Terrain Correction for EDR Imagery	Sep 19	Sep 19		
Long Term Monitoring				
Deliver additional product(s) to LTM website; Add J1 products to EDR monitoring web	Sep-18	Sep-19		

Highlights:

“DNB view of volcanic activity on Big Island, Hawaii, 11 June 2018 (W. Straka III)



Accomplishments / Events:

- Cloud Team is preparing for Beta Reviews in July for Cloud Height, DCOMP and Base.
- Issue with the v1.2 NDE ECM on NOAA-20 has been resolved and the fix has been implemented at NDE (implemented 11 June 2018)
- Cloud Team is completing the evaluation of the algorithms from the upcoming (July/August) DAP to NDE
- Cloud Team is preparing for an Cloud Product Demo in the Alaska Region.

Overall Status:

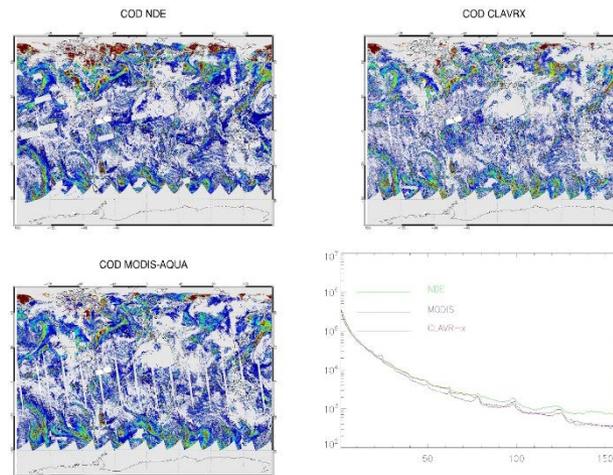
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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Issues/Risks:

None

Highlights: NOAA-20 DCOMP SAPF Verification



Example of the evaluation from the upcoming SAPF delivery, demonstrating the consistency between the SAPF (NDE), science processing (CLAVRx) and MODIS. This shows the algorithms running within the upcoming DAP delivery as expected.

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Jul-18	Jul-18	CM: 04/18/18	Program Request
Provisional Maturity	Sep-18	Sep-18		
Apply CALIPSO tools to NDE Mask with Lunar Reflectance	Sep-18	Sep-18		
Validate products from SAPF and begin ARM data analysis to fill CALIOP/CloudSat void	Sep-18	Sep-18		
Continue the visualization and demonstration of CCL for the Aviation Weather Center, with focus on Alaska Region and Hawaii	Sep-18	Sep-18		
Inter-sensor calibration studies by using visible reflectance and cloud optical thickness from GOES, JPSS and MODIS	Sep-18	Sep-18		
Consistency checks for day and night retrievals	Sep-18	Sep-18		
Continuous use of microwave-based LWP data for validation (DCOMP & NCOMP)	Sep-18	Sep-18		
J1 algorithm adjustments:				
Preliminary DAP to ASSISTT (science team to ASSISTT)	Apr-18	Apr-18	2/23/18	
Preliminary DAP to NDE (ASSISTT to NDE)	Jun-18	Jun-18		
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Reprocess regional data using cloud team calibration refinements	Sep-18	Sep-18		
Add J1 products to EDR monitoring web	Sep-18	Sep-18		
JPSS EPS algorithm updated DAPs	11/21/17; 02/02/18 (J1 capability)			

Accomplishments / Events:

- NOAA-20 Maturity Review:
 - The Cryosphere Team participated in the May/June 2018 N20 Calibration/Validation Maturity Review on June 15, 2018.
 - The cryosphere products reviewed were binary and fractional snow cover, ice surface temperature, ice concentration, and ice thickness/age.
 - They were accepted as achieving the Beta Maturity level.
- The Provisional Maturity review will be held in a few months, possibly September.

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			

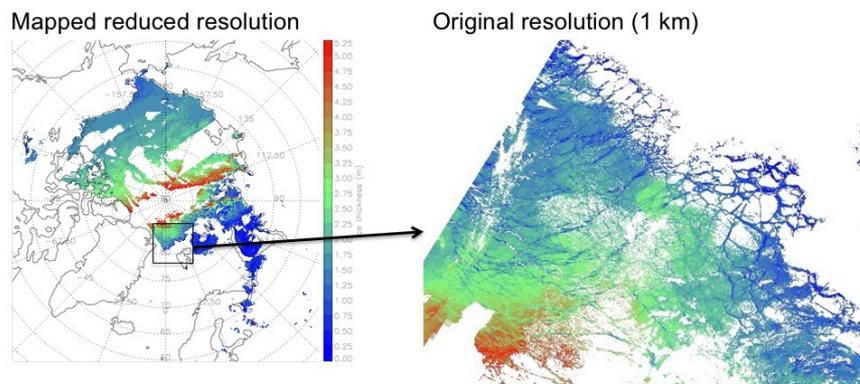
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4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

Highlights:

NOAA-20 Sea Ice Thickness



Daily composite on April 23, 2018, ice thickness (m).

Example of the sea ice thickness product that was evaluated in the maturity review.

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity: IST	May-18	May-18	06/15/18	Scheduled 6/15
Beta Maturity: Snow	Jun-18	Jun-18	06/15/18	
Beta Maturity: Sealce	Jul-18	Jul-18	06/15/18	
Provisional Maturity (IST, Snow, and Sealce)	Sep-18	Sep-18		
J1 algorithm adjustments:				
Preliminary DAP to ASSISTT (science team to ASSISTT)	Apr-18	Apr-18	Apr-18	
Preliminary DAP to NDE (ASSISTT to NDE)	Jun-18	Jul-18		
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Improvements to snow and ice algorithms	Sep-18	Sep-18		
Add J1 products to EDR monitoring web	Sep-18	Sep-18		
JPSS EPS algorithm updated DAPs	11/21/17; 02/02/18 (J1 capability)			

Accomplishments / Events:

- Updated Delivery of Algorithm Package (DAP) along with a memo documenting changes delivered to ASSIST
- Analysis of NOAA-20 VIIRS AOD product has revealed an algorithm issue for which a correction is being developed. It involves the logic of using 2.25 um channel to identify dark and bright pixels. Because of this logic, when dust plumes are over dark vegetated surface, those pixels are being identified as bright (2.25 um reflectance no longer meets the threshold of < 0.25) resulting in no AOD retrievals.
- Evaluated Enterprise Cloud Mask (ECM) v1r2 from I&T and found that there are issues with this version of the cloud mask in the presence of dust plumes (dust plumes are being masked as clouds) leading to no AOD retrievals

Overall Status:

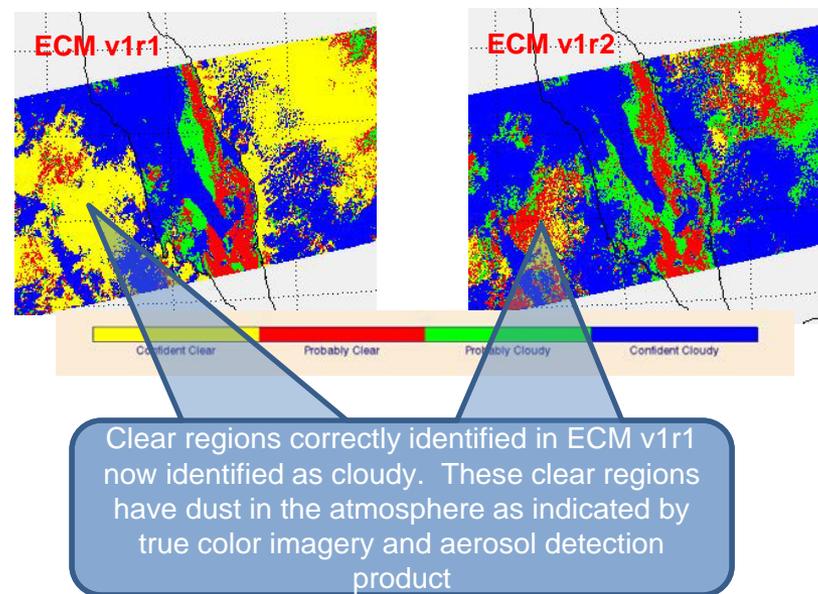
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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

Issues/Risks:

None

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Apr-18	Apr-18	04/18/18	
Provisional Maturity	Sep-18	Sep-18	04/18/18	
J1 algorithm adjustments:				
Preliminary DAP to ASSISTT (science team to ASSISTT)	Apr-18	Apr-18	Apr-18	
Preliminary DAP to NDE (ASSISTT to NDE)	Jun-18	Jul-18		
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Validation of reprocessed SNPP VIIRS aerosol products	Sep-18	Sep-18		
Add J1 products to EDR monitoring web	Sep-18	Sep-18		
JPSS EPS algorithm updated DAPs	11/21/17; 02/02/18 (J1 capability)			



Accomplishments / Events:

- Added to a list of NOAA-20 VIIRS granules that were known to contain ash.
- Quantitatively compared S-NPP and NOAA-20 volcanic ash EDRs (see highlight). The S-NPP and NOAA-2- EDRs were found to be consistent.
- Provided FY19 project plan.
- Continued to develop and test algorithm improvements through incorporation with CrIS measurements.

Overall Status:

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

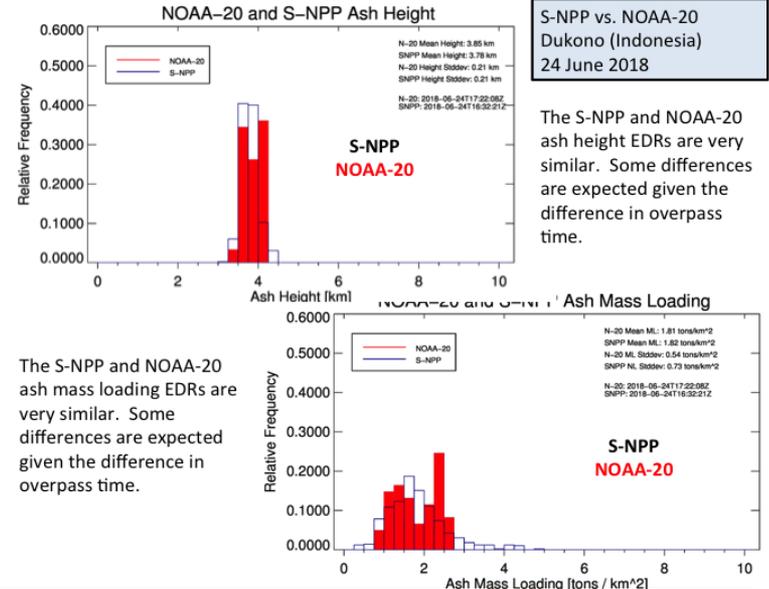
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Issues/Risks:

We have not yet been able to co-locate the NOAA-20 VIIRS volcanic ash EDR with CALIPSO overpasses of ash clouds. Other validation techniques (see below) are being used to mitigate this issue

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
JPSS-1 Cal/Val Plan	Dec-17	Dec-17	12/18/17	
Beta Maturity	Jul-18	Sep-18		Combine B & P
Provisional Maturity	Sep-18	Sep-18		
J1 algorithm adjustments:				
Complete development of Version 2 (V2) of the volcanic ash algorithm. Version 2 may utilize VIIRS + CrIS	Feb-18	Feb-18	Feb-18	While not needed to meet spec, algorithm enhancements will continue to be sought
Update LUT and thresholds for JPSS-1	Feb-18	Feb-18	Feb-18	
Preliminary DAP to ASSISTT (science team to ASSISTT)	Apr-18	Apr-18	Apr-18	Other than the LUT delivery, no other changes were required thus far
Preliminary DAP to NDE (ASSISTT to NDE)	Jun-18	Jul-18		
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add Volcanic Ash to EDR Monitoring web (SNPP & J1)	Sep-18	Sep-18		
JPSS EPS algorithm updated DAPs	11/21/17; 02/02/18 (J1 capability)			

Highlights:



Accomplishments / Events:

- On June 13 briefed SPSRB to declare the NOAA-20 product operational; SPSRB approved the request
- Worked with OSPO and other stakeholders on availability of M-band unaggregated dual-gain data for the production of the I/M-band hybrid algorithm
- Worked with the HRRR-smoke team to start systematic use of NOAA-20 and I-b/M-band products
- Investigated the usefulness of detection confidence information for emission model input

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			

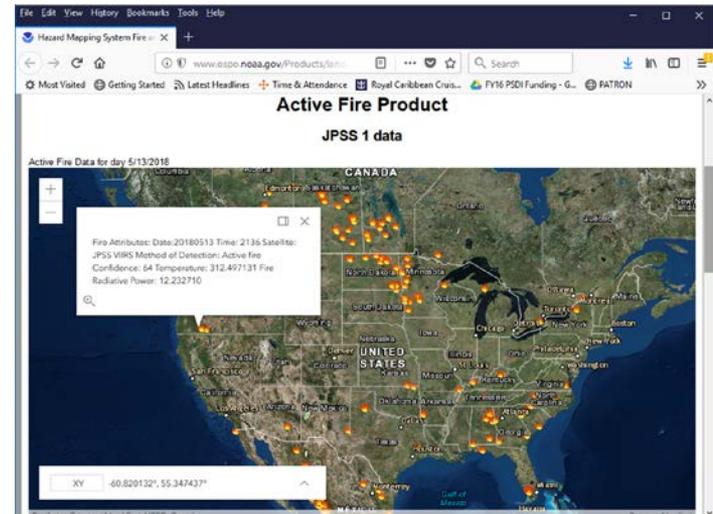
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4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

Highlights:

Credit: OSPO fire team



NOAA-20 VIIRS Active Fire data in OSPO's product monitoring system

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Jun-18	Jun-18	03/22/18	Virtual Review
Provisional Maturity	Dec-18	Dec-18	04/18/18	
J1 algorithm adjustments:				
DAP to NDE (compatibility with J1 data)			11/21/17	
Preliminary DAP to ASSISTT (science team to ASSISTT)	Aug-18	Aug-18		
Preliminary DAP to NDE (ASSISTT to NDE)	Oct-18	FY19		
SNPP/J1 algorithm refinement (Maintenance DAP)				
J1 data analysis and feedback	Sep-18	Sep-18		
Enterprise algorithm evaluation	Sep-18	Sep-18		
Suomi NPP reprocessing analysis	Sep-18	Sep-18		
Add J1 products to EDR monitoring web	Sep-18	Sep-18		

Accomplishments / Events:

- Presented for NOAA-20 Beta maturity at the June 15 Maturity Review
- Worked on evaluating and improving the quality flags in the NDE product
- Assisted the Vegetation Index Team for their NOAA-20 testing
- Determined necessary code changes for the August DAP delivery to NDE

Overall Status:

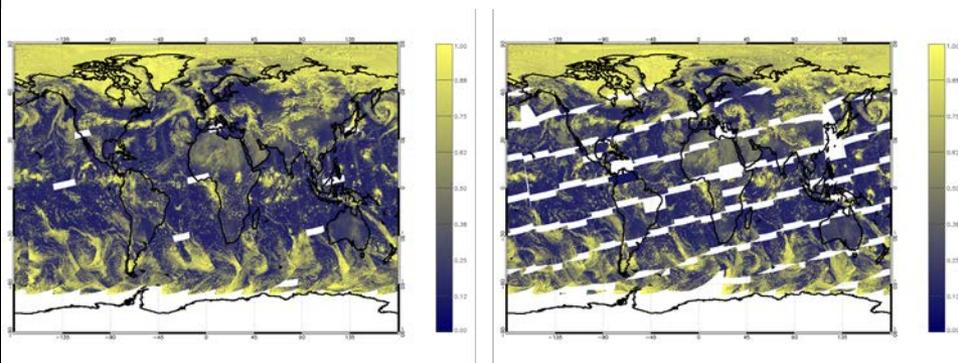
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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

Issues/Risks:

None

Highlights:



Mike Wilson (IMSG@STAR)

Suomi NPP (left) and VIIRS NOAA-20 (right) VIIRS Band I1 Surface Reflectance on May 13, 2018. The missing granules are due to missing upstream Risk Reduction data

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	May-18	May-18	06/15/18	Scheduled 6/15
J1 algorithm adjustments:				
Preliminary DAP to ASSISTT (science team to ASSISTT)	Jun-18	Jun-18	Jun-18	
Preliminary DAP to NDE (ASSISTT to NDE)	Aug-18	Aug-18		
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add SR to EDR monitoring web (SNPP & J1)	Sep-18	Sep-18		
Enterprise algorithm testing and updates	Sep-18	Sep-18		
Patch DAPs to NDE	10/06/17 (global attribute, endianness) 12/11/17 (QF2 attribute text fix) 01/29/18 (file name change) 02/21/18 (QCAI flag value change)			

Accomplishments / Events:

- Primary results of NOAA-20 LST beta maturity evaluation are obtained; a draft version of the beta review slides is ready.
- A local computation environment is built for NOAA-20 LST evaluation; global data is generated daily at 0.05 degree spatial resolution. (Highlight)
- Conducted the theoretical analysis for the spectral response function impact on the BT difference between VIIRS and ABI sensor (slide 2), which is part of cross-satellite comparison task.
- More match-up data were added into the cross comparison between MODIS AQUA LST v6 and enterprise NOAA 20 LST. The comparison tool has been modified. (highlight)
- The mapping and data composition strategies have been analyzed for design of the gridded LST production.
- The gridding data software architecture design has been accordingly modified in order to use a common mapping LUTs. Quality flags for the gridded LST output is determined; the view time output has been modified as local solar time (slide 3 and 4)
- Tracked the update of the ECM data in operational stream.
- a manuscript for summary of the enterprise LST algorithm development and evaluation is undergoing.
- Continue to monitor the NOAA 20 LST data at granule and global scale.
- Provided support to model group for VIIRS LST assimilation studies.

Overall Status:

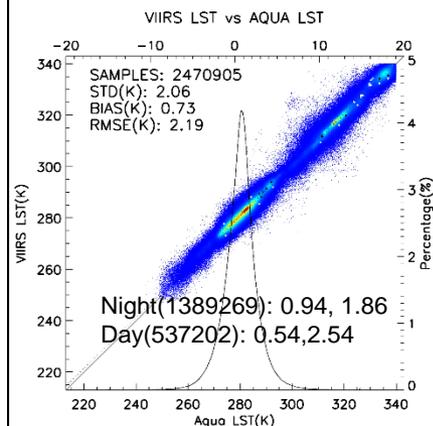
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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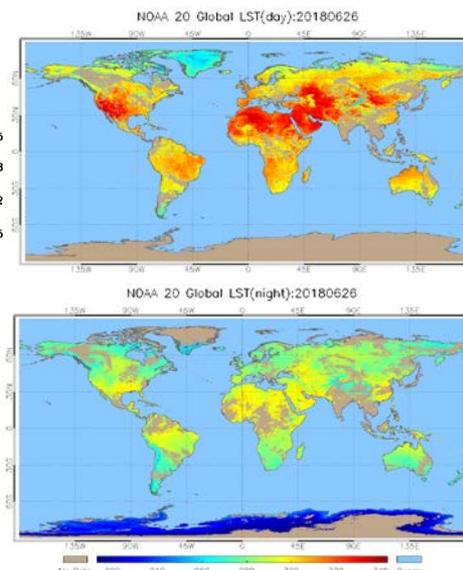
Issues/Risks:

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Jul-18	Jul-18		
J1 algorithm adjustments:				
Preliminary DAP to ASSISTT (science team to ASSISTT)	Apr-18	Apr-18	03/09/18	
Preliminary DAP to NDE (ASSISTT to NDE)	Jun-18	Jul-18		
SNPP/J1 algorithm Refinements				
Enterprise Algorithm Final DAP	Feb-18	Mar-29	Init DAP: 11/15/17 Final DAP: 4/2/18	Passed SR: Feb-18
CDR review ready for global gridded LST production	Jun-18	Jul-18		The Gridded LST production schedule has been changed due to SPSRB review procedure
Additional cloud filtering	Sep-18	Sep-18		
Add J1 products to EDR monitoring web	Sep-18	Sep-18		
Deep-dive analysis for the anomaly watch	Sep-18	Sep-18		

Highlights:



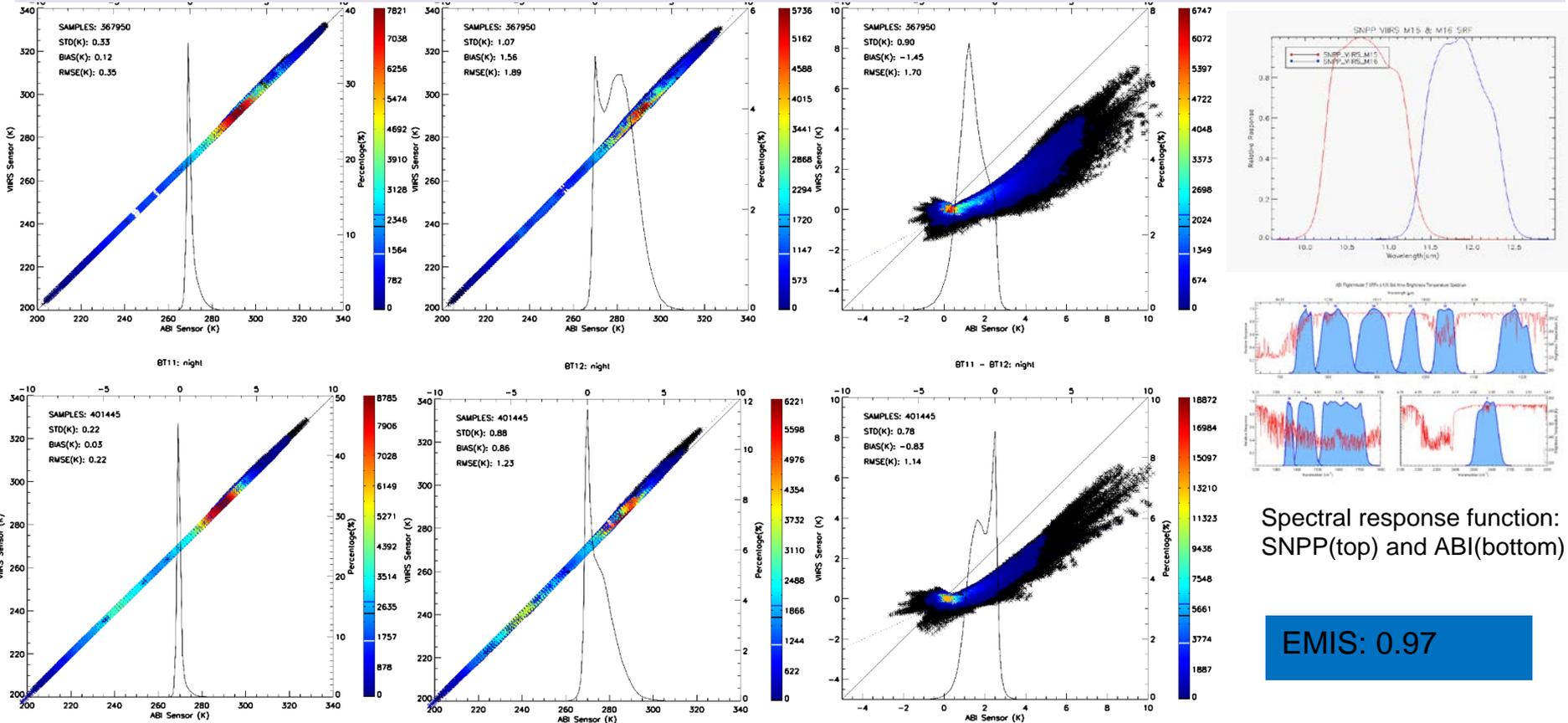
Enterprise NOAA 20 VIIRS LST against the MODIS AQUA LST at regions including US, Africa, and Australia over multiple SNOs.



Enterprise NOAA 20 VIIRS LST global image for day (top) and night (bottom). Note that the LST is calculated locally.

Simulation study on the BT difference between ABI and VIIRS

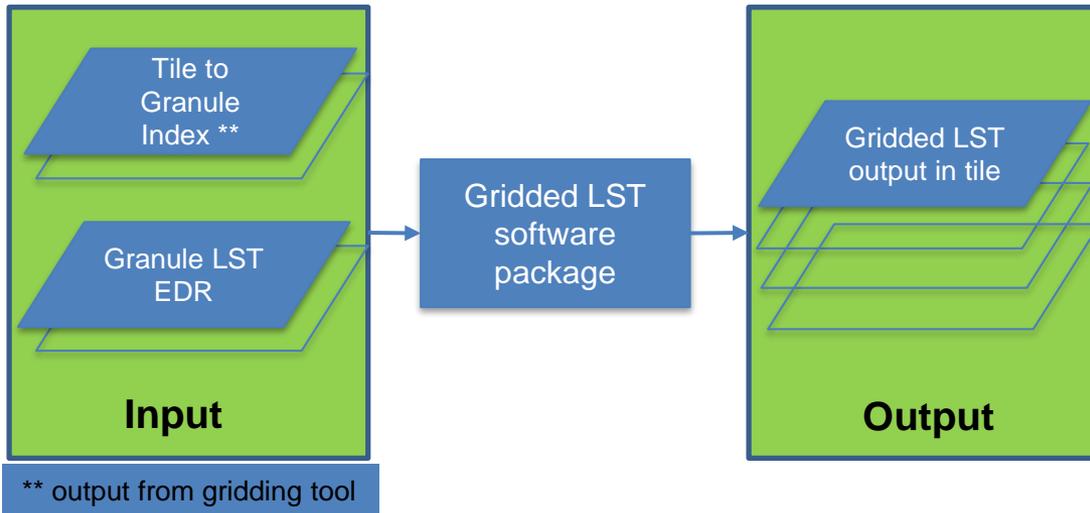
- Brightness temperature (BT) difference between 11 and 12 μm channels is applied in LST derivation for atmospheric correction
- Simulation study based on SEEBOR database indicating the BT difference on VIIRS and on ABI can be significantly different, due to the RSR difference (most right figures below).
- Scatter plots below show the BT difference between the two sensors for daytime (upper figures) and nighttime (lower figures) cases, for 11 μm (left) and 12 μm (middle) and the difference (right).



Spectral response function: SNPP(top) and ABI(bottom)

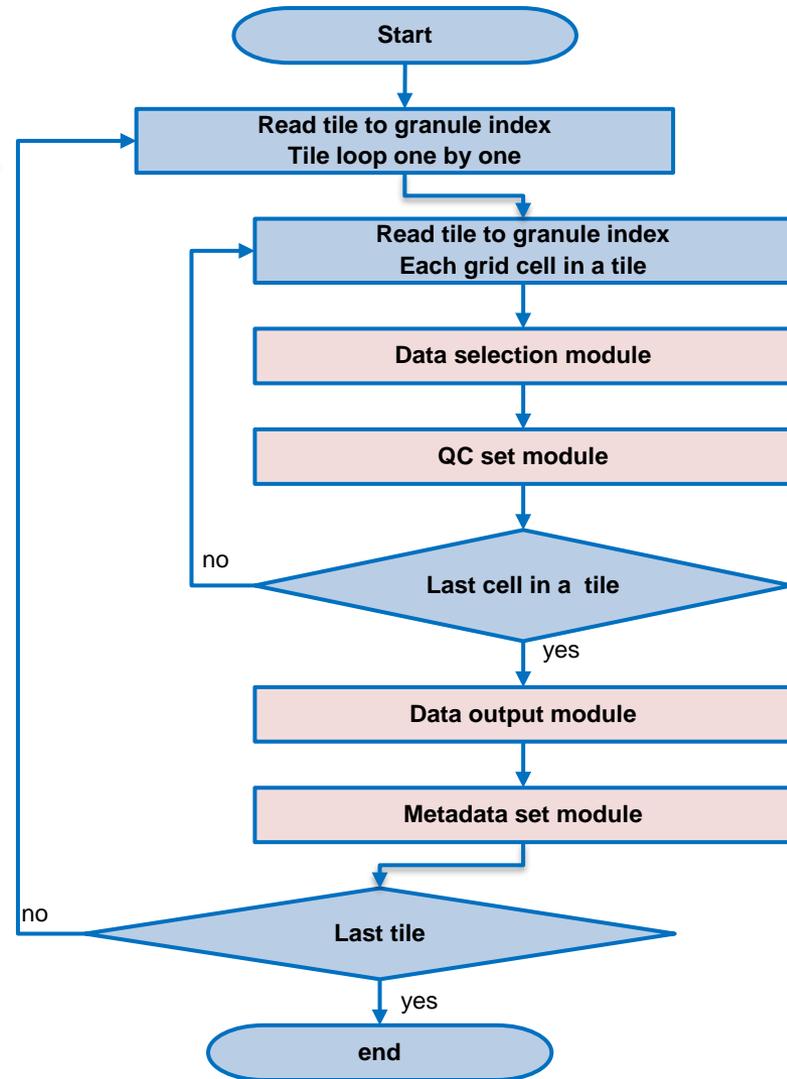
EMIS: 0.97

Gridding LST production Software design



High level data flowchart

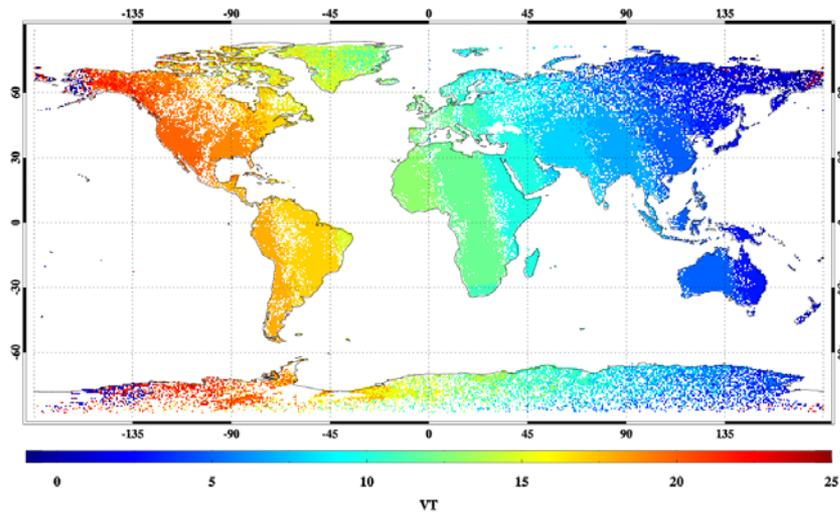
- The gridded LST design has been modified in order to use the gridding tool. The top left figure shows the high level data flowchart. Generally the output from the gridding tool together with the granule LST EDR will be used as input. The gridded LST output will employ the same tile system as the gridding tool.
- Right figure shows the module level flow chart. The data selection module and data read in module are accordingly modified to adapt for the input change.



Module level flow chart

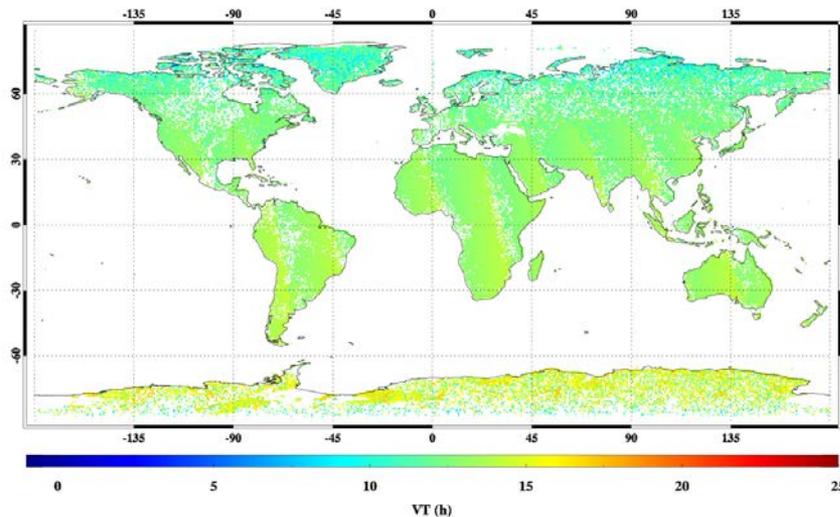
Gridded LST Output –view time

Day time VT @20171001

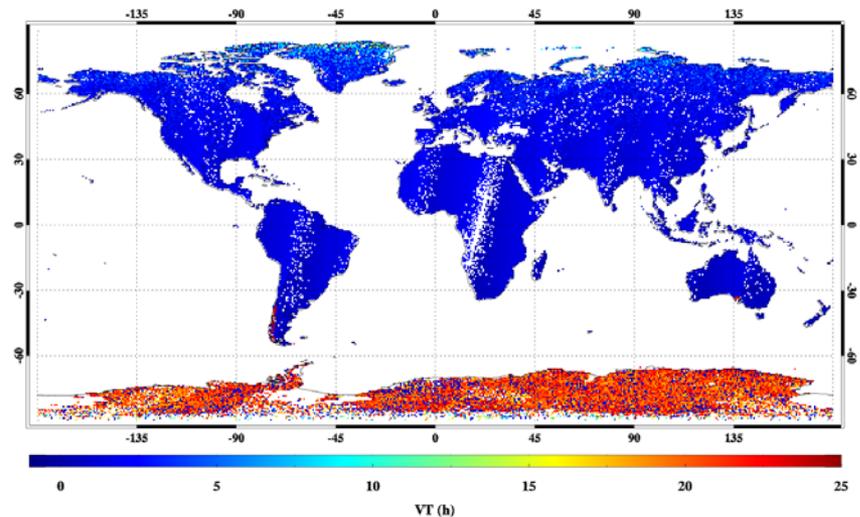


- The view time (VT) is an important info in the gridded LST output.
- Sample VT time of VIIRS observation using UTC, shown on left, does not represent temperature time well.
- The local solar time is more accurate representing thermal temperature changes along the time, as shown in bottom for daytime(left) and nighttime(right).

Day time VT @20171001



Night time VT @20171001



Accomplishments / Events:

- Validated Beta Version of J1 albedo against SURFRAD ground measurements to assess its accuracy and diagnosis problems
- Redesigned the gridded albedo product program structure and partially completed refining codes of gridded VIIRS albedo product
- Presented the work on VIIRS sea ice albedo development on 2018 CoRP Symposium
- Revised the FY19 work plan on VIIRS albedo product

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			

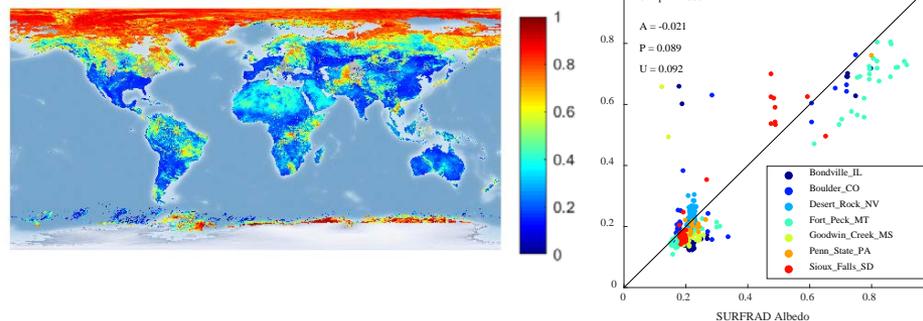
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

Due to the adjustment of gridded albedo plan at management level, the gridded albedo algorithm development process has been suspended. Refining codes of gridded VIIRS albedo has been partly completed.

Highlights:

J1 NDE global Albedo



J1 NDE albedo is going through assessment under the guidelines of beta review. The above left figure shows an example of global composited J1 NDE albedo, which proves the availability of NDE algorithm on J1 data; the right figure demonstrates the validation result of J1 NDE albedo against SURFRAD measurements.

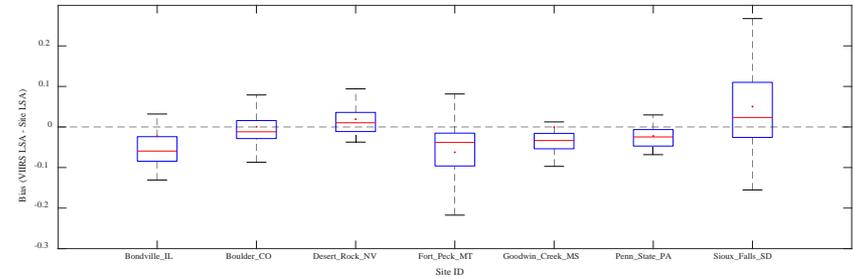
FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Jul-18	Jul-18		
J1 algorithm adjustments:				
Preliminary DAP to ASSISTT (science team to ASSISTT)	Apr-18	Apr-18	03/09/18	Completed
Preliminary DAP to NDE (ASSISTT to NDE)	Jun-18	Jul-18		
SNPP/J1 algorithm Refinements				
Enterprise Algorithm Final DAP	Feb-18	Feb-18	Init: 11/15/17; Final: 4/2/18	Passed SR: Feb-18
LUT for Sea Ice Albedo computation	Dec-17	Dec-17	03/05/18	Completed
Developing improved albedo climatology	Jul-18	Jul-18	02/23/18	Completed
Refining codes of gridded VIIRS albedo	Sep-18	Jul-18		
Deep-dive analysis for the anomaly watch	Sep-18	Sep-18		
Add J1 products to EDR monitoring web	Sep-18	Sep-18		
Enterprise Algorithm LSA ARR			03/14/18	

J1 NDE albedo (beta version) vs. SURFRAD albedo

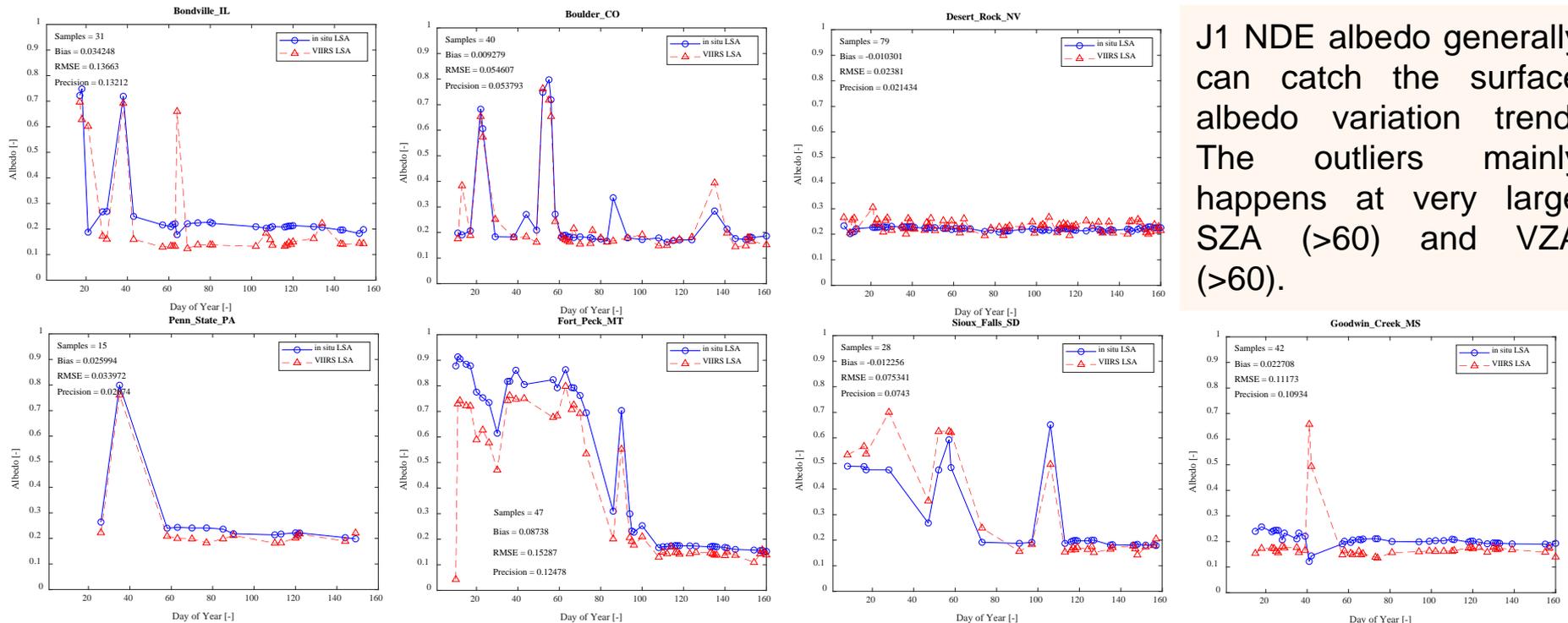
J1 NDE albedo generally shows reasonable output, but still needs further improvement to meet the requirement.

- LUTs need to be updated according to N20 VIIRS spectral response
- Gridded Albedo Product should be developed to reduce noise

	Requirement	Performance
Accuracy	0.05	-0.021
Precision	0.08	0.089



J1 NDE albedo generally can catch the surface albedo variation trend. The outliers mainly happens at very large SZA (>60) and VZA (>60).

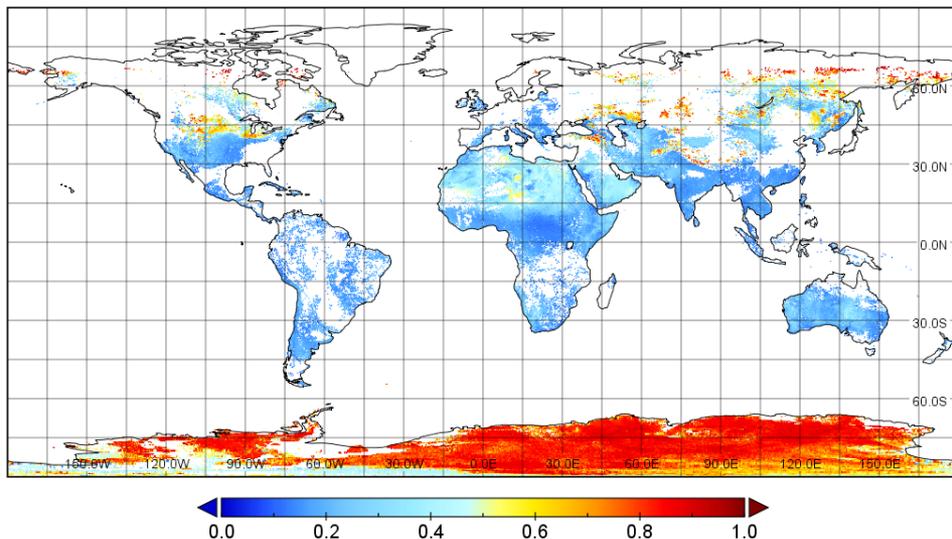


Gridded SA product

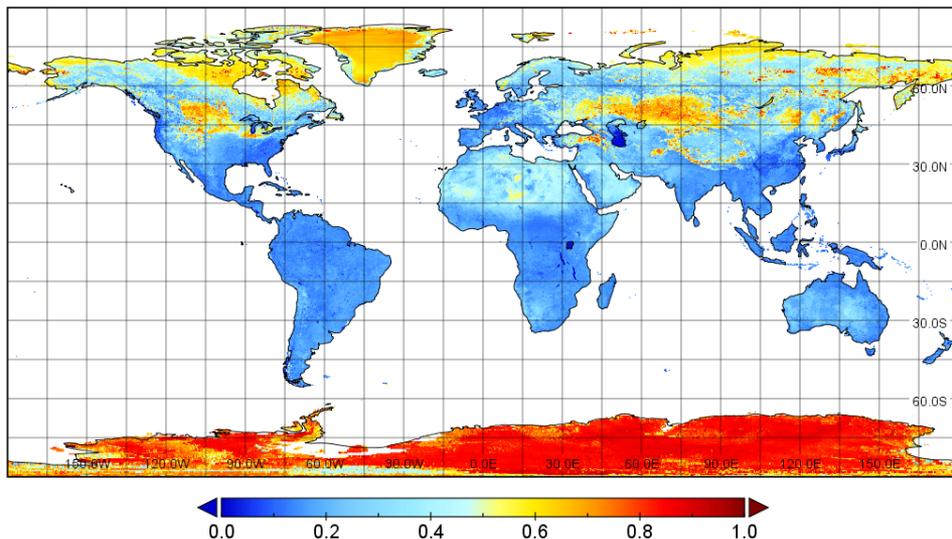
Characteristics of Gridded SA product compared to current granule product

- ✓ Combine online and offline processes into an unique framework
- ✓ Improved LUT solving missing value at high latitude
- ✓ Re-design the quality flag (QF) configuration and QF setting logics.
- ✓ Missing values caused by cloud contamination and none of solar illumination are filled up by the temporal filtering algorithms
- ✓ Gridded product is set as sinusoidal projection with 72*72 tiles, each tile containing 600 columns * 300 lines of pixels.

Integrated from granule product (Jan 15th, 2015)



Integrated from gridded product (Jan 15th, 2015)



Accomplishments / Events:

- After an evaluation of the classification output, the team concluded that the preliminary classification map has enough accuracy for further post-classification processing.
- Began to conduct post-classification processing on the classification map. The first post processing is to correct excessive snow/ice patches, which was found in the evaluation phase. Previous year's surface type data is used to perform a maximum vote to filter out committed snow/ice pixels. After this post-classification processing, visual and quantitative improvements on snow/ice class are observed.

Overall Status:

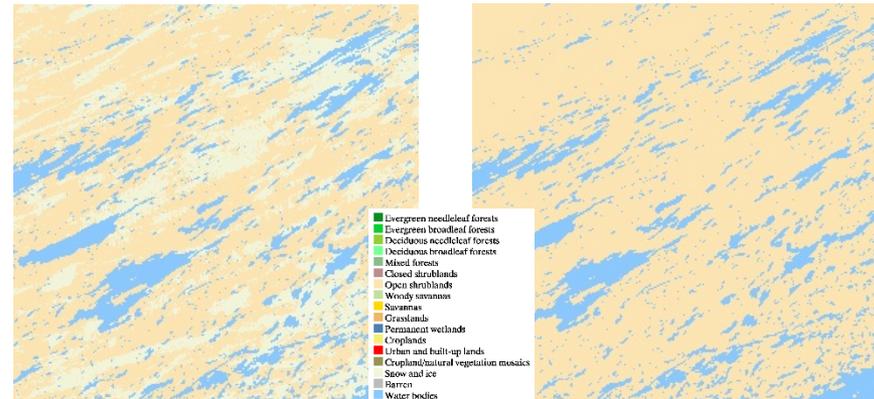
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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:



Before correction

After correction

Snow/ice commission error correction result in North Canada for the 2017 surface type product.

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Comparison of GST16 with surface type validation data	Sep-18	Sep-18		
Planned Algorithm Delivery				
Complete monthly composites of global gridded VIIRS data (9 land bands + thermal bands) for VIIRS GST17 based on VIIRS 2017 data	Sep-18	Sep-18		
Generate VIIRS GST17 based on VIIRS 2017 data using SVM algorithms	Sep-18	Sep-18		

Accomplishments / Events:

- Testing operational VI code to produce vegetation index product from sample NOAA-20 input.
 - Refine visualization code to produce browse images.
 - Refined the visualization website for providing better VIIRs VI product access to users
- https://www.star.nesdis.noaa.gov/smcd/viirs_vi_web/landw atch.php

Overall Status:

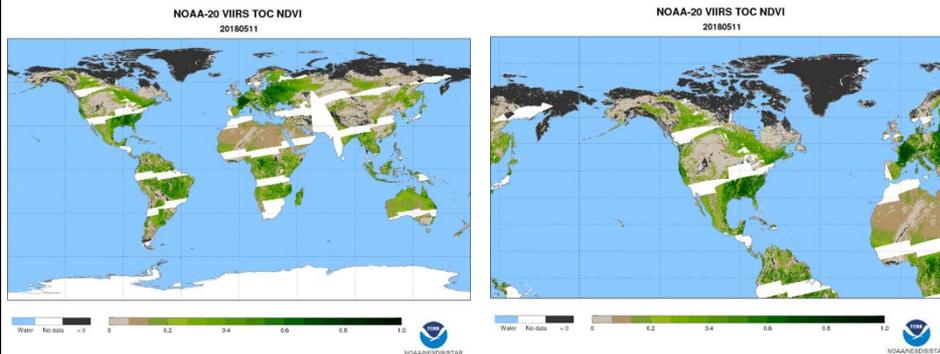
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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:

Only three days of NDE NOAA-20 surface reflectance data are available, while we expect to have one month of the data for the VI and GVF beta review preparation.

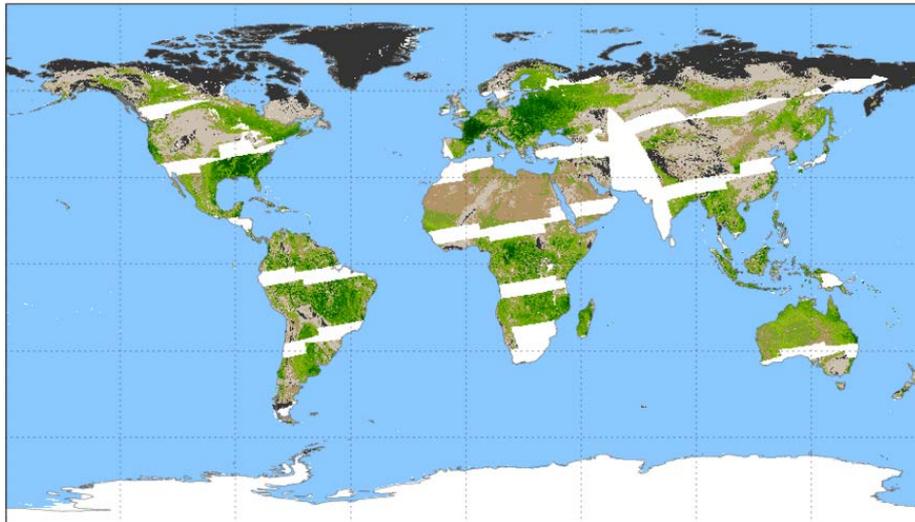
Highlights:



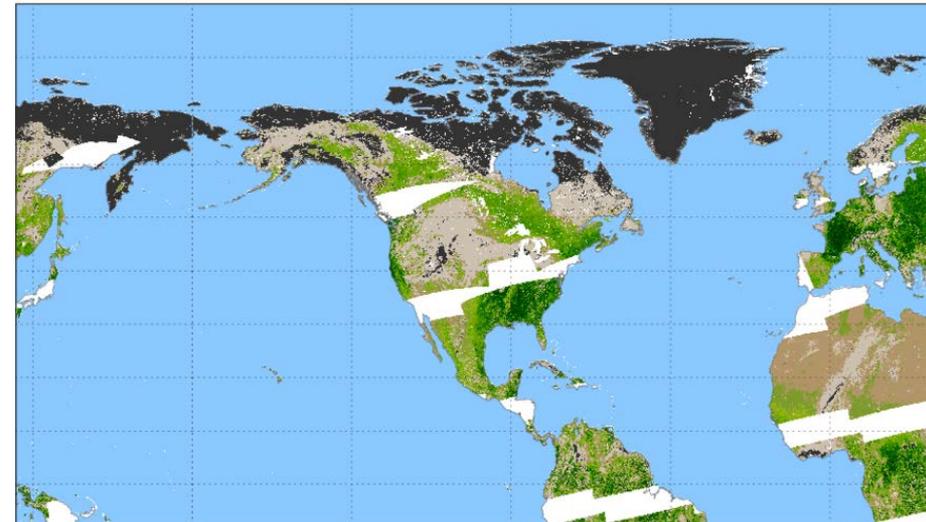
Sample NDVI TOC product based on NOAA-20 sample surface reflectance Left: global; Right: Regional.

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Aug-18	Aug-18		
J1 algorithm adjustments:				
Preliminary DAP to ASSISTT (science team to ASSISTT)	Sep-18	Sep-18		
Preliminary DAP to NDE (ASSISTT to NDE)	Nov-18	FY19		
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add J1 products to EDR monitoring web	Sep-18	Sep-18		
Enterprise Algorithm Final DAP	Jan-18	Jan-18	Initial DAP: 06/26/17 Final DAP: 02/06/18 Delta DAP: 03/15/18	
NVPS ARR			12/21/17	

NOAA-20 VIIRS TOC NDVI
20180511

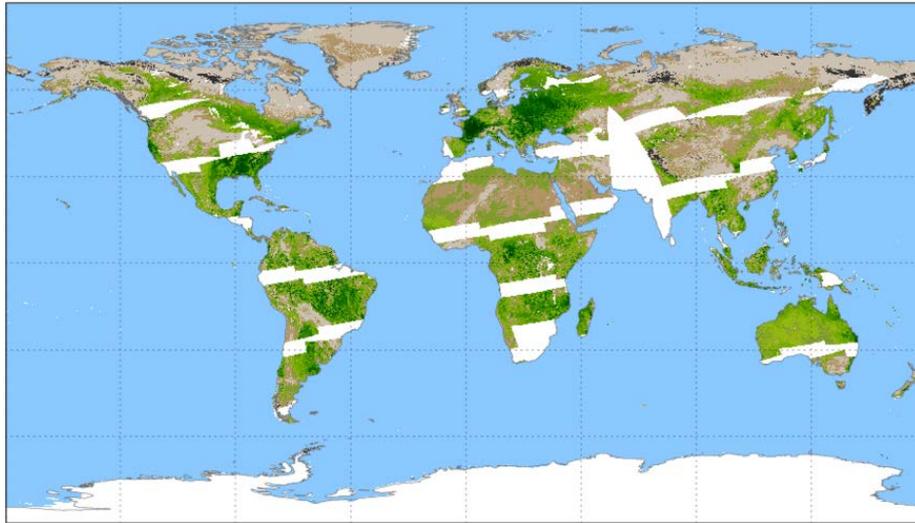


NOAA-20 VIIRS TOC NDVI
20180511

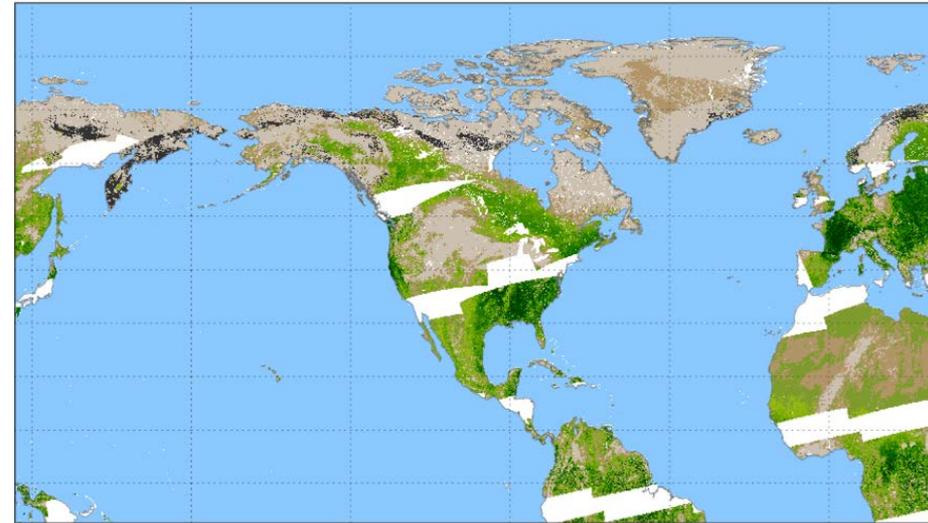


Preparation of NOAA-20 VI beta maturity review is underway. Presented here are sample results of the NOAA-20 global (left) and regional (right) TOC NDVI produced from one day of input data on May 11, 2018. *More input data is required for this beta maturity review effort.*

NOAA-20 VIIRS TOA NDVI
20180511



NOAA-20 VIIRS TOA NDVI
20180511



Similarly the sample results of the NOAA-20 global (left) and regional (right) TOA NDVI produced from one day of input data on May 11, 2018.

Accomplishments / Events:

- Testing operational GVF code to produce GVF product from sample NOAA-20 input.
- Started to produce NDE SNPP VIIRS GVF from Apr 6, 2018
- Finished NDE SNPP VIIRS GVF regression test
- Prepared a manuscript to provide a comprehensive description of VIIRS GVF products.
- Updated the visualization website for providing better VIIRS GVF access to users in the following website. https://www.star.nesdis.noaa.gov/smcd/viirs_vi_web/land_watch.php

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			

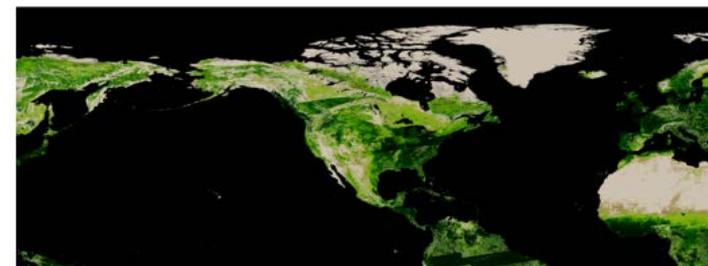
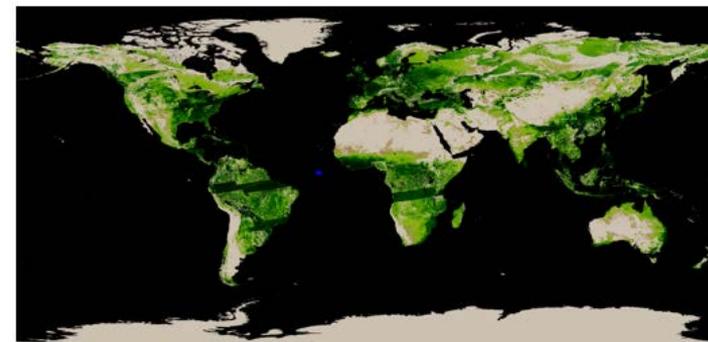
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

Only three days of NDE NOAA-20 surface reflectance data are available, while we expect to have one month of the data for the GVF beta review preparation.

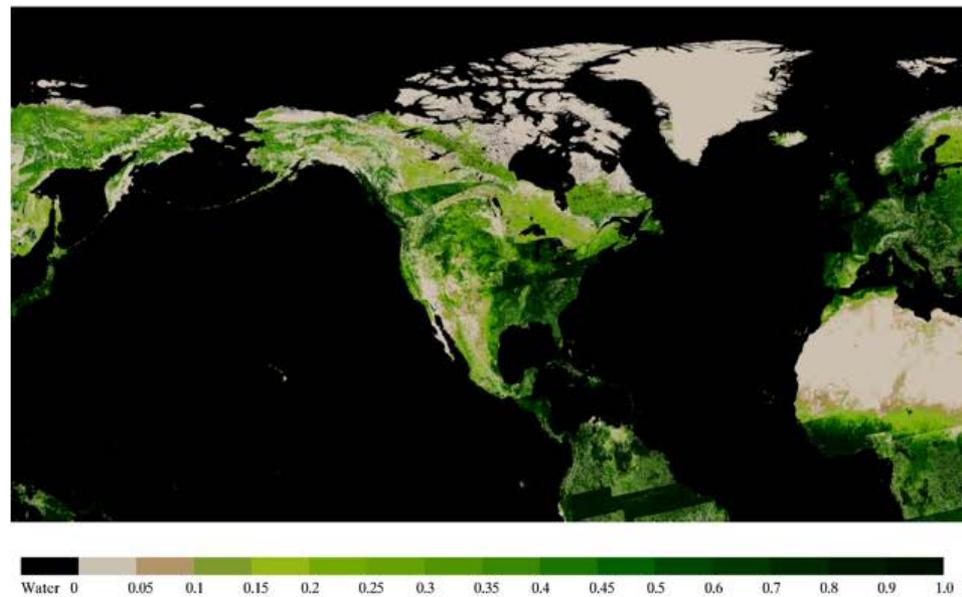
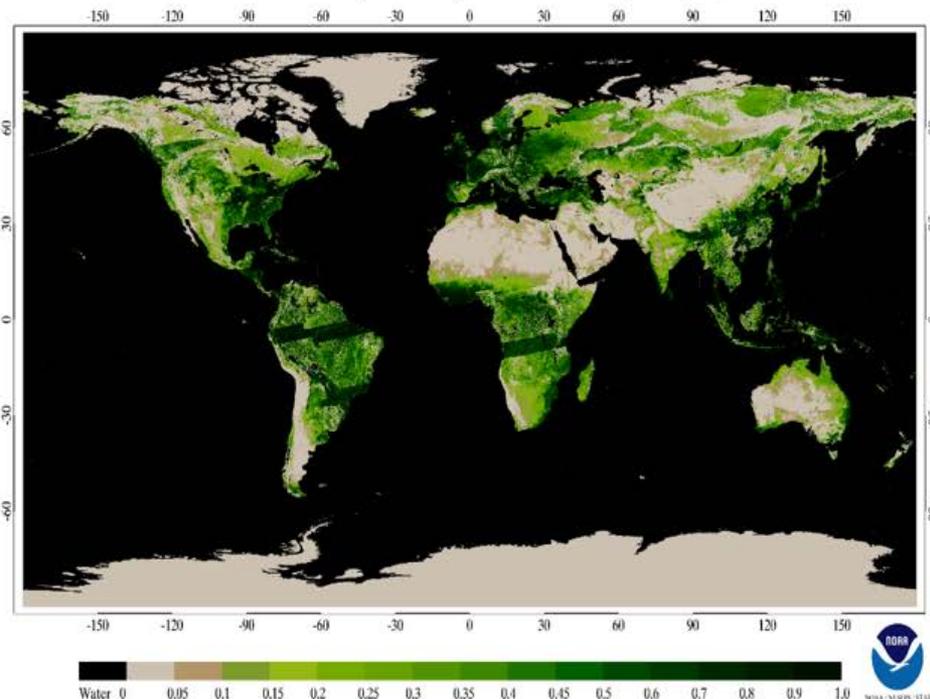
Highlights:

Sample GVF product produced from NOAA-20 Input
Upper: Global weekly GVF (20180508-20180514);
Lower: Regional weekly GVF (20180508-20180514)



FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Aug-18	Aug-18		
J1 algorithm adjustments:				
Preliminary DAP to ASSISTT (science team to ASSISTT)	Sep-18	Sep-18		
Preliminary DAP to NDE (ASSISTT to NDE)	Nov-18	FY19		
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add J1 products to EDR monitoring web	Sep-18	Sep-18		

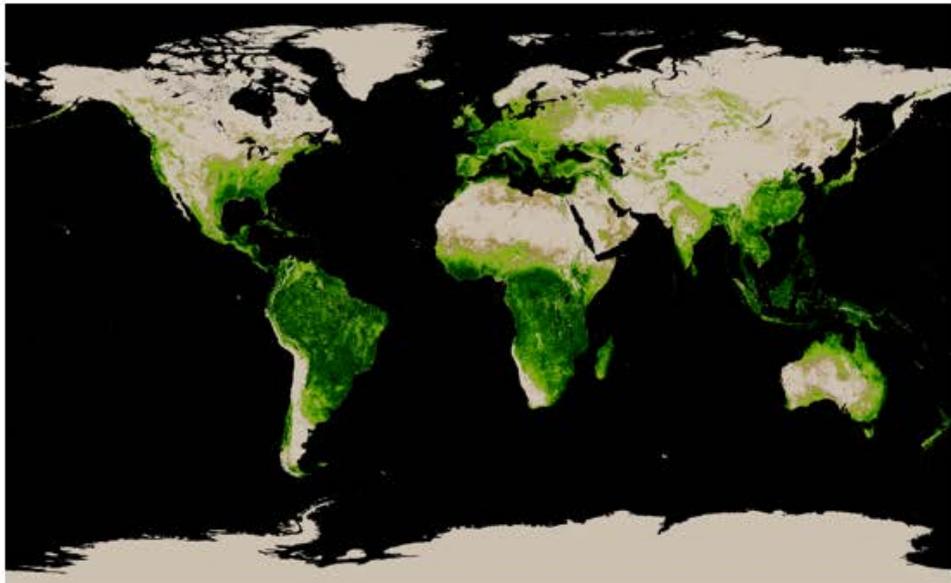
NOAA-20 VIIRS Weekly Green Vegetation Fraction May 5 - May 11, 2018



Preparation of NOAA-20 GVF beta maturity review is underway. Presented here are sample results of the NOAA-20 global (left) and regional (right) GVF data produced from one day of input data on May 11, 2018. More input data is required for this beta maturity review effort.

SNPP VIIRS GVF derived from NDE data

NDE SNPP VIIRS GVF (Apr 6-11, 2018)

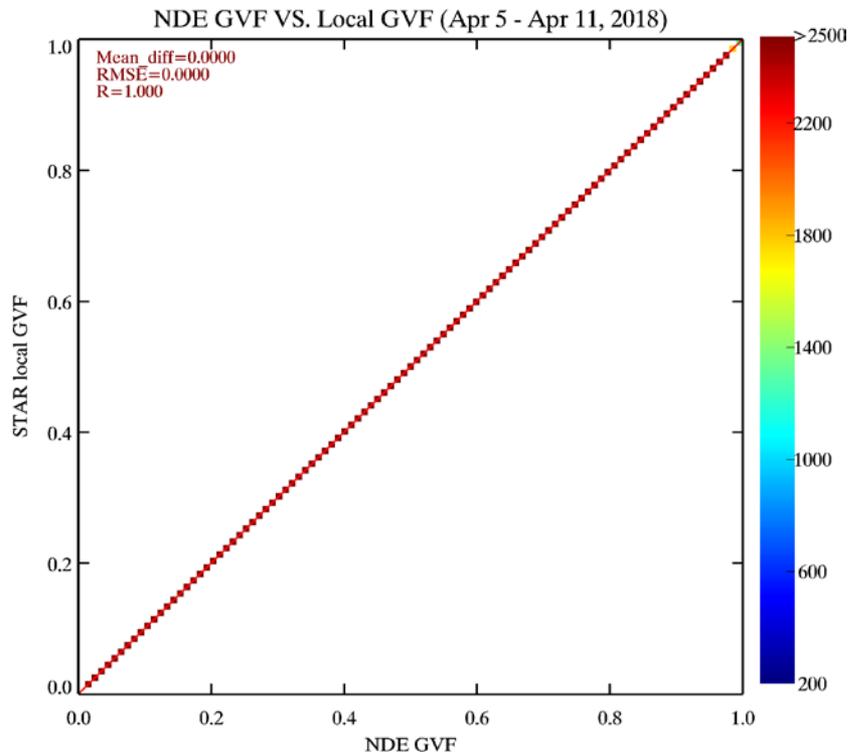


Global weekly GVF

Regional weekly GVF

Further evaluation of the enterprise GVF product for SNPP are needed. Presented here are sample results of the SNPP GVF data in the NDE system.

Regression test for NDE SNPP VIIRS GVF



SPSRB operational declaring review for NDE GVF production was conducted in June 2018. A regression test was performed for ensuring that NDE GVF production is implemented and integrated correctly. The scatter plots show above indicates that the GVF output from NDE system matched exactly with the GVF output from the science team computation environment.

Accomplishments / Events:

- Completed algorithm and software for collecting NOAA-20 VIIRS VIS, NIR & IR daily data
- Completed algorithm and software for calculation of daily NDVI and BT from NOAA-20 VIIRS Implemented
- Completed algorithm and software for mapping 375 m data to 500 m grid cell
- Completed algorithm and software for compositing weekly 500 m NDVI and BT VIIRS data
- Completed algorithm and software for removing high frequency noise from NDVI and BT data and producing SMN and SMT indices

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			

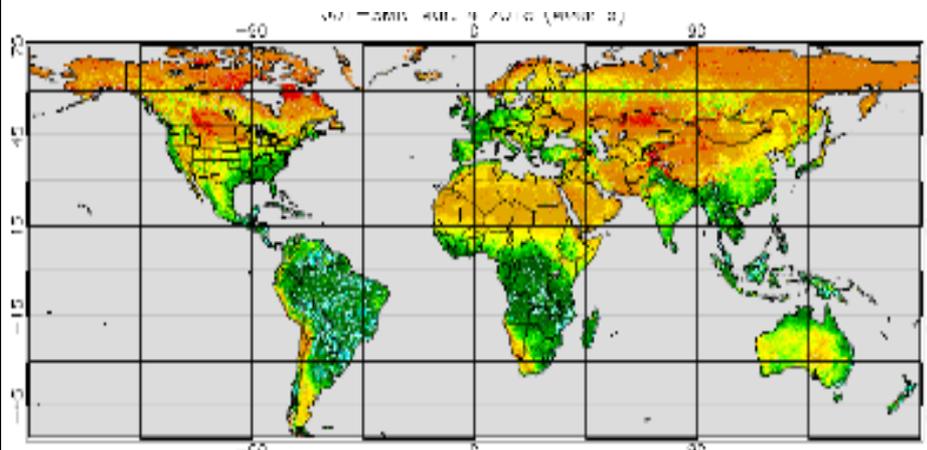
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Aug-18	Aug-18		
J1 algorithm adjustments (1-km & 4-km VH):				
Preliminary DAP to NDE	Aug-18	Aug-18		
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add J1 products to EDR monitoring web	Sep-18	Sep-18		
Vegetation Health (1-km) Algorithm Final DAP	Nov-17	Nov-17	11/13/17	
Updated DAP to NDE (metadata statistic update; code change to process SDR files from specific satellite only → can process J01/N20 VIIRS SDR)			12/14/17	
Vegetation Health (1-km) Algorithm Readiness Review			12/13/17	

Highlights: Weekly NDVI from NOAA-20 VIIRS



NOAA-20/VIIRS NDVI, Week 9, Early March 2018

Accomplishments / Events:

The STAR Ocean Color EDR team:

- Conducted bi-weekly telecons with external VIIRS cal/val teams
 - Carol Johnson of NIST presented results of optical characterization of plaques used for reference observations for measurements with handheld radiometer units.
 - Alex Gilerson of CCNY presented on the LISCO SeaPRISM / satellite intercomparisons, and aerosol parameters from the OC sensors and AERONET-OC.
 - Jennifer Cannizzaro presented “Evaluation of VIIRS data products using bio-optical data collected from the 2018 Dedicated JPSS VIIRS Ocean Color Calibration/Validation Cruise” on behalf of the USF, PI Chuanmin Hu.
- Ongoing work with 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			

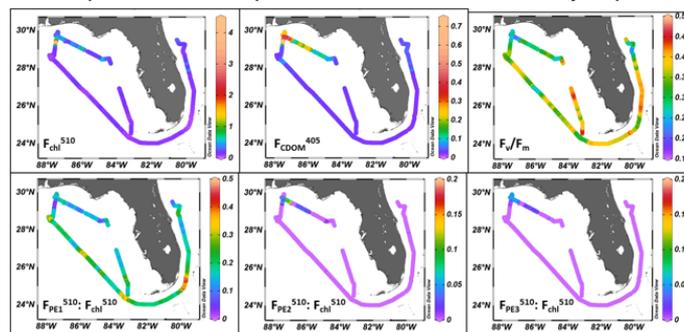
- Project has completed.
- Project is within budget, scope and on schedule.
- Project has deviated slightly from the plan but should recover.
- Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

- SDR calibration error –identify how to avoid same error in future
- Concern with 9-month funding (end in March 2018) for FY17. Continuation of funding started in April 2018 is quite important, as we plan to conduct the fourth Cal/Val cruise in Spring 2018 (for VIIRS-SNPP and particularly VIIRS-J1 OC validation), as well as work on VIIRS-J1 OC data processing.

Highlights:

Preliminary results showing phytoplankton types, photophysiology and water quality from ALFA flow-through instrument deployed by USF during the 4th annual JPSS dedicated VIIRS ocean color validation cruise aboard the NOAA Ship Okeanos Explorer. See 26 June weekly report for details.



FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Work on J1 instrument pre-launch characterization and calibration, including addressing the out spec polarization sensitivity issue, first report	Mar-18	Mar-18	Mar-18	
Work on J1 specific lookup tables etc. and other needed modifications for VIIRS-J1 ocean color data processing system using MSL12	Aug-18	Aug-18		
Cal/Val team will finish the 2016 VIIRS dedicated cruise report (Fall 2017) and in situ data analyses (e.g., improve in situ data quality)	Mar-18	Mar-18	Cruise report published October 2017	
In situ data collections including NOAA dedicated cruise in May 2018 and continue Cal/Val for VIIRS ocean color EDR	May-18	May-18	May-18	
SNPP/J1 algorithm Refinement (Maintenance DAP)				
With significantly improved MSL12, VIIRS mission-long ocean color data products will be reprocessed (the second data reprocessing). Both NRT and science quality data streams will be going forward using the new MSL12	Dec-17	Dec-17	Dec-17	
Work with CoastWatch/NCEI for the second reprocessed ocean color data distributions	Sep-18	Sep-18		
Add J1 products to EDR monitoring web	Sep-18	Sep-18		

Accomplishments / Events:

- JPSS SST Team has supported JPSS Arctic Summit in Anchorage & Fairbanks, AK, from 1-8 May 2018. Ignatov and Gladkova presented two talks, on ACSPO SST products at NOAA and on data fusion from various VIIRS, MODIS and AVHRR sensors.
- ACSPO individual sensor products are of high quality and provide accurate SST retrievals in large domains. However, they should be notched-up, to meet stringent data fusion requirements. In particular, ice mask, residual scan and cross-sensor biases should be fixed, and residual cloud removed. This will be focus of FY19.
- Infrastructure for SNPP Reanalysis-2 (RAN2) has been set up in STAR. RAN2 will commence in Jul'2018 when ACSPO v2.60 is complete. Oral presentation at the NOAA-BoM workshop (Apr) and poster at the GHRSSST meeting (Jun) on RAN2 summarize status.

Overall Status:

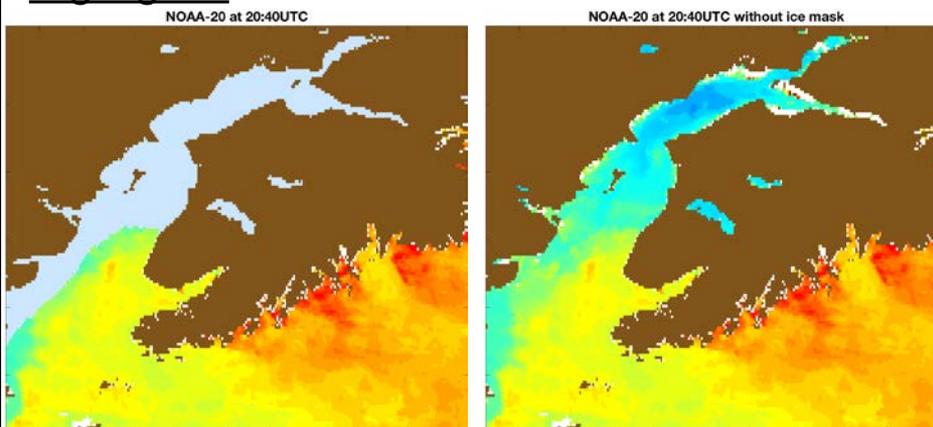
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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:



N20 VIIRS SST over the Kenai Peninsula, AK on 14 Apr 2018. The Cook outlet was masked out as ice (by the CMC L4 product) but in fact it was ice-free on that day. This and other issues with the retrievals are critically important for the data fusion from different VIIRS, MODIS, and AVHRR sensors currently explored by JPSS SST.

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Apr-18	Apr-18	04/18/18	
Provisional Maturity	Sep-18	Sep-18	04/18/18	
Set up RAN2 in STAR, test end-to-end	May-18	May-18	05/31/18	
J1 algorithm adjustments:				
ACSPO 2.5 (improved SST Imagery, fixed bow-tie gaps/distortions)	Nov-17	Nov-17	11/16/17	
Preliminary ACSPO 2.6 DAP to NDE (improved clear-mask in coastal/dynamic areas; ocean fronts; N20 adjustments)	Jul-18	Jul-18		
SNPP/N20 Algorithms Refinement (Maintenance DAP), LTM				
Release updated SQUAM v2, iQuam v2, and ARMS v1.1	Sep-18	Sep-18		
Add J1 products to EDR monitoring web	Sep-18	Sep-18		

Accomplishments / Events:

- The NUCAPS Provisional Maturity Review was successfully completed for atmospheric vertical temperature and moisture profile (AVTP and AVMP), and IR ozone profile EDRs, on 15 June 2018.
- The NUCAPS Beta Maturity Review was successfully completed for Outgoing Longwave Radiation (OLR) and carbon trace gas (CO, CH4 and CO2) EDRs.
- The Delivery of Algorithm Package (DAP) was successfully achieved on 22 June 2018.
- SNPP OLR coefficients were delivered for *ad hoc* implementation on NOAA-20; these will be subject to ongoing testing.

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 NUCAPS Provisional and Beta Maturity Reviews were successfully completed for atmospheric vertical temperature and moisture profile (AVTP and AVMP), IR ozone profile, Outgoing Longwave Radiation (OLR) and carbon trace gas (CO, CH4 and CO2) EDRs, on 15 June 2018.
- The Delivery of Algorithm Package (DAP) for NUCAPS v2.1.12c, which included updated IR tuning, CO climatology and QA, was successfully achieved on 22 June 2018.

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Jun-18	Jun-18	06/15/18	
Provisional Maturity	Sep-18	Sep-18	06/15/18 (AVTP/AVMP)	
Matchup J1 CrIS SDR with CERES data; generate regression coefficients for CrIS OLR	Jun-18	Jun-18		Due to reduction in staff, N2O coefficients have not yet been generated; as mitigation, SNPP coefficients have been delivered (ad hoc) and are currently undergoing testing (per recommendation of Mitch Goldberg)
Validation against ECMWF data and radiosondes; SNPP and J1 EDRs cross comparisons	Sep-18	Sep-18		
Validation with NPP CERES radiation products	Sep-18	Sep-18		
Validation NUCAPS trace gas EDRs against MOPITT, AIRS, TCCON, OCO-2	Sep-18	Sep-18		
J1 algorithm adjustments:				
Preliminary DAP to ASSISTT (team to ASSISTT)	Apr-18	Apr-18	04/27/18	
Preliminary DAP to NDE (ASSISTT to NDE)	Jun-18	Jun-18	06/22/18	
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add J1 products to EDR monitoring web		Sep-18	Sep-18	

Accomplishments / Events:

- MiRS V11.3 DAP passed OSPO software code review on 7 June.
- MiRS V11.3 DAP (with NOAA-20 extension) officially delivered to NDE and OSPO on 14 June.
- MiRS V11.3 DAP delivered to U. Wisconsin for integration into CSPP Direct Broadcast package on 15 June.
- Validation activities continuing, with NOAA-20 rain rate quantitative validation underway. Results continue to show good consistency with reference Stage IV analysis and with SNPP rain rate (see highlights).

Overall Status:

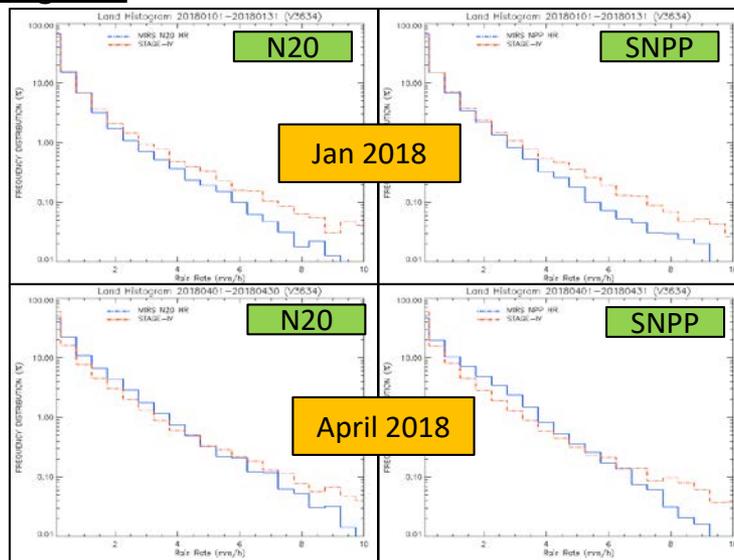
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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

Issues/Risks:

None

Highlights:



MiRS N20 and SNPP rain rate PDF comparison to Stage IV radar-gauge for two 1-month periods (January, April 2018).

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Jun-18	Jun-18	03/22/18	Virtual Review
Provisional Maturity	Sep-18	Sep-18	04/18/18	
Validation against ECMWF data and radiosondes	Sep-18	Sep-18		
Validation against other reference data for MiRS EDRs (e.g. RR, SWE, SIC, etc.)	Sep-18	Sep-18		
J1 algorithm adjustments:				
Preliminary DAP to NDE (Extend/Optimize MiRS for J1)	Apr-18	Jun-18	06/14/18	Passed OSPO code review
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add J1 products to EDR monitoring web	Sep-18	Sep-18		

Accomplishments / Events:

- The S-NPP SFR product has been re-calibrated against 2-year of Stage-IV gauge corrected radar precipitation data. Stage-IV is the 'gold standard' radar-based precipitation analyses.
- The S-NPP SFR product was validated against 1-year of Stage-IV data. The results meet the JPSS L1RD threshold requirements.
- The S-NPP Snowfall Detection (SD) algorithm was validated against 3-year of ground observations. The results meet the JPSS L1RD threshold requirements.
- Preliminary study on NOAA-20 SFR shows that the algorithm has the basic capability to detect and retrieve snowfall but requires comprehensive development and cal/val.
- Conducted S-NPP SFR CDR/SDR/Provisional Review and NOAA-20 SFR Beta Review

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			

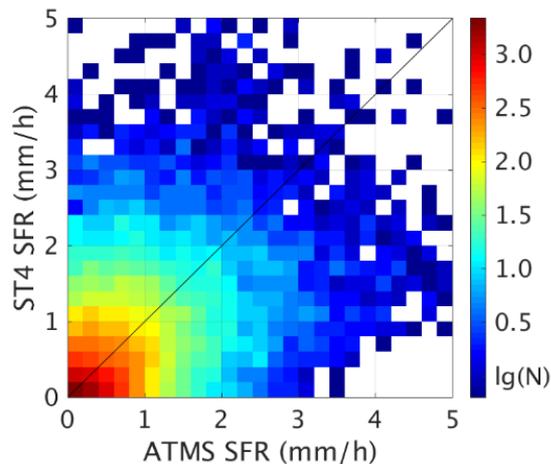
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Issues/Risks:

None

Highlights:

Calibration of S-NPP SFR against Stage IV



Correlation coeff: 0.50
Accuracy: -0.06 mm/hr
Precision: 0.74 mm/hr

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
SNPP/J1 calibration/validation				
Snow Fall Rate (SFR) Cal/Val plan (draft delivery)	Dec-17	Dec-17	Dec-17	
Snow Fall Rate (SFR) Cal/Val plan (final delivery)	Mar-18	Mar-18	Mar-18	
S-NPP SFR Provisional Maturity	Jun-18	Jun-18	06/20/18	
NOAA-20 SFR Beta Maturity	Jun-18	Jun-18	06/20/18	
SNPP/J1 algorithm development/adjustments:				
S-NPP/NOAA-20 SFR DAP to NDE	Apr-18	May-18	06/14/18	Passed OSPO code review
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add SFR to EDR monitoring web	Sep-18	Sep-18		

Accomplishments / Events:

- A first look at NOAA-20 VIIRS polar winds shows that the product is performing as expected.

Overall Status:

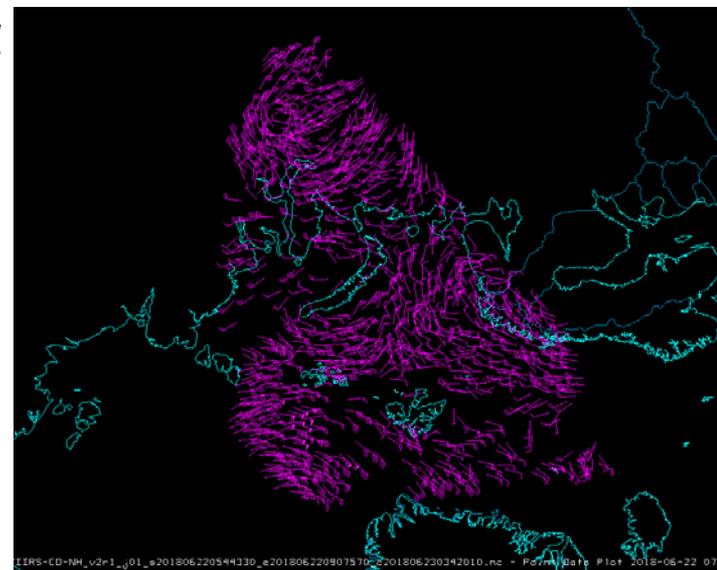
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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Issues/Risks:

None

Highlights:



A first look at NOAA-20 VIIRS winds over the Arctic.

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Jun-18	Sep-18		Combine Beta & Provisional
Provisional Maturity	Sep-18	Sep-18		
J1 algorithm adjustments:				
Preliminary DAP to ASSISTT (science team to ASSISTT)	Apr-18	Apr-18	Apr-18	
Preliminary DAP to NDE (ASSISTT to NDE)	Jun-18	Jul-18		
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add J1 products to EDR monitoring web	Sep-18	Sep-18		

Accomplishments / Events:

- Continued product cal/val; all products meeting requirements
- Comparing EDR's with counterpart JAXA EDR's
- Continue to work with IA, NJO and OSGS to respond to JAXA requests for NOAA needs for AMSR-2 follow-on and orbit preference
- Participated in relevant project meetings/discussions with NJO, OSGS and OSPO

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			

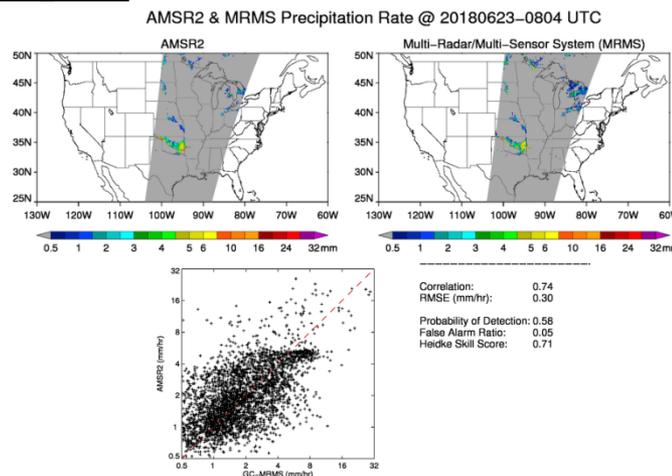
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Issues/Risks:

None

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Updated Wind Speed Product (Coastal and accuracy improvements)	Nov-17	Nov-17	Nov-17	
Conduct technical information meeting with JAXA GCOMW-1 scientists and engineers	Nov-17	Nov-17	Nov-17	
GAASP V2.1 DAP to NDE (switch SST ancillary file to CMC SST)	Jan-18	Jan-18	Jan-18	
Updated AMSR2 brightness temperature calibration analysis and corrections (V2.1)	Feb-18	Apr-18	Apr-18	Latest L1 S/W not implemented on NDE on Time
Soil Moisture, snow and precipitation product updates finalized for integration into GAASP	Jun-18	Jun-18	Jun-18	
DAP to ASSAIT (science team to ASSAIT)	Jul-18	Jul-18		
Delivery of updated GAASP Package to OSPO (ASSAIT to NDE)	Aug-18	Aug-18		
Reprocessing EDRs based upon updated GAASP package	Sep-18	Sep-18		

Highlights: Precipitation Monitoring



Routine GCOM AMSR-2 L2 monitoring over the US with the NWS MRMS Radar/gauge product – see <http://cics.umd.edu/ipwg/NPPAMSR2.html>.

Accomplishments / Events:

- OMPS Ozone EDR delta deliveries for V8TOz and V8TOS were checked by ASSIST and delivered to NDE.
- Additional codes to incorporate OMPS NM EDR products into the SO2 alert pages were provide to OSPO.
- Code capabilities for TOAST blended products tested for the use of NOAA-20 OMPS NP NV8Pro and CrIS NUCAPS EDRs.
- Monitoring site content expansion to include more NOAA-20 OMPS products continued.

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

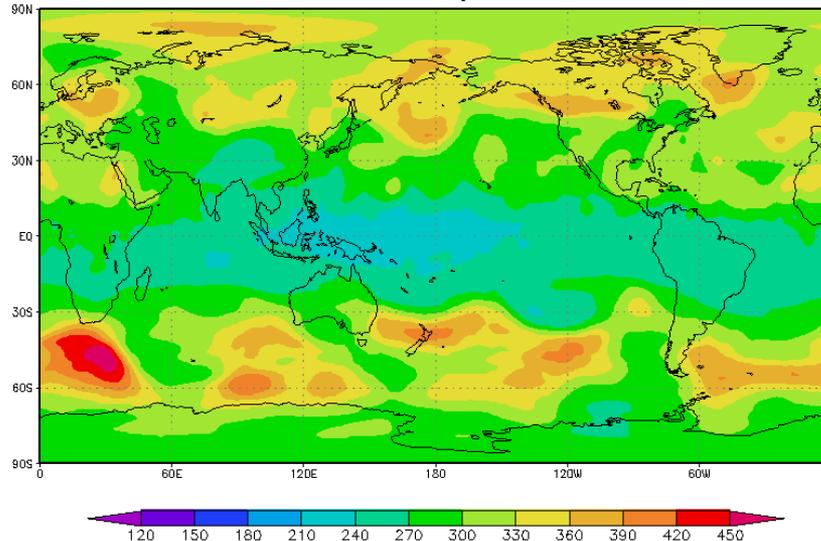
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Issues/Risks:

Code Changes for OMPS SDR on path to maturity will not be implemented at IDPS until July and September 2018.

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
NOAA-20 calibration/validation				
Beta Maturity	Feb-18	Mar-18	03/22/18	Virtual Review
Provisional Maturity	Apr-18	Jul-18		SDR Provisional
Validated Maturity	Aug-18	Sep-18		16-Granule Fix
Prepare, demonstrate and exercise tools for J-01	Dec-17	Dec-17	Dec-17	
Trending of ground-based comparisons	Jun-18	Jan-19		Varying SDR calibration
NOAA-20 algorithm adjustments				
DAP to ASSISTT (science team to ASSISTT)	Apr-18	May-18	5/28/2018	Combined with table delivery
Soft Calibration for J-01 (DAP) (ASSISTT to NDE)	May-18	June-18 Sep-18	06/01/18 LFSO2 06/06/18 V8Pro 06/08/18 V8TOz	Final will await SDR fixes.
SNPP/N20 algorithm refinement (Maintenance DAP)				
Algorithm improvements (outliers, EOFs, solar, Wavelengths, bandpasses)	Sep-18	Sep-18		
Add N20 products to EDR monitoring	Sep-18	Jul-18		Work is progressing well

NPP Global CrIS Analysis on 2018183



S-NPP CrIS Ozone Map. This is an intermediate product in the blended TOAST processing.

Accomplishments / Events:

- Provided inputs for NOAA-20 NUCAPS EDR (sounding) Provisional Maturity Review (Highlight)
- Continued verification of NPROVS re-processing of “Special” radiosondes and near real-time processing of Radiosonde Inter-comparison and VALidation (RIVAL) field campaign
- Developed plan supporting Global Space-based Inter-Calibration System (GSICS) for using GCOS Reference Upper Air Network (GRUAN) radiosonde.
- Provided final SOW for JPSS synchronized (NOAA-20) radiosonde program at DOE Atmospheric Radiation Measurement (ARM) sites.
- Launched the EDR-LTM Alaska Watch site and added the Dust RGB and Natural Color Imagery to the website (Highlight).

Overall Status:

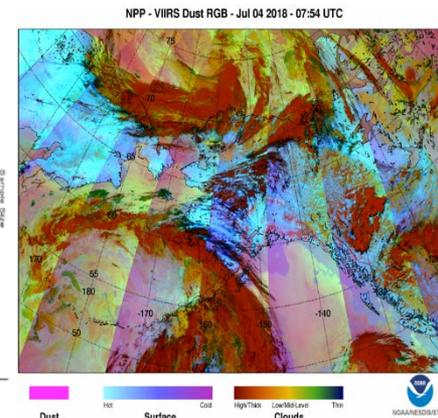
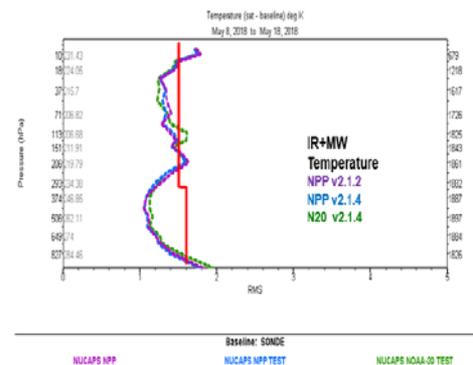
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Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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Issues/Risks:

None

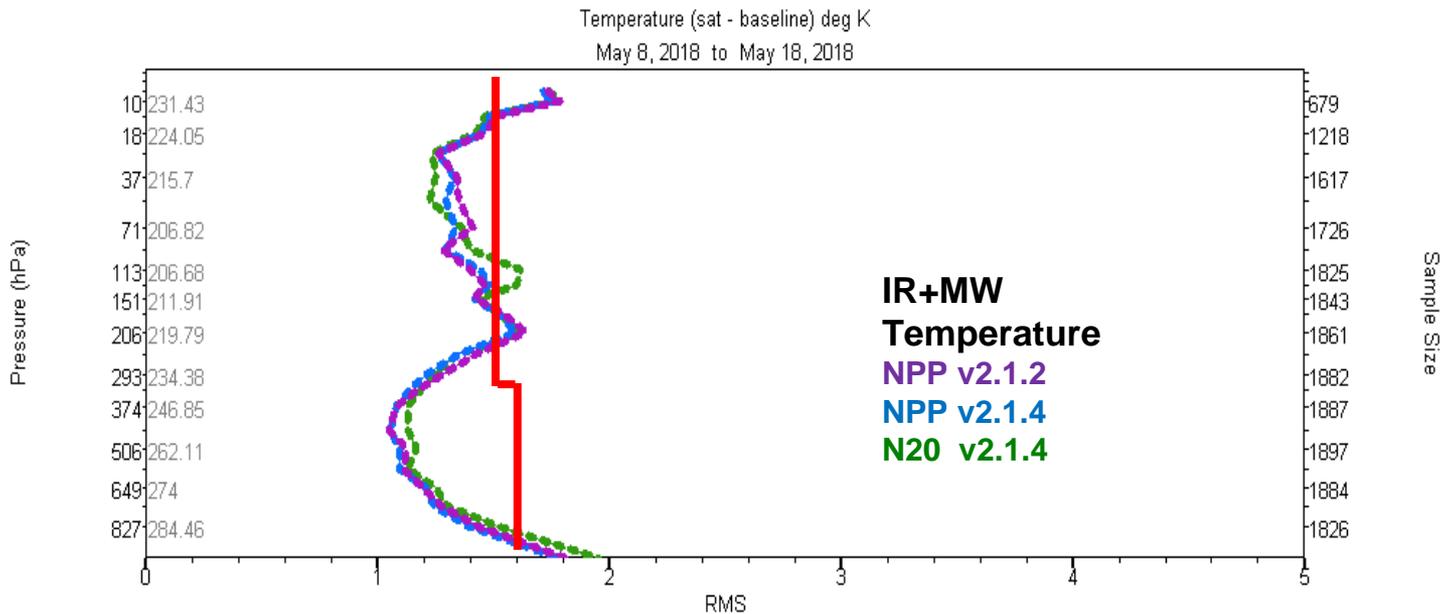
Highlights:



Vertical temperature statistics (RMS) for NOAA-20 (green) and NPP (blue) EDR soundings versus conventional radiosonde showing adherence to JPSS specification (red) and provisional maturity.

Dust RGB image for July 4, 2018 from the ALASKA Watch Site (JSTAR Website)

Team	FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
EDR LTM	Maintain / expand existing EDR LTM web pages and integrate available NOAA-20 EDR	Aug-18	Aug-18		
NPROVS	Maintain and support operational transition and algorithm upgrades for NUCAPS (and MiRS) sounding EDR from S-NPP, MetOp, and pending NOAA-20.	Aug-18	Aug-18		
	Maintain support of GRUAN, ongoing NOAA/GRUAN/ARM RIVAL Coordination and GRUAN / GSICS activities	Aug-18	Aug-18		
	Support NWS Radiosonde Transition and AWIPS-2 (NUCAPS user) programs/initiatives	Aug-18	Aug-18		



NUCAPS NPP
Baseline: SONDE
NUCAPS NOAA-20 TEST
NUCAPS NPP TEST

Sample: IR+MW Pass QC