



NOAA JPSS Monthly Program Office

AMP/STAR FY18 TTA

ARRON LAYNS, AMP LEAD
LIHANG ZHOU, AMP DEPUTY FOR SCIENCE
& JPSS STAR PROGRAM MANAGER

May 8, 2018

Accomplishments

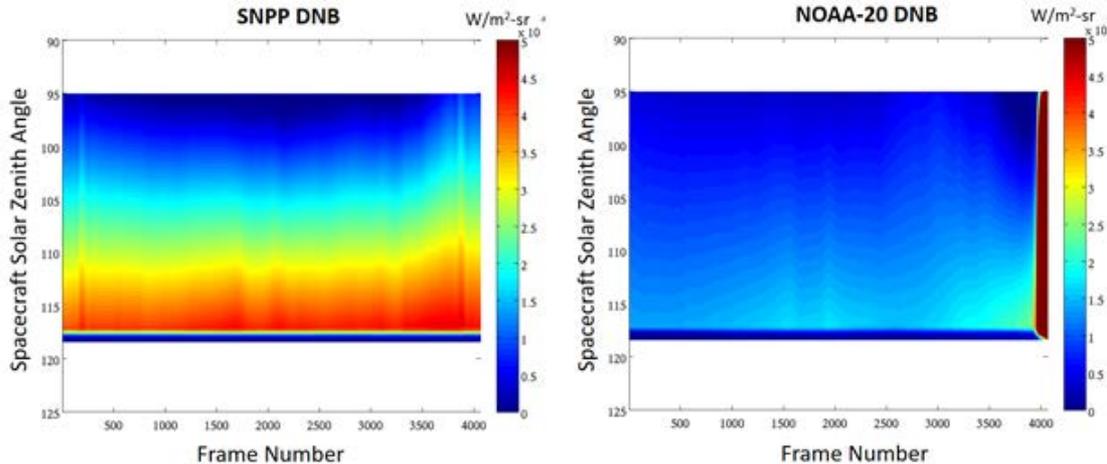
- Transferred NOAA-20 ICVS-Beta Modules to ICVS public website for public users' access.
<https://www.star.nesdis.noaa.gov/icvs/index.php>
- Held the April Monthly N20 Cal Val Maturity Review on 4/18/2018, reviewed the maturity readiness for the following:
 - Enterprise Cloud Mask (ECM) (Beta)
 - Sea Surface Temperature (SST) (Provisional*)
 - Aerosol Optical Depth (AOD) (Provisional*)
 - Aerosol Detection Products (ADP) (Provisional*)
 - Active Fires (AF) (Provisional)
 - MIRS suite of products (Provisional*)
 - OMPS-TC-SDR (Provisional)
 - OMPS Ozone (V8PRO & V8TOZ) (Beta)

Provisional*: the panel agree the products meet provisional, only need to wait for the algorithms to be implemented in NDE before they are officially considered provisional quality data ready for operational use.

- CrIS DAP to DPES (ADR8653/CCR3908, NOAA-20 CrIS SDR anomalies related to missing RDR packets): 4/5/2018
- CrIS DAP to DPES (ADR8631/CCR3922, CrIS Lunar Intrusion code update): 4/20/2018
- ATMS DAP to DPES (ADR8458/CCR3916, PCT updates for JPSS-1 Operations Post J1 launch analysis and pitch maneuver, v007): 5/1/2018
- Enterprise LST/LSA Algorithm final DAP delivered to NDE on 4/2/2018
- Enterprise Processing Systems Algorithms (Aerosol, Volcanic Ash, Clouds, and Cryosphere) patch DAP (fix the issue with the mixing bounding box metadata coordinates in the global attributes, and cloud mask threshold update) delivered to NDE on 4/30/2018
- STAR SDRs and Imagery teams supported IDPS Block 2.1 Mx2 SOL Deploy Regression test, provided review/checkout results report to AMP (4/30/2018)
- Helped putting together the AMP-STAR Algorithm Updates Charts for J2 Mission PDR

NOAA-20 VIIRS Straylight Investigation

The STAR VIIRS SDR team performed a comprehensive comparison of VIIRS DNB straylight in Suomi NPP and NOAA-20. Due to a few changes implemented for NOAA-20 DNB such as using Mode 21 to aggregate zones beyond zone 21, there is appearance of strong and rapidly rising stray light in the extended zone of NOAA 20 DNB. However, the overall stray light magnitude of NOAA-20 DNB is about 2 times less when compared to Suomi NPP.



Comparison of two polar winds algorithms

MODIS winds were used to evaluate the relative accuracies of the VIIRS winds algorithm (“nested tracking”) and the heritage algorithm (“windco”). MODIS winds were used because both algorithms are not implemented for VIIRS.

Winds from both algorithms are compared to radiosonde winds. It was found that the VIIRS algorithm has a significantly lower vector root-mean-square-error (RMSE): 6.05 m/s for nested tracking vs 7.26 m/s for windco with Aqua data. The difference for Terra was somewhat smaller. Some differences in vertical distributions and speeds.

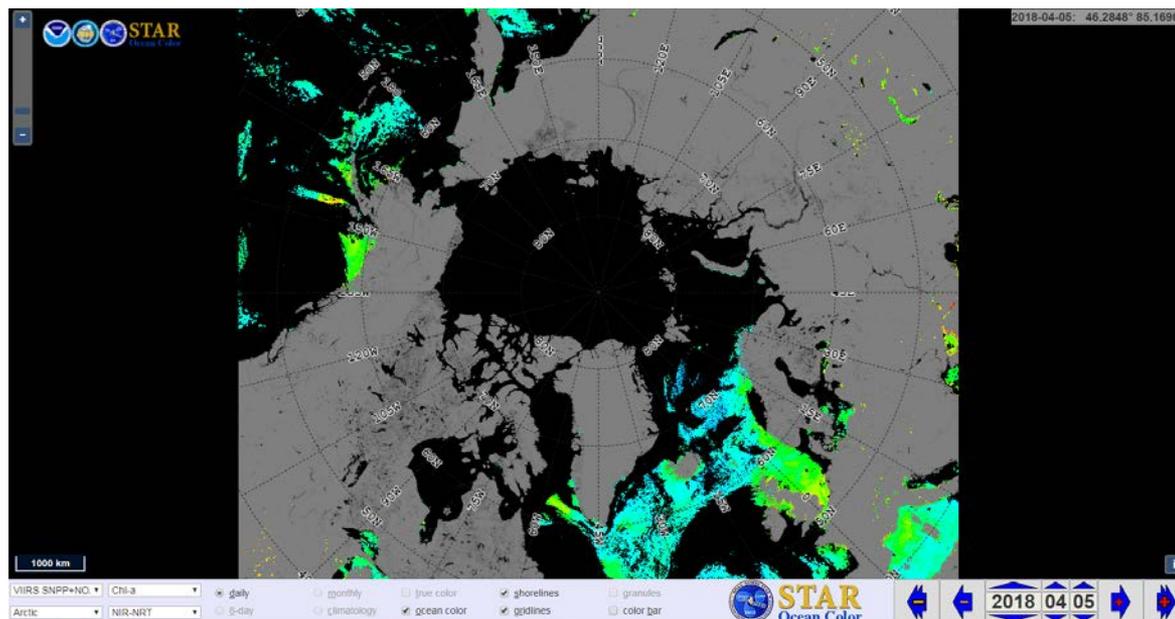
This research was also presented by Jaime Daniels at the 14th International Winds Workshop on April 27 in South Korea.

Ice Product Demonstration for ASIP

The VIIRS Cryosphere team has begun a two-week, near-real-time demonstration of VIIRS ice products for the Alaska Sea Ice Program (NWS). Enterprise ice products are being generated with VIIRS SDRs and the Enterprise cloud mask from the University of Alaska-Fairbanks direct broadcast system.

The data are processed at CIMSS in Madison, converted to GeoTiff format, and sent to GINA. GINA then posts plots of the data and links to the data files on a website, which will be used by the ASIP ice analysts in their day-to-day work.

ASIP will provide feedback on the products at the end of the demonstration period. The ice products include ice concentration, ice thickness, ice surface temperature, and ice motion. The first three are NESDIS operational products. Ice motion, which is a blended AMSR2/VIIRS product, is experimental.



OCView introduces polar views

The Ocean Color EDR team has added some new features to "OCView," the online data viewing tool, including the highly anticipated polar (high latitude) views. The previously released views of VIIRS SNPP plus NOAA-20 merged chlorophyll, kd490 and kdPAR products are included for both the Arctic and Antarctic regions. Users can choose among various sensors and data products, layer ocean color data products, true color imagery, gridlines, granule outlines and other conveniences using this website.

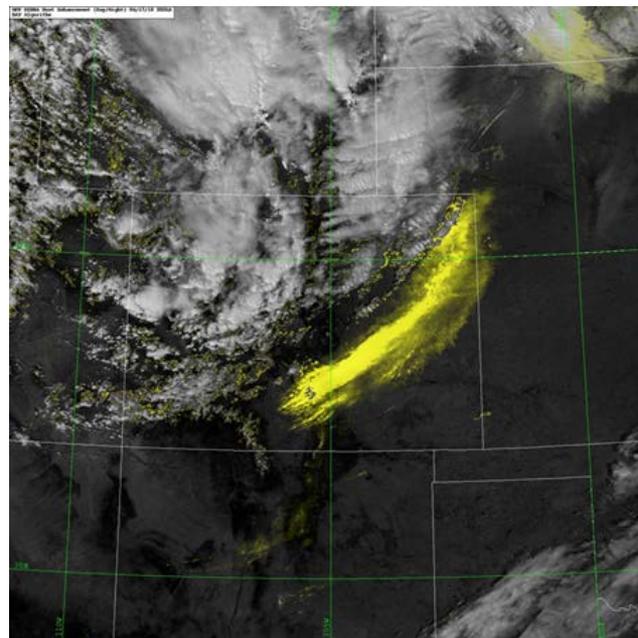
JPSS-2 DNB Line Spread Function issue

Members of the Imagery Team have investigated the DNB LSF issue found on J2, which potentially degrades the focus of DNB Imagery by smearing some of the signal from one pixel into the following pixel(s). Several cases of simulated DNB with the LSF issue was requested and provided by the VIIRS Geo Team.

The team has found that there appears to be little impact of the Imagery due to this LSF issue based on current simulations, resulting in a general recommendation that a waiver be allowed for this issue, rather than spending the money to fix VIIRS and taking the risk that the fix might result in some other problem or damage to the VIIRS instrument. However, additional/improved simulations of DNB will be performed and the investigations will continue.

Colorado Dust Storm Imagery

A dust-enhancement product applied to Suomi NPP VIIRS Imagery shows a massive dust storm that affected much of eastern Colorado on 17 April 2018. Image shows the wind-blown dust in yellow. The dust plume originates in the San Luis Valley in southern Colorado, which is famous for the Great Sand Dunes National Park and Preserve, but dust was lofted over much of eastern Colorado as well, and extended far into northeastern Colorado, affecting many front range cities. Winds of 60 mph (100 km/h) or more were recorded in several locations.



ICM-10

Continuing the spirit of international cooperation, Dr. Bomin Sun (IMSG) and Lori Borg (SSEC) represented STAR the 10th GRUAN Implementation and Coordination Meeting in Potsdam and provided oral presentations. A key activity reported at the meeting is the Radiosonde Intercomparison and Validation (RIVAL) campaign currently underway which represents a joint JPSS, GRUAN and Department of Energy Atmospheric Radiation Measurement undertaking. A briefing on activities and actions will be provided next week.

J2 Orbit Discussion

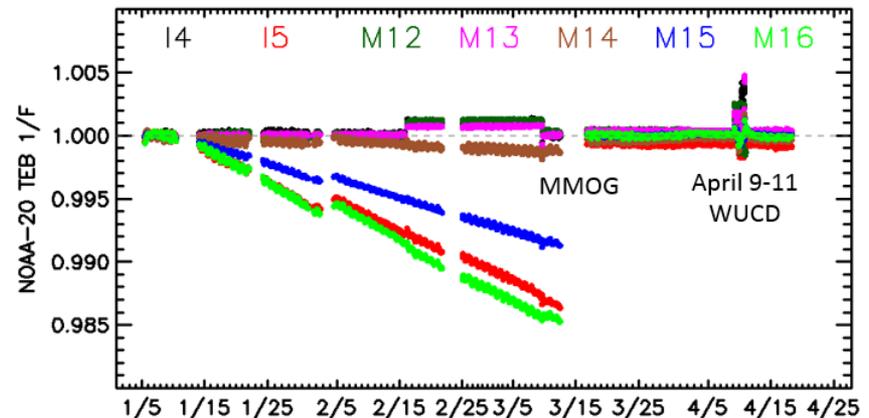
The VIIRS SDR team discussed JPSS-2 orbit insertion with the JPSS Program. The updated J2/J3/J4 Multi Mission ConOps have the new satellite in the same orbit as Suomi NPP and NOAA-20, as the team recommended, not in lower orbit that was proposed in early February 2018. The plan is to have the satellite ½ orbit off from the Primary (likely N20) satellite/sensors and ¼ orbits off from the Secondary (likely Suomi NPP) satellite/sensors. That would require a re-phase of the Secondary satellite ¼ orbit from its current position, as Suomi NPP and NOAA-20 are currently ½ orbit from each other.

NUCAPS Improvements

The NUCAPS team completed its second NOAA-20 code package to ASSISTT. Current tests show that there is remarkable consistency between NUCAPS on Suomi NPP and NOAA-20. The team continues making further improvements to the system towards the final DAP scheduled in April 2019. Additionally, improvements to NUCAPS so that it can make use of the CrIS Full Spectral Resolution passed the SPSRB briefing on April 17th.

NOAA-20 VIIRS LWIR Issue Update

As shown in the figure, the LWIR remains stable after the outgassing in mid-March which corrected an issue of ice buildup on the Dewar window.





Accomplishments – JPSS Cal Val Supports

- NOAA-20/S-NPP Operational Calibration Support:
 - S-NPP Weekly OMPS TC/NP Dark Table Updates: 04/03/18, 04/10/18, 04/17/18, 04/24/18
 - NOAA-20 Weekly OMPS TC/NP Dark Table Updates: 04/03/18, 04/11/18, 04/17/18, 04/24/18
 - S-NPP Bi-Weekly OMPS NP Wavelength & Solar Flux Update: 04/10/18, 04/24/18
 - NOAA-20 Monthly VIIRS StrayLight LUTs Update: 04/25/18
 - S-NPP Monthly VIIRS LUT Update of DNB Offsets and Gains: 04/24/18
 - NOAA-20 Monthly VIIRS LUT Update of DNB Offsets and Gains: 04/25/18
 - NOAA-20 VIIRS LUT update of F-Factor and NDB LGS Gain 04/24/18

- Science Meetings/Presentations:
 - The 2nd NOAA-Australian Bureau of Meteorology (BoM) SST Workshop was held from 3-6 April 2018 in NCWCP. Agenda/Presentations available at <ftp://ftp.star.nesdis.noaa.gov/pub/sod/osb/aignatov/GHRSST/2018-04-NOAA-BoM/>.

Upcoming Milestones/Deliveries

- Monthly Cal/Val Maturity Reviews:

May, 2018:

- Beta Maturity: Surface Reflectance; Cryosphere Products (including Snow Cover (binary and snow fraction), Ice Surface Temperature, Ice Concentration, and Ice Thickness/Age)
- Validated Maturity: ATMS TDR/SDR; VIIRS SDR

June, 2018:

- Beta Maturity: Polar Winds; NUCAPS (Beta: NOAA-20; Validated: S-NPP trace Gases)

Jul, 2018:

- Beta Maturity: Cloud Property Algorithms, Volcanic Ash; Land Surface Temperature; Land Surface Albedo
- Provisional Maturity: OMPS NP SDR; OMPS Ozone EDR

- Code/LUT Deliveries:

DAP to DPES:

- May-18: OMPS SDR: Update S-NPP OMPS TC Straylight Table
- Jun-18: ATMS SDR: SNPP/J1 earth scene reflector emissivity correction in IDPS
- Jun-18: VIIRS SDR: M6 rollover correction; LWIR FPA temperature flagging
- Aug-18: VIIRS SDR: Blackbody Warm-up Cooldown (WUCD) correction

NOAA-20 Algorithm DAP to NDE:

- May-18: MiRS DAP (includes Snow Fall Rate for S-NPP & initial DAP for N20)
- May-18: OMPS Ozone updated DAP
- Jun-18: NUCAPS DAP (includes OLR)
- Jun-18: VIIRS Polar Winds
- Jun-18: EPS algorithms (Clouds, Cryosphere, Aerosol, Volcanic Ash, LST/LSA)
- Jul-18: Sea Surface Temperature
- Aug-18: Surface Reflectance, Vegetation Health

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
JPSS-1 Algorithm Updates DAPs				
JPSS-1: ACSPO 2.5 DAP (capable of processing JPSS-1 VIIRS data) to NDE	Nov-17	Nov-17	11/16/17	
JPSS-1: Active Fires DAP (compatibility with JPSS-1 VIIRS data) to NDE	Nov-17	Nov-17	11/21/17	
JPSS-1: MiRS DAP (JPSS-1 algorithm adjustments) to NDE	Aug-18	Aug-18		
JPSS-1: NUCAPS DAP (JPSS-1 algorithm adjustments) to NDE	Aug-18	Aug-18		
JPSS-1: VPW DAP (JPSS-1 algorithm adjustments) to NDE	Aug-18	Aug-18		
JPSS-1: Enterprise Processing System DAP (JPSS-1 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
JPSS-1 Cal/Val				
JPSS-1 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	
JPSS-1 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
JPSS-1 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		
JPSS-1: 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)	



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 JPSS-1	Sep-18	Sep-18		
EDR LTM for JPSS-1	Sep-18	Sep-18		
Images of the Month	Monthly	Monthly	Oct-17, Nov-17, Dec-17, Jan-18, Feb-18, Mar-18, Apr-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	
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	
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	
JPSS-1: 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	12/19/17: 1 st Dark delivery; 01/10/18: start of weekly J1 Dark
JPSS-1: Bi-Weekly OMPS NP Wavelength & Solar Flux Table Update	Bi-Weekly			No need now
JPSS-1: Monthly VIIRS Stray Light LUT Update	Monthly	After L+90	02/27/18, 03/29/18, 04/25/18	
JPSS-1: 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	
JPSS-1: Monthly VIIRS LUT update of F-PREDICTED and DNB-LGS-GAINS	Monthly	After L+90	03/20/18, 04/24/18	

Color code:

Green:

Completed Milestones

Gray:

Non-FY18 Milestones

Accomplishments / Events:

- Keep updating NOAA-20 ATMS TDR to SDR conversion coefficients by applying updated antenna pattern data analysis method
- Evaluate updated PCT results using RTM simulation. Generate 20 days of ATMS TDR/SDR/GEO for end users' assessment
- Submit PCT for pre-operational evaluation
- Update ATMS bias characterization package daily bias trending and angular dependent bias calculation code to include SDR observation versus RTM simulation

Overall Status:

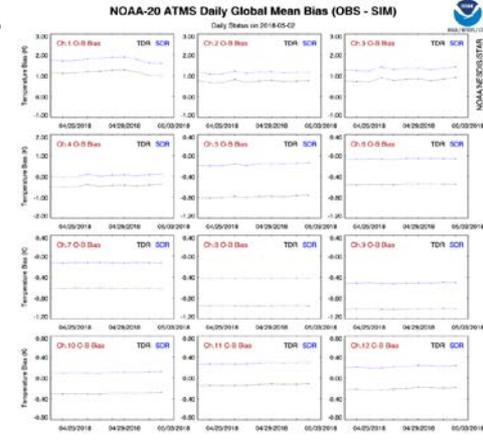
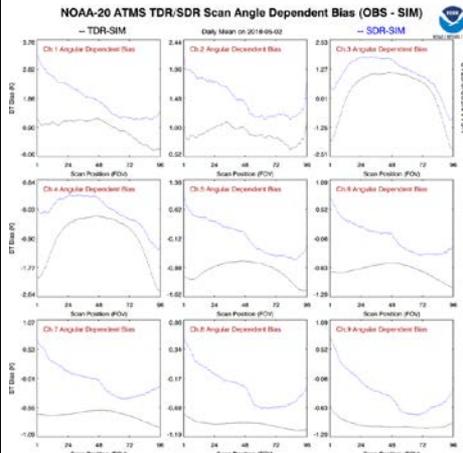
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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 daily scan angle dependent bias by TDR and SDR from Channel 1 to Channel 9 (left) and daily global mean bias from Channel 1 to Channel 12 (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	L+6M	
J1/N20 PCT updates	10/30/17 (V5, ADR8506/CCR3669) 12/18/17 (V6, ADR8521/CCR3702)			
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	May-18		
SNPP/J1 earth scene reflector emissivity correction in IDPS (PCT & code update) (ASSISTT to DPES AIT)	Jun-18	Jun-18		

Accomplishments / Events:

- Continued the assessment and analysis of both CrIS on-orbit data and special post-launch tasks (PLT) data
- Derived the preliminary polarization parameters using NOAA-20 pitch maneuver data
- Continued to monitor, assess, and improve NOAA-20 CrIS SDR data quality
- Delivered the LUT fix for the missing packet issue for CrIS on NOAA-20 by updating the Flight Software Version (FSW) and PCE Sensor ID in CrIS-FS-SDR-FILL-PACKET-LUT_j01 and CrIS-SDR-FILL-PACKET-LUT_j01 (ADR 8653/CCR3908)
- Delivered the improved lunar intrusion algorithm to fix the lunar contamination issue (CCR8631/CCR3922)

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			

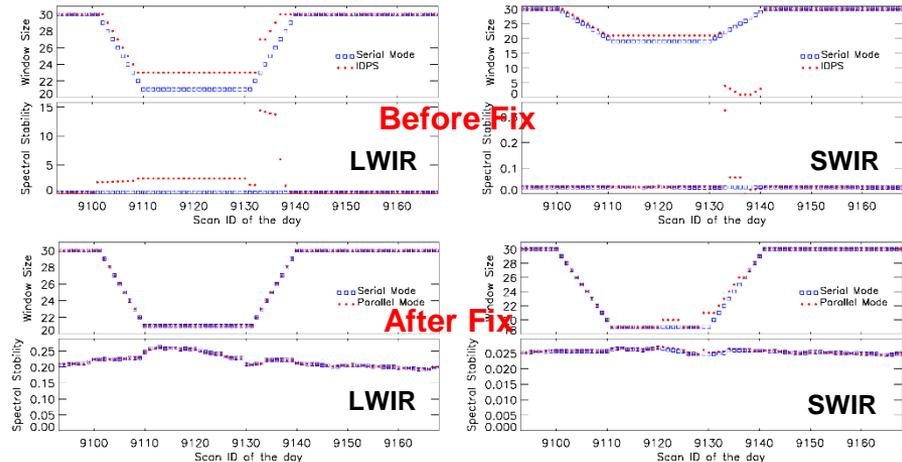
- Project has completed.
- Project is within budget, scope and on schedule.
- Project has deviated slightly from the plan but should recover.
- Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

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		Lack of resources, especially man power
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)			

Highlights:



Example of improved lunar intrusion algorithm for NOAA-20 on 02/25/2018: DS window size consistency among bands and between serial and parallel runs, and spectral stability consistency between serial and parallel runs.

Accomplishments / Events:

- NOAA-20 and S-NPP lunar calibrations with roll maneuvers successfully conducted on April 25, 2018
- Reviewed potential impacts of not conducting additional NOAA-20 yaw maneuvers: Validated Maturity still on schedule
- Analyzed DNB new moon calibration from April 15, 2018 and updated offset and gain ratio LUTs for NOAA-20 and S-NPP
- Generated NOAA-20 DNB stray light correction LUT from April 2018 data
- Determined that LWIR band response is stable after outgassing: No signs of degradation after Warm-Up Cool-Down (WUCD) test on April 9-11, 2018

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			

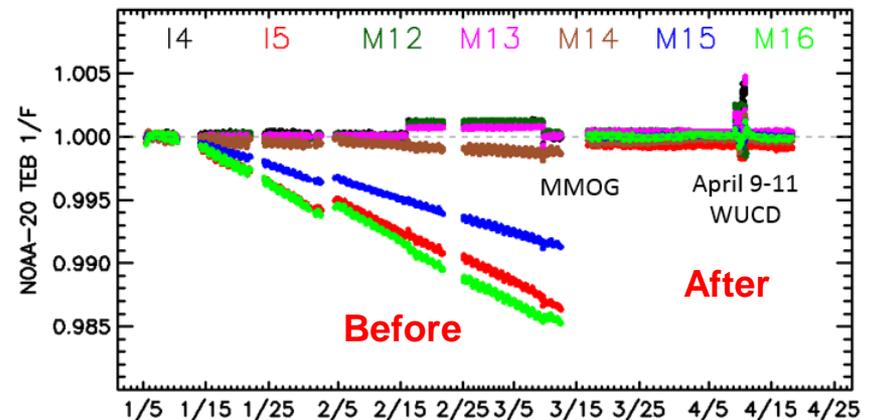
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

Additional yaw maneuvers to improve NOAA-20 RSB calibration

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		L+6M
Planned Algorithm Updates				
M6 rollover flagging correction	Sep '18	Jun '18		
LWIR FPA temperature flagging	Sep '18	Jun '18		
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		

Highlights:



No signs of LWIR band response degradation after NOAA-20 WUCD on April 9-11, 2018

Accomplishments / Events:

- OMPS-TC has reached provisional maturity, there was a delta review held at NCWCP on April 18, 2018.
- Regular weekly dark deliveries for OMPS sensors were made.
- It was discovered that a faulty dark table was used in IDPS for OMPS-NP. The OMPS-NP EDR had errors in the 10% to 15% range as a result. The duration of faulty data was 7 days.
- Items that prevented OMPS-NP from reaching provisional status were verified to be fixed in MX02 through the checkout review process, nominal TTO July 2018.

Overall Status:

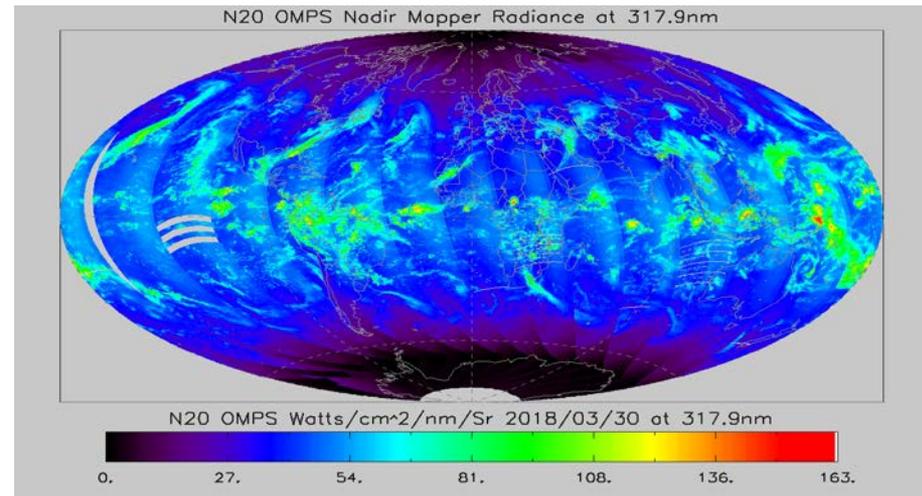
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic				X	Waiting for code change in IDPS, MX2 TTO July nominal
Schedule				X	Waiting for code change in IDPS, MX2 TTO July nominal

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:

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

Highlights:



OMPS TC SDR Radiance at 317.9nm, IDPS

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	

Accomplishments / Events:

- Pushed newly completed reprocessing SDR data (ATMS, NSR and FSR CrIS) to OPeNDAP for internal users
- Set up the plan with NCEI to use ATMS reprocess data as pilot dataset to archive reprocess data in CLASS
- Held an STAR internal meeting to discuss the following issues:
 1. propose to provide the CICS reprocessing web link to CLASS before the data is transitioned to CLASS
 2. compare the IDPS DDS aggregation software and NAGG and decide the one is comparable to that is used for the current IDPS ATMS aggregation and employ it to produce aggregated reprocessing ATMS data for CLASS

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:

Available Data on CICS/UMD Linux Cluster for JPSS Reprocessing

Sensor	Data Name	Period	Total Vol.	ADL SW Version
ATMS	TDR/SDR/GEO	11/08/11 to 03/08/17	2.4 TB	4.2_MX811
CrIS	SDR/GEO	02/20/12 to 03/08/17	83.3 TB	5.3.1
	FSR SDR	12/05/14 to 03/08/17	64.2 TB	5.3.1
VIIRS	I-Band SDR/Terrain Corrected GEO	01/02/12 to 09/30/16	714.6 TB	4.2_MX8.11
	M-Band SDR/Terrain Corrected GEO			
	DNB SDR/GEO			
OMPS	NP SDR/GEO	01/25/12 to 09/30/15	278 GB	5.3.1
	TC SDR/GEO	02/26/12 to 09/09/15	3.14 TB	5.3.1

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		
Finalize the aggregation package to be used for producing the aggregated reprocessed ATMS data to archive in CLASS	May-18	May-18		
Complete the preparation of aggregated reprocessed ATMS data to be transitioned to CLASS	Jun-18	Jun-18		
Complete the reprocessing of OMPS SDR data	Jun-18	Jun-18		
Development of reprocessing data review website	Jul-18	Jul-18		

Accomplishments / Events:

- NOAA-20 ICVS-Beta Modules Transferred to Operation to ICVS website for public access (https://www.star.nesdis.noaa.gov/icvs/status_N20_sc.php)
- Completed the 1st version of ICVS-GRAVITE delivery
- Fully functionalized NOAA-20 VIIRS TEB O-M biases monitoring
- Reported SDR data anomalies including SDR missing data to Calval teams and users
- Updated spacecraft telemetry trending package
- Updated ATMS ecmwf simulation package to fix bugs
- Developed OMPS NM Reflectivity O-B monitoring code
- Prepared for ICVS System Maintenance Manual

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			

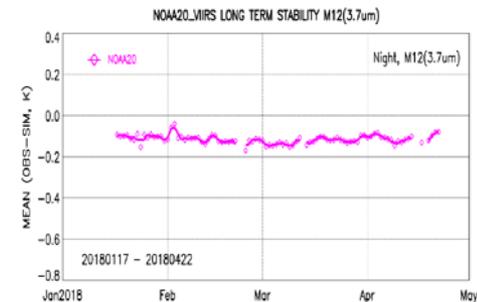
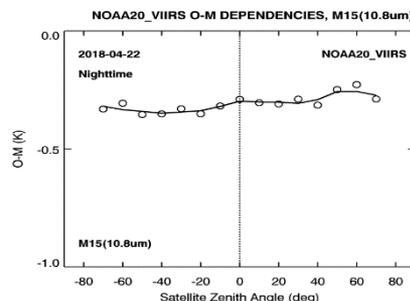
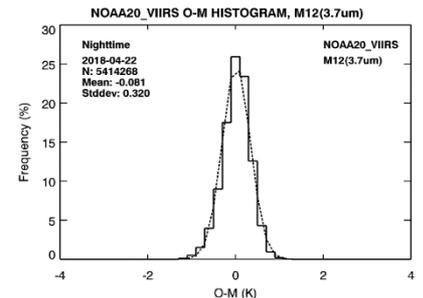
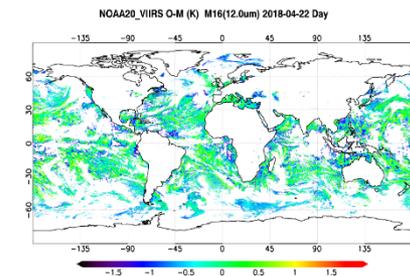
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

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

Highlights: Fully Functionalized NOAA-20 VIIRS O-M Monitoring



Accomplishments / Events:

- Updated **VIIRS EDR Imagery ATBD** provided to JPSS Program, revised to reflect specific changes with NOAA-20 compared to S-NPP (e.g. extended DNB granule).
- Tom Kopp** (Aerospace, Omaha) visited CIRA on 11 April 2018, giving a seminar on the history of Aerospace assistance with NPOESS/JPSS and continuing efforts with the VIIRS Imagery and Cloud Teams.
- J2 DNB test data with modeled LSF issue** were requested and analyzed for Imagery impacts, with initial recommendation that no action is necessary, and a waiver can proceed. Specific analysis of simulated data was provided by CIRA (S. Miller), CIMSS (W. Straka), and NCEI-Boulder (K. Baugh).

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			

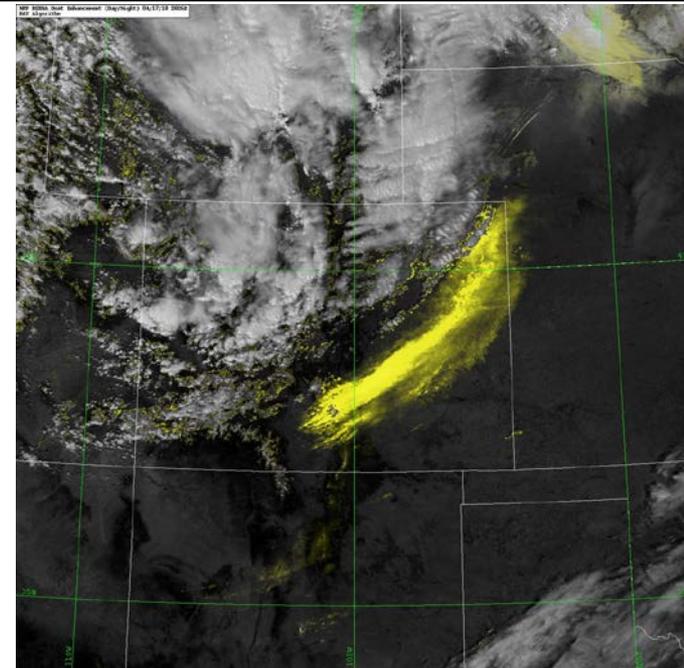
- Project has completed.
- Project is within budget, scope and on schedule.
- Project has deviated slightly from the plan but should recover.
- Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

Highlights:

Blowing dust in yellow, over much of eastern Colorado, 17 April 2018, as in this multi-band VIIRS Imagery product



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				
New Error-Function DNB scaling and NCC auto-contrast (Explore potential replacements for NCC software (concept only))	Sep-18	Sep-18		
NCC LUT update (DAP from science team to ASSISTT)	Aug-18	Aug-18		
NCC LUT update (DAP from ASSISTT to DPES AIT)	Sep-18	Sep-18		
Long Term Monitoring				
Deliver additional product(s) to LTM website; Add J1 products to EDR monitoring web	Sep-18	Sep-18		

Accomplishments / Events:

- Cloud Mask Beta review was moved from July to April at the request of the program.
- NOAA-20 Beta Maturity Review passed on April 18.
- Issues from this review:
 - Roughly 1/3 of granules are missing due to being rejected by PDA.
 - Some cloud mask tests appear to be off and this is impacting the Arctic Performance.
 - NOAA-20 LUT needed to account for calibration differences with SNPP.

Overall Status:

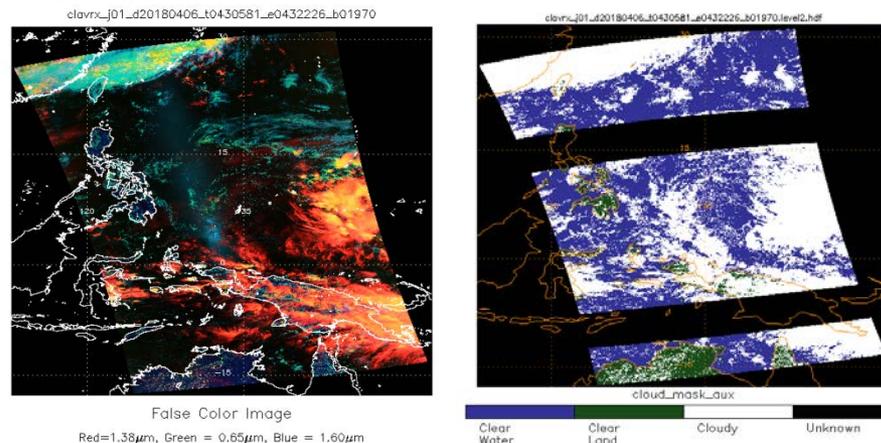
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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 Cloud Mask Reaches Beta



Example of NOAA-20 Cloud Mask (right) from NDE and an RGB image (right). Gaps on NDE are caused by PDA rejecting roughly 1/3 of granules for this day.

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:

- The VIIRS Cryosphere Team performed a near-real-time demonstration of ice products for the Alaska Sea Ice Program (ASIP, NWS).
- Level 1b data and the Enterprise Cloud Mask were obtained from the University of Alaska-Fairbanks direct broadcast system. Ice products were then generated by CIMSS and sent to GINA for display and use by ASIP.
- The ice products include ice concentration, ice thickness, ice surface temperature, and ice motion.
- While some issues were encountered, they were quickly resolved and testing by ASIP was largely successful.

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			

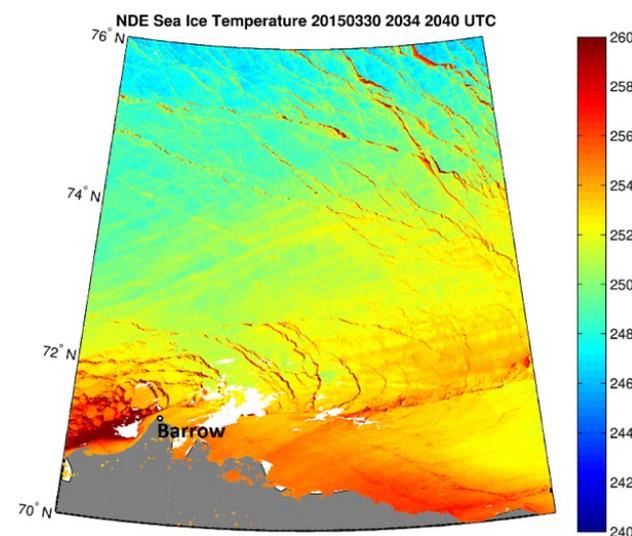
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity: IST	May-18	May-18		
Beta Maturity: Snow	Jun-18	Jun-18		
Beta Maturity: Sealce	Jul-18	Jul-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	Jun-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)			

Highlights:



Ice surface temperature (IST) north of Alaska from VIIRS.

Accomplishments / Events:

- Continue to analyze NOAA-20 AOD and ADP products
 - ADP is being generated offline routinely
 - Comparison of AOD from SNPP and NOAA-20 has revealed some angle dependent differences which are very small but the scientific cause for this is under investigation.
- Algorithm(s) to convert SNPP VIIRS AOD to surface PM2.5 for NWS and EPA applications is ongoing
- Near real time AOD product is currently being accessed by three users via STAR ftp; NRL is setting up to access data from PDA
- AerosolWatch website updated

Overall Status:

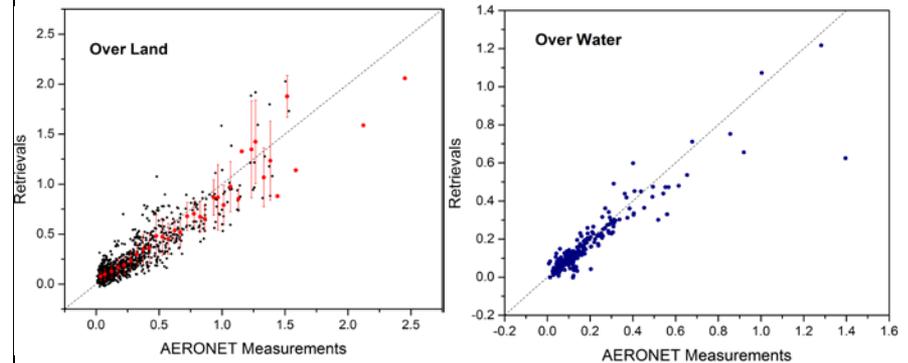
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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:



Comparisons of NOAA-20 retrievals (generated by ASSISTT team) with AERONET over land (left panel) and over water (right panel) show good agreement. Accuracy and Precision requirements are met for all AOD ranges.

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	Jun-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:

- Generated a list of NOAA-20 VIIRS granules that were known to contain ash. Unfortunately, the volcanic ash EDR was not available from NDE for any of those granules.
- Since ash scenes were not available from NDE, the volcanic ash EDR was evaluated using dust clouds (see figure).
- Using radiosondes to associate cloud movement with height, the ash cloud height EDR was generally found to be consistent with the direction and speed of movement of dust clouds tracked in geostationary imagery.
- Continued to develop and test algorithm improvements through incorporation with CrIS measurements.

Overall Status:

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

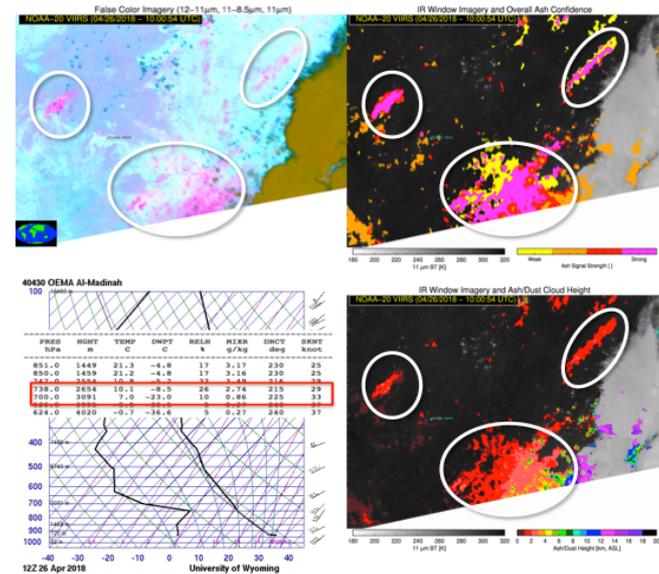
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

The volcanic ash EDR is very often missing from the NDE NOAA-20 data stream, which is making validation difficult (very few scenes contain ash to begin with). Dust scenes are being used as part of risk mitigation.

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	Jul-18		
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	Jun-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:



- Dust over Saudi Arabia (April 26 2018)
- High ash detection confidence coincident within magenta regions of RGB image
- Maximum NOAA-20 retrieved heights within dust plumes near 3 km (ignoring meteorological clouds)
- Geostationary satellite computed dust cloud speed and direction suggests: 30 knots from 220°
- Nearest sounding shows ~30 knot wind from 225° at ~3 km
- Excellent agreement between retrieved heights and wind based height assessment

Accomplishments / Events:

- Processed three months of Suomi NPP and NOAA-20 data for cross-comparison
- Evaluated performance of key M-band product quality indicators
- Determined detection rates of the M-band product as a function of the number of I-band detections within the M-band footprint (see figure)
- Presented analysis results at the April 18, 2018 Provisional algorithm readiness briefing

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			

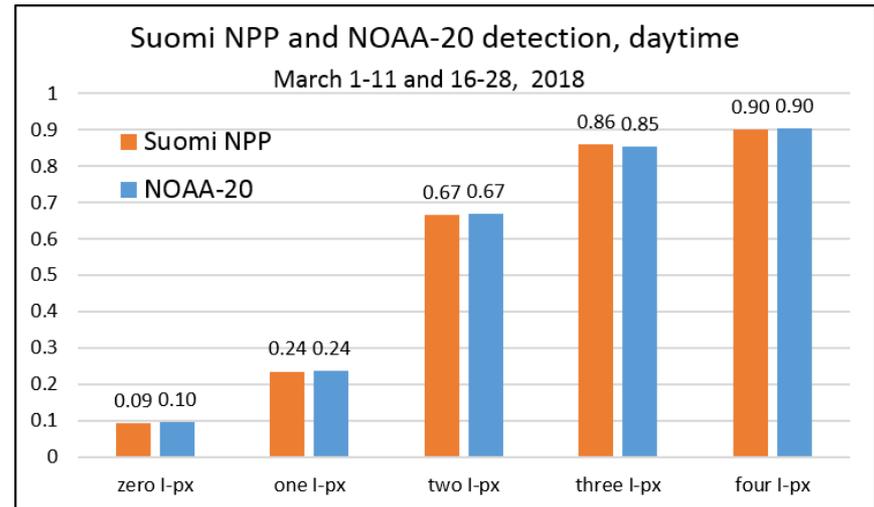
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

Highlights:

Marina Tsidulko (IMSG@STAR)



Relative detection performance between the operational 750m M-band and the experimental 375m I/M-band VIIRS active fire products

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:

- Continued analysis of differences between IDPS and NDE Surface Reflectance values
- Changes between the IDPS and NDE aerosol products was identified as a likely cause for the observed differences
- Worked with the Vegetation Index team to re-calibrate Green Vegetation Fraction algorithm parameters for NDE Surface Reflectance and Enhanced Vegetation Index (EVI) data

Overall Status:

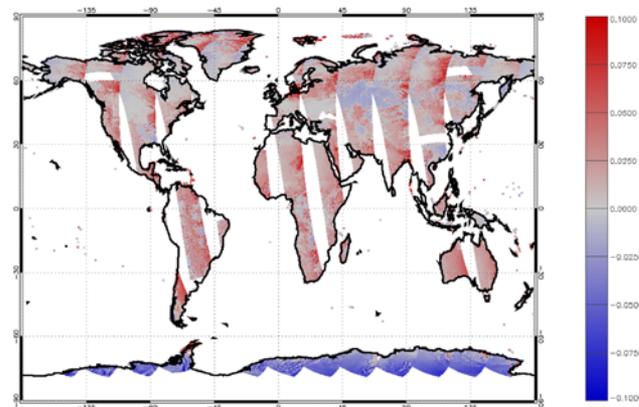
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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:



Mike Wilson (IMSG@STAR)

VIIRS M1 NDE-IDPS Surface Reflectance difference on March 18, 2018

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	May-18	May-18		
J1 algorithm adjustments:				
Preliminary DAP to ASSISTT (science team to ASSISTT)	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:

- Generated the LUT for the enterprise NOAA-20 LST. Conducted tests on the LUT structure e.g. stratification of the total water vapor and satellite viewing angle. Theoretical analysis has been performed for the LUT evaluation. Real data is anticipated for the further evaluation.
- Verified the framework output for the NOAA-20 case using the enterprise algorithm. A problem was found in the framework integration code for the unassigned emissivity quality flag prior to the LST calculation. The problem has been fixed.
- Started to work on the evaluation of the operational NOAA-20 LST data through the comparison with the ground LST measurements and cross satellite LST estimations.
- Continued to investigate the LST discontinuity issue. It is found that the finer LUT stratification can help to reduce the discontinuity.
- Started the fortran science code development for the gridded LST production. Has finished the software architecture design and interface development.
- 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			

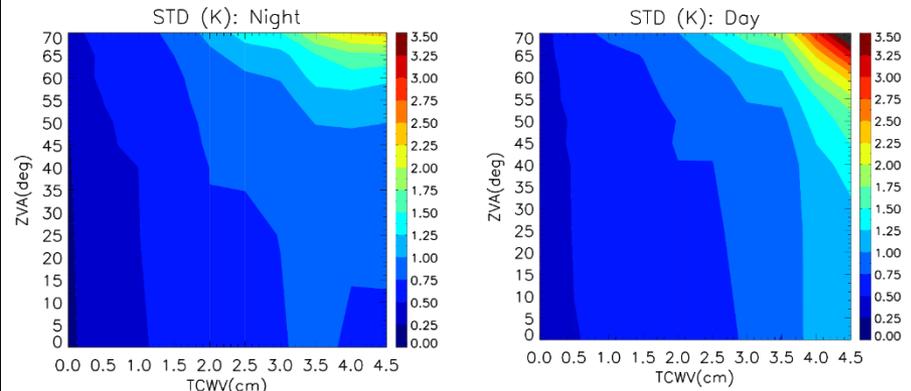
- Project has completed.
- Project is within budget, scope and on schedule.
- Project has deviated slightly from the plan but should recover.
- Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

Highlights:

Day/night	Bias	Std	samples	Profiles Amount
Night	0.19	0.48	21921900	2044
Day	0.34	0.69	19562400	1824



Theoretical Evaluation of the NOAA20 VIIRS LST LUT

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	Jun-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
Software Package ready for global gridded LST production	May-18	May-18		
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		

Accomplishments / Events:

- Generated J1 (NOAA-20) Sea Ice Albedo LUT for NDE granule albedo and in test
- Upgraded the albedo monitoring system, already tested on SNPP IDPS Albedo and future for SNPP/NOAA-20 NDE Albedo
- Produced daily mean albedo over CONUS in July 2017 for soil moisture team use
- Cooperated with ASSISTT to start the NRT production of J1 NDE granule albedo in framework (without LUT update yet)

Overall Status:

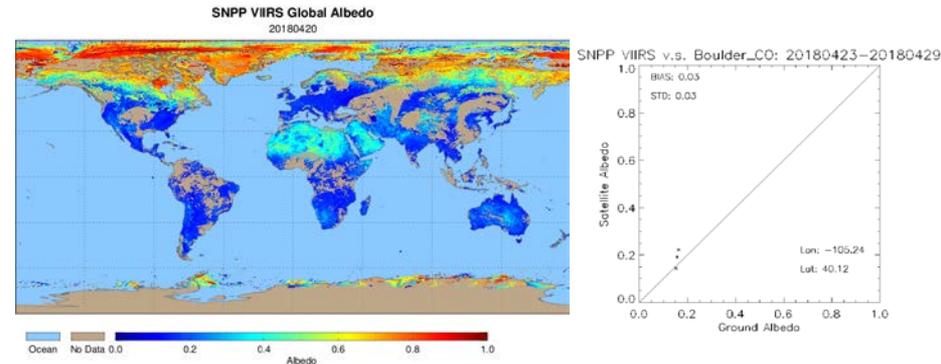
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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:



Animations of IDPS SNPP global albedo map (left) and validation plots (right) from the upgraded albedo monitoring system. Updates including sea ice albedo composition, and real-time validation using SURFRAD observations, etc.

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	Jun-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	June-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	

Accomplishments / Events:

- Generating global annual metrics from the monthly composited surface reflectance data. The annual metrics will be used for the SVM classification to create surface type map. The generation of annual metrics is in progress, and expected to finish at the end of April.
- Continue working on the parallel SVM classification software for the generation of surface type map. The purpose of this improvement is to reduce IO contention and ultimately improve classification speed using more in memory calculate instead of IO operations.

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			

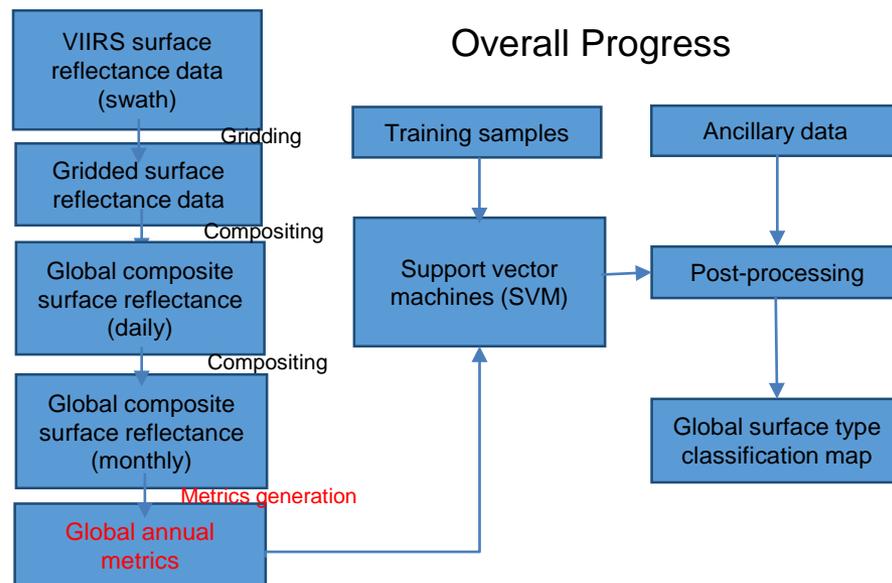
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
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		

Highlights:



Accomplishments / Events:

- Prepared slides for SPSRB review.
 - Explored new data source for VI/GVF validation.
 - Participated in relevant project meetings/discussions with STAR Algorithm Integration Team (AIT), and OSPO team.
 - Refined the visualization website for providing better VIIRS VI product access to users
- https://www.star.nesdis.noaa.gov/smcd/viirs_vi_web/landwatch.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			

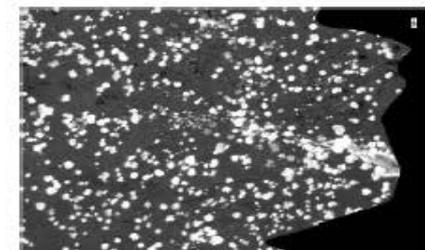
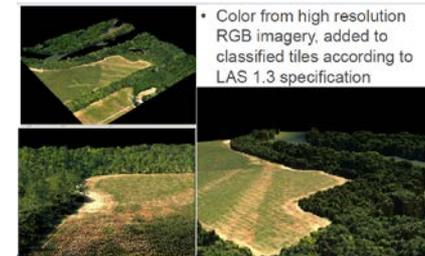
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

The I&T environment has not produced the weekly VIIRS VI products for regression test yet, which is required for SPSRB briefing.

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	

Highlights:



Exploration insights from new data sources to support the validation of VI& GVF products. **Upper Left:** 81 field sites in US. **Upper Right,** sample LIDAR data. **Lower left,** sample hemispheric photo. **Lower Right:** Sample Enhanced Vegetation Index (EVI) map from hyperspectral sensor.

Accomplishments / Events:

- Adjusting the parameters in the GVF product development.
- Prepared manuscript for publishing a comprehensive description of VIIRS GVF products.
- Prepared slides for SPSRB briefing.
- Participated in relevant project meetings/discussions with STAR Algorithm Integration Team (AIT), and OSPO team.
- 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			

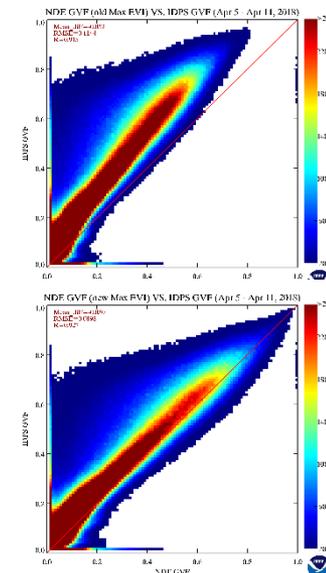
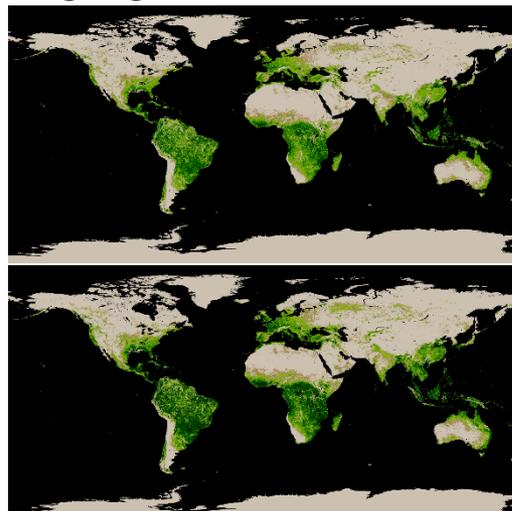
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

The NDE (I&T) GVF algorithm requires adjustment of parameters in the model.

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		

Highlights:



Adjustment of GVF product. **Upper left**, NDE (I&T) GVF before adjustment. **Lower left**, NDE (I&T) GVF after adjustment. **Upper right**, Scatterplot of NDE (I&T) GVF vs IDPS GVF before adjustment. **Lower right**, Scatterplot of NDE (I&T) GVF vs. IDPS GVF after adjustment.

Accomplishments / Events:

- Continued collect NOAA-20/VIIRS and S-NPP/VIIRS daily data (VIS, NIR and IR);
- Calculated NDVI (from VIS, NIR) and BT (from IR);
- Developed weekly composite NDVI and BT.
- Removed noise from weekly composite NDVI and BT
- Compared VIIRS (NDVI and BT) from NOAA-20 and SNPP
- Published paper (with USDA)
- Developed global 1 km drought from VIIRS-based VH (See image)

Overall Status:

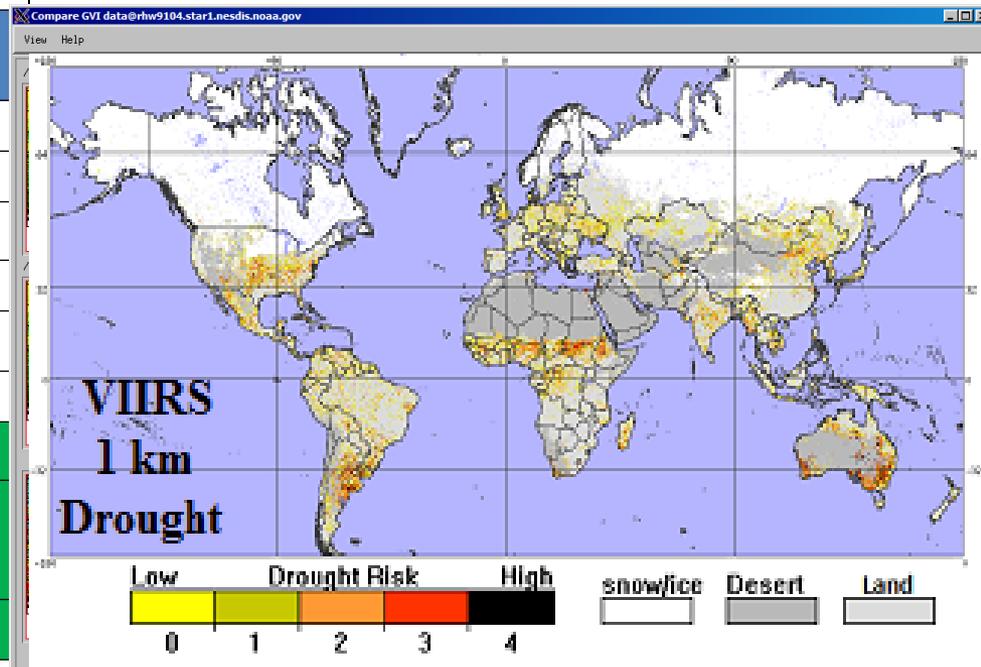
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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	



Accomplishments / Events:

The STAR Ocean Color EDR team:

- Conducted bi-weekly telecons with external VIIRS cal/val team
- Added some new features to OCView, the online data viewing tool, including the highly anticipated polar (high latitude) views. The previously released views of VIIRS SNPP plus NOAA-20 merged chlorophyll-a, Kd(490) and Kd(PAR) products are also included (improved data coverage).

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			

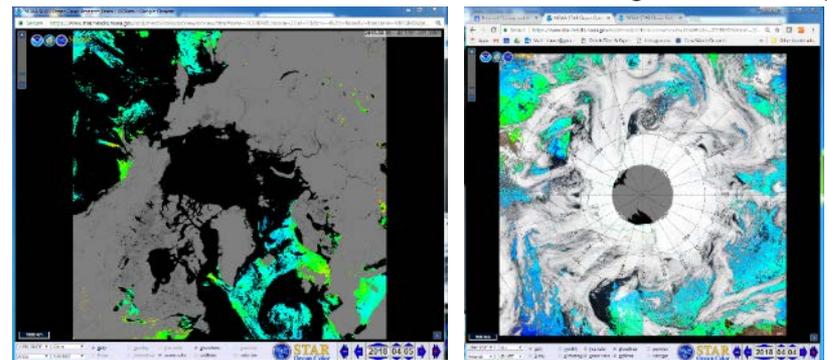
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

- 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:

OCView, the online data viewing tool, including the highly anticipated polar (high latitude) views (click on image to link in “slide show” mode to view and interact with these images in OCView):



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		
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:

- 2nd NOAA – Australian Bureau of Meteorology (BoM) SST Workshop was held from 3-6 April 2018 in College Park, MD. Agenda/Presentations available at <ftp://ftp.star.nesdis.noaa.gov/pub/sod/osb/aignatov/GHRSSST/2018-04-NOAA-BoM/>. It is a follow up on the 1st Workshop held at BoM, Melbourne in April 2017.
- The Workshop was attended by 18 SST scientists & developers from BoM, CSIRO, NOAA. The agenda included 25 oral presentations, demos, and plenary, & one-to-one discussions
- BoM reported that assimilated VIIRS SST in Nov 2017. As a result, performance of BoM SST significantly improved (see Highlights).
- Long-term NOAA-BoM partnership proved instrumental and mutually beneficial, to improve SST algorithms, Cal/Val & products, and it will continue into the future

Overall Status:

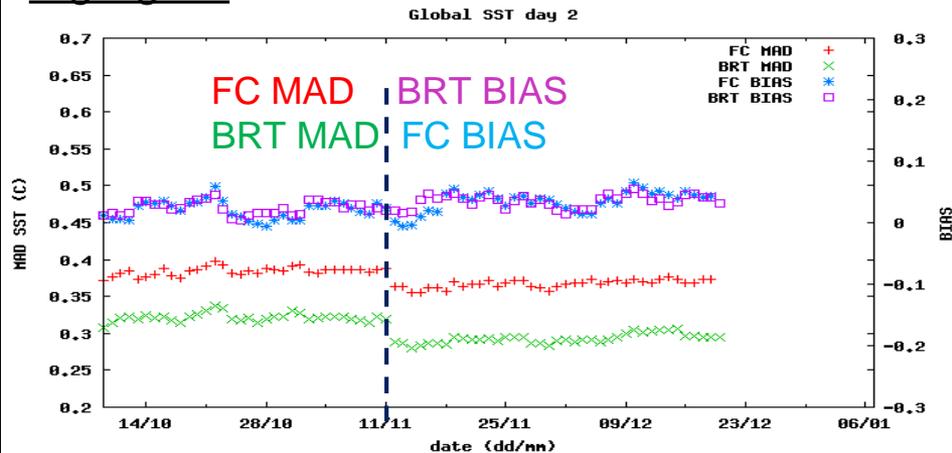
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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:



SNPP VIIRS SST ingested in BoM OceanMAPS product from 12 Nov 2017. As a result, the mean Abs. Dev. of Obs. minus Forecast (FC MAD) and Obs. Minus Behind real-time Hindcast SST (BRTM MAD) SSTs have improved over both Global and Australian domains.

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		
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/J1 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 Team implemented and successfully delivered the second NUCAPS NOAA-20 DAP to ASSISTT. This second DAP includes the implementation of the NOAA-20 CrIS and ATMS instrument noise files. See highlights section (April 27).
- Plans for porting the NUCAPS MetOp system into the HEAP were presented at the EAM CDR on April 16th.
- NUCAPS FSR passed SPSRB briefing on April 17th. A two page summary describing the main highlights of the NPP NUCAPS FSR system will be shortly made available on the JPSS STAR website.

Overall Status:

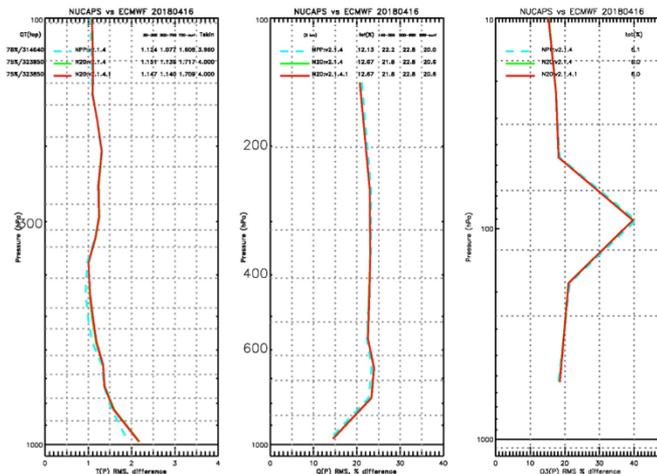
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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:



NUCAPS NPP (cyan) vs NUCAPS NOAA-20 first DAP (~January 2018, green) and second DAP (April 27th, red) to ASSISTT. RMS statistics of temperature (left), water vapor (center) and ozone (right). Consistency between NPP and NOAA-20 is remarkable.

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Jun-18	Jun-18		
Provisional Maturity	Sep-18	Sep-18		
Matchup J1 CrIS SDR with CERES data; generate regression coefficients for CrIS OLR	Jun-18	Jun-18		
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 (science team to ASSISTT)	Apr-18	Apr-18	04/27/18	
Preliminary DAP to NDE (ASSISTT to NDE)	Jun-18	Jun-18		
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add J1 products to EDR monitoring web	Sep-18	Sep-18		

Accomplishments / Events:

- MiRS algorithm passed Beta Maturity Review, and products were also declared by review panel to have reached Provisional Maturity.
- Additional NOAA-20 validation for cryospheric (snow/ice) products performed showing that performance is similar to SNPP and generally meeting requirements.
- MiRS V11.3 DAP preparation underway. Delivery expected in late April or early May.

Overall Status:

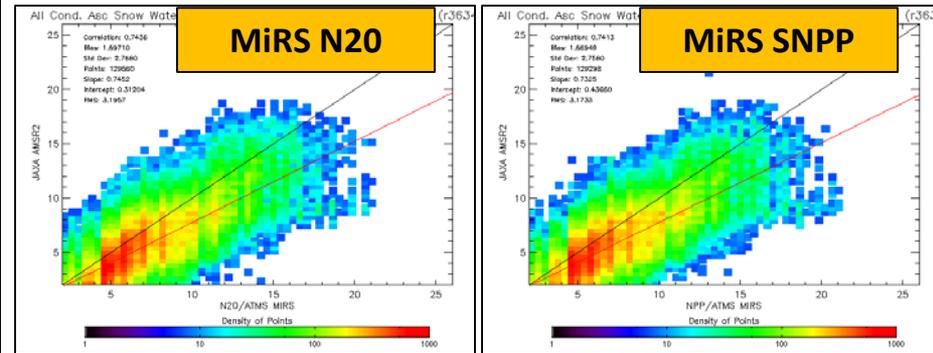
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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:



Precision: 2.8 cm (6.0)
Accuracy: 1.6 cm (3.0)
Prob. Detection: 0.85 (0.80)
False Alarm Ratio: 0.15 (0.10)
Heidke Skill Score: 0.84 (0.55)

Precision: 2.8 cm (6.0)
Accuracy: 1.6 cm (3.0)
Prob. Detection: 0.85 (0.80)
False Alarm Ratio: 0.16 (0.10)
Heidke Skill Score: 0.85 (0.55)

MiRS N20 and SNPP SWE comparison to JAXA AMSR2 SWE.

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	May-18		Delivered code to OSPO for code review
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add J1 products to EDR monitoring web	Sep-18	Sep-18		

Accomplishments / Events:

- A S-NPP SFR/GFS/MRMS radar precip three-way collocated data set has been constructed for SFR calibration and validation.
- The S-NPP SFR snowfall detection (SD) algorithm was validated using 3-year of SFR data against both ground observations and the MRMS radar precipitation data with satisfactory results. The performance statistics are tabulated in the Highlights section.
- Through a close collaboration between the STAR MiRS team and the SFR developers, the S-NPP/NOAA-20 ATMS SFR has been successfully integrated in the MiRS system. S-NPP SFR has reached provisional maturity while the NOAA-20 SFR remains as beta. The MiRS DAP delivery is slightly delayed.

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:

Validation Results for SFR Snowfall Detection

SFR vs. in-situ over CONUS

Year	Overall	POD	FAR	HSS
2015	0.90	0.50	0.07	0.42
2016	0.89	0.53	0.08	0.42
2017	0.88	0.50	0.08	0.40

SFR vs. in-situ over Alaska

Year	Overall	POD	FAR	HSS
2015	0.85	0.45	0.09	0.39
2016	0.87	0.47	0.10	0.38
2017	0.85	0.47	0.11	0.35

SFR vs. MRMS over CONUS

Year	Overall	POD	FAR	HSS
2015	0.92	0.53	0.04	0.47
2016	0.90	0.55	0.07	0.43
2017	0.88	0.51	0.08	0.40

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		
NOAA-20 SFR Beta Maturity	Jun-18	Jun-18		
SNPP/J1 algorithm development/adjustments:				
SN-PP/NOAA-20 SFR DAP to NDE	Apr-18	May-18		Code review
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add SFR to EDR monitoring web	Sep-18	Sep-18		

Accomplishments / Events:

- Jaime Daniels attended the 14th International Winds Workshop in South Korea, April 23-27, 2018. He presented a comparison of the heritage and new VIIRS winds algorithms. (See last month's report.)
- Also presented were statistics demonstrating the accuracy of the relatively new, experimental polar winds derived from a shortwave infrared (SWIR) band. The use of the SWIR band improves the retrieval of winds in the lower troposphere over snow and ice, as liquid clouds are highly reflective in the SWIR bands but snow/ice is very dark so tracking features are better defined. Statistics show that the SWIR winds are as accurate as the IR-window winds.

Overall Status:

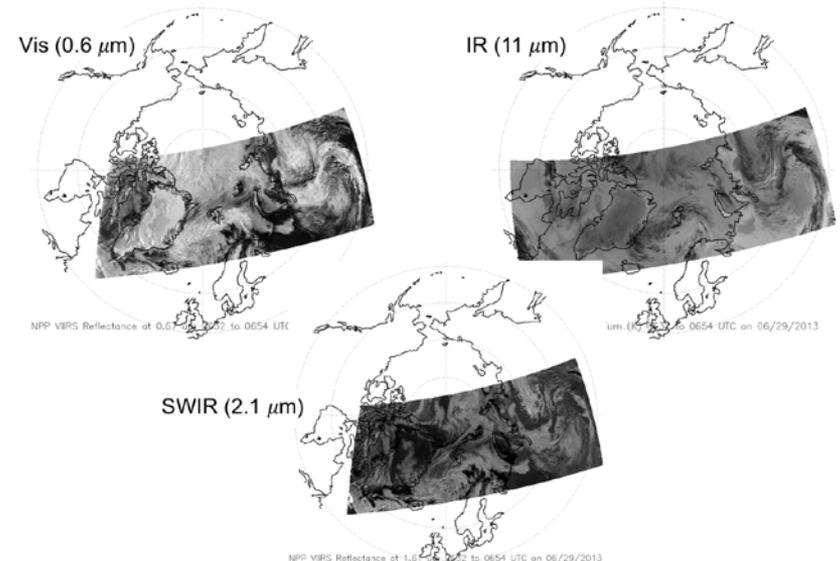
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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:



FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Jun-18	Jun-18		
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	Jun-18		
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add J1 products to EDR monitoring web	Sep-18	Sep-18		

Accomplishments / Events:

- FY18 budget being executed for contracts and grants
- 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			

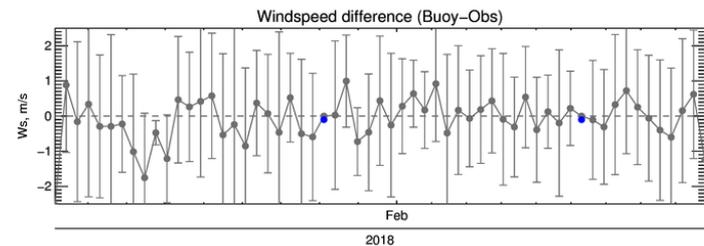
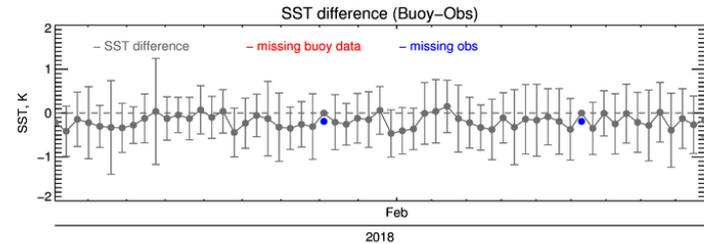
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

Highlights:

Ocean EDR Routine Monitoring



2018 comparisons of SST (top) and wind speed (bottom) for global buoy minus AMSR-2 retrieved values

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		
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		

Accomplishments / Events:

- Higher spatial resolution NOAA-20 OMPS Nadir Mapper FOV EDRs processed at NDE since 3/30. (See sample results in map in lower right panel.)
- Working to prepare table and code updates for delta delivery to NDE in May 2018 to promote NOAA-20 ozone products to provisional maturity.
- Expanding monitoring site content to include NOAA-20 products.

Overall Status:

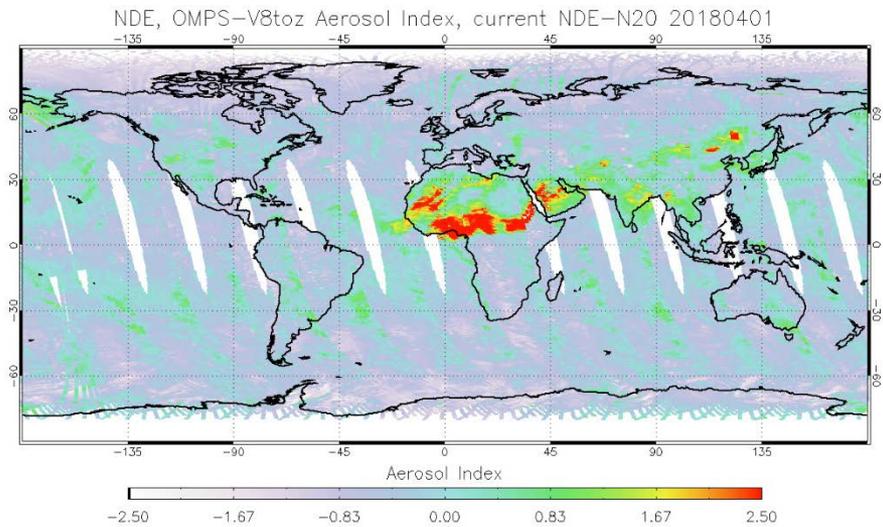
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget			1		
Technical / Programmatic		X			
Schedule			2		

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:

- 1 FY18 funding request not planned for Civil Servant support.
- 2 Code Changes for OMPS SDR on path to provisional maturity will not be implemented at IDPS until July 2018.

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch 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	Aug-18		
Prepare, demonstrate and exercise tools for J-01	Dec-17	Dec-17	Dec-17	
Trending of ground-based comparisons	Jun-18	Jun-18		
J1 algorithm adjustments:				
DAP to ASSISTT (science team to ASSISTT)	Apr-18	May-18		Combined with table delivery
Soft Calibration for J-01 (DAP) (ASSISTT to NDE)	May-18	May-18		
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Algorithm improvements (EOFs, solar, Wavelengths, bandpasses)	Sep-18	Sep-18		
Add J1 products to EDR monitoring web	Sep-18	Jul-18		Work is progressing well



NOAA-20 OMPS UV Absorbing Aerosol Index map for April 1, 2018 showing performance for 50x17 km² FOVs at nadir. Notice the pollution event over Beijing China.

Accomplishments / Events:

- Forwarded Final Draft of NPROVS Report to NWS on results from the NWS/NASA Wallops Island (Va.) radiosonde Inter-comparison field experiment
- Provided initial verification of Radiosonde Inter-comparison and VALidation (RIVAL) field campaign begun February, 2018 (**Highlight 1**)
- Continued assessment of NOAA Unique Combined Atmospheric Processing System (NUCAPS) v2.1.4 (**Highlight 1**)
- Provided inputs for colleagues attending GCOS Reference Upper Air Network (GRUAN) International Coordination Meeting-10 (ICM-10) (**Highlight 1**)
- The EDR LTM team progress continues (**Highlight 2**)

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			

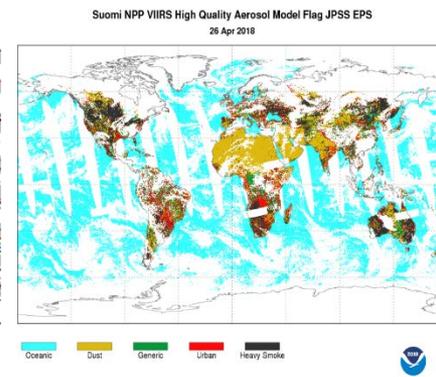
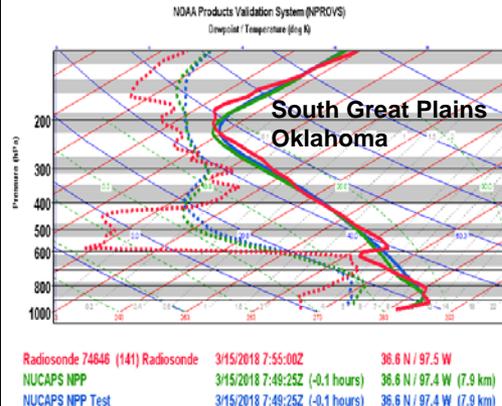
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

Highlights:

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		



Comparison of concurrent NUCAPS **Oper**, **Test v2.1.4** and **Radiosonde** temperature (solid) and moisture (dashed) profiles from RIVAL provided for presentation at GRUAN ICM-10.

Example of the recently created VIIRS high quality aerosol flags from EDR LTM Program