



NOAA JPSS Monthly Program Office

AMP/STAR FY18 TTA

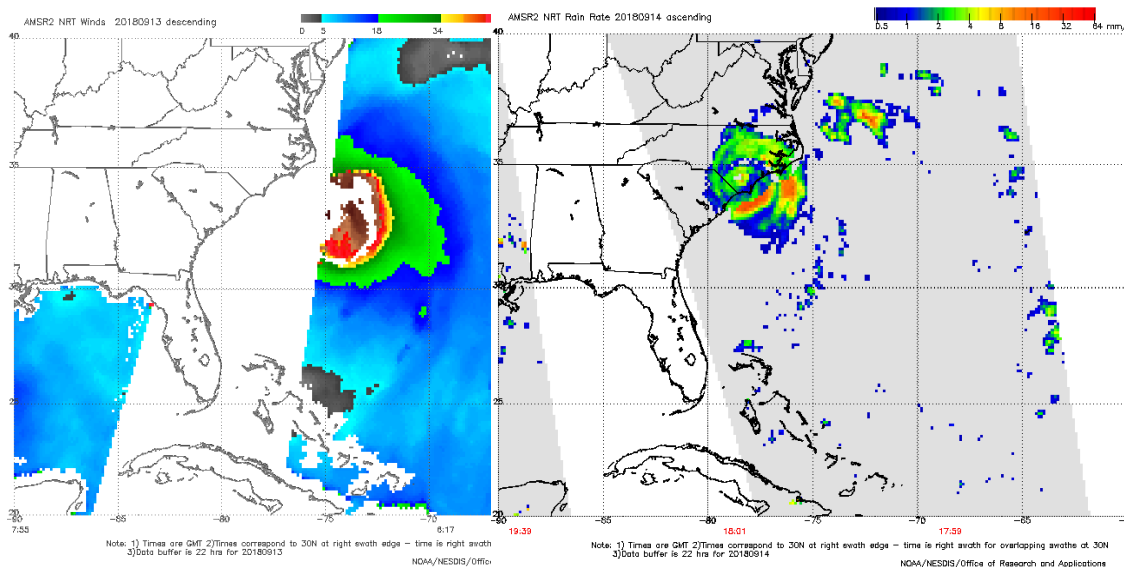
ARRON LAYNS, AMP LEAD
LIHANG ZHOU, AMP DEPUTY FOR SCIENCE
& JPSS STAR PROGRAM MANAGER

October 9, 2018

JPSS Views Hurricane Florence

Slow-moving Hurricane Florence delivered record setting rains across much of eastern North and South Carolina. The STAR JPSS team set up a web page (<https://www.star.nesdis.noaa.gov/jpss/Florence.php>) to track the movement and outcomes of the storm.

Notable are the various blended precipitation and atmospheric moisture products displayed, which start to explain why this storm unleashed devastating flooding.



GCOM AMSR-2 products depicting Hurricane Florence. Ocean surface wind speeds (left) when Florence was a category 3 storm. Rain rates after landfall, which contributed to record flooding in North Carolina.

VIIRS Imagery of North Carolina flooding provided to DoD

Based on a request from the 505th Military Intelligence Brigade, VIIRS imagery of the Carolinas from before and after Hurricane Florence have been posted to a temporary webpage:

<http://rammb.cira.colostate.edu/projects/npp/florence/> These images show the 375 m resolution EUMETSAT Natural Color RGB, which is useful for monitoring flooding. This RGB has been used to validate the VIIRS River Ice and Flood product that is being transitioned into operations. These images are being used to aid in disaster relief and recovery efforts from the historic flooding caused by Hurricane

SPIE Remote Sensing

STAR VIIRS SDR team members actively participated in SPIE Remote Sensing conference held in Berlin from September 10-13, and presented papers. The papers were mainly focused on calibration performance evaluation and improvements of NOAA-20 VIIRS:

- 1) Improving NOAA 20 VIIRS screen transmittance and solar diffuser BRDF estimation from both Yaw maneuver and regular on-orbit data
- 2) Post-launch evaluation and improvements of NOAA-20 VIIRS geolocation accuracy

Other Meetings

Additionally, STAR JPSS team members participated in the SPIE Asia-Pacific Conference in Honolulu from September 24-26 and had side meetings with local users in Central Pacific Region. Teams members also attended and presented at the EUMETSAT Conference from September 17-21 in Tallinn, Estonia.

NOAA General Modeling Meeting and Fair

September 10-12, 2018, the NOAA General Modeling Meeting and Fair was conducted at NCWCP. The meeting included keynote presentations on modelling activities at NOAA Line Offices along with Modeling Tutorials and Fair. Fair exhibits were supposed to address main modeling activities, application and product generation activities, ongoing work on the development of visualization tools, analysis and verification software. Peter Romanov participated in the Fair. He presented a poster titled “Enhanced 30-year global daily snow and ice cover dataset for environmental modeling and climate change studies”.

Aerosol Workshop

NCWCP hosted a two-day Satellite Air Quality Proving Ground workshop that on September 25-26 that was attended by 70 participants: Highlights

- Updates on NOAA-20 and SNPP VIIRS aerosol algorithms/products were provided.
- Presentations from user agencies
- Panel discussion on continuity of observations
- Live demo of AerosolWatch and JSTAR Mapper were provided

Accomplishments

- VIIRS SDR code change DAP to DPES (ADR8731/CCR4068, WUCD TEB Calibration Correction) on 9/19/2018
- NOAA-20 OMPS NP CALCONST-LUT Update DAP to DPES (ADR8730/CCR4133, Unexpected Outliers in NOAA-20 OMPS NP) on 9/27/2018
- Re-delivery of OMPS TC (ADR8684/CCR4014) & NP(ADR 8685/CCR4015) SDR quality flags code change DAPs to DPES on 9/12/2018
- VIIRS SDR delivered JPSS-2 Pre-launch sensor characterization report on 10/1/2018
- The new VIIRS Annual Surface Type 2017 (AST2017) product based on 2017 whole year reflectance data is ready for users at the FTP site (8/30/2018):
 - Sinusoidal projection:
ftp://ftp.star.nesdis.noaa.gov/pub/smcd/JPSS/VIIRS-AST/S-NPP_VIIRS_GST_IGBP_2017.zip
 - Lat/long projection:
ftp://ftp.star.nesdis.noaa.gov/pub/smcd/JPSS/VIIRS-AST/S-NPP_VIIRS_GST_IGBP_2017_30arcsec.zip
- NDE Vegetation Product System (NVPS) updated DAP (fix the regional domain definition conflict with PDA) delivered to NDE on 9/7/2018
- OMPS Ozone V8TOz updated DAP to NDE (two new soft-calibration tables) on 9/27/2018
- Algorithm checking/testing for upcoming GFS FV3 Model Upgrade
 - ASSISTT team finished test runs for impact evaluation of the new FV3 GFS to VIIRS products (Aerosol, Clouds, Cryosphere, Volcanic Ash, LST/LSA, Polar Winds, Surface Reflectance), provided comparisons results to science teams.
 - JSTAR submitted GFS testing summary report update to AMP
- JSTAR submitted data request for Mx4 SOL deploy regression review/checkout (9/27/2018)

- NOAA-20/S-NPP Operational Calibration Support:
 - S-NPP Weekly OMPS TC/NP Dark Table Updates: 09/04/18, 09/11/18, 09/18/18, 09/25/18
 - NOAA-20 Weekly OMPS TC/NP Dark Table Updates: 09/04/18, 09/11/18, 09/18/18, 09/25/18
 - S-NPP Bi-Weekly OMPS NP Wavelength & Solar Flux Update: 09/11/18, 09/25/18
 - NOAA-20 Monthly VIIRS StrayLight LUTs Update: 09/18/18
 - S-NPP Monthly VIIRS LUT Update of DNB Offsets and Gains: 09/18/18
 - NOAA-20 Monthly VIIRS LUT Update of DNB Offsets and Gains: 09/18/18

- September/October Monthly NOAA-20 Calibration/Validation Maturity Readiness Review (10/2/2018):
 - Validated Maturity:
 - CrIS SDR
 - Provisional Maturity:
 - OMPS Ozone V8TOz EDR
 - VIIRS Polar Winds
 - Cloud Mask, Cloud Phase/Type, Cloud Top Height/Pressure/Temperature, Cloud Base Height
 - Cryosphere Products: Ice Surface Temperature, Sea Ice, Snow Cover (Binary Map/Fraction)
 - NUCAPS Products: Ozone, CO, CO₂, CH₄, OLR

Upcoming Cal/Val Maturity Reviews

November, 2018:

- Beta/Provisional Maturity: Ocean Color
- Provisional Maturity: Surface Reflectance, Volcanic Ash, Cloud (DCOMP/NCOMP), V8Pro

December, 2018:

- Provisional Maturity: Land Surface Temperature; Surface Albedo
- Validated Maturity: OMPS (TC & NP) SDR (Pending on Mx3 TTO)

February, 2019

- Provisional Maturity:
 - Green Vegetation Fraction
 - Vegetation Index
 - Vegetation Health
- Validated Maturity: OMPS Ozone EDRs (V8Pro & V8TOz, Pending on SDR Validated)

- JSTAR Code/LUT Deliveries:

DAP to DPES:

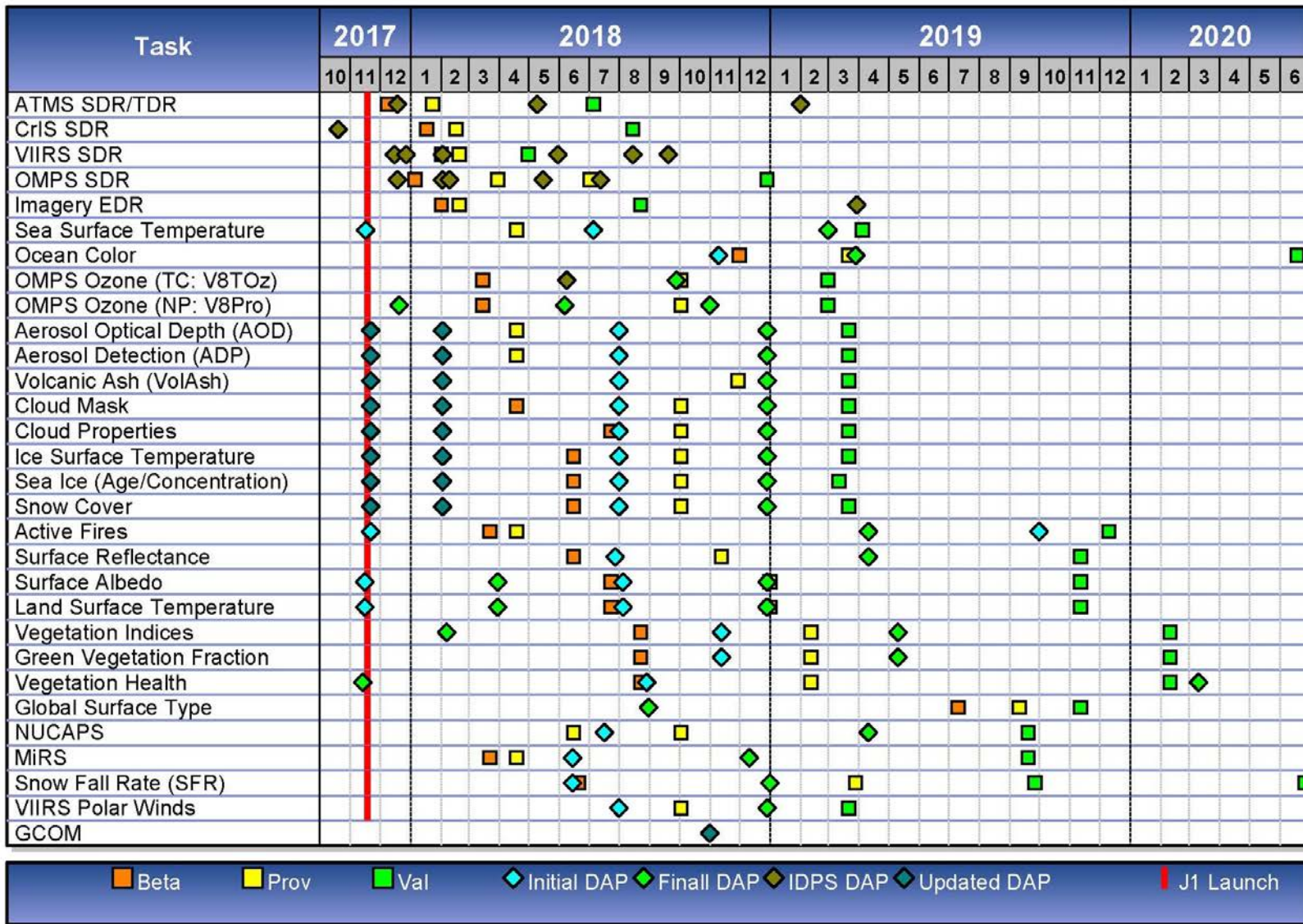
- Oct-18: OMPS NM/NP Mismatch for FOVs (LUTs update only, ADR8617)
- Oct-18: OMPS NP Transient Smear Correction (ADR8709)
- Nov-18: ATMS reflector emissivity correction (ADR8632)
- Dec-19: VIIRS Remove COEFF-A and COEFF-B LUTs (ADR8785)
- Dec-18: CrIS Polarization correction (ADR8760)

NOAA-20 Algorithm DAP to NDE:

- Nov-18: Ocean Color, Vegetation Index, Green Vegetation Fraction
- Dec-18: EPS algorithms (Clouds, Cryosphere, Aerosol, Volcanic Ash, LST/LSA) – final DAP
- Dec-18: VIIRS Polar Winds – final DAP
- Dec-18: MiRS/SFR – final DAP

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 Delta DAP: 03/15/18	
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 algorithm adjustments (SST): ACSPO v2.5 DAP to NDE ACSPO v2.6 DAP to NDE	Nov-17 Jul-18	Nov-17 Jul-18	11/16/17 07/05/18	
NOAA-20: Active Fires DAP (NOAA-20 algorithm adjustments) to NDE	Oct-18	Oct-18	11/21/17	
NOAA-20 algorithm adjustments (OMPS Ozone): V8TOS (v3) DAP to NDE V8TOz (v3r1) DAP to NDE V8Pro (v3r2) DAP to NDE	Jun-18	Jun-18	06/01/18 06/08/18 06/06/18	
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	07/16/18	
NOAA-20: Surface Reflectance DAP (NOAA-20 algorithm adjustments) to NDE	Aug-18	Aug-18	07/27/18	
NOAA-20: VPW DAP (NOAA-20 algorithm adjustments) to NDE	Aug-18	Aug-18	07/31/18	
NOAA-20: Enterprise Processing System DAP (NOAA-20 algorithm adjustments: Aerosol, Volcanic Ash, Clouds, and Cryosphere) to NDE	Aug-18	Aug-18	07/31/18	
NOAA-20: Enterprise Processing System DAP (NOAA-20 algorithm adjustments: LST, and LSA) to NDE	Aug-18	Aug-18	08/04/18	
NOAA-20: Vegetation Health DAP (NOAA-20 algorithm adjustments) to NDE	Aug-18	Aug-18	08/28/18	



FY18 STAR JPSS TTA Milestones

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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	01/25/18: SDRs/Imagery Beta Maturity Review
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 02/18/18: OMPS TC SDR Provisional (04/18/18 review) 07/02/18: OMPS NP SDR Provisional (Mx2 TTO)	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	07/05/18: ATMS TDR/SDR Validated (PCT v007) 04/30/18: VIIRS SDR Validated 08/22/18: VIIRS Imagery EDR Validated 08/14/18: CrIS SDR Validated	
NOAA-20: Day 1 EDR products Maturity Review	Sep-18	Sep-18	03/22/18: Beta Review (Virtual): Active Fires, MiRS Products, OMPS Ozone V8Pro & V8TOz 04/18/18: Enterprise Cloud Mask (Beta), Aerosol Optical Depth / Detection (Provisional), Sea Surface Temperature (Provisional), Active Fires (Provisional), MiRS Products (Provisional) 06/15/18: Surface Reflectance (Beta), Cryosphere: Snow Cover, Sea Ice, IST (Beta) NUCAPS Products: AVMP, AVTP (Provisional) Ozone/OLR/CO/CO2/CH4 (Beta) 06/20/18: Snowfall Rate (CDR/ARR/SNPP-Prov/N20-Beta) 07/23/18: Beta Review (Virtual): Cloud Base Height, Cloud Top Height/Pressure/Temperature, Daytime Cloud Optical Thickness / Particle Size, Land Surface Temperature, Surface Albedo, ATMS Snowfall Rate 08/22/18: Beta Maturity: Green Vegetation Fraction; Vegetation Index; Vegetation Health 10/02/18: Provisional: Polar Winds, V8TOz, Clouds, Cryosphere, NUCAPS (Ozone/CO/CO2/CH4/OLR)	



FY18 STAR JPSS TTA Milestones

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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	Mar-18	
EDR LTM for NOAA-20	Sep-18	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, Jul-18, Aug-18, Sep-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, 06/26/18, 07/03/18, 07/10/18, 07/17/18, 07/24/18, 07/31/18, 08/07/18, 08/14/18, 08/22/18, 08/28/18, 09/04/18, 09/11/18, 09/18/18, 09/25/18	
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, 07/03/18, 07/17/18, 07/31/18, 08/14/18, 08/28/18, 09/11/18, 09/25/18	
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, 07/24/18, 08/21/18, 09/18/18	
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, 07/03/18, 07/10/18, 07/17/18, 07/24/18, 07/31/18, 08/07/18, 08/14/18, 08/22/18, 08/28/18, 09/04/18, 09/11/18, 09/18/18, 09/25/18	12/19/17: 1 st Dark delivery; 01/10/18: start of weekly J1 Dark
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, 07/24/18, 08/21/18, 09/18/18	
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, 07/24/18, 08/21/18, 09/18/18	
NOAA-20: 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:

- Monitor and analyze S-NPP ATMS scan drive main motor current spike and impact on ATMS SDR data
- Discuss the reflector emission correction algorithm, optimal antenna pattern data, and associated PCT format change
- Prepare to reprocess S-NPP SDR simulation using same version of CRTM as NOAA-20 so as to study the double difference results
- Update ADL ATMS SDR code and associated PCT to implement reflector emission correction in TDR
- Test update S-NPP TDR to SDR conversion coefficients

Overall Status:

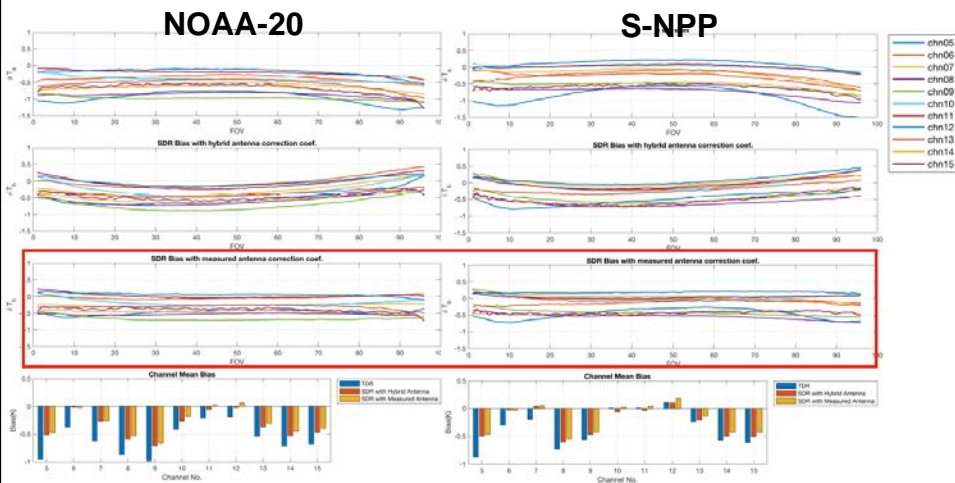
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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:

Some recommendations on reflector emission correction update are given by NWP users and NASA flight project. A three-month extension is asked for more testing

Highlights:



Hybrid vs Measured Antenna Pattern Evaluation at Sounding Channels

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	07/05/18	Review 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	Jan-19	During STAR JPSS Annual Science Conference, ATMS SDR team holds a face-to-face discussion with NWP users. Some recommendations on upcoming reflector emission correction update need longer testing	
SNPP/J1 earth scene reflector emissivity correction in IDPS (PCT & code update) (ASSISTT to DPES AIT)	Jun-18	Jan-19		

Accomplishments / Events:

- NOAA-20 CrIS radiometric uncertainty (RU) was estimated over tropical and cold scenes. Results show that NOAA-20 CrIS RU is well below requirements.
- The CrIS SDR Team conducted a dry run in preparation for the Validated Maturity Level Review on 9/26/18. Major conclusions show that the NOAA-20 CrIS instrument meets the JPSS performance requirements, while no major performance issues were identified.
- Performed a new estimate of the NOAA-20 ICT effective emissivity. Results have shown that lower emissivity values are expected when the effect of polarization and ICT surface reflectance angle is accounted for. Requirements will still be met with margin.
- Three new DRs were opened on 9/4/18: 1) Implementation of the polarization correction algorithm (DR 8760), 2) Update of the J2 PCT LUT for the mounting matrix coefficients (DR 8762), 3) Turning off the production of the CrIS SDR product at normal spectral resolution (NSR) upon approval from the users. (DR 8761).

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			

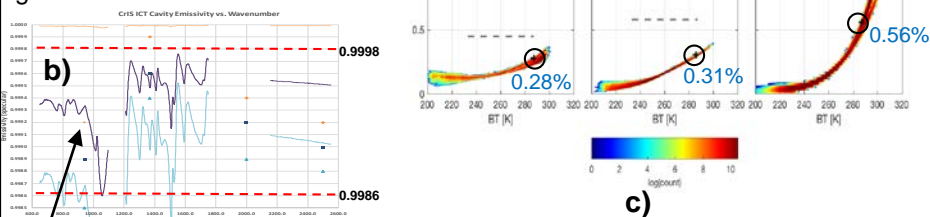
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Issues/Risks:

None

Highlights:

(a) Estimates of the NOAA-20 CrIS RU given as 3 σ estimates (in blue) against requirements (grey line). (b) New NOAA-20 ICT emissivity estimate. (c) Top-level CrIS SDR uncertainties against requirements. RU are given at 3 σ .



Dark curve is the proposed ICT emissivity, meeting the requirement of $\epsilon > 0.995$

Band	Spectral Range (cm ⁻¹)	Resolution (cm ⁻¹)	Number of Channels	NE Δ n* (mW/m ² /sr/cm ⁻¹)	Frequency Uncertainty (ppm)	Geolocation Uncertainty** (km)	Radiometric Uncertainty @287K BB (%)
LWIR	650-1095	0.625	713	0.086 (0.14)	2 (10)	0.22 (1.6)	0.19 (0.45)
MWIR	1210-1750	0.625	865	0.0315 (0.084)	2 (10)	0.22 (1.6)	0.21 (0.58)
SWIR	2155-2550	0.625	633	0.00766 (0.014)	2 (10)	0.22 (1.6)	0.37 (0.77)

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	Sep-18	10/02/18	v115 uploaded
uploaded 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 V115: 08/14/18	
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 generate 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:

- Completed and delivered a VIIRS SDR code change package for the S-NPP and NOAA-20 TEB WUCD bias correction
- Generated and updated offset and gain ratio LUTs for NOAA-20 and S-NPP DNB using new moon calibration data from Sep. 9, 2018
- Generated NOAA-20 DNB stray light correction LUT from Sep. 2018 data
- Participated in SPIE and EUMETSAT conferences with oral presentations on VIIRS calibration and validation that emphasized NOAA-20 post-launch performance: prepared and submitted accompanying conference papers
- Estimated NOAA-20 VIIRS on-orbit band-to-band registration in the scan direction using scheduled lunar observations
- Prepared JPSS-2 VIIRS pre-launch characterization report that identifies required IDPS algorithm updates

Overall Status:

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Technical / Programmatic		X			
Schedule		X			

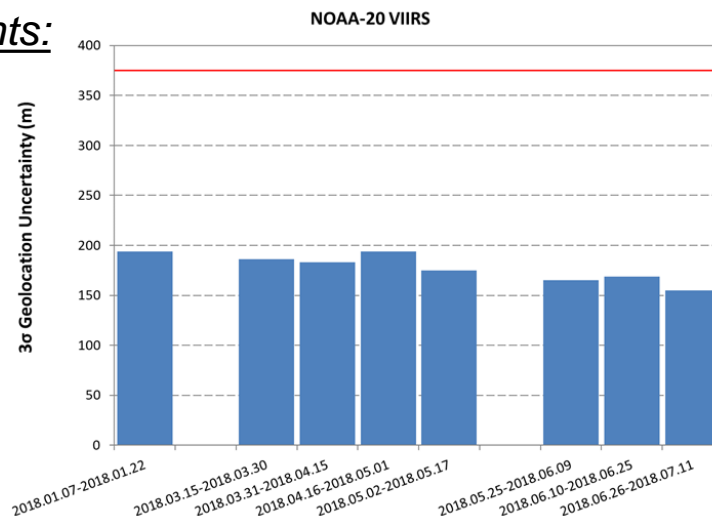
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Issues/Risks:

none

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N20 Post-Launch Cal/Val				
1st set of LUT updates for operations	Dec '17	Dec '17	12/27/17	CCR 3555
Beta Maturity	Jan '18	Jan '18	02/01/18	CCR 3742
2nd set of LUT updates for operations	Feb '18	Feb '18	01/30/18	CCR 3738
Provisional Maturity	Feb '18	Feb '18	02/19/18	CCR 3912
Validated Maturity	May '18	May '18	04/30/18	Review 6/15
Planned Algorithm Updates				
M6 rollover flagging correction	Sep '18	Jun '18	06/12/18	CCR 3966
LWIR FPA temperature flagging	Sep '18	Jun '18	05/30/18	CCR 3965
LUT update to reduce SDSM uncertainty	Jul '18	Aug '18	08/14/18	CCR 4069
WUCD calibration correction	Aug '18	Aug '18	08/29/18	CCR 4068
Identify algorithm updates based on JPSS-2 pre-launch test data: Pre-launch sensor characterization report	Sep '18	Sep '18	09/30/18	
DAP delivery	12/15/17 (ADR8528/CCR3700) 01/16/18 (ADR8559,8560,8561/CCR3742) 03/26/18 (ADR8578/CCR3857) 05/21/18 (ADR8686/CCR3963)			

Highlights:



NOAA-20 VIIRS geolocation uncertainty evaluated for select 16-day periods since the initial on-orbit calibration. The larger breaks between the bars indicate updates of the geolocation processing parameters in IDPS. The red line shows the geolocation/pointing accuracy requirement for the JPSS-1/NOAA-20 mission.

Accomplishments / Events:

- Regular weekly dark deliveries for OMPS sensors were made.
- Regular bi-weekly OMPS-NP wavelength table deliveries were made for S-NPP.
- S-NPP OMPS Limb SDR processor was successfully run at NDE. This is a prototype for the JPSS-2 OMPS Limb SDR which will be an operational product.
- Delivery of OMPS-NP-CALCONST table to IDPS that corresponds to an October flight table update

Overall Status:

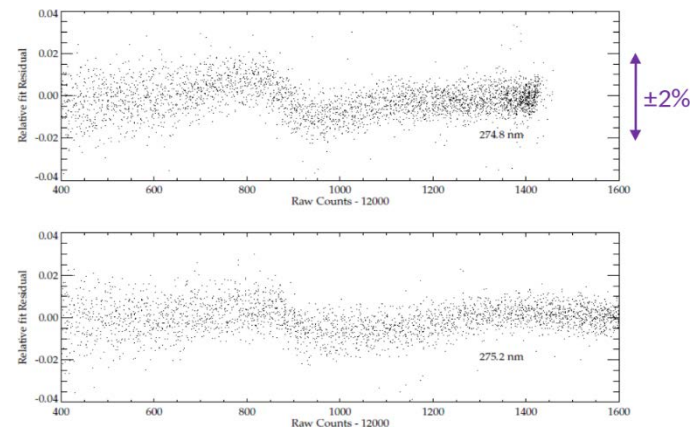
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic			X		
Schedule			X		

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:

Recently discovered problem with OMPS-NP non-linearity. Continuing problem with OMPS-TC and OMPS-NP Sample tables.

Highlights:



The image shows the discretization error in OMPS-NP non-linearity correction that will be fixed with the delivery of a NOAA-20 flight table and IDPS Calconst update.

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	07/03/18	Required Mx2 TTO
Validated Maturity	Aug-18	Dec-18		Need IDPS Table Updates
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 code update DAP	02/16/18 (ADR8615/CCR3829) 07/12/18 (ADR8684/CCR4014 & ADR8685/CCR4015)			
Update S-NPP OMPS TC Straylight Table	05/15/18 (ADR8527/CCR3906)			

Accomplishments / Events:

- STAR is able to generate S-NPP reprocessing SDR aggregation data in the same format as what provided in CLASS and one month of S-NPP ATMS reprocessing TDR/SDR/GEO aggregated data are available for engineering testing
- Had a discussion with Steve from CLASS on engineering assessment on Sept. 20
- Tested latest NPP TC straylight LUT and send process results to OMPS SDR team for verification
- Updated and tested latest NPP/N20 OMPS NP/TC weekly DARK LUT for upcoming OMPS reprocessing
- Updated and tested NPP NP bi-weekly OSOL LUT for upcoming OMPS reprocessing
- Compiled and tested latest ADL (version 5.3.21_I2.1.03) to prepare for the future reprocessing
- Answered users' questions on data accessing and reading issues

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:

Data Types	Counts	Date Period	Volume	Aggregated Data Counts	Aggregated Data Volume
TDR (TATMS)	2700 Granule/Day	2011/11/08~2017/03/08	402 MB/Day	180 Granule/Day	213 MB/Day
SDR (SATMS)	2700 Granule/Day	2011/11/08~2017/03/08	434 MB/Day	180 Granule/Day	224 MB/Day
GEO (GATMO)	2700 Granule/Day	2011/11/08~2017/03/08	405 MB/Day	180 Granule/Day	263 MB/Day
Daily Sub-Total	8100 Granule/Day	1947 Days	1.25 GB/Day	540 Granule/Day	700 MB/Day
Total	15,770,700		2.44 TB	1,051,380	1.37 TB

Aggregated data volume is significantly lower than the original single granule

FY18 TTA Milestones	Original Date	Forecast Date	Actual Comp Date	Variance Explanation
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 till March 2017	Aug-18	Aug-18	Aug-18	
Complete the version 1 reprocessing of VIIRS SDR data till March 2017	Aug-18	Aug-18	Aug-18	
Updated OMPS NP/TC reprocessing algorithm	Sep-18	Sep-18	Sep-18	
Tested latest ADL (V5.3.21_I2.1.03) for future reprocessing	Sep-18	Sep-18	Sep-18	
Engineering assessment of transitioning reprocessed ATMS data from STAR to NCEI	Dec-18	Dec-18		

Accomplishments / Events:

- Updated ATMS scan drive motor current monitoring module to provide more accurate time info for troubleshooting.
- Updated SCDR missing granule checking script to provide more accurate info on OMPS SDR data and added granule version check capability.
- Assisted intensively STAR SDR team in preparing for CrIS validated maturity, including preparing an oral presentation for the review
- Developed a prototype to monitor SNPP/J01 SDR data availability on STAR SCDR database
- Finished daily N-value monitoring module for SNPP and NOAA-20 NM
- Improved significantly the automation and efficiency (from 6 hours to one hour) of 3D hurricane warm core animation monitoring tool from ATMS/VIIRS observations
- Initialized an impact analysis of VIIRS calibration parameters on SDR data quality
- Supported JPSS/SMCD weekly/monthly reports

Overall Status:

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

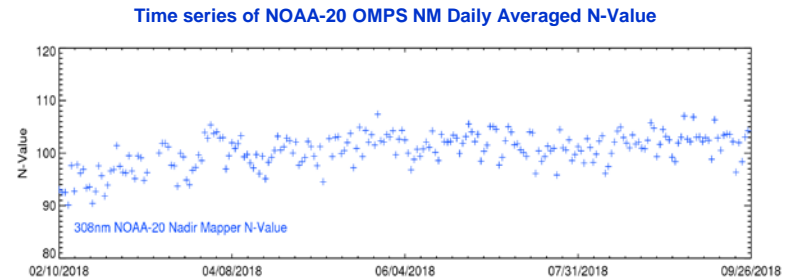
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Issues/Risks:

None

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: ICVS Severe Weather Watch (iSEW) System	Mar-18	Dec-18		Initialized iSEW web site
JPSS-ICVS Monitoring/Trending Enhancement (On-going work)	Sep-18	Dec-18		Catch new needs from SDR team
ICVS System Maintenance Manuals and Technical Reports (On-going work for final version)	Sep-18	Dec-18		Beta version is done. Need to finalize the reports

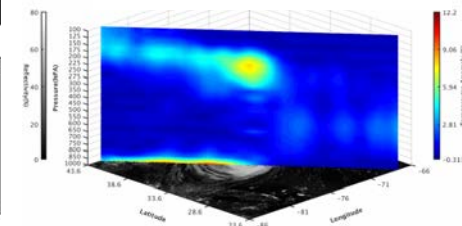
Highlights:



SCDR SDR Granule Tracker



Automation of 3D ATMS animation For Hurricane Florence (09/13/2018)



Accomplishments / Events:

- The **Imagery and Geo Teams** continue to meet regularly (the third Tuesday of each month) primarily about the terrain correction (TC) issue for EDR Imagery.:
 - The I-bands, which are still experiencing some “issues”. (M-bands working, NCC yet to be attempted.)
 - D. Stuhmer (Raytheon) appears to have extensive knowledge of the TC issue and is helping.
 - A subset of ADL experts are reporting weekly on TC progress to R. Marley (Imagery JAM)
- B. Reed briefed the DSWG group and was given the information that for J-2 and beyond, IDPS would generate Imagery products for all 16 M-bands. However, there appears to be no requirement, therefore one needs to be created and she will advocate for that requirement.

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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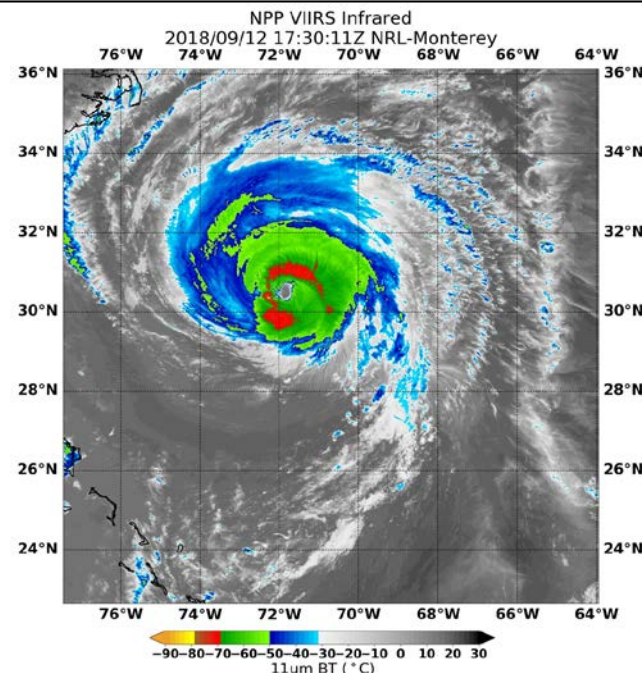
Issues/Risks:

None

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch 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	08/22/18	
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-18	Sep-18	

Highlights:

S-NPP VIIRS I5 image of Hurricane Florence approaching the US east coast on 2018-09-12 17:30 UTC (A. Kuciauskas, NRL-Monterey)



Accomplishments / Events:

- Cloud Team prepared for the October 2 Maturity Reviews.
- Developed a 24 day library of SNPP and NOAA-20 data for analysis.
- Delivered NOAA-20 version of CLAVR-x into CSPP
- Delivered NOAA-20 Enterprise cloud algorithms and CLAVR-x to UAF GINA for the cloud demo this Fall.
- Conducted MODIS analysis for day / night consistency

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			

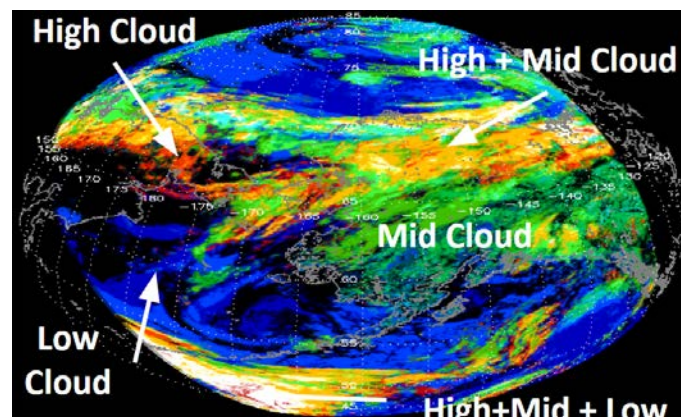
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4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Jul-18	Jul-18	CM: 04/18/18 CBH/ACHA/DCO MP: 07/23/18	Program Request
Provisional Maturity	Sep-18	Oct-18	10/02/18	
Apply CALIPSO tools to NDE Mask with Lunar Reflectance	Sep-18	Sep-18	Aug-18	
Validate products from SAPF and begin ARM data analysis to fill CALIOP/CloudSat void	Sep-18	Oct-18		
Continue the visualization and demonstration of CCL for the Aviation Weather Center, with focus on Alaska Region and Hawaii	Sep-18	Sep-18	Sep-18 ongoing	
Inter-sensor calibration studies by using visible reflectance and cloud optical thickness from GOES, JPSS and MODIS	Sep-18	Sep-18	Sep-18	
Consistency checks for day and night retrievals	Sep-18	Sep-18	Nov-18	
Continuous use of microwave-based LWP data for validation (DCOMP & NCOMP)	Sep-18	Sep-18	Nov-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)	Aug-18	Aug-18	7/31/18	
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Reprocess regional data using cloud team calibration refinements	Sep-18	Sep-18	Sep-18	
Add J1 products to EDR monitoring web	Sep-18	Sep-18	Sep-18	
JPSS EPS algorithm updated DAPs	11/21/17; 02/02/18 (J1 capability); 04/30/18			

Highlights: RGB Based on Cloud Cover Layers



Example of a false color RGB derived from the 5-layer Cloud Cover Layer (CCL) product. RGB provides a quick view of the product that complements the quantitative layer values. This will be generated for the Alaska Cloud Demo.

Accomplishments / Events:

- September 10-12, 2018, the NOAA General Modeling Meeting and Fair was held at NOAA NCWCP in College Park. Peter Romanov participated in the Fair and presented a poster titled “Enhanced 30-year global daily snow and ice cover dataset for environmental modeling and climate change studies”.
- Preparations for the October 2 Provisional Maturity review continue. It has proven difficult to obtain enough data for validation, as there is a significant problem with the ice products generated by NDE (I&T string) that was introduced sometime after the June Beta Maturity 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			

- Project has completed.
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- 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: IST	May-18	May-18	06/15/18	
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	10/02/18	
J1 algorithm adjustments:				
Preliminary DAP to ASSISTT (science team to ASSISTT)	Apr-18	Apr-18	Apr-18	
Preliminary DAP to NDE (ASSISTT to NDE)	Aug-18	Aug-18	07/31/18	
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	Sep-18	
JPSS EPS algorithm updated DAPs	11/21/17; 02/02/18 (J1 capability); 04/30/18			

Accomplishments / Events:

- EPS AOD v2 algorithm DAP delivered to AIT
- Kondragunta and Huff organized a two-day Satellite Air Quality Proving Ground workshop that on September 25-26 that was attended by 70 participants (50 in person and 20 via webex). Highlights:
 - Updates on NOAA-20 and SNPP VIIRS aerosol algorithms/products were provided.
 - Presentations from user agencies
 - Panel discussion on continuity of observations
 - Live demo of AerosolWatch and JSTAR Mapper were provided
 - Arron Lyans presented on behalf of the JPSS program office
 - Ivan Csiszar gave a presentation on NOAA-20 and SNPP fire product update

Overall Status:

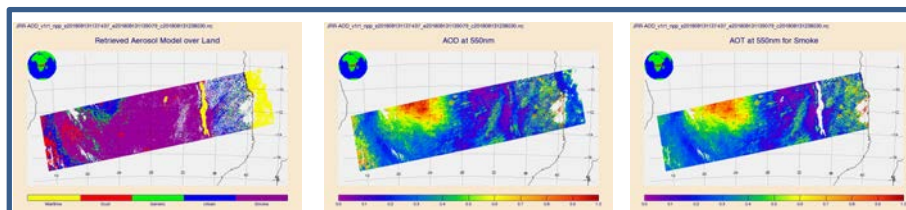
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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Issues/Risks:

None

The team conducted evaluation of the aerosol model selection in the VIIRS AOD algorithm. Preliminary results show that there are uncertainties in the AOD algorithm ability to dynamically select the right aerosol model, especially when there are dust and smoke events. The impact of this inaccurate selection of aerosol model on derived AOD is being analyzed.



Left: For a known smoke case AOD algorithm selected urban/generic aerosol model in the thickest part of the smoke plume. **Middle:** Retrieved AOD. **Right:** Retrieved AOD when algorithm forced to use smoke model. Differences in AOD between the two models is about 0.1 and these differences are significant and warrant further investigations with AERONET comparisons for specific cases.

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)	Aug-18	Aug-18	07/31/18	
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Validation of reprocessed SNPP VIIRS aerosol products	Sep-18	Sep-18	TBD	No updates from SDR team on status of reprocessed SDRs and cloud mask for the aerosol team to work on this
Add J1 products to EDR monitoring web	Sep-18	Sep-18	Sep-18	

Accomplishments / Events:

- Added to a list of NOAA-20 VIIRS granules that were known to contain ash, but the missing granule issue continued to hamper validation efforts.
- Validated NOAA-20 products against height and loading derived from advection pattern (see figure).
- 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		Missing granule issue

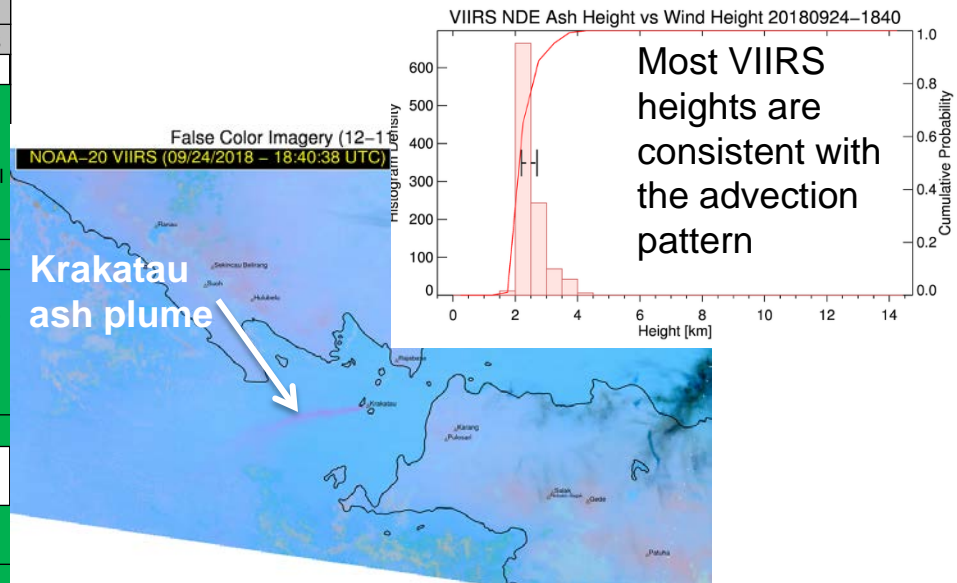
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Issues/Risks:

The missing granule issue has greatly limited the number of NOAA-20 validation opportunities. The provisional review has been postponed.

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	Nov-18		Combine B & P
Provisional Maturity	Sep-18	Nov-18		Missing granules
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)	Aug-18	Aug-18	07/31/18	
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add Volcanic Ash to EDR Monitoring web (SNPP & J1)	Sep-18	Sep-18	Sep-18	
JPSS EPS algorithm updated DAPs	11/21/17;	02/02/18 (J1 capability);	04/30/18	

Highlights: N20 Ash Cloud Height vs. Wind Derived Height



Accomplishments / Events:

- Gave oral presentation on the VIIRS active fire product suite at the 2018 EUMETSAT conference
- Gave oral presentation on the VIIRS active fire product at the 2018 NOAA Satellite Aerosol Products Workshop
- Analyzed the Carr fire event for improved Suomi NPP / NOAA-20 data coverage
- Started evaluation of VIIRS fire data over the Rhea fire to support COMET training

Overall Status:

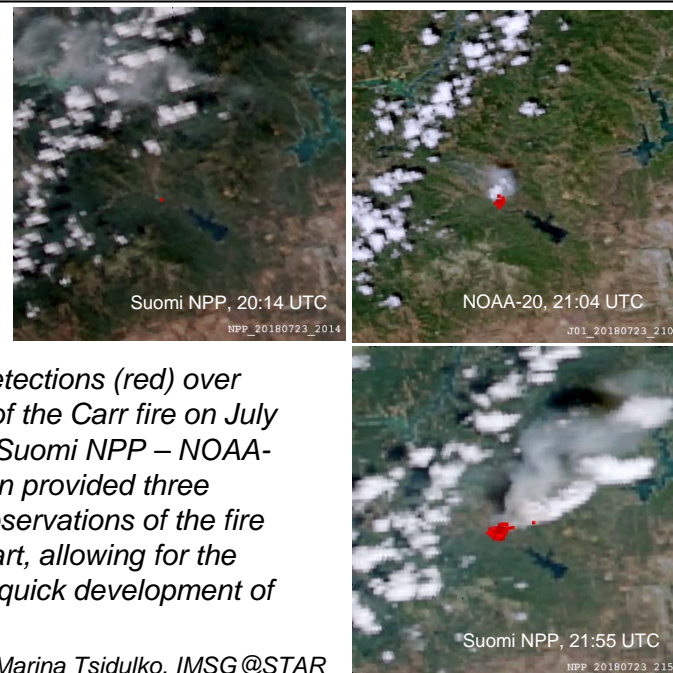
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Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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

Issues/Risks:

None

Highlights:



VIIRS 375m detections (red) over RGB imagery of the Carr fire on July 23, 2018. The Suomi NPP – NOAA-20 configuration provided three consecutive observations of the fire 50 minutes apart, allowing for the tracking of the quick development of the event

Credit: Marina Tsidulko, IMSG@STAR

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:				
Preliminary DAP to ASSISTT (science team to ASSISTT)	Aug-18	Aug-18	Oct-17	
Preliminary DAP to NDE (ASSISTT to NDE)	Oct-18	FY19	11/21/17	
SNPP/J1 algorithm refinement (Maintenance DAP)				
J1 data analysis and feedback	Sep-18	Sep-18	Sep-18	
Enterprise algorithm evaluation	Sep-18	Sep-18	Sep-18	
Suomi NPP reprocessing analysis	Sep-18	Sep-18	Sep-18	
Add J1 products to EDR monitoring web	Sep-18	Sep-18	Sep-18	

Accomplishments / Events:

- An analysis of the impact of GFC changes on Surface Reflectance was performed
- Overall, impacts were found to be minimal
- Evaluation of a potential issue in aerosol model LUT is also ongoing
- The team is working on updating the Beta readme file pre review team recommendations

Overall Status:

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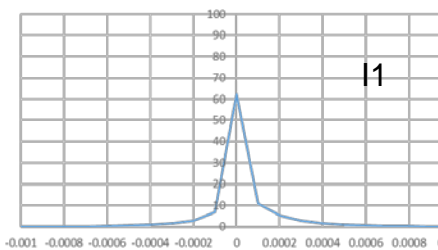
Issues/Risks:

None

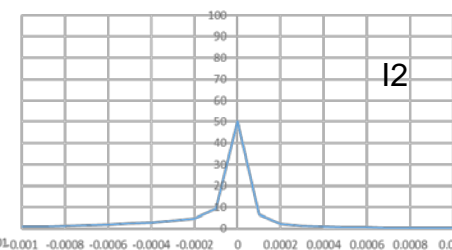
Highlights:

Credit: Mike Wilson (IMSG@STAR)

GFS Histogram Differences - Percentage

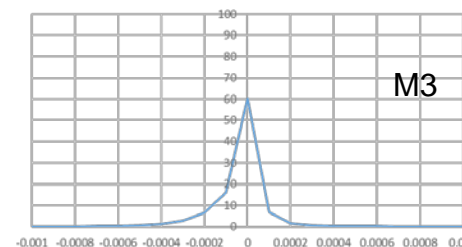


GFS Histogram Differences - Percentage



Frequency distributions of Surface reflectances derived using the operational and new (FV3 core – based) GFS input. Shown are I1, I2 and M3, which are the input bands used by the Vegetation Index product suite.

GFS Histogram Differences - Percentage



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	07/27/18	
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add SR to EDR monitoring web (SNPP & J1)	Sep-18	Sep-18	Sep-18	
Enterprise algorithm testing and updates	Sep-18	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:

- A couple of modifications have been made in developing L3 VIIRS LST software package:
 - Using both the granule-to-tile and tile-to-granule indices of the gridding tool output for improving the processing efficiency. The code has been tested with significant reduce of processing
 - removed the land/sea mask from the input list; modified the mandatory flag bit associated with ocean mask
- Further modified slides of the VIIRS gridded LST CDR; it is mostly ready .
- Started cross comparison analysis with MODIS data for the L3 VIIRS LST product evaluation. The result is presented in the following slides.
- The problem of overflow in computing found in the NOAA 20 enterprise LST output has been solved.
- A problem is found in NDE system, which retains the LST granule file even it contains no single valid LST retrieval. A request of not retaining such granule files was sent o the operational unit, and was acknowledged .
- Continue to monitor the NOAA 20 LST data at granule and global scale.
- Support to model group: provided more ELST test data to the model group for their test. Several updates have been made for the new test data: the LST quality bits have been corrected considering the AOD data availability; the ECM data has been corrected.

Overall Status:

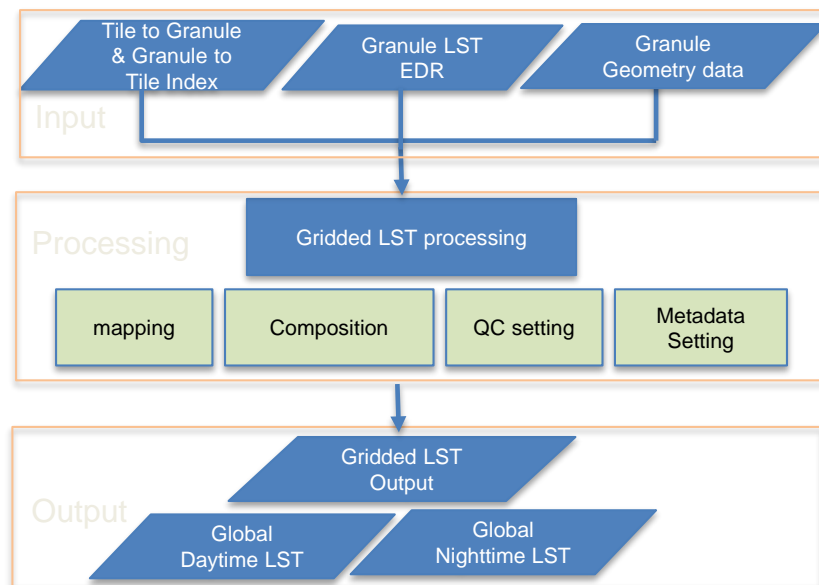
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Technical / Programmatic		X			
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Issues/Risks:

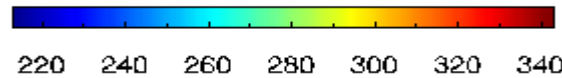
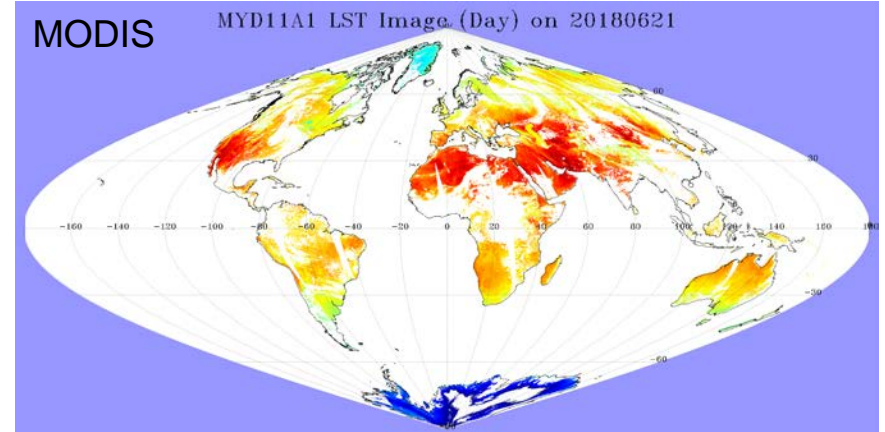
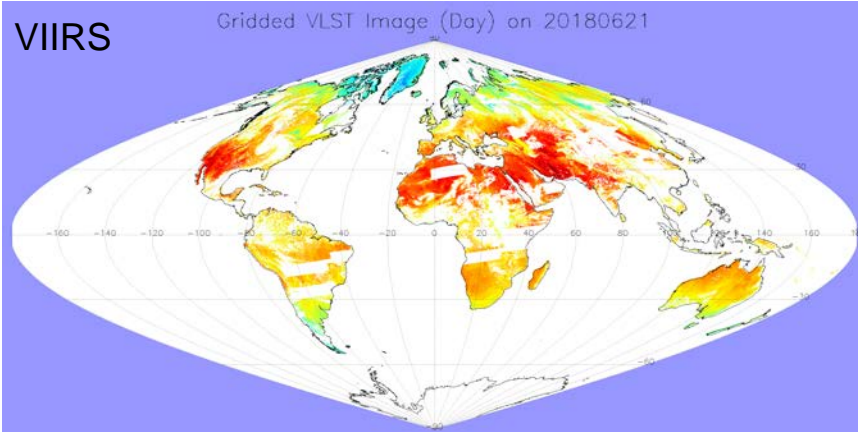
FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Jul-18	Jul-18	July 19	
J1 algorithm adjustments:				
Preliminary DAP to ASSISTT (science team to ASSISTT)	Apr-18	Apr-18	03/09/18	
Preliminary DAP to NDE (ASSISTT to NDE)	Aug-18	Aug-18	08/04/18	
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	Oct-18		The CDR is scheduled at early Oct-18
Additional cloud filtering	Sep-18	Sep-18	Sep-18	
Add J1 products to EDR monitoring web	Sep-18	Sep-18	Sep-18	
Deep-dive analysis for the anomaly watch	Sep-18	Sep-18	Sep-18	

Highlights:

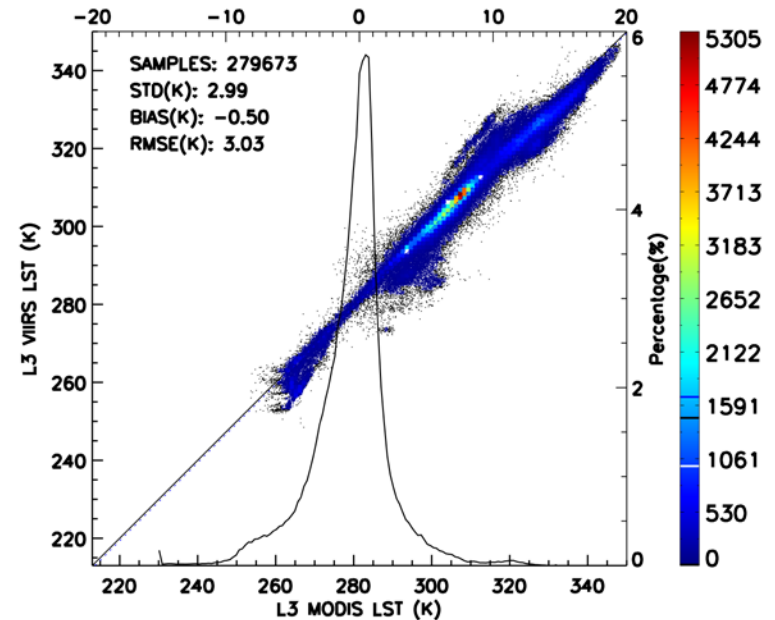
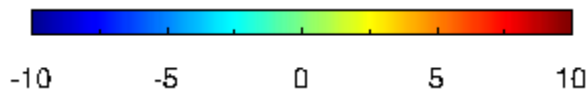
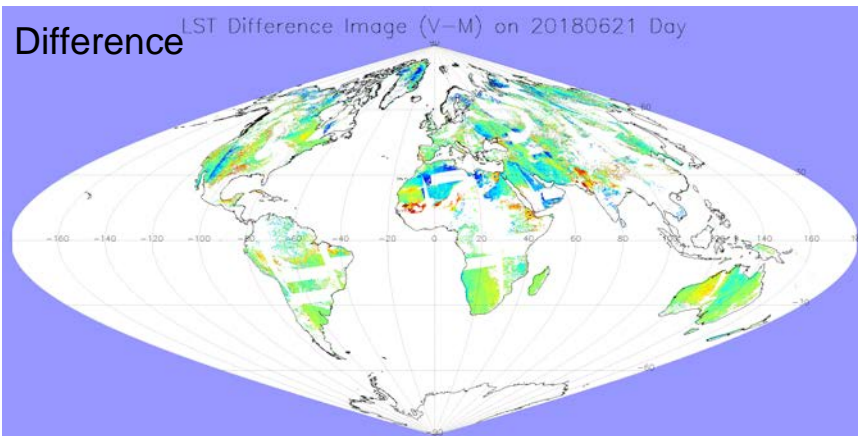


High Level Design/Flow Chart for L3 Global Gridded VIIRS LST Data Production

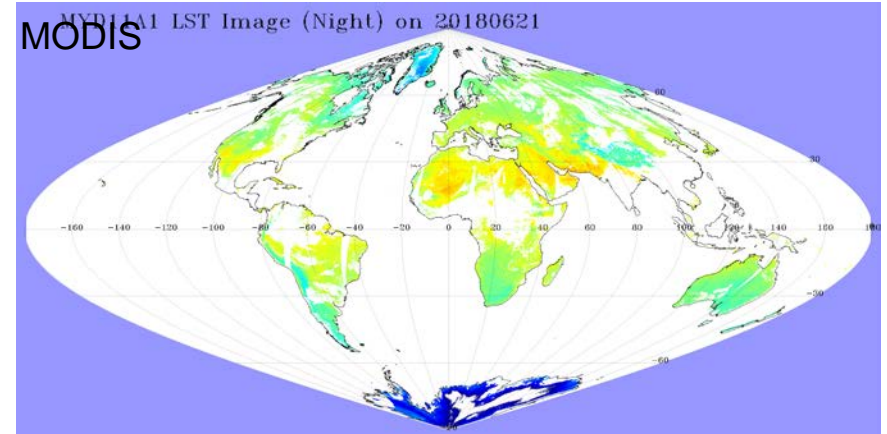
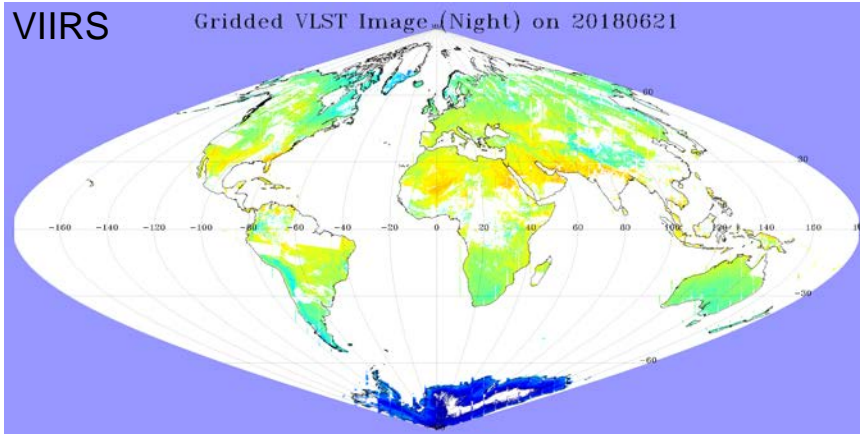
Cross comparison with MODIS L3 LST Product



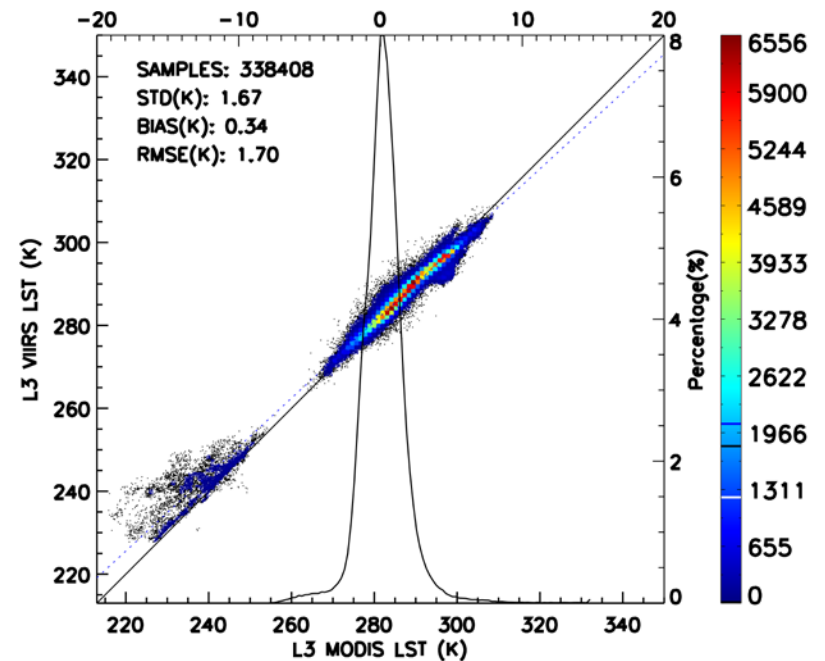
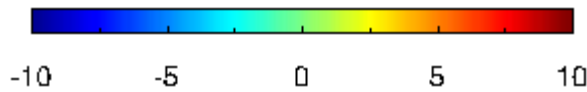
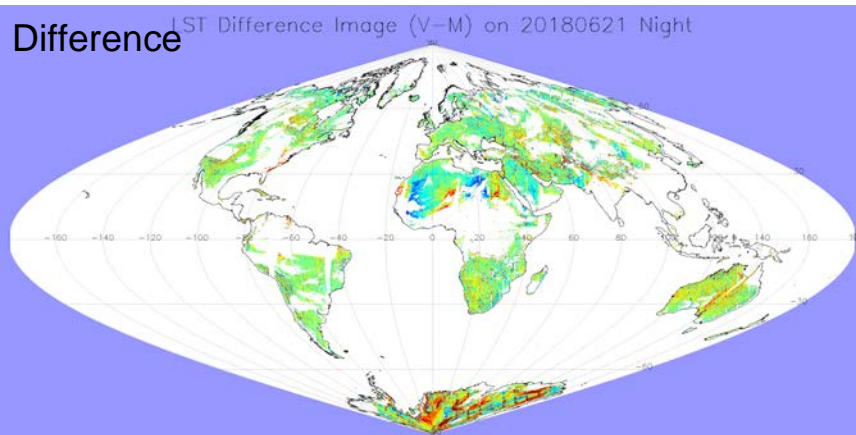
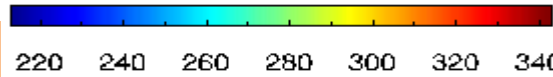
Daytime: June 21, 2018



Cross comparison with MODIS L3 LST Product



Nighttime: June 21, 2018



Accomplishments / Events:

- Refined and further tested the LUTs for the NOAA-20 VIIRS surface albedo product
- Developed and tested gridded albedo prototype software (highlighted)
- Studied composite strategies for gridded albedo product (Slide #2)
- Demonstrated features of gridded albedo product (Slide #3)
- Improved gridded albedo CDR slides
- Prepared 01/19 DAP for AIT

Overall Status:

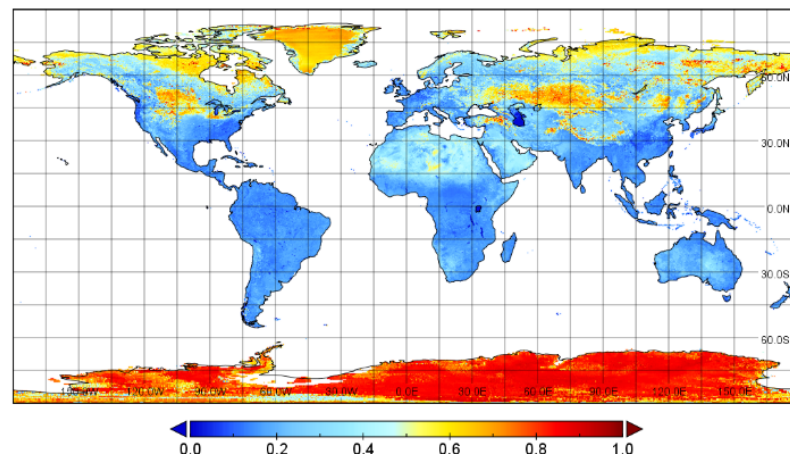
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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

Issues/Risks:

Highlights:

Integrated from Gridded LSA product (Jan 15th, 2015)



An example global map of VIIRS LSA on 1/15/15 aggregated from the gridded VIIRS LSA product under development. The gridded product has the feature of gap-free in addition to being gridded.

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Jul-18	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)	Aug-18	Aug-18	08/04/18	
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	Sep-18	Sep-18	Issue 1
Deep-dive analysis for the anomaly watch	Sep-18	Sep-18	Sep-18	
Add J1 products to EDR monitoring web	Sep-18	Sep-18	Sep-18	
Enterprise Algorithm LSA ARR			03/14/18	

Composite strategy of gridded LSA product

Considerations

Diurnal variations won't be an issue since the product uses daily mean values.

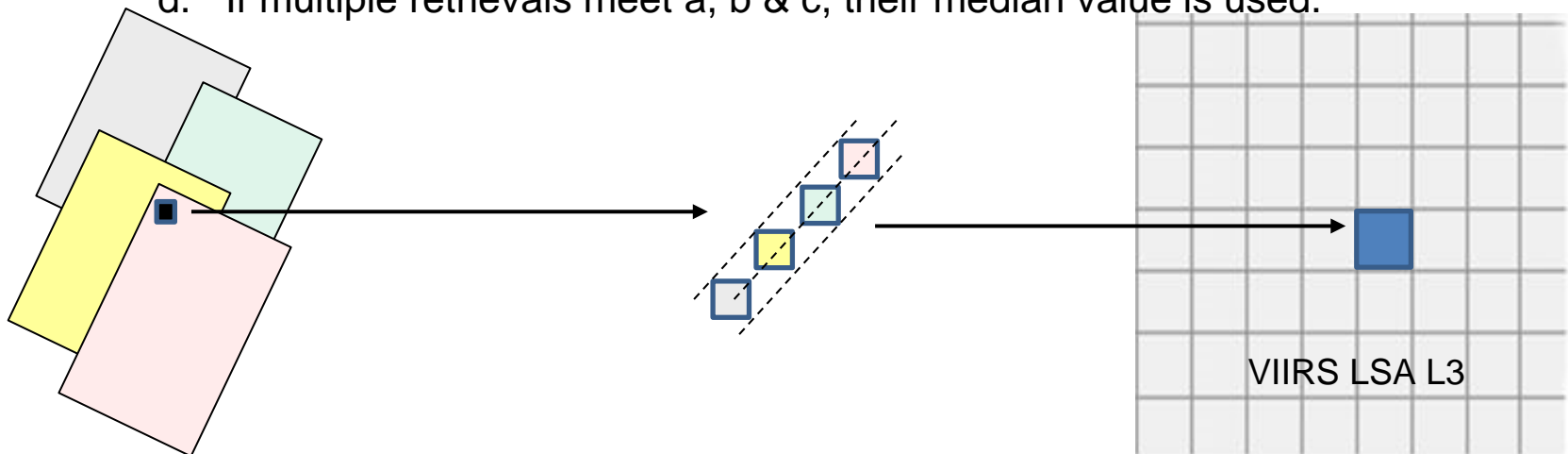
The retrieval with the best quality should be selected.

Best direct retrievals are saved for future higher level product development

Proposed approach

In the case that a grid cell is covered by multiple granule layers, a set of composition criterion is used to determine the LSA value of that cell.

- a. Confidently clear-sky retrievals are selected;
- b. Retrievals with low viewing zenith angles ($<60^\circ$) are selected;
- c. Retrievals with low solar zenith angles ($<60^\circ$) are selected;
- d. If multiple retrievals meet a, b & c, their median value is used.



Benefits of temporal filtering

Information used

- Current retrieval
- Historical retrieval
- Climatology

Benefits

- Filling missing values
- Reducing estimation uncertainties

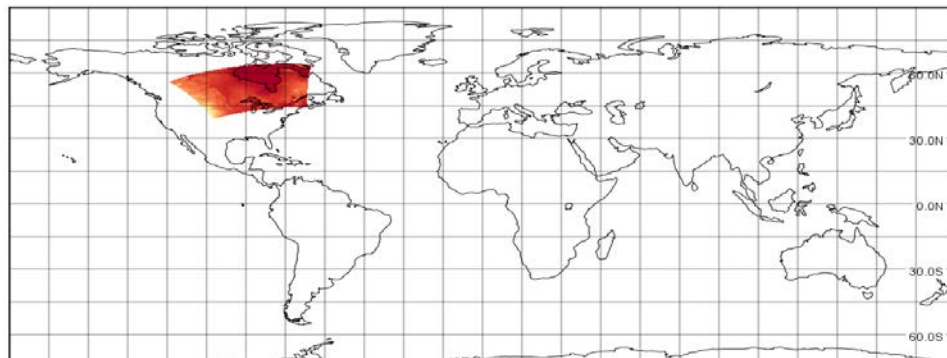
Case study

Granule ID: J01002012924272

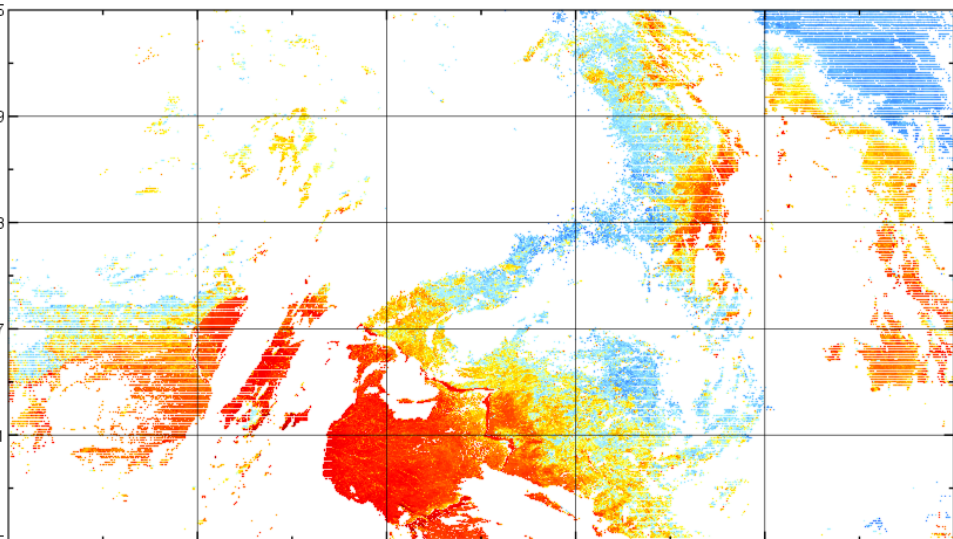
Source: NOAA-20

Date: Mar 9th, 2018

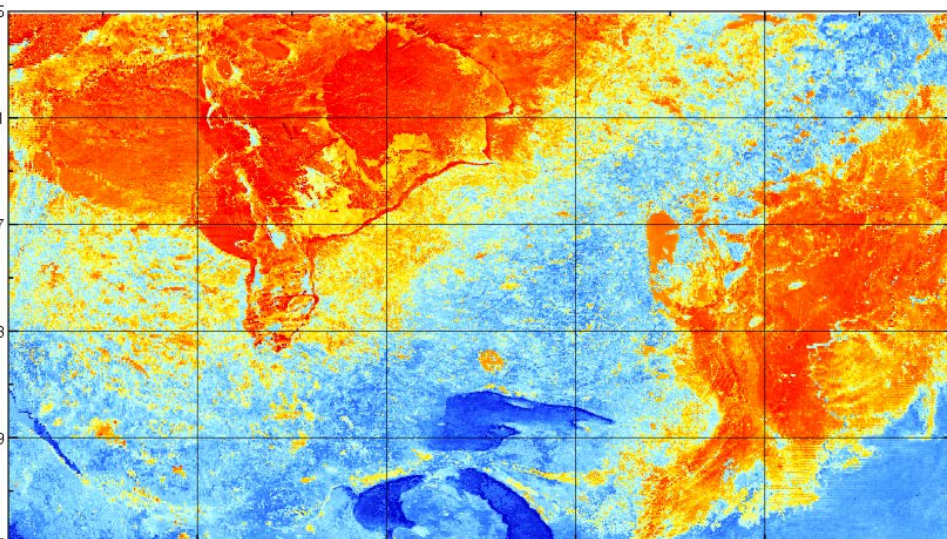
Granule: J01002012924272



Original Albedo ...edo_IP (J01002012924272)



Filtered Albedo (J01002012924272)



Accomplishments / Events:

- The team has completed the development and validation of the 2017 Annual Surface Type (AST) products. These products have been delivered to STAR-JPSS and made available from its website.
- The team continues to download 2018 VIIRS data from NOAA servers and generate gridded global surface reflectance mosaics.

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		Larger task than planned and member left team

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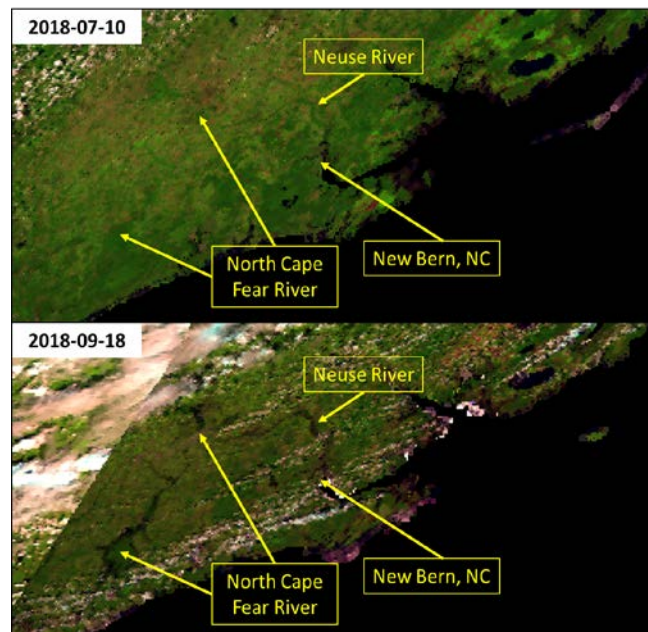
Issues/Risks:

None

Highlights:

Hurricane Florence Makes Small Rivers Visible from VIIRS

Most rivers are too narrow to "see" from VIIRS. But some of them in the North and South Carolinas became discernable on the gridded global surface reflectance mosaic created on 9/18 due to massive floods caused by Hurricane Florence.



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	Oct-18		workforce changes
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	Aug-18	
Generate VIIRS GST17 based on VIIRS 2017 data using SVM algorithms	Sep-18	Sep-18	Aug-18	
ATBD update	Sep-18	Oct-18		Rewriting

Accomplishments / Events:

- Improved the algorithm efficiency by adopting a new strategy to temporarily composite the VIIRS bi-weekly VI product.
- Initialization of collaboration between NOAA Vegetation group with Ulsan National Institute of Science and Technology on Integration of NOAA-20 and Geo-KOMPSAT-2A to produce vegetation product.
- 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:

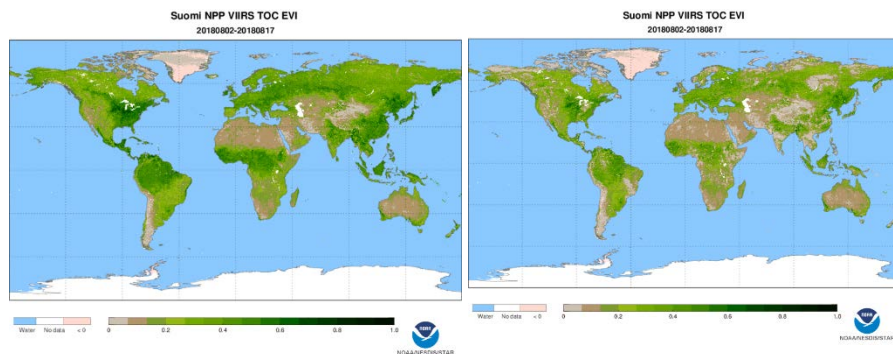
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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:

The issue of inconsistency between IDPS surface reflectance and NED surface reflectance was discussed with the reflectance team; a solution at reflectance side is on the way

Highlights:



We have changed the implemtation of VIIRS bi-weekly vegetation product, and the difference shown in this map is due to the parameters used in temporarily compositing the bi-weekly product.

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Aug-18	Aug-18	08/22/18	
J1 algorithm adjustments:				
Preliminary DAP to ASSISTT (science team to ASSISTT)	Sep-18	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	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	

Accomplishments / Events:

- Produced SNPP NDE GVF from July 1 to Aug 10, 2018
- Updated tools for converting regional and global GVF from netCDF format to Grib2 format
- Produced global 4-km GVF and regional 1-km GVF in Grib2 format from Jan 1, 2017 to Sep 22, 2018 and sent the Grib2 data to an external GVF user (CPS Energy)
- 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:

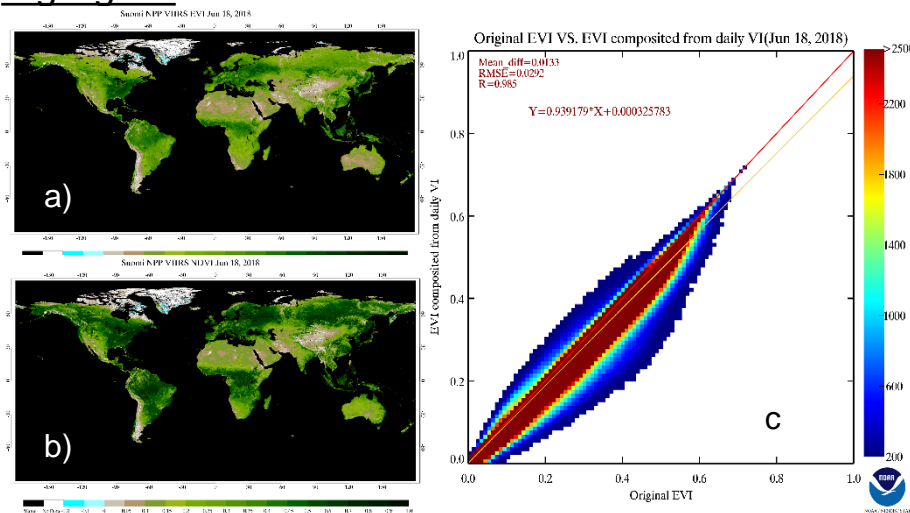
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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Issues/Risks:

The issue of inconsistency between IDPS surface reflectance and NED surface reflectance was discussed with the reflectance team; a solution at reflectance side is on the way

Highlights:



Compositing weekly VI from daily VI product. a) VIIRS weekly EVI product from operational algorithm; b) VIIRS weekly EVI product from VIIRS daily EVI product; c) Scatterplot between the operational weekly EVI product and the composited weekly EVI product from daily EVI product

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Aug-18	Aug-18	08/22/18	
J1 algorithm adjustments:				
Preliminary DAP to ASSISTT (science team to ASSISTT)	Sep-18	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	Sep-18	

Accomplishments / Events:

- Prepared 16 weeks of the most recent 1km and 4km NOAA-20 data files, and 7-day outputs for NDE;
- Performed several regression tests to compare STAR versus NDE generated VHP 1km products;
- Updated Operational Readiness Review (ORR) of NPP VIIRS VH product ;
- Generation of NOAA-20 and SNPP VIIRS 500m, 1km, 4km, 16km weekly composite VH data & products;
- Presented NOAA-20 VH data and products (drought, climate) at the EUMETSAT meeting

Overall Status:

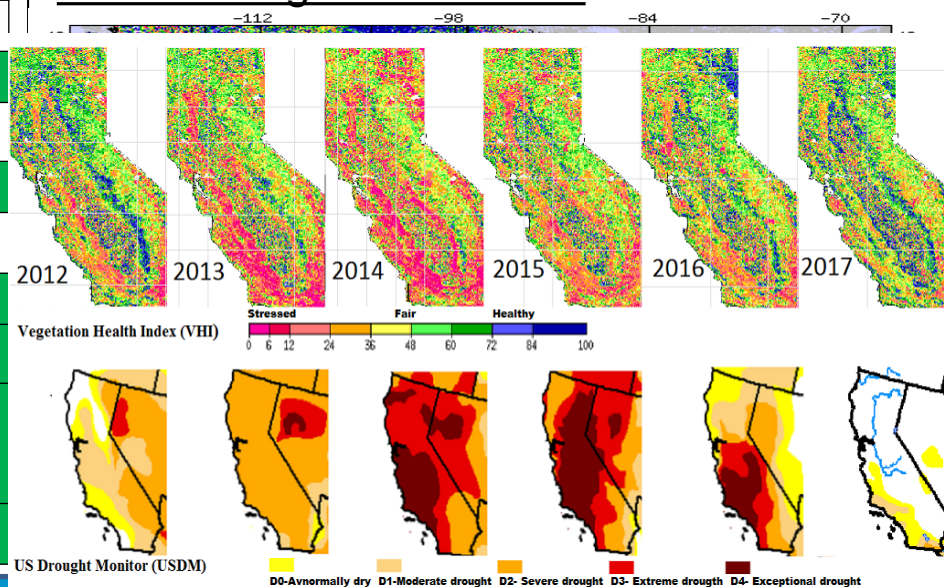
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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: 1 km Vegetation health versus USDM Drought assessment



FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Aug-18	Aug-18	08/22/18	
J1 algorithm adjustments (1-km & 4-km VH):				
Preliminary DAP to NDE	Aug-18	Aug-18	08/28/18	
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add J1 products to EDR monitoring web	Sep-18	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:

- NOAA-20 MSL12 ocean color products have been added to the [OC EDR monitoring webpages](#) (milestone: see highlights)
- NOAA Office of Marine and Aviation Operations awarded ship time for our annual (FY19) dedicated VIIRS cal/val cruise. The cruise is scheduled onboard the NOAA ship Nancy Foster, 16-25 May 2019 and will go from Charleston, SC to Key West, FL.
- 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.

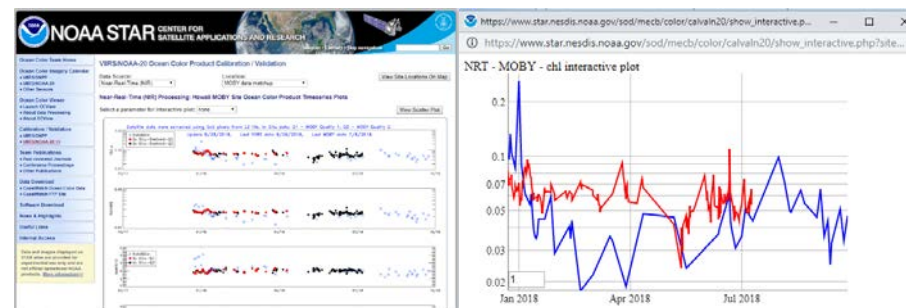
Issues/Risks:

- SDR calibration error for SNPP—identify how to avoid same error in future
- Big jumps in NOAA-20 SDR have impacted the schedule for validation of NOAA-20 MSL12 ocean color EDR

Highlights: Milestone Completed

- NOAA-20 MSL12 ocean color products have been added to the [OC EDR monitoring webpages](#) (milestone)

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	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 (v 1.2) reprocessed ocean color data distributions	Sep-18	Sep-18	Nov-17	
Add J1 products to EDR monitoring web	Sep-18	Sep-18	Aug-18	



Accomplishments / Events:

- ACSPO v2.60 scheduled to go operational in NDE on 30 Oct 2018
- Reprocessed 9+ months of N20 data from Jan-Sep 2018 (see Fig). N20 SST is well within specs and consistent w/SNPP.
- SNPP RAN2: reprocessed are 5 months (Jan-May 2018)
- RDR-to-SDR conversion done by SST Team using the code delivered by SDR Team, which corrects for WUCD and N20 LWIR artifacts in VIIRS brightness temperatures (BTs) for SNPP & N20
- Once ACSPO 2.60 is operational in NDE, archival of N20 SST will commence with PO.DAAC. Operational record will be back-filled to Jan 2018-pr using N20 RAN1 data.
- N20 is monitored in internal SQUAM. Results will be promoted to main SQUAM url, after N20 SST is operational in NDE
- UK MO evaluated 2.60 vs. current 2.41, and ready for transition

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			

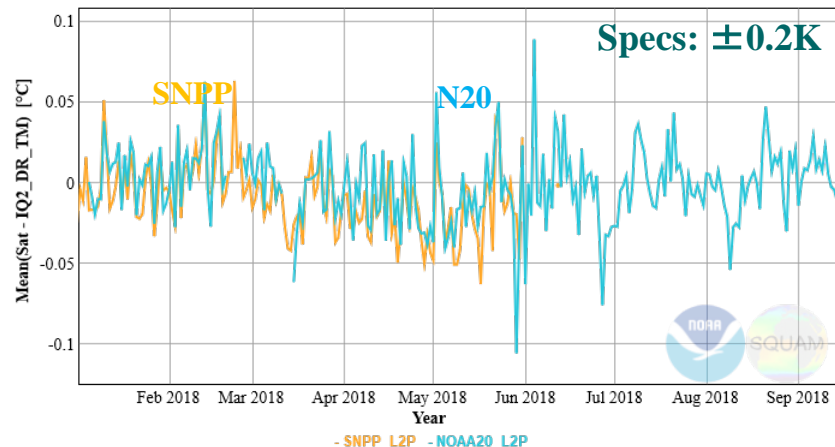
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

Highlights:

VIIRS, ACSPORAN2, Night, outlier retained



N20 RAN1 and SNPP RAN2 now cover 9+ and 5 months in 2018. Shown are mean nighttime biases wrt. in situ SSTs (Accuracy), which are consistent across sensors and well within the $\pm 0.2K$ specs.

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	06/14/18 to ASSISTT 07/05/18 to NDE	
SNPP/N20 Algorithms Refinement (Maintenance DAP), LTM				
Release updated SQUAM v2.1, iQuam v2, and ARMS v2.1	Sep-18	Sep-18	Completed 08/31/2018	
Add J1 products to EDR monitoring web	Sep-18	Sep-18	Completed 09/30/2018	

Accomplishments / Events

- Antonia Gambacorta attended the 2018 EUMETSAT meeting and gave an oral presentation on the status of the Enterprised NUCAPS system
- A first complete validation effort of NUCAPS OLR against SNPP and NOAA20 CERES OLR data was performed.
- Tests have been occurring on the MetOp B NUCAPS implementation in the HEAP.
- A first complete validation of NUCAPS NOAA20 Ozone retrievals was performed against WUDC and SHADOZ ozone sondes.
- A first computation of SNPP CrIS OBS and NOAA20 CrIS OBS double differences was computed to assess the inter-consistency between the two instruments.

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
1 post-launch calibration/validation				
Beta Maturity	Jun-18	Jun-18	06/15/18	
Provisional Maturity	Sep-18	Sep-18	06/15/18 (AVTP/AVMP)	06/15/18: AVMP/AVTP 10/02/18: other EDRs
Matchup J1 CrIS SDR with CERES data; generate regression coefficients for CrIS OLR	Jun-18	August 18	Aug-18	
Validation against ECMWF data and radiosondes; SNPP and J1 EDRs cross comparisons	Sep-18	Sep-18	Sept-18	
Validation with NPP CERES radiation products	Sep-18	Sep-18	Sept-18	<i>A first complete validation effort of NUCAPS OLR against SNPP and NOAA20 CERES OLR data was performed.</i>
Validation NUCAPS trace gas EDRs against MOPPIT, AIRS, TCCON, OCO-2	Sep-18	Sep-18	Sept-18	
1 algorithm adjustments:				
Preliminary DAP to ASSISTT (team to ASSISTT)	Apr-18	Apr-18	04/27/18	
Preliminary DAP to NDE (ASSISTT to NDE)	Aug-18	Aug-18	07/16/18	Updated deliveries: 8/10 & 8/15
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add J1 products to EDR monitoring web	Sep-18	Sep-18	Sep-18	
NUCAPS Emergency DAP	07/12/18 (update to the NUCAPS codes to handle the changes to the JPSS-RR Clouds files)			

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:

- Antonia Gambacorta attended the 2018 EUMETSAT meeting and gave an oral presentation on the status of the Enterprised NUCAPS system
- A first complete validation effort of NUCAPS OLR against SNPP and NOAA20 CERES OLR data was performed.
- Tests have been occurring on the MetOp B NUCAPS implementation in the HEAP.

Accomplishments / Events:

- CSPP_MiRS 2.1 (contains MiRS v11.3) was publicly released on September 10th.
- Continuing to work with NDE to integrate MiRS v11.3 into operations. NDE is now running v11.3 in the I&T string. An issue (floating point exception) that leads to 10% of granules to fail (only at NDE, not STAR) is being actively worked. A tentative fix is currently being tested at NDE and algorithm team is awaiting results.
- Validation activities continuing, comparisons of MiRS sea ice concentration and ice age with collocated VIIRS ice concentrations are underway (see highlights).

Overall Status:

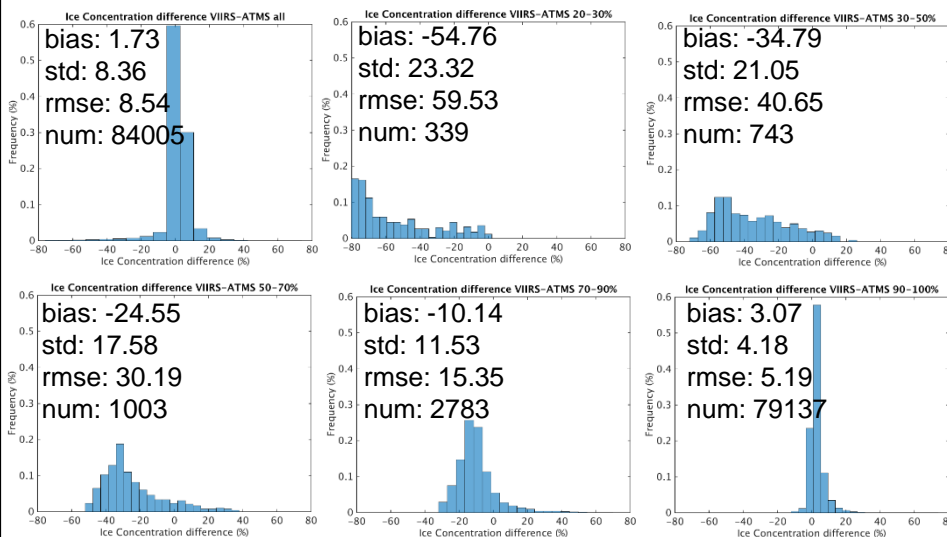
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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 comparison of total sea ice concentration with VIIRS ice concentration, stratified by VIIRS ice concentration ranges on 29 January 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	08/28/18	
Validation against other reference data for MiRS EDRs (e.g. RR, SWE, SIC, etc.)	Sep-18	Sep-18	Sep-18	
J1 algorithm adjustments:				
Preliminary DAP to NDE (Extend/Optimize MiRS for J1)	Aug-18	Aug-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	Sep-18	

Accomplishments / Events:

- The radiometric bias corrections were derived for the six channels used in the radiative transfer model from collocated NOAA-20 brightness temperatures (Tbs) and GFS model data.
- A preliminary NOAA-20 SFR algorithm was developed. Initial calibration was conducted through matching the histograms of unadjusted NOAA-20 SFR and Stage IV radar precipitation analyses. The table below shows the statistics of the preliminary algorithm. Currently, the NOAA-20 SFR algorithm is undergoing further calibration.

	Corre. Coeff	Bias (mm/hr)	RMS (mm/hr)
Before Cal	0.47	-0.25	0.76
After Cal	0.49	0.01	0.76

- The ATMS SFR processing system is undergoing a revamp so a unified system can be used to process both S-NPP and NOAA-20.

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	12/30/17	
Snow Fall Rate (SFR) Cal/Val plan (final delivery)	Mar-18	Mar-18	03/28/18	
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	Aug-18	Aug-18	06/14/18	Passed OSPO code review
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add SFR to EDR monitoring web	Sep-18	Sep-18	Sep-18	

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			

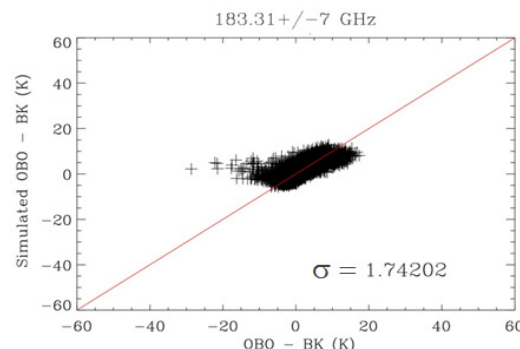
1. Project has completed.
2. Project is within budget, scope and on schedule.
3. Project has deviated slightly from the plan but should recover.
4. Project has fallen significantly behind schedule, and/or significantly over budget.

Issues/Risks:

None

Highlights:

NOAA-20 Bias Correction - 183±7 GHz



NOAA-20 bias correction for the 183±7 GHz channel. X-axis is the difference between Tb observations and RTM simulations, and y-axis is its multi-variant linear regression result with a standard deviation of 1.74 K.

Accomplishments / Events:

- NOAA-20 VPW/radiosonde, NOAA VWP/aircraft, and NOAA-20 VPW/GFS collocation processing has been initiated.
- The VIIRS winds software has been implemented at CIMSS and is now running routinely on NOAA-20 data. Comparisons are being done to MODIS winds.

Overall Status:

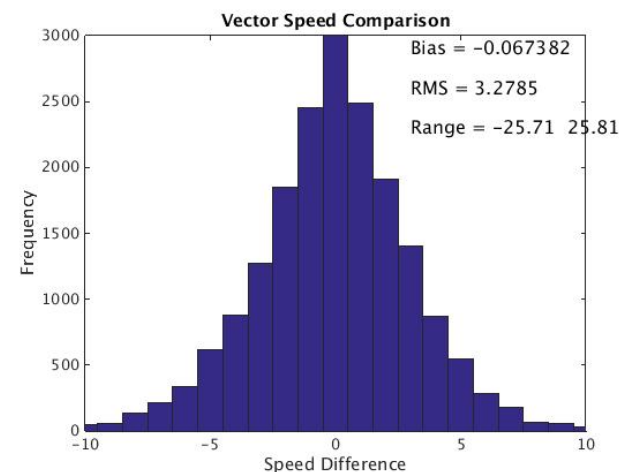
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule		X			

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Issues/Risks:

None

Highlights:



Differences between MODIS and NOAA-20 VIIRS wind speeds for products generated at CIMSS.

FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
J1 post-launch calibration/validation				
Beta Maturity	Jun-18	Sep-18	10/02/18	Combine Beta & Provisional
Provisional Maturity	Sep-18	Sep-18	10/02/18	
J1 algorithm adjustments:				
Preliminary DAP to ASSISTT (science team to ASSISTT)	Apr-18	Apr-18	Apr-18	
Preliminary DAP to NDE (ASSISTT to NDE)	Aug-18	Aug-18	07/31/18	
SNPP/J1 algorithm Refinement (Maintenance DAP)				
Add J1 products to EDR monitoring web	Sep-18	Sep-18	Sep-18	

Accomplishments / Events:

- Testing continues on updated GAASP package that includes several algorithm upgrades
- Working with satellite liaisons and NWS on GCOM product quick guides
- 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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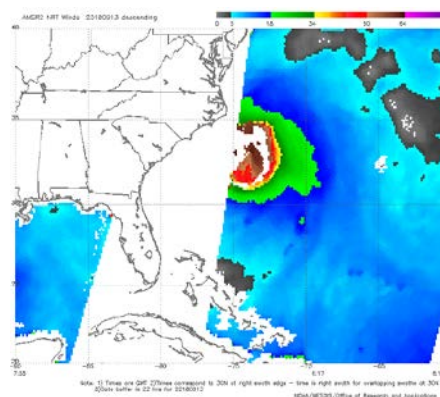
Issues/Risks:

None

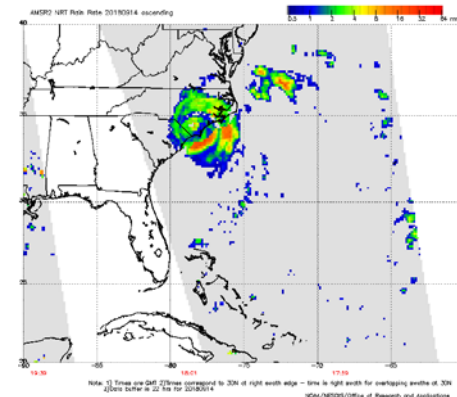
FY18 TTA Milestones	Original Date	Forecast Date	Actual Completion Date	Variance Explanation
Updated Wind Speed Product (Coastal and accuracy improvements)	Nov-17	Nov-17	Nov-17	
Conduct technical information meeting with JAXA GCOMW-1 scientists and engineers	Nov-17	Nov-17	Nov-17	
GAASP V2.1 DAP to NDE (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 ASSISTT (science team to ASSISTT)	Jul-18	Jul-18	Jul - 18	
Delivery of updated GAASP Package to OSPO (ASSISTT to NDE)	Aug-18	Oct-18		Final testing almost completed
Reprocessing EDRs based upon updated GAASP package	Sep-18	Dec-18		Missing NRT data; GFS changes, etc.

Highlights: GCOM Observations of Hurricane Florence

Surface Wind 13 Sep 2018



Rain Rates 14 Sep 2018



GCOM AMSR-2 products depicting Hurricane Florence. Ocean surface wind speeds (left) when Florence was a category 3 storm. Rain rates after landfall, which contributed to record flooding in North Carolina.

Accomplishments / Events:

- OMPS Total Ozone EDR Adjustment Table deliveries for V8TOz and V8TOS were checked by ASSIST and delivered to NDE.
 - SO2 alert pages at OSPO are up.
 - Performance of TOAST blended products using V8Pro and CrIS NUCAPS EDRs at OSPO verified vs STAR.
 - Monitoring site content expansion to include more NOAA-20 OMPS products continued.
- https://www.star.nesdis.noaa.gov/smcd/spb/OMPSSDemo/proOMPSSbeta.TOZ_N20_V8.php

Overall Status:

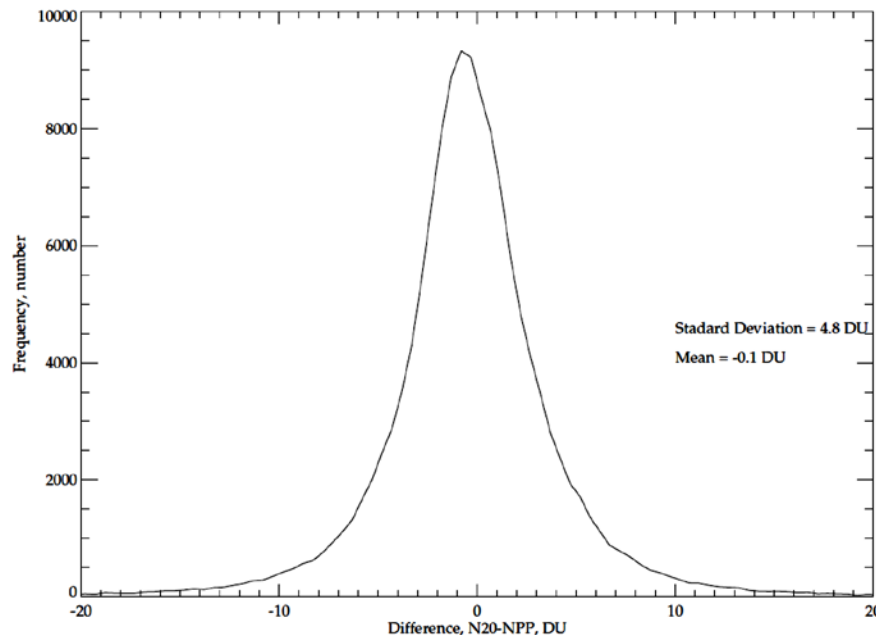
	Green ¹ (Completed)	Blue ² (On-Schedule)	Yellow ³ (Caution)	Red ⁴ (Critical)	Reason for Deviation
Cost / Budget		X			
Technical / Programmatic		X			
Schedule			X		# SDR Schedule

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

Issues/Risks:

Code Changes for OMPS 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 (V8TOz)	Apr-18	Oct-18	10/02/18	SDR Provisional, Mx2 TTO
Provisional Maturity (V8Pro)	Apr-18	Nov-18		SDR Provisional, Mx2 TTO
Validated Maturity	Aug-18	Feb-19		16-Granule Fix, Mx3 TTO
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 06/0618 V8Pro 9/28/18 V8TOz	Final will await SDR fixes.
SNPP/N20 algorithm refinement (Maintenance DAP)				
Algorithm improvements (outliers, EOFs, solar, Wavelengths, bandpasses)	Sep-18	Jan-18		Additional work for SDR variations
Add N20 products to EDR monitoring	Sep-18	Sep-18	Sep-18	



Histogram of Total Ozone Matchups for Latest Adjustment Table

Accomplishments / Events:

- Ongoing review of NUCAPS sounding for NPP and NOAA-20
- Installed new “Supersaturation” flag in NPROVS for NUCAPS soundings and provided review **(Highlight)**
- Ongoing review of “reprocessed” NPROVS Special radiosonde dataset from the GRUAN Lead Center and associated satellite product collocations from STAR.
- Observations from the ongoing Radiosonde Inter-comparison and VALidation (RIVAL) campaign processed into NPROVS
- Article published in GSICS Quarterly Newsletter, Summer, 2018: “GSICS and GRUAN Coordination: RIVAL to the Rescue?”
- VIIRS I-5 Band descending images were added to the JSTAR Mapper website which is now public and linked to the JPSS website. **(Highlight)**.

Overall Status:

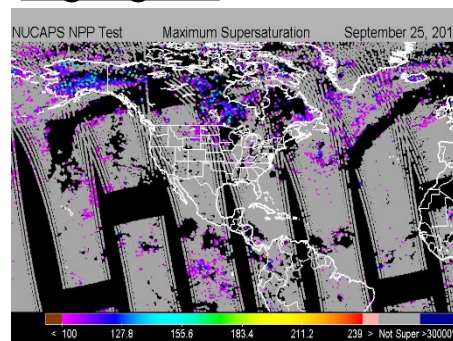
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Cost / Budget		X			
Technical / Programmatic		X			
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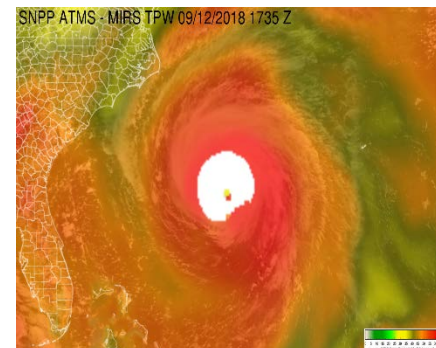
Issues/Risks:

None

Highlights:



NPROVS: New NUCAPS flag installed in NPROVS displays numerous occurrences (colors) of supersaturated (Humidity >100%) IR-based soundings which otherwise passed QC; problematic! Investigation continues.



EDR-LTM: Figure 1: Hurricane Florence as it approaches Mid-Atlantic coast on September 12, 2018. The two products shown are the SNPP MIRS Total Precipitable Water overlaid on VIIRS True Color image.

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	Sep-18	Sep-18	Sep-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	Aug-18	
	Maintain support of GRUAN, ongoing NOAA/GRUAN/ARM RIVAL Coordination and GRUAN / GSICS activities	Aug-18	Aug-18	Aug-18	
	Support NWS Radiosonde Transition and AWIPS-2 (NUCAPS user) programs/initiatives	Aug-18	Aug-18	Aug-18	