



Instrument Performance and Sensor Data Quality Long Term Monitoring (LTM) in STAR Integrated Cal/Val System (ICVS)

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Center for Satellite Applications and Research
National Environmental Satellite, Data and Information Service

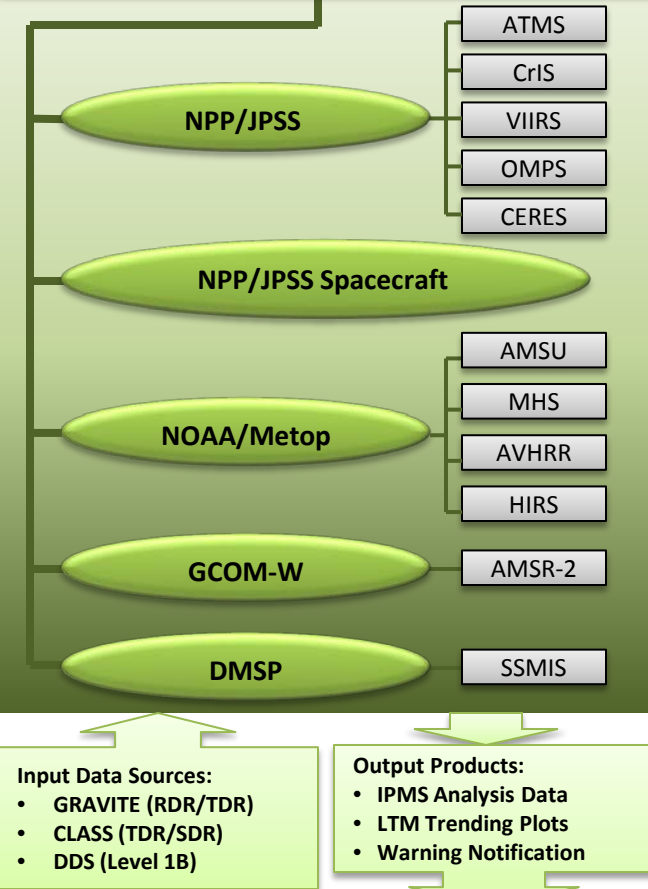


Outline

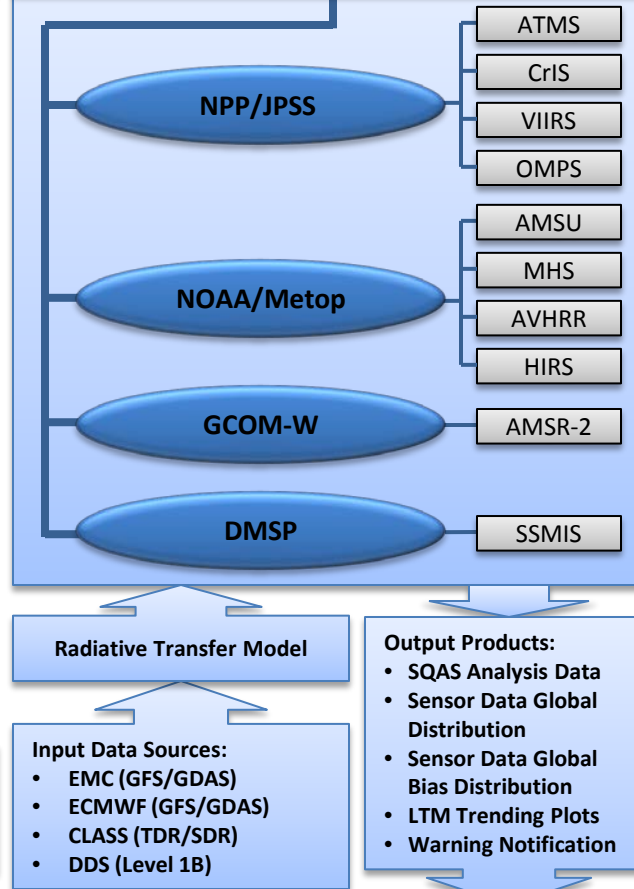
- Introduction to Instrument Performance and Sensor Data Quality Long-Term Monitoring (LTM) in STAR Integrated Cal/Val System (ICVS)
- STAR ICVS-LTM Modules and Anomaly Samples
 - S-NPP Spacecraft LTM
 - S-NPP ATMS LTM
 - S-NPP VIIRS LTM
 - S-NPP CrIS LTM
 - S-NPP OMPS LTM
- Path Forward

NOAA/NESDIS/STAR ICVS-LTM System

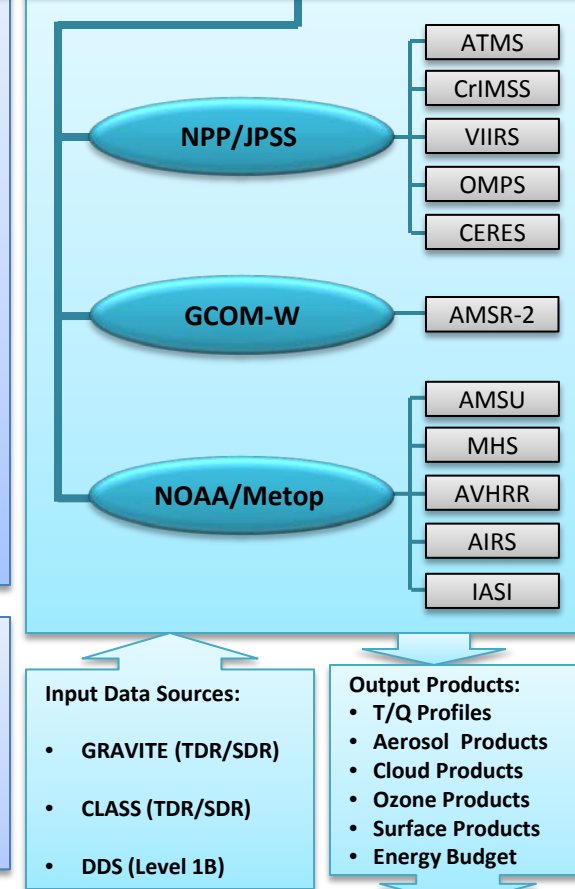
Instrument Performance Monitoring System (IPMS)



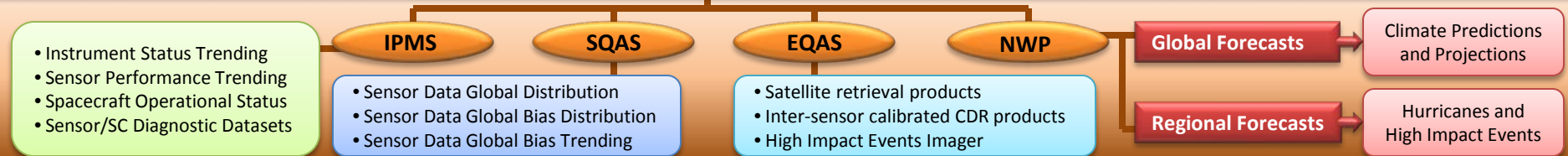
SDR Quality Assurance System (SQAS)

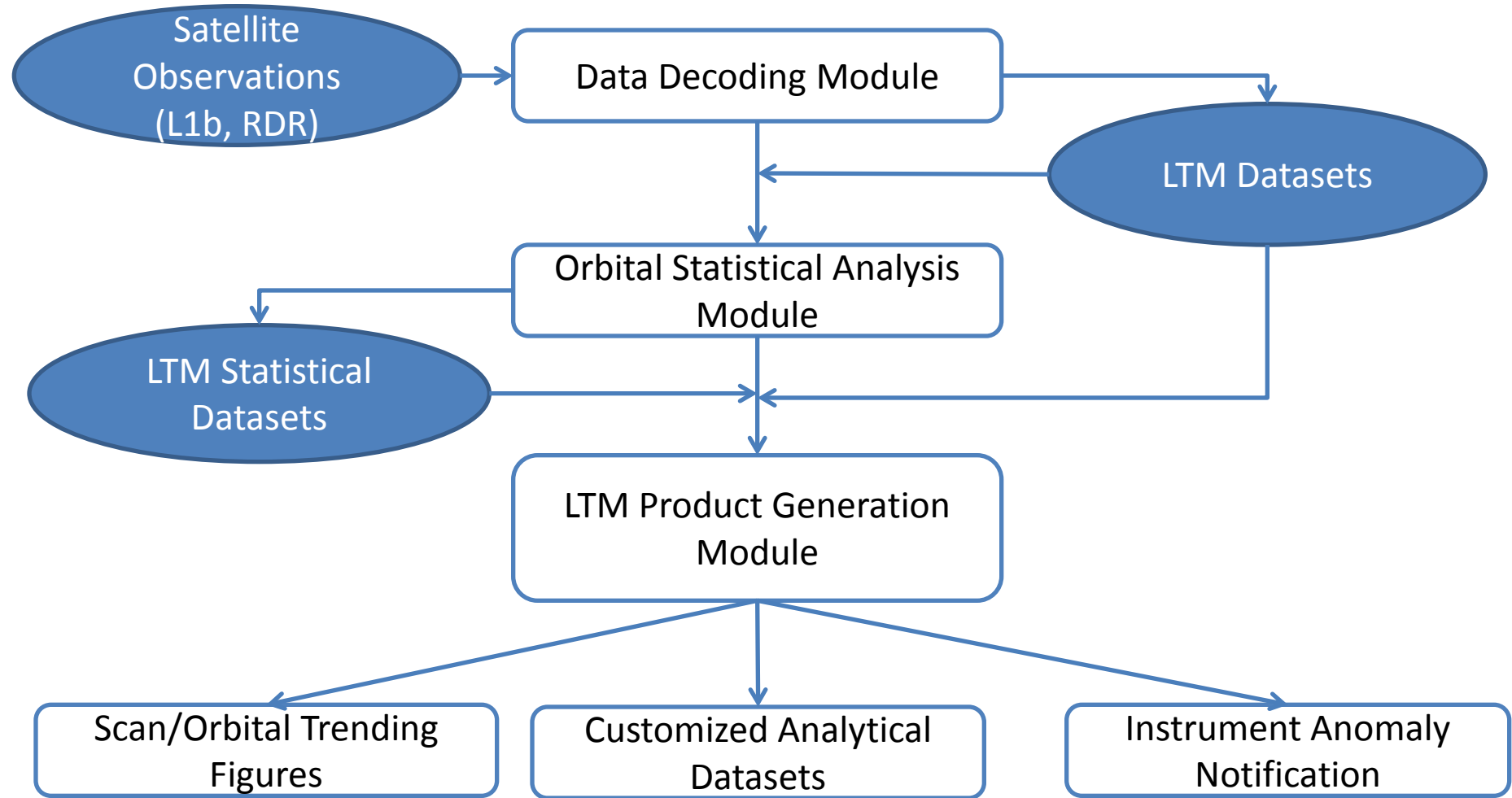


EDR Quality Assurance System (EQAS)



Satellite Data and Application Demonstration System (DADS)





<http://www.star.nesdis.noaa.gov/icvs>



STAR ICVS Integrated Calibration / Validation System
Long-Term Monitoring
Monitoring and characterizing satellite instrument performance in orbit for weather, climate and environmental applications



[» STAR ICVS Home](#)
[» Instrument Performance Monitoring](#)

Suomi NPP

- Spacecraft Telemetry
- ATMS
- **CrIS >>**
- VIIRS
- OMPS Nadir Mapper
- OMPS Nadir Profiler
- OMPS Limb Profiler

MetOp-B

- AMSU-A
- MHS
- AVHRR
- HIRS

NOAA-19

- AMSU-A
- MHS
- AVHRR
- HIRS

MetOp-A

- AMSU-A
- MHS
- AVHRR
- HIRS

NOAA-18

- AMSU-A
- MHS
- AVHRR
- HIRS

GOES

- GOES-13 Sounder
- GOES-13 Imager
- GOES-15 Sounder
- GOES-15 Imager

DMSP

- DMSP F17 SSMIS
- DMSP F18 SSMIS

[» OMPS Product Demonstration Site](#)

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STAR ICVS Long-Term Monitoring
Displaying the last 24 hours of instrument status, updated every three hours.

5/12/2014
14:56 UTC

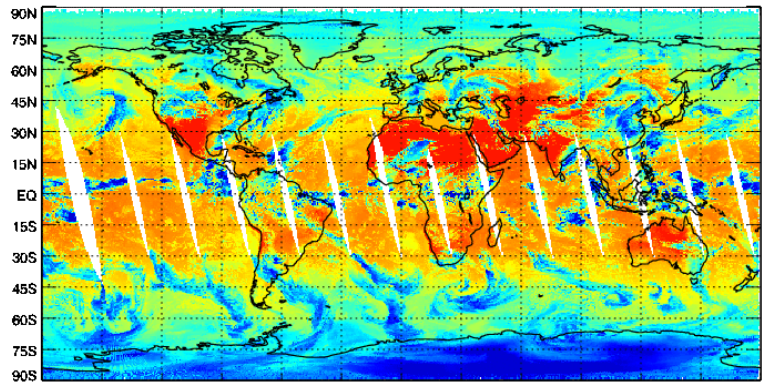
[Instrument Status > NPP > CrIS](#)

Select a parameter:
Collection of Critical Variables

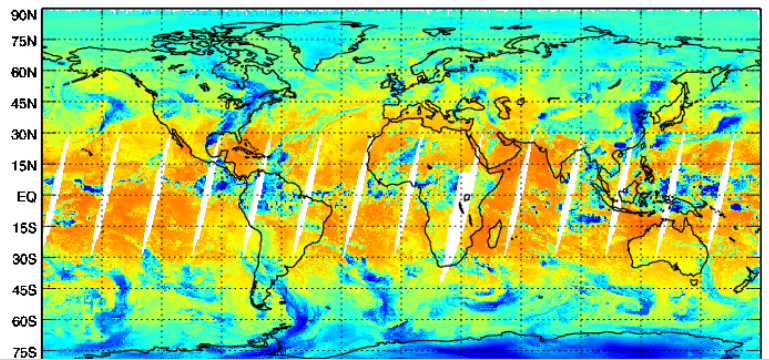
Collection of Critical Variables

Select a Date:
05-12-2014

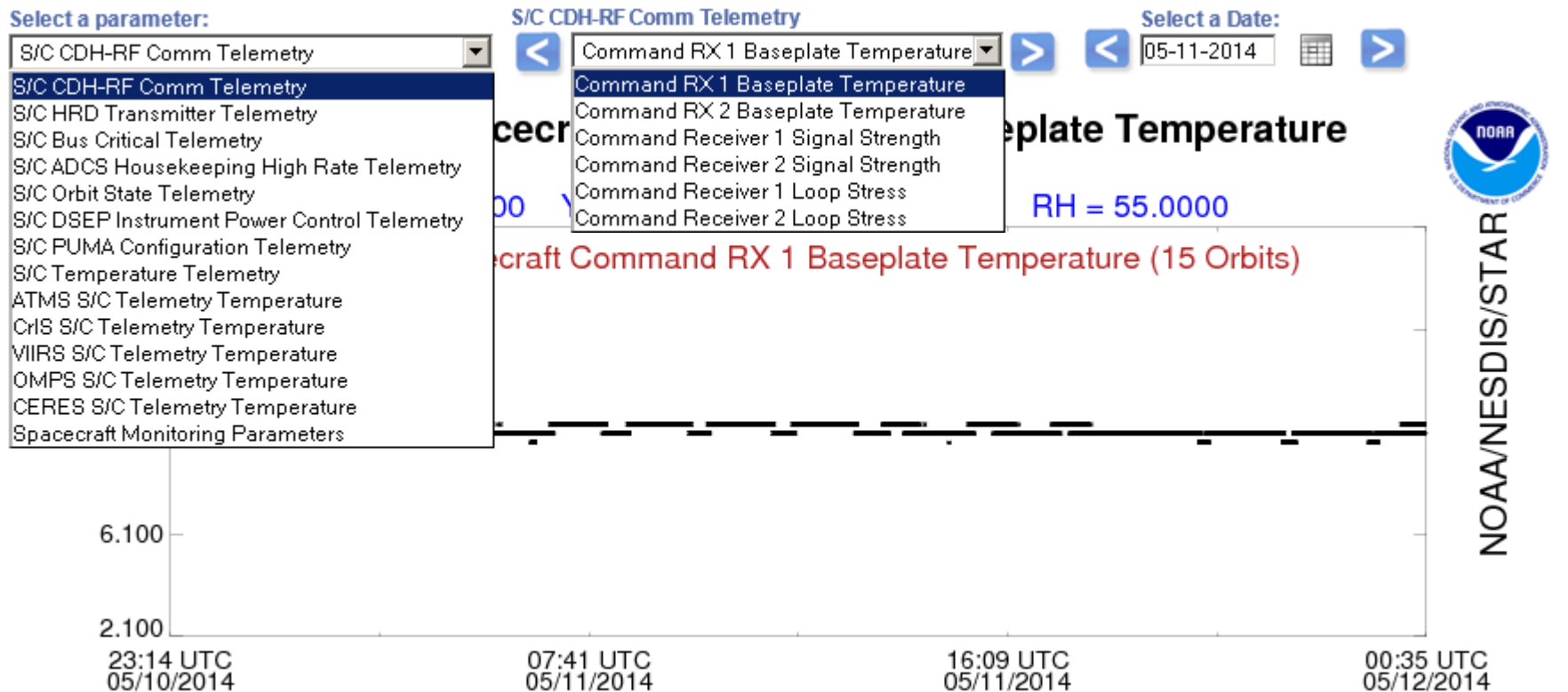
NPP CrIS Brightness Temperature, 11 μm (900 cm^{-1}), Mapped, Ascending, 05/10/2014



NPP CrIS Brightness Temperature, 11 μm (900 cm^{-1}), Mapped, Descending, 05/10/2014



S-NPP Spacecraft LTM Parameters



108 Parameters Provided in Real Time/LTM for S-NPP Spacecraft



S-NPP Spacecraft Customized Datasets

STAR ICVS Long-Term Monitoring

Displaying the last 24 hours of instrument status, updated every three hours.

5/12/2014
15:00 UTC

Instrument Status > NPP > Spacecraft

Slide Show of All Charts for Selected Date

Select a parameter:

- Spacecraft Monitoring Parameters
- S/C CDH-RF Comm Telemetry
- S/C HRD Transmitter Telemetry
- S/C Bus Critical Telemetry
- S/C ADCS Housekeeping High Rate Telemetry
- S/C Orbit State Telemetry
- S/C DSEP Instrument Power Control Telemetry
- S/C PUMA Configuration Telemetry
- S/C Temperature Telemetry
- ATMS S/C Telemetry Temperature
- CrIS S/C Telemetry Temperature
- VIIRS S/C Telemetry Temperature
- OMPS S/C Telemetry Temperature
- CERES S/C Telemetry Temperature
- Spacecraft Monitoring Parameters

Spacecraft Monitoring Parameters

- Daily Scan Level Spacecraft Monitoring - Diary
- Daily Scan Level Spacecraft Monitoring - Diary
- Daily Scan Level Spacecraft Monitoring - Telemetry

[Level Spacecraft Monitoring - Diary - 05-12-2014](#)

Select a Date:

05-12-2014

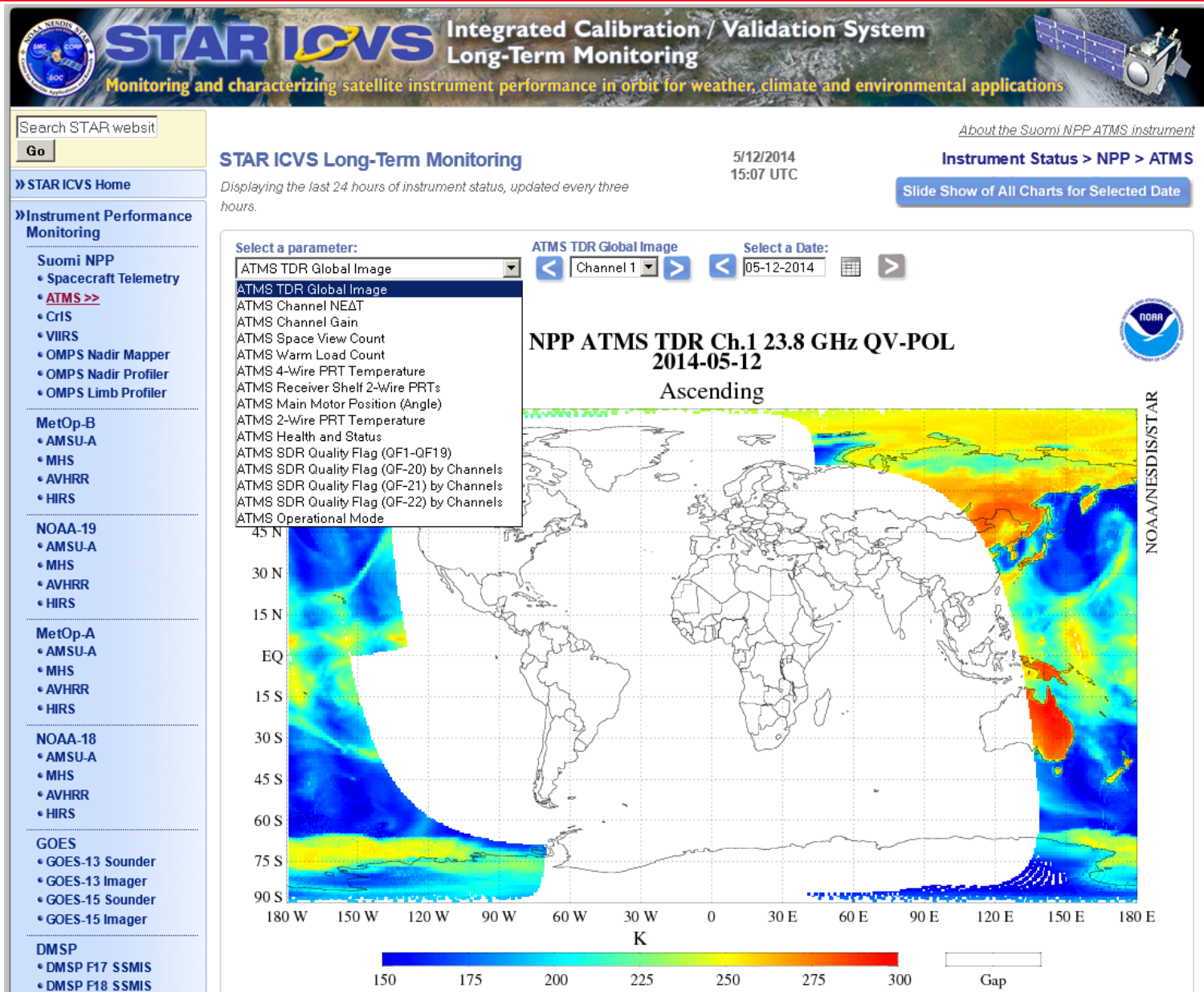
1. Scan Year
2. Scan Julian Day of the year
3. Scan UTC second from the midnight
4. Scan Orbit number
5. PUMA Bus Voltage
6. PUMA Total Bus Current
7. PUMA Battery 1 Voltage
8. PUMA Battery 2 Voltage
9. PUMA Battery 1 Pressure
10. PUMA Battery 2 Pressure
11. Wheel 1 Speed/Direction
12. Wheel 2 Speed/Direction
13. Wheel 3 Speed/Direction
14. Wheel 4 Speed/Direction
15. Gyro (TARA) 1 Motor Current
16. Gyro (TARA) 2 Motor Current
17. Gyro (TARA) 3 Motor Current
18. Reaction Wheel 1 Motor Current
19. Reaction Wheel 2 Motor Current
20. Reaction Wheel 3 Motor Current
21. Reaction Wheel 4 Motor Current
22. System Pressure
23. Propulsion Deck -Z Temperature
24. Propulsion Tank Temperature (Gas Side)
25. Control Frame Rate X
26. Control Frame Rate Y
27. Control Frame Rate Z

- 28. Command RX 1 Baseplate Temperature
- 29. Command RX 2 Baseplate Temperature
- 30. Command Receiver 1 Signal Strength, Derived
- 31. Command Receiver 2 Signal Strength, Derived
- 32. Command Receiver 1 Loop Stress, Derived
- 28. Command RX 1 Baseplate Temperature
- 29. Command RX 2 Baseplate Temperature
- 30. Command Receiver 1 Signal Strength, Derived
- 31. Command Receiver 2 Signal Strength, Derived
- 32. Command Receiver 1 Loop Stress, Derived
- 33. Command Receiver 2 Loop Stress, Derived
- 34. Star Tracker Maximum residual
- 35. Total System Momentum 1
- 36. Total System Momentum 2
- 37. Total System Momentum 3

FORMAT=(I4,1X,I3,1X,I5,1X,I5,33(1X,F10.4))

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549.7661 0.2960 0.2880 0.2920 0.1620 -0.6480 -0.3240 -0.4860 370.7336 13.5563 15.9864 -0.0006 -
0.0590 0.0000 10.3897 9.3147 -106.9608 -103.9399 2890.5425 2886.5098 0.0001 -1.3824 -1.8048 0.0064
2013 68 83561 7074 32.4800 26.2400 32.3418 32.4018 952.2000 970.9200 375.3022 -546.2799 -400.3122 -
550.3724 0.2960 0.2880 0.2920 0.0000 -0.6480 -0.4860 -0.4860 370.7336 13.5563 15.9864 0.0006 -
0.0596 0.0000 10.3897 9.3147 -106.9608 -103.9399 2890.5425 2886.5098 0.0001 -1.3696 -1.7984 0.0064
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555.2229 0.2960 0.2880 0.2920 0.1620 -0.6480 -0.4860 -0.4860 370.7336 13.5563 15.9864 -0.0006 -
0.0590 0.0000 10.3897 9.3147 -106.9608 -103.9399 2890.5425 2886.5098 0.0001 -1.4144 -1.8048 -0.0192
2013 68 83563 7074 32.3200 26.2400 32.3418 32.4018 952.2000 970.9200 376.6664 -552.4945 -401.8280 -
552.4945 0.2960 0.2880 0.2920 0.0000 -0.8100 -0.3240 -0.6480 370.7336 13.5563 15.9864 0.0006 -
0.0596 0.0000 10.3897 9.3147 -106.9608 -103.9399 2890.5425 2886.5098 0.0000 -1.3376 -1.8432 0.0640
2013 68 83564 7074 32.4800 26.2400 32.3418 32.4018 952.2000 970.9200 373.9380 -550.2209 -403.9500 -
550.2209 0.2960 0.2880 0.2920 0.0000 -0.8100 -0.4860 -0.4860 370.7336 13.5563 15.9864 -0.0006 -
0.0596 0.0000 10.3897 9.3147 -106.9608 -103.9399 2890.5425 2886.5098 0.0000 -1.4016 -1.7984 -0.0192
201368 83565 7074 32.3200 26.2400 32.3418 32.4018 952.2000 970.9200 375.3022 -550.5240 -404.5563 -
550.5240 0.2960 0.2880 0.2920 0.0000 -0.6480 -0.4860 -0.4860 370.7336 13.5563 15.9864 0.0006 -
0.0596 0.0000 10.3897 9.3147 -106.9608 -103.9399 2890.5425 2886.5098 0.0001 -1.3312 -1.7728 0.0000
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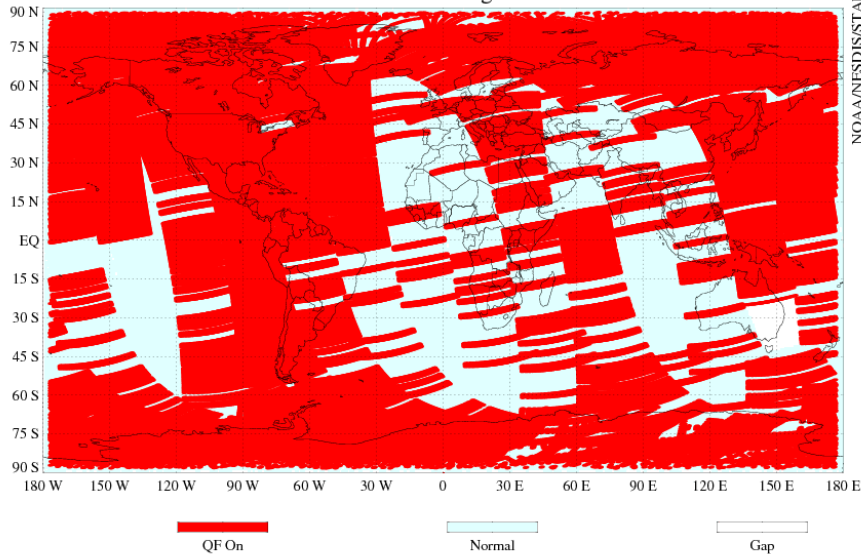
S-NPP ATMS LTM Parameters



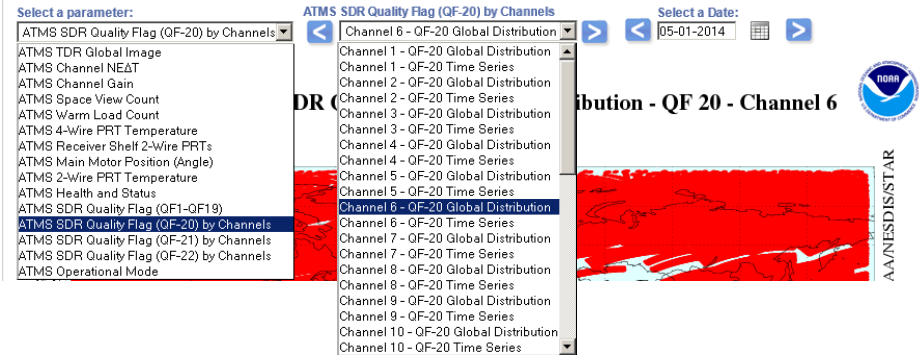
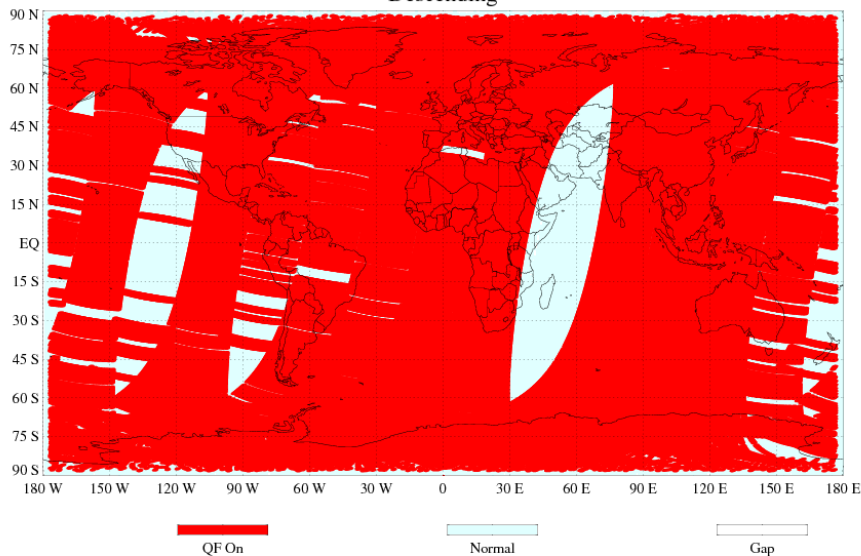
S-NPP ATMS Quality Flag 20

Suomi NPP ATMS SDR Quality Flag Global Distribution - QF 20 - Channel 6
2014-05-01

Ascending



Descending

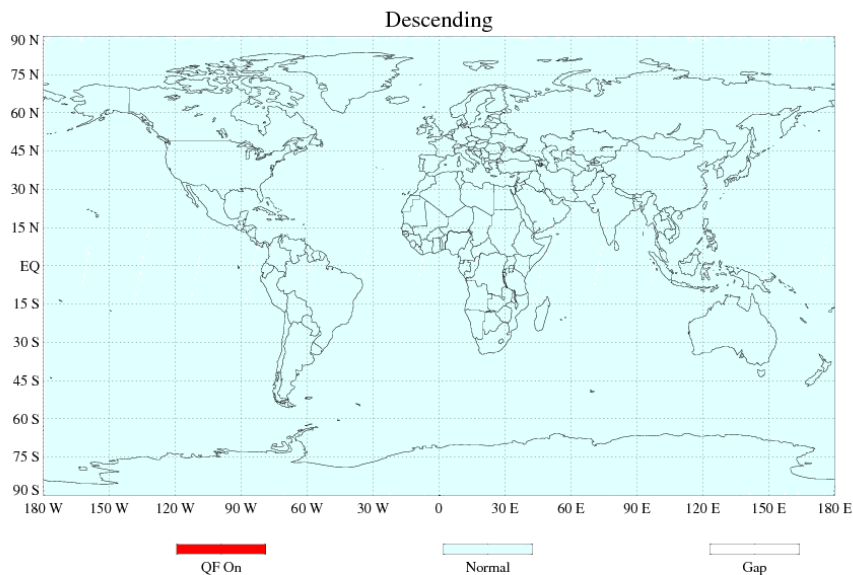
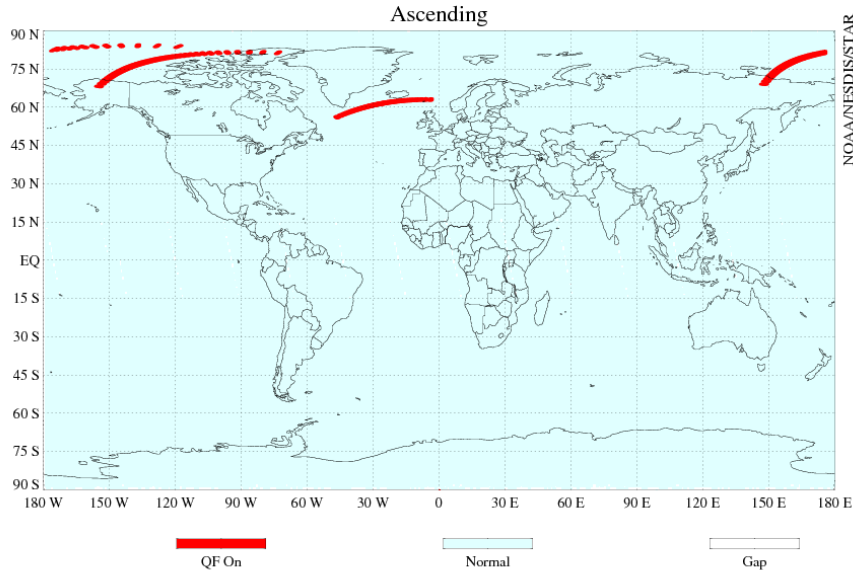


Suomi NPP ATMS Scan Calibration Quality Flag - QF 20 - Channel 6
Daily Status on 05/01/2014



S-NPP ATMS Quality Flag 20

Suomi NPP ATMS SDR Quality Flag Global Distribution - QF 20 - Channel 6
2014-05-02



Suomi NPP ATMS Scan Calibration Quality Flag - QF 20 - Channel 6

Daily Status on 05/02/2014

Lunar Intrusion in Space View - Channel 6 (15 Orbits)	---- Normal	---- Flag On
Gain Error - Channel 6 (15 Orbits)	---- Normal	---- Flag On
Calibration With Fewer Samples - Channel 6 (15 Orbits)	---- Normal	---- Flag On
Insufficient Space View Samples - Channel 6 (15 Orbits)	---- Normal	---- Flag On
Insufficient Blackbody View Samples - Channel 6 (15 Orbits)	---- Normal	---- Flag On
Spare - Channel 6 (15 Orbits)	---- Normal	---- Flag On
Spare - Channel 6 (15 Orbits)	---- Normal	---- Flag On
Spare - Channel 6 (15 Orbits)	---- Normal	---- Flag On

22:41 UTC 05/01/2014 07:11 UTC 05/02/2014 15:37 UTC 05/02/2014 00:04 UTC 05/03/2014



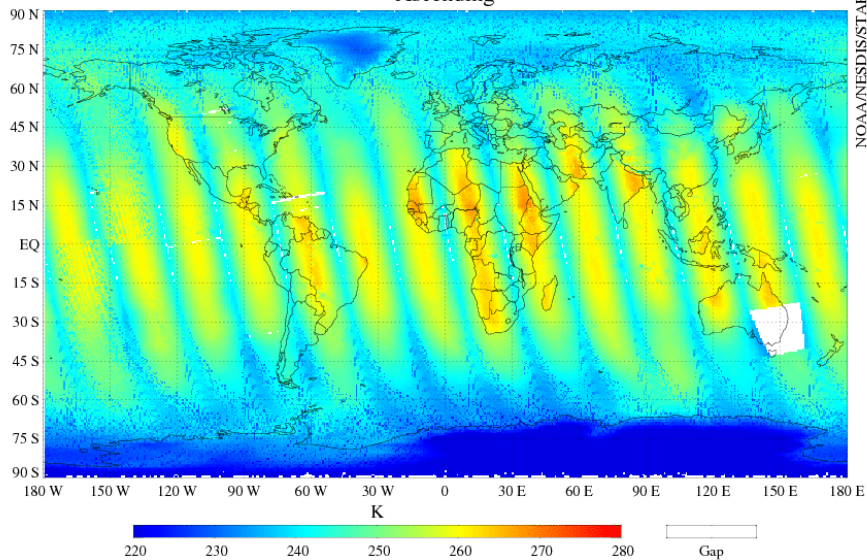
NOAA/NESDIS/STAR

TDR Before/After PCT Update

Suomi NPP ATMS TDR Ch.6 53.596 ± 0.115 GHz QH-POL
2014-05-01



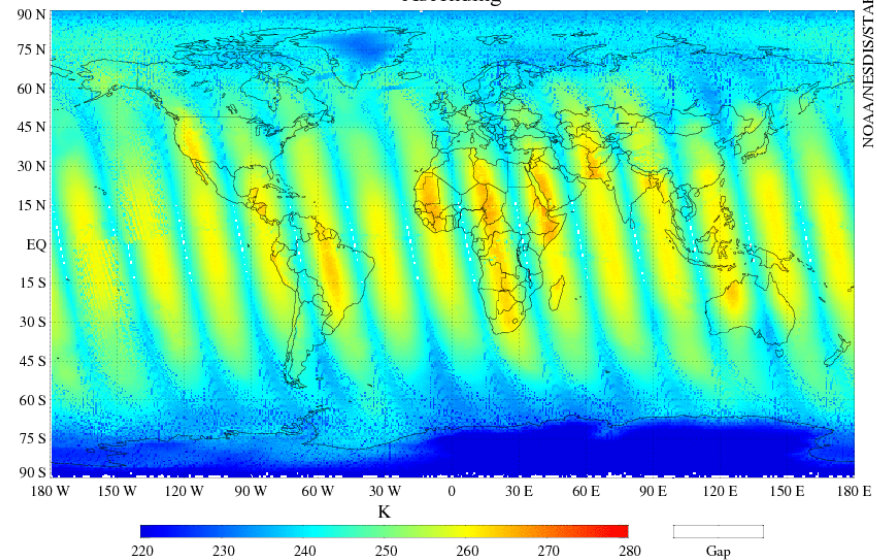
Ascending



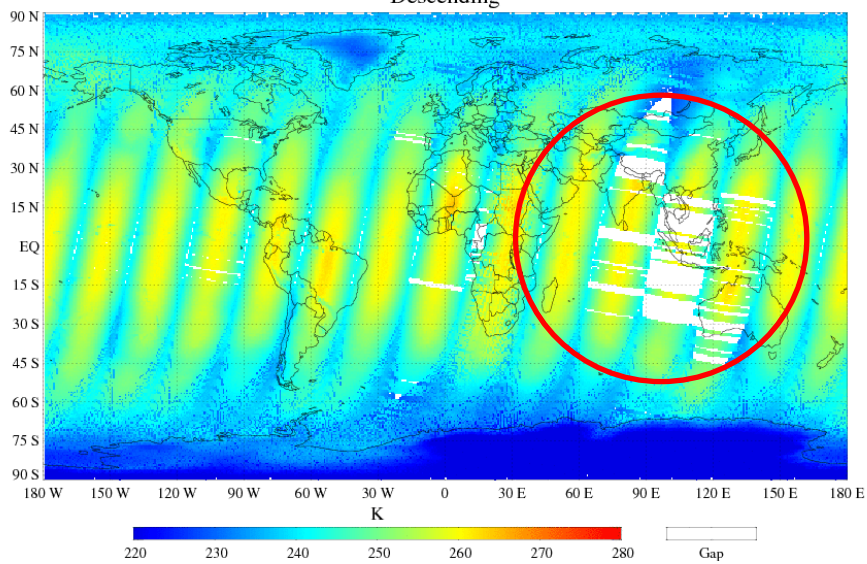
Suomi NPP ATMS TDR Ch.6 53.596 ± 0.115 GHz QH-POL
2014-05-02



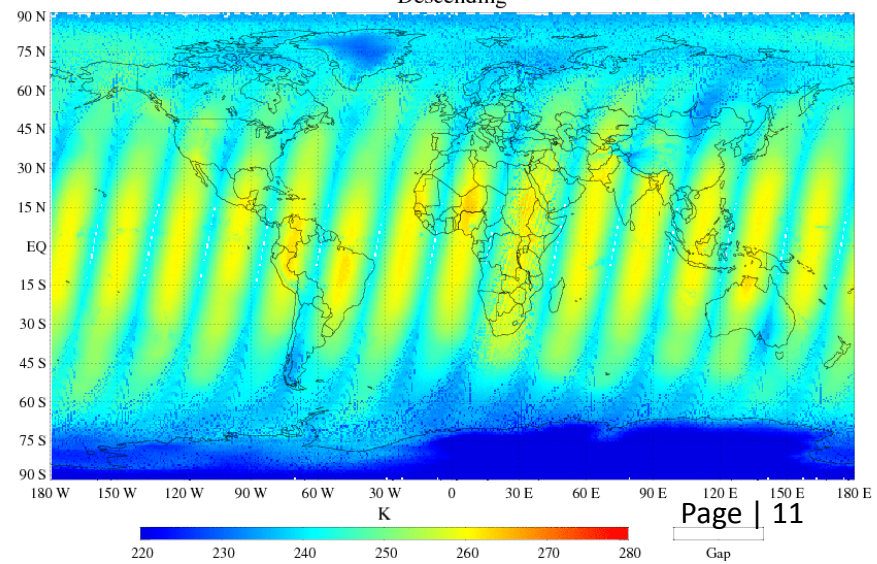
Ascending



Descending



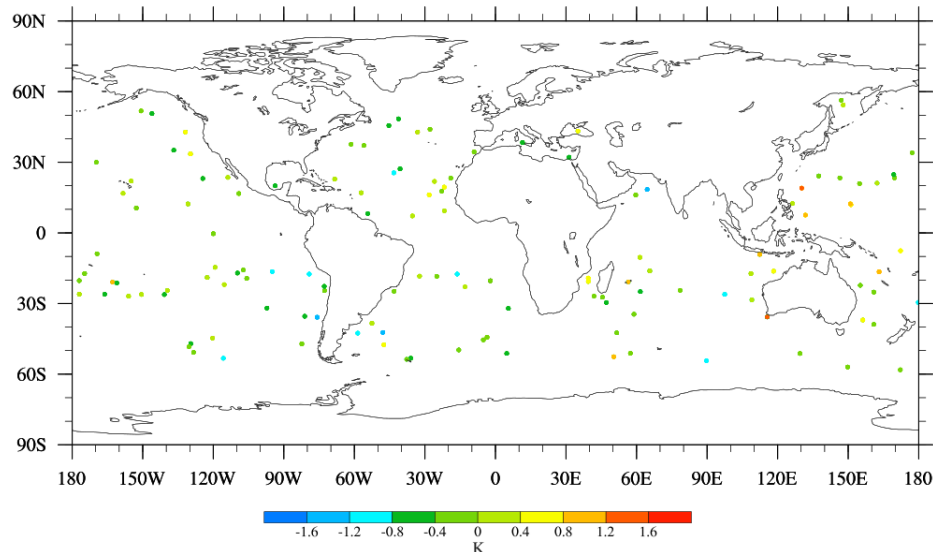
Descending



S-NPP ATMS LTM Parameters

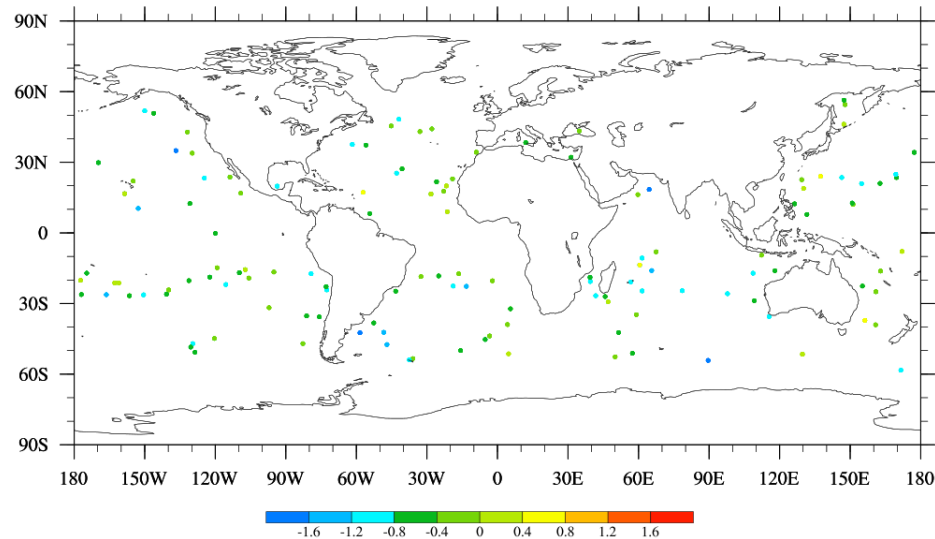
O-B for ATMS Ch.7 54.4 GHz 2014-05-10

(clear-sky, over ocean, 60°S-60°N)



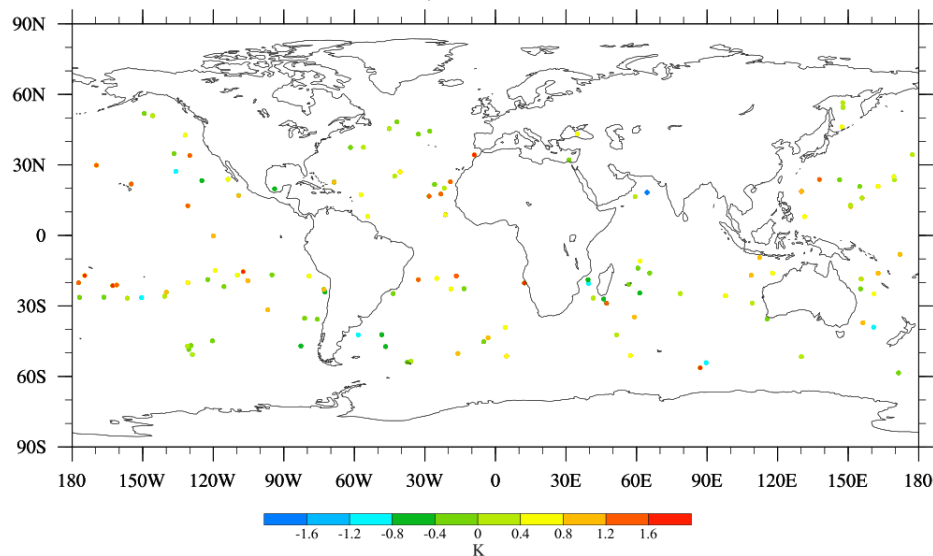
O-B for ATMS Ch.9 55.5 GHz 2014-05-10

(clear-sky, over ocean, 60°S-60°N)



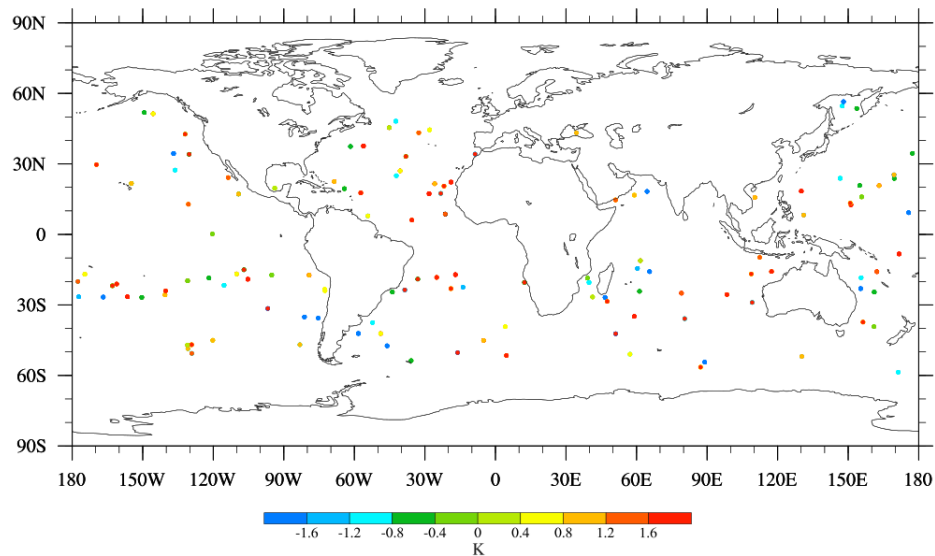
O-B for ATMS Ch.10 57.29034 GHz 2014-05-10

(clear-sky, over ocean, 60°S-60°N)



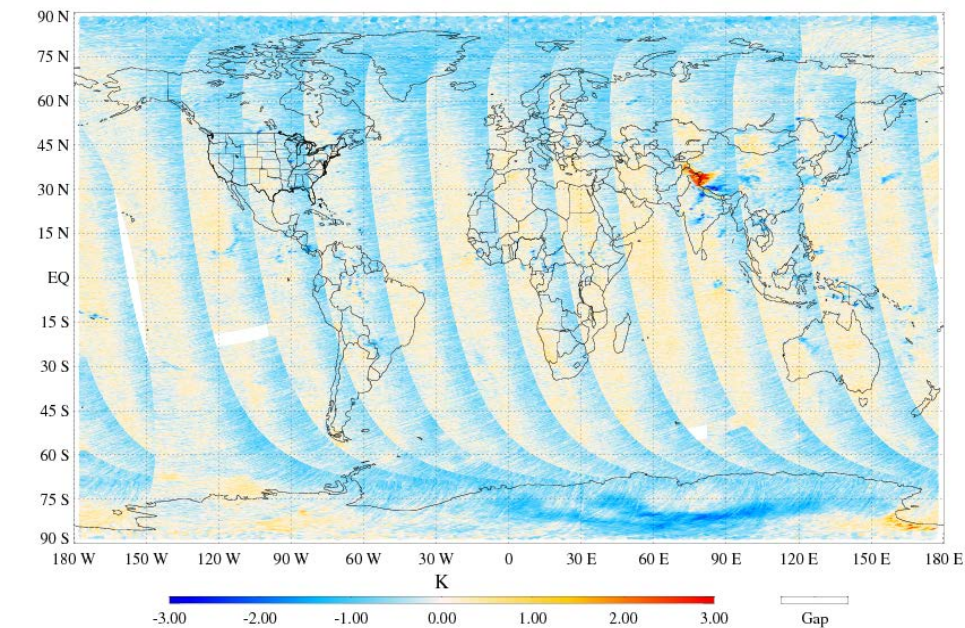
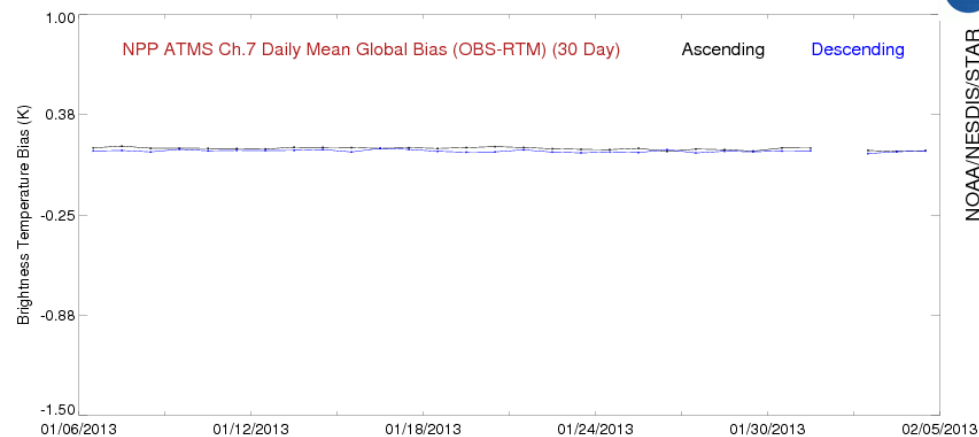
O-B for ATMS Ch.13 57.29034 ± 0.3222 ± 0.022 GHz 2014-05-10

(clear-sky, over ocean, 60°S-60°N)

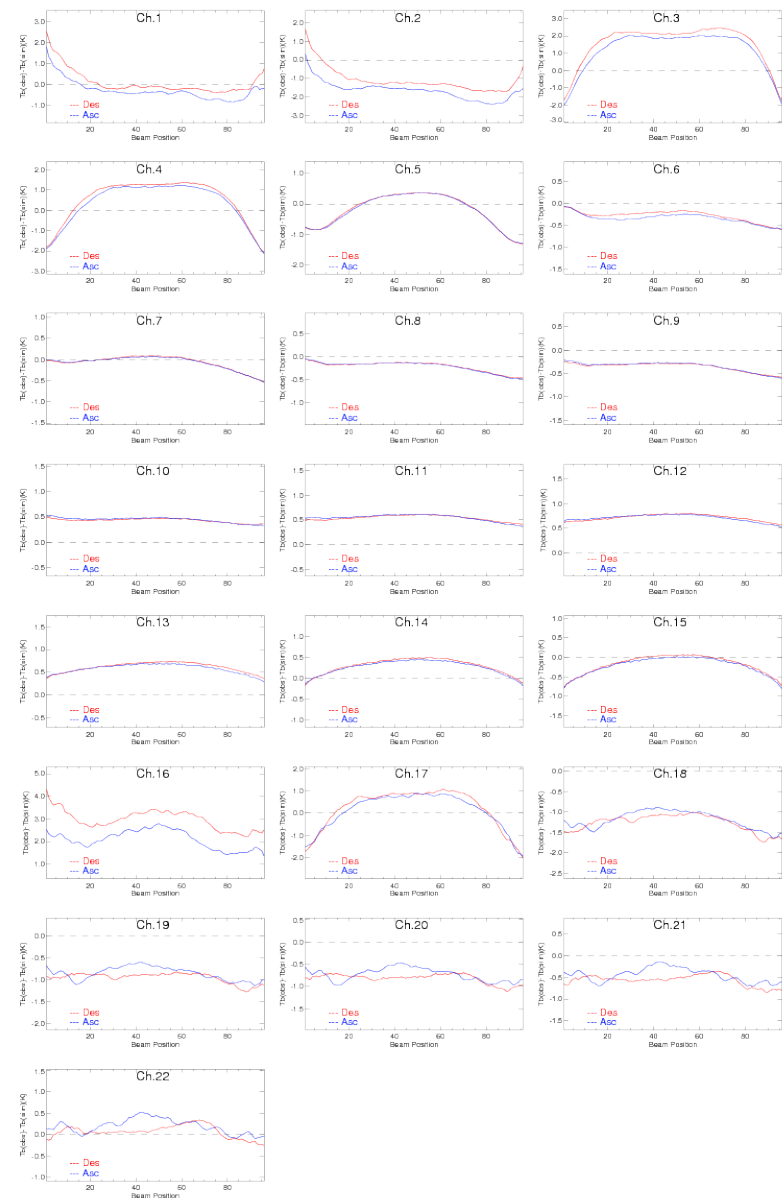


S-NPP ATMS LTM Parameters

NPP ATMS Daily Global Bias Time Series (OBS-RTM) - Channel 7



ATMS Angular Dependence Over Ocean Clear-Sky 2013-02-19



S-NPP VIIRS LTM Parameters

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» Instrument Performance Monitoring

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- OMPS Nadir Profiler
- OMPS Limb Profiler

MetOp-B

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- MHS
- AVHRR
- HIRS

NOAA-19

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MetOp-A

- AMSU-A
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NOAA-18

- AMSU-A
- MHS
- AVHRR
- HIRS

GOES

- GOES-13 Sounder
- GOES-13 Imager
- GOES-15 Sounder
- GOES-15 Imager

STAR ICVS Long-Term Monitoring

Displaying the last 24 hours of instrument status, updated every three hours.

5/12/2014
15:19 UTC

[About the Suomi NPP VIIRS Instrument](#)

[Instrument Status > NPP > VIIRS](#)

[Slide Show of All Charts for Selected Date](#)

Select a parameter:

- VIIRS Global Image
- VIIRS Global Image
- VIIRS Single Band Image
- VIIRS Overall SDR Quality
- VIIRS Lunar Intrusion
- SDR 1 F or H Factor
- SDR 2 Health and Status
- SDR 3 Solar Diffuser Count by Band
- SDR 3 Solar Diffuser Count by Detector
- SDR 4 Solar Diffuser Stability Monitor Trend
- SDR 5 Solar Diffuser Count NEΔN
- SDR 6 Blackbody Count
- SDR 7 Blackbody Count NEΔN
- SDR 8 Space View Count
- SDR 9 Space View Count NEΔN
- SDR 10 Instrument Temperature
- SDR 11 Focal Plane Temperature
- SDR 12 Circuit Card Assembly Temperature
- SDR 13 Scan Cavity Baffle Temperature
- RDR Scan No Sync Count

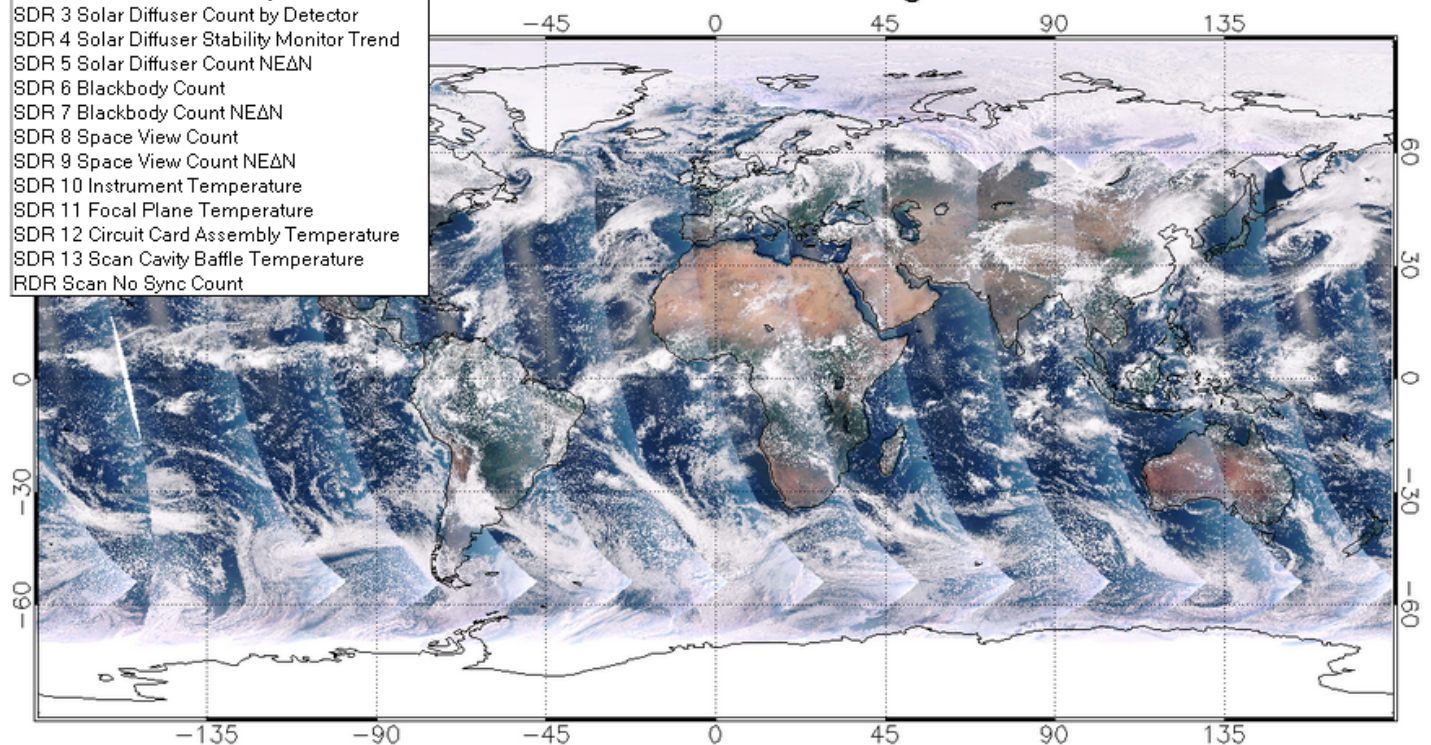
VIIRS Global Image

< Global True Color Image >

Select a Date:

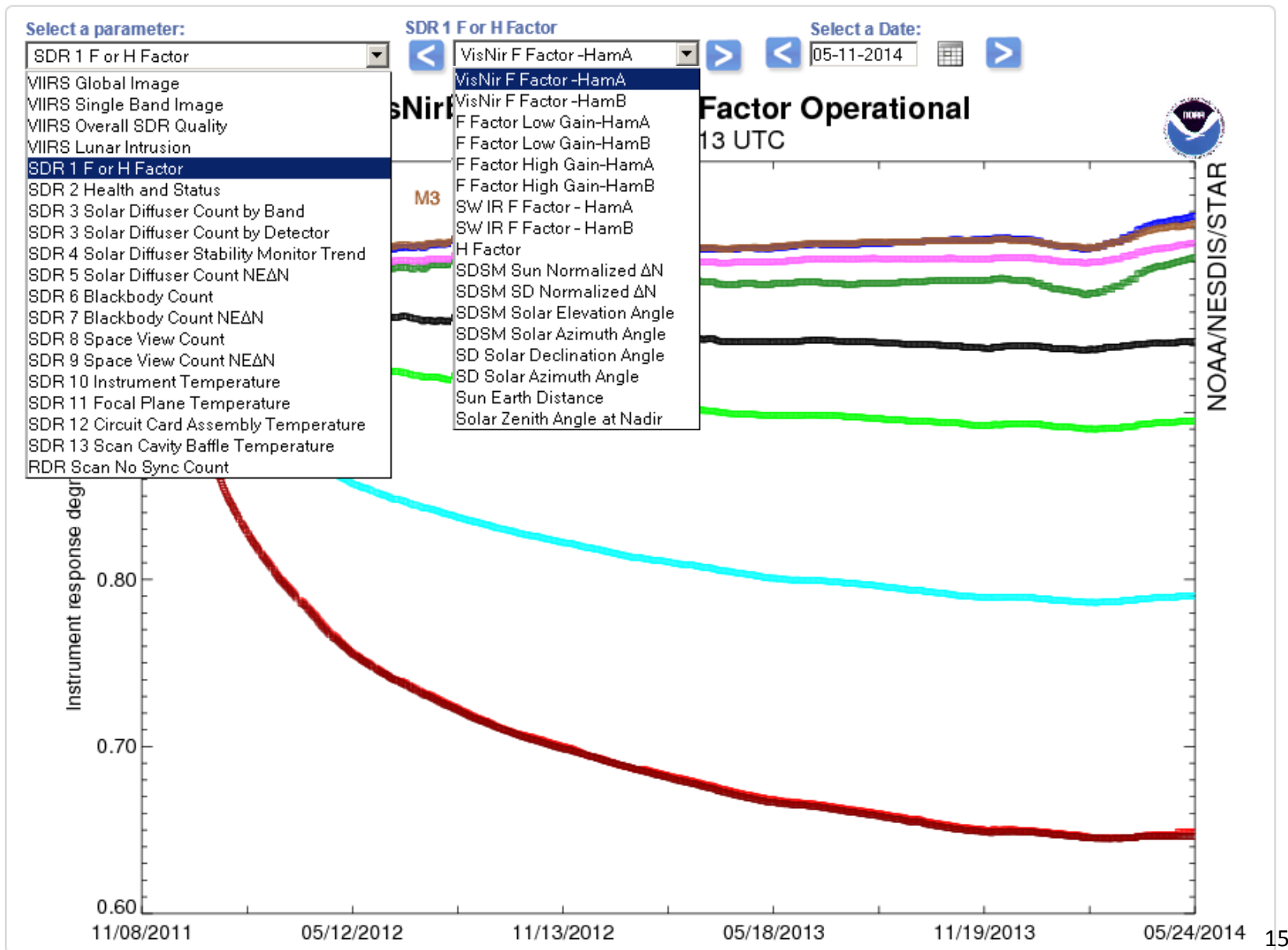
< 05-11-2014 >

VIIRS Global True Color Image 2014-05-11



R:M5, G:M4, B:M3 05/12/2014-10:47 UTC

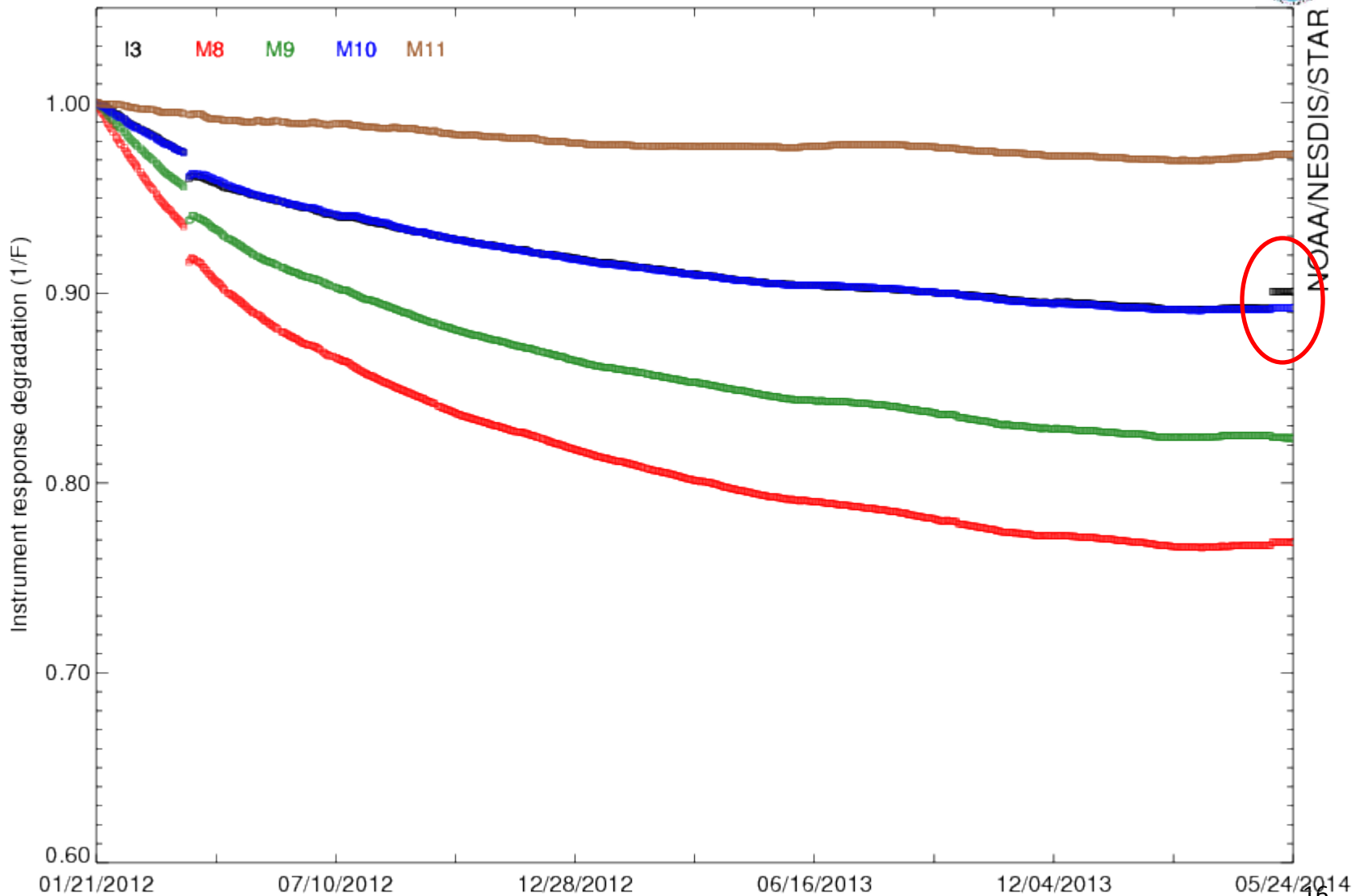
S-NPP VIIRS LTM Parameters



S-NPP VIIRS LTM Parameters

SD ShortWaveBands A Trend F Factor Operational

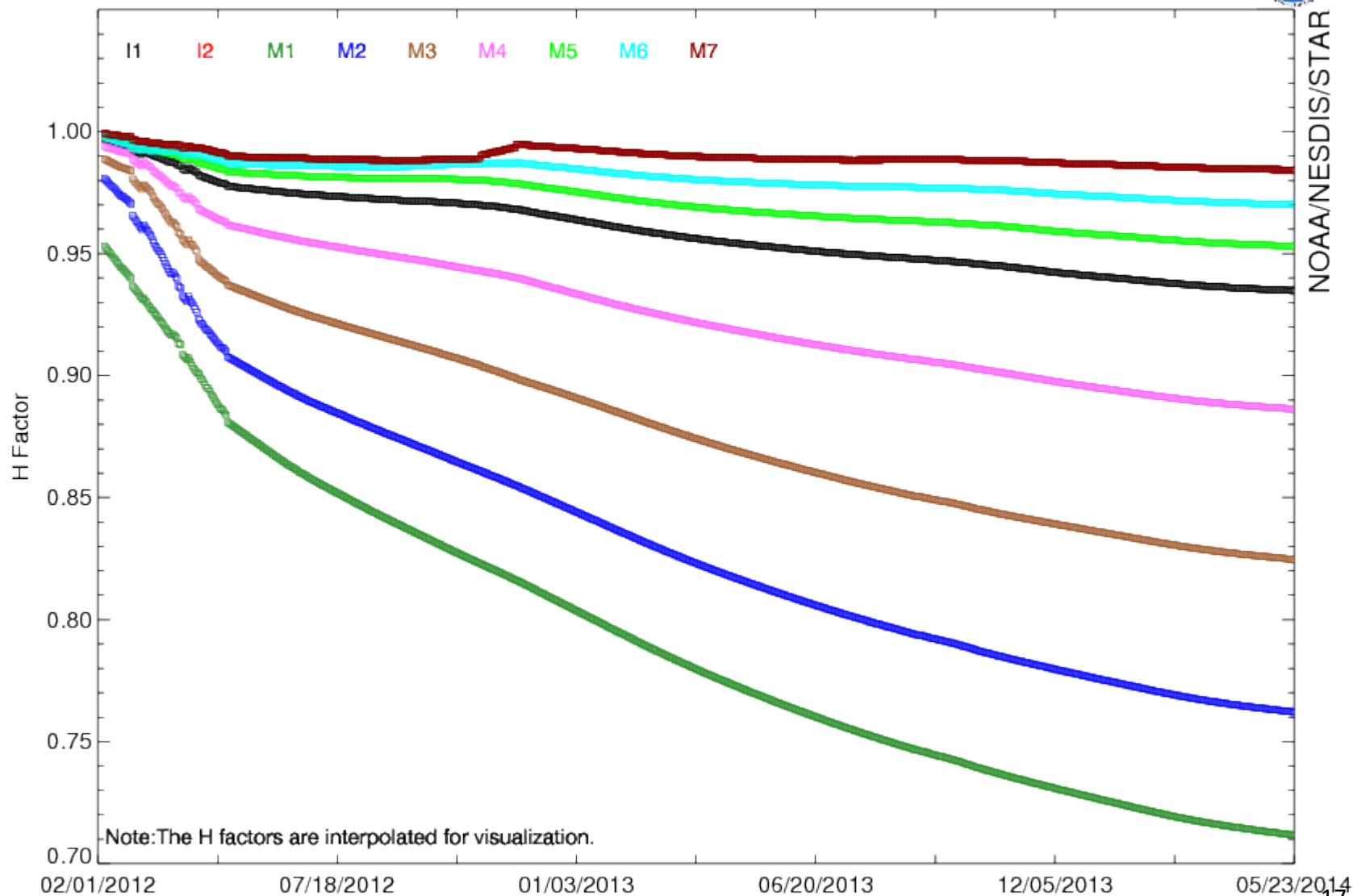
05/12/2014-07:28:13 UTC



S-NPP VIIRS LTM Parameters

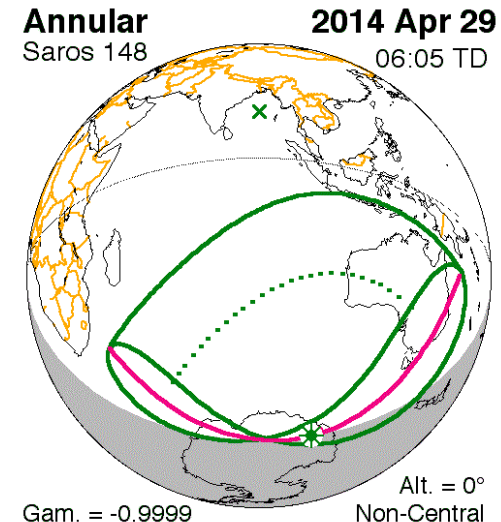
SD H Factor Operational

05/12/2014-07:28:12 UTC

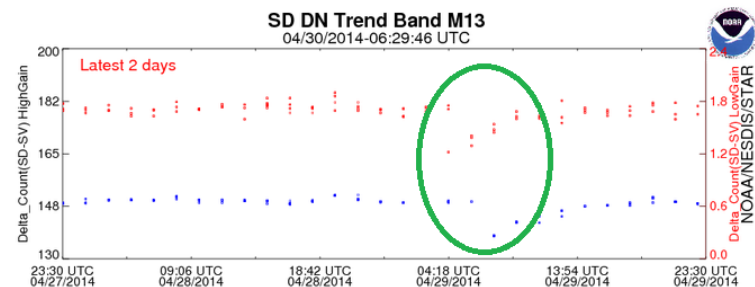
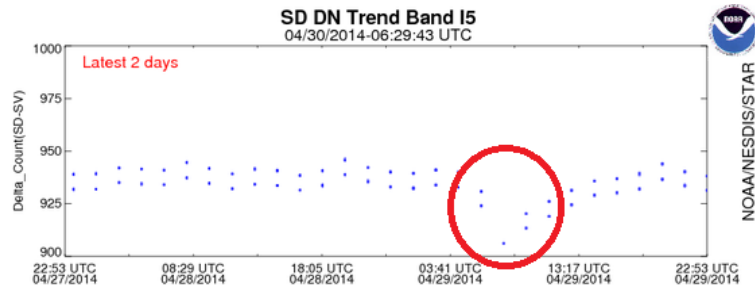


S-NPP VIIRS Solar Eclipse

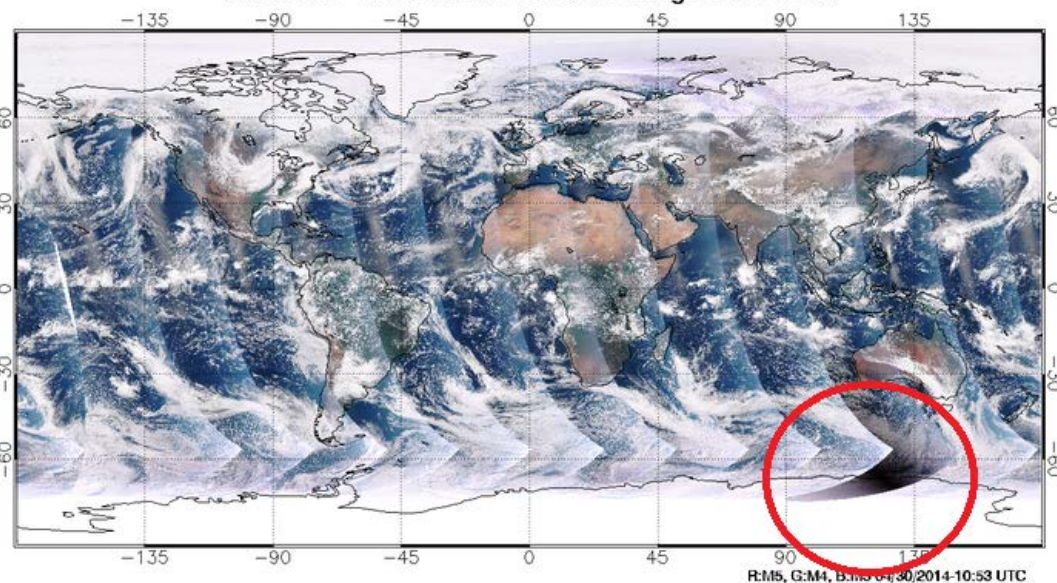
- Solar eclipse - The northern edge of the shadow first touches down in Antarctica at 05:57:35 UTC. The instant of greatest eclipse occurs just six minutes later at 06:03:25 UTC.
- VIIRS global true color image is darken by the solar eclipse;
- VIIRS solar diffuser count for M12 to 16, I4 and I5 bands decreased at about 5:00 - 7:00 UTC;



Five Millennium Canon of Solar Eclipses (Espenak & Meeus)

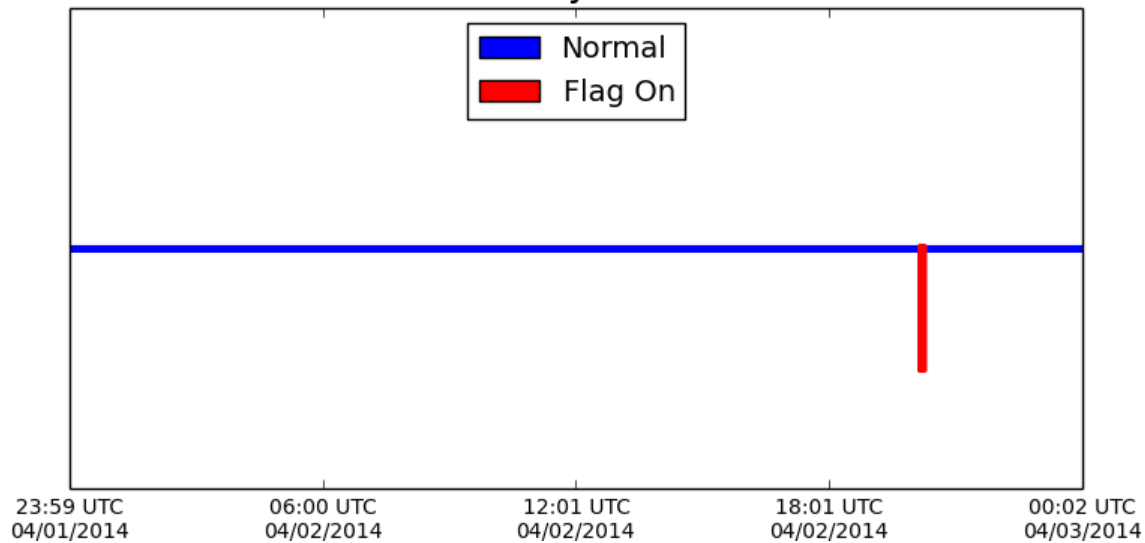


Suomi NPP VIIRS Global True Color Image 2014-04-29

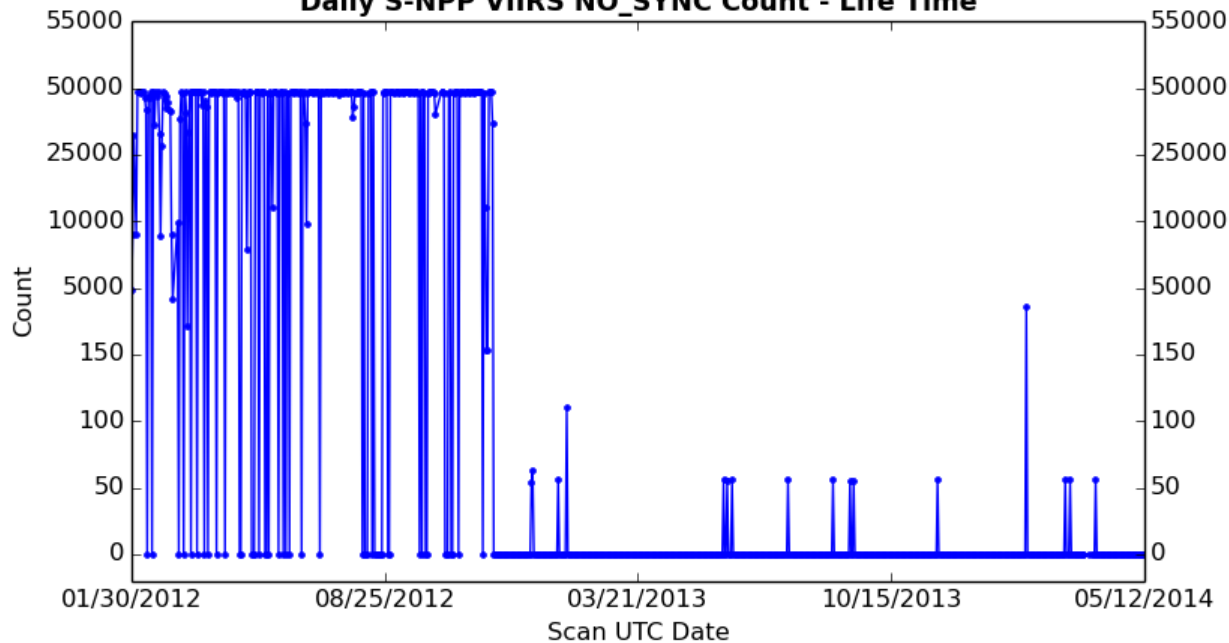


S-NPP VIIRS NO_SYNC LTM

Suomi NPP VIIRS Scan Sync Lock Bit - 2014-04-02



Daily S-NPP VIIRS NO_SYNC Count - Life Time



S-NPP CrIS LTM Parameters

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NOAA-19

- AMSU-A
- MHS
- AVHRR
- HIRS

MetOp-A

- AMSU-A
- MHS
- AVHRR
- HIRS

NOAA-18

STAR ICVS Long-Term Monitoring

Displaying the last 24 hours of instrument status, updated every three hours.

5/12/2014
16:10 UTC

[About the Suomi NPP CrIS instrument](#)

[Instrument Status > NPP > CrIS](#)

[Slide Show of All Charts for Selected Date](#)

Select a parameter:

- Collection of Critical Variables
- Collection of Critical Variables
- RDR - Housekeeping Variables
- RDR - Interferogram Quality Flags
- RDR - Science Calibration Variables
- RDR - NEΔN ICT Real 8-second
- RDR - NEΔN ICT Real Daily Avg.
- RDR - NEΔN ICT Imaginary Daily Avg.
- RDR - NEΔN DS Real Daily Avg.
- RDR - NEΔN DS Imaginary Daily Avg.
- RDR - Gain 8-second
- RDR - Gain Hourly Avg.
- RDR - Offset 8-second
- RDR - Offset Hourly Avg.
- SDR - Mapped Variables
- SDR - Quality Flag Scan Level
- SDR - Quality Flag Overall
- SDR - Quality Flag Radiometric
- SDR - Quality Flag Spectral
- SDR - Quality Flag Geo
- SDR - Quality Flag RDR Invalidity

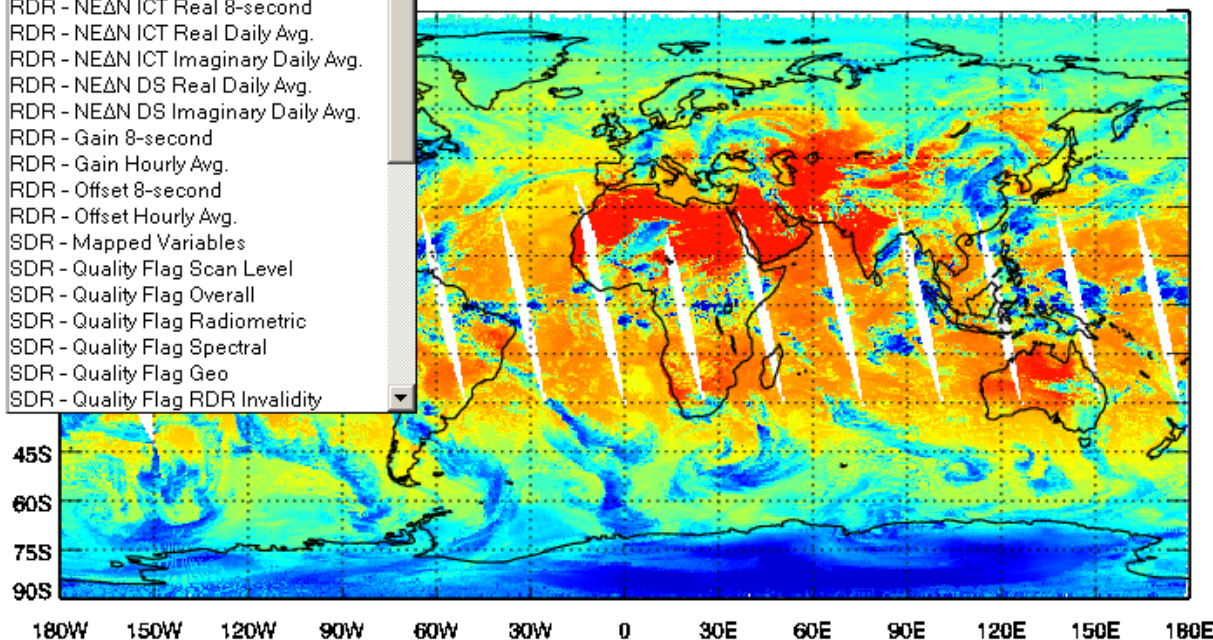
Collection of Critical Variables

< ES Zero Path Difference Saturation Flag - Daily Avg. >

Select a Date:

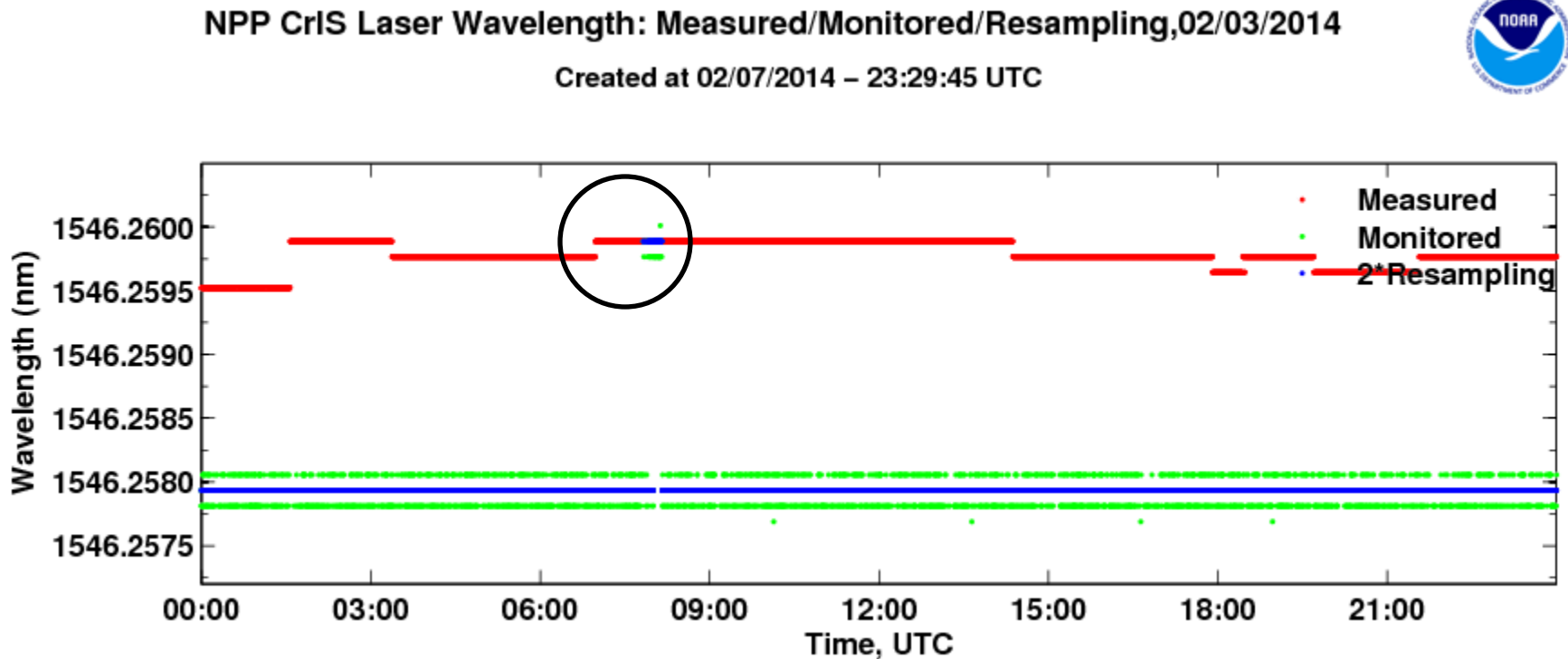
05-12-2014

Temperature, 11 μm (900 cm^{-1}), Mapped, Ascending, 05/10/2014



350+ CrIS RDR/SDR LTM Parameters Provided in STAR-ICVS

- Sketchy jump of re-sampling laser wavelength on Feb 03.

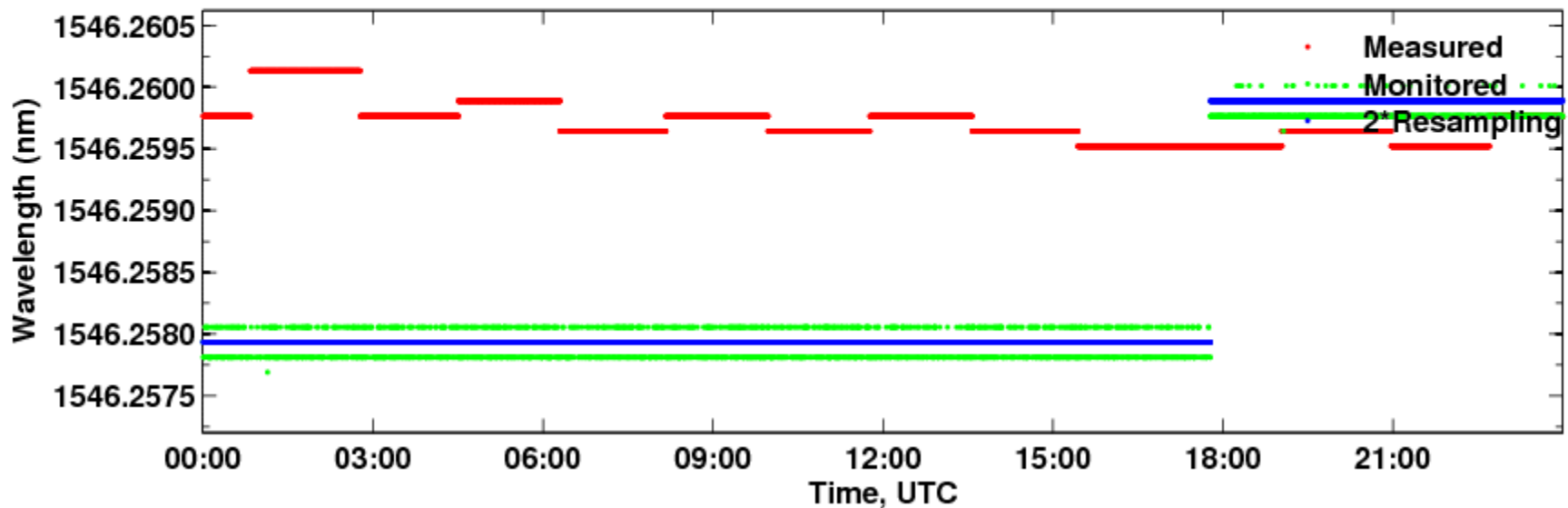


Laser drifted about 1.23 ppm < 2 ppm

- Unexpected updating of re-sampling laser wavelength on Feb 05.

NPP CrIS Laser Wavelength: Measured/Monitored/Resampling, 02/05/2014

Created at 02/10/2014 – 20:32:25 UTC

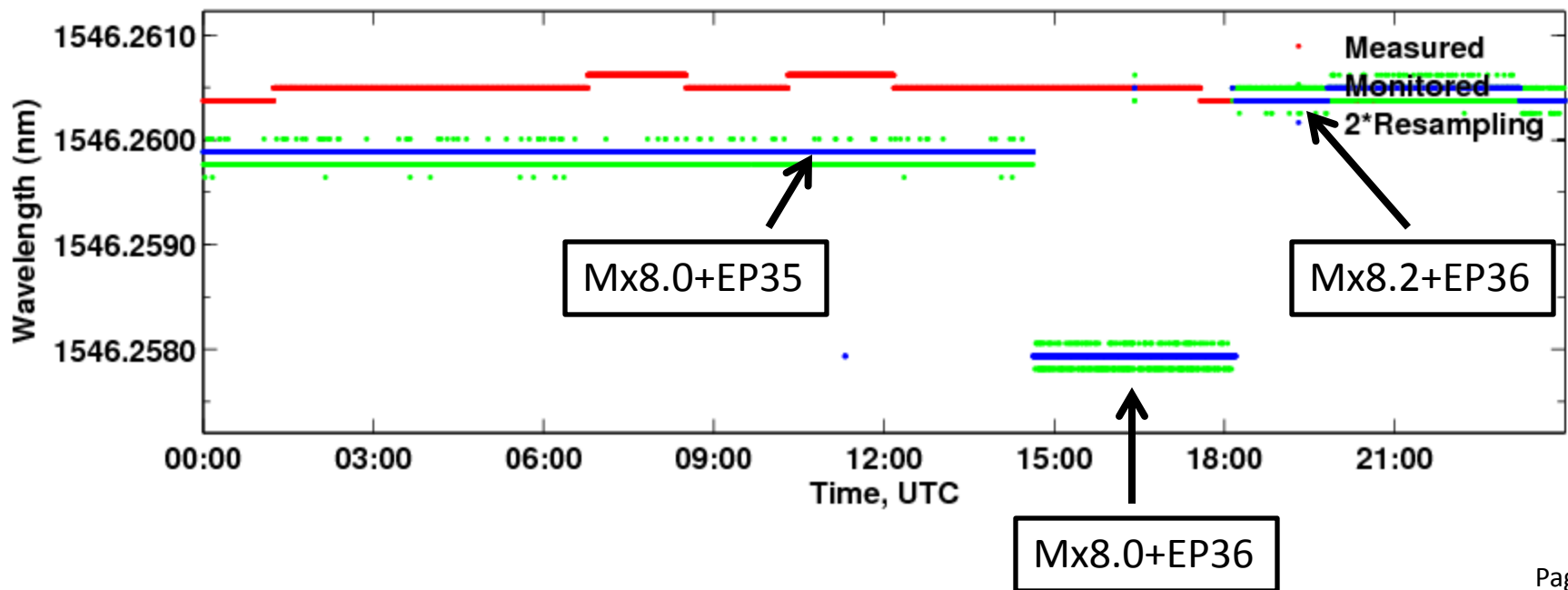


Laser drifted about 1.23 ppm < 2 ppm

- IDPS SDR algorithm is updated from Mx8.0 to Mx8.2 on Feb 20
- The engineering packet is updated from v35 to v36 on the same day

NPP CrIS Laser Wavelength: Measured/Monitored/Resampling,02/20/2014

Created at 02/24/2014 – 15:28:38 UTC

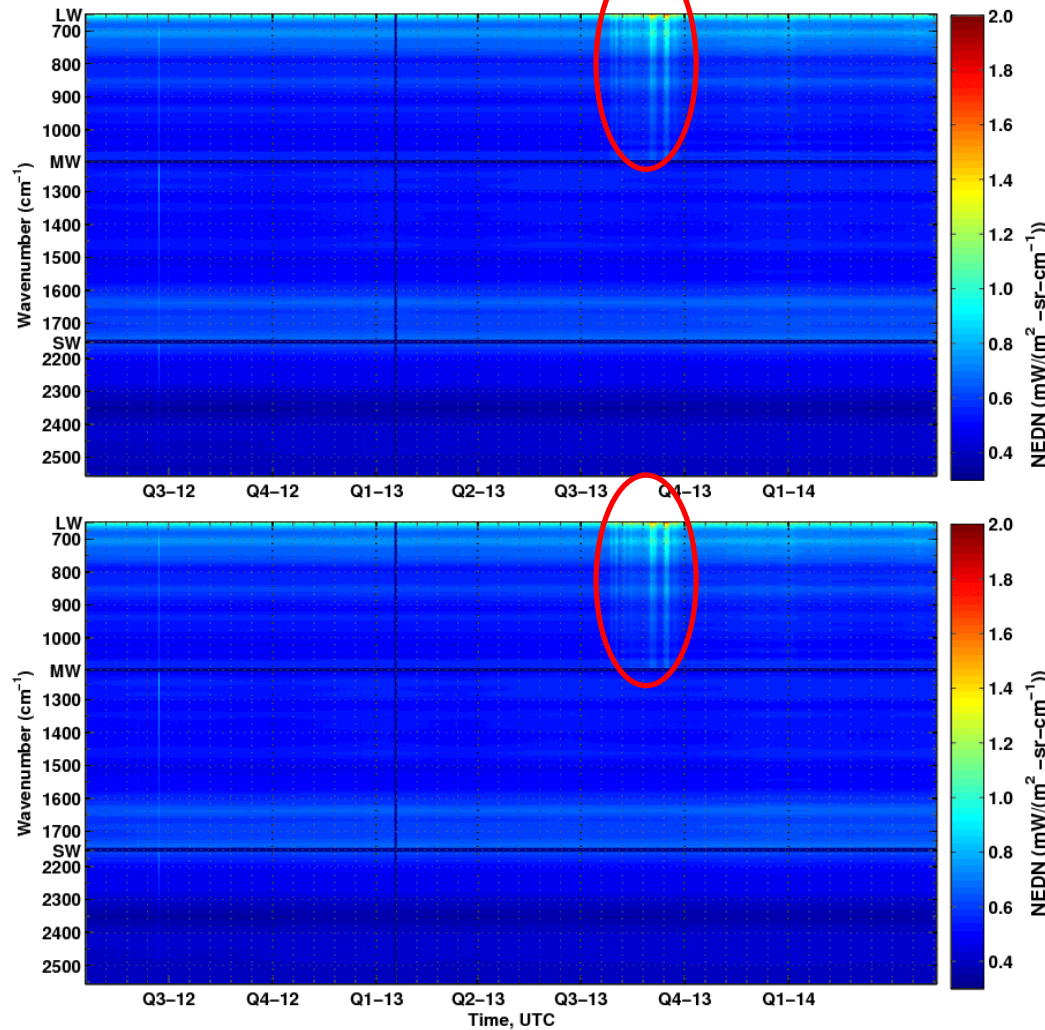


S-NPP CrIS Channel Performance

NPP CrIS NEDN, Relative to Specification at 287K, Daily Average, FOV1



Forward (Upper) & Reverse (Low)

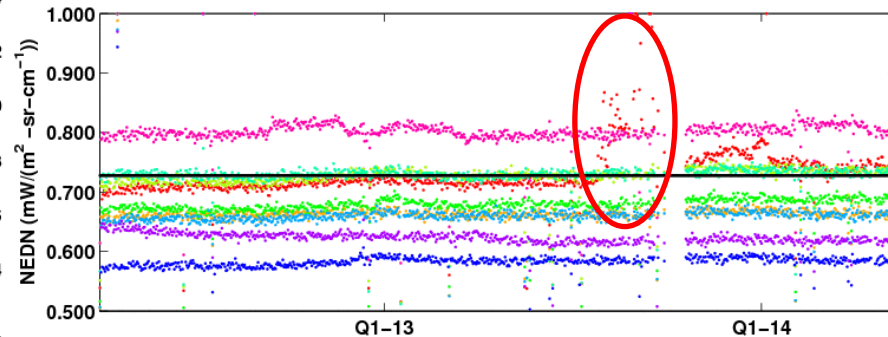


Suomi NPP CrIS DS Imaginary NEDN (650 cm^{-1}), Daily Average



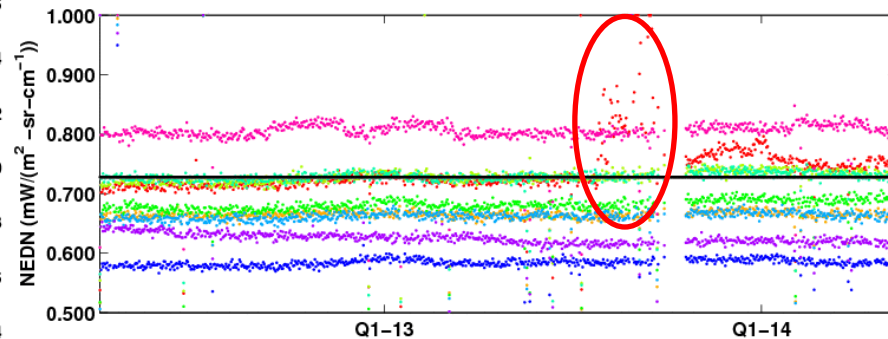
Created at 05/12/2014 – 15:22:34 UTC

Forward



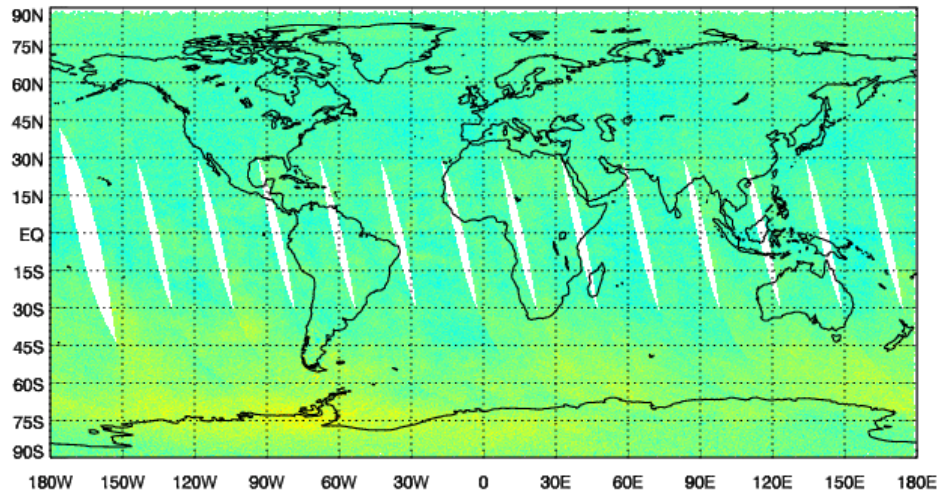
FOV1 FOV2 FOV3 FOV4 FOV5 FOV6 FOV7 FOV8 FOV9 SPEC

Reverse

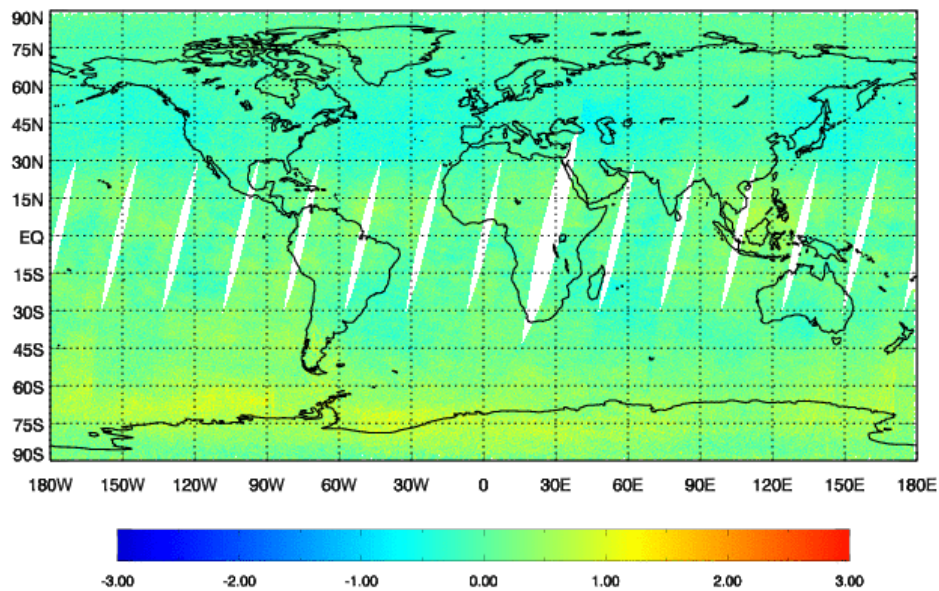


S-NPP CrIS SDR Bias

NPP CrIS BT Observ. - Calc., $14.93 \mu\text{m}$ (670 cm^{-1}), Mapped, Ascending, 05/04/2014

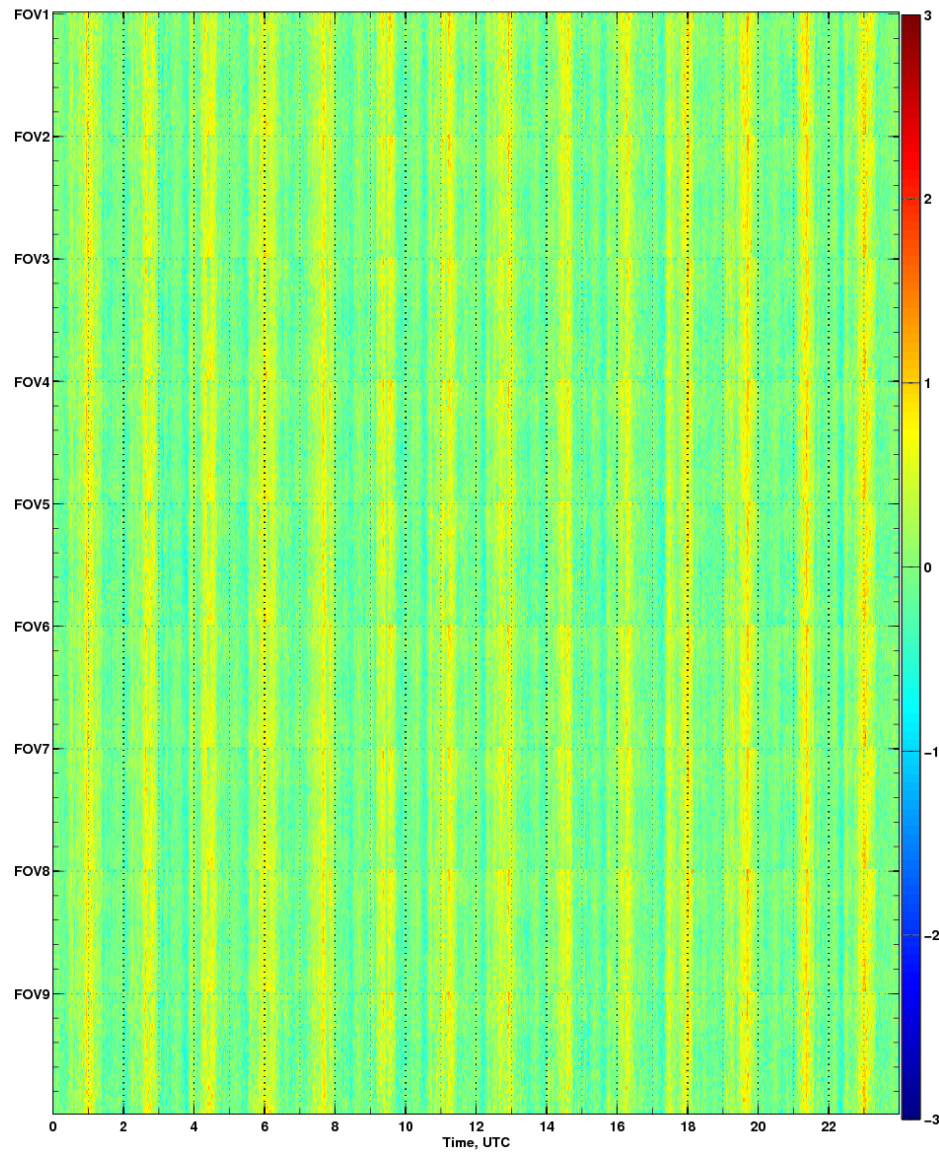


NPP CrIS BT Observ. - Calc., $14.93 \mu\text{m}$ (670 cm^{-1}), Mapped, Descending, 05/04/2014



NPP CrIS 670 cm^{-1} BT (K) Observ. - CRTM Calc., 05/04/2014

Created at 05/06/2014 - 02:30:08 UTC



S-NPP OMPS LTM Parameters

» STAR ICVS Home

» Instrument Performance Monitoring

Suomi NPP

• Spacecraft Telemetry

• ATMS

• CrIS

• VIIRS

• **OMPS Nadir Mapper >>**

• OMPS Nadir Profiler

• OMPS Limb Profiler

MetOp-B

• AMSU-A

• MHS

• AVHRR

• HIRS

NOAA-19

• AMSU-A

• MHS

• AVHRR

• HIRS

MetOp-A

• AMSU-A

• MHS

• AVHRR

• HIRS

NOAA-18

• AMSU-A

• MHS

• AVHRR

• HIRS

GOES

• GOES-13 Sounder

• GOES-13 Imager

• GOES-15 Sounder

• GOES-15 Imager

DMSP

• DMSP F17 SS MIS

• DMSP F18 SS MIS

» OMPS Product

STAR ICVS Long-Term Monitoring

Displaying the last 24 hours of instrument status, updated every three hours.

5/12/2014

15:50 UTC

[About the Suomi NPP OMPS instrument suite](#)

[Instrument Status > NPP > OMPS Nadir Mapper](#)

[Slide Show of All Charts for Selected Date](#)

Select a parameter:

- NM Earth View Radiance
- NM Earth View Radiance**
- NM Chasing Orbit Comparison
- NM SDR Quality Flags
- NM SDR Data Flags
- NM Instrument Operational State
- NM SDR Table Version and ID
- NM Instrument Temperatures
- NM Instrument Voltages
- NM Instrument Currents
- NM Sensor Performance
- NM Linearity Calibration and Monitoring
- NM Linearity Calibration Reference LED
- OMPS Nadir System Operational State
- OMPS Nadir System Table Version and ID
- OMPS Nadir System Temperatures
- OMPS Nadir System Voltages
- OMPS Nadir System Currents
- OMPS Suite Software Version Control
- OMPS Suite Operational State
- OMPS Suite Temperatures

NM Earth View Radiance

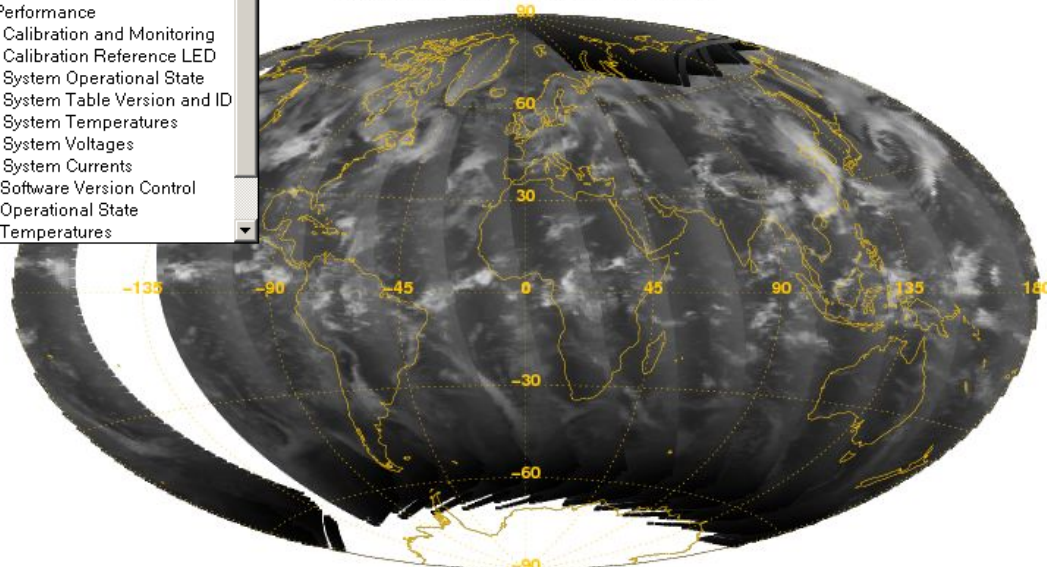
< Radiance Map at 331 nm >

Select a Date:

< 05-12-2014 >

OMPS Total Column Radiance at 331 nm, 2014/05/11

Generated from IDPS¹ Data^{*}



0.00 50.00 100.00 150.00 200.00 250.00 300.00

Generated from PEATE² Data^{*}



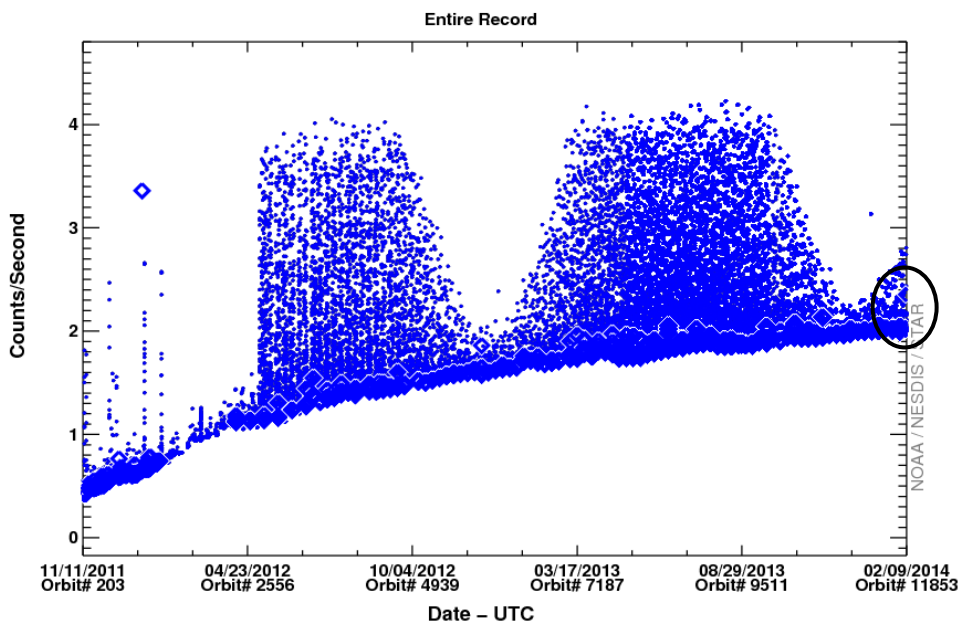
NOAA / NESDIS / STAR

S-NPP OMPS NM/NP Anomaly

- The OMPS calibration monitoring system detected anomalies in the NM and NP standard deviation of dark current from dark calibration images acquired on Feb. 9, 2014

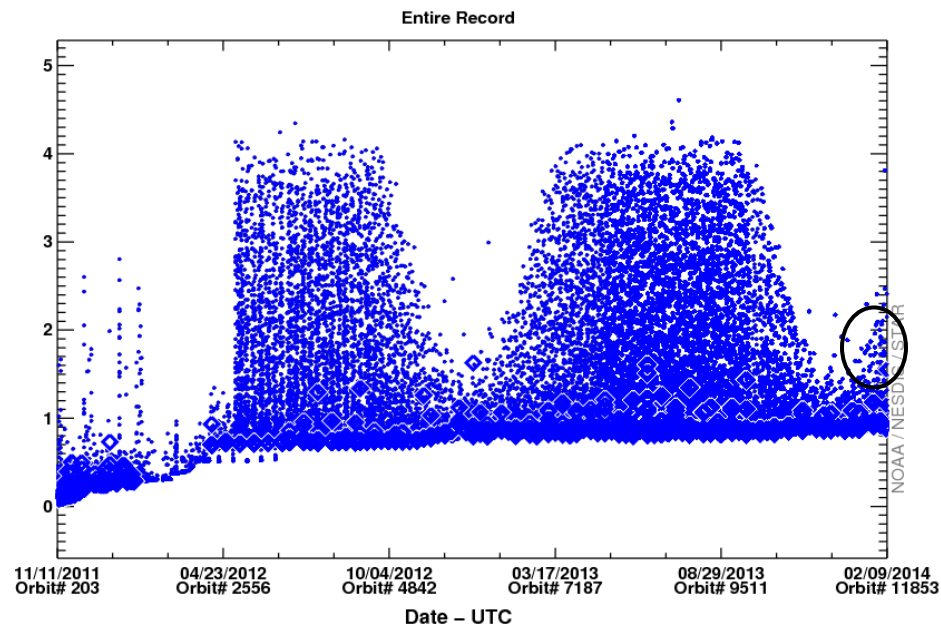
Suomi NPP OMPS Nadir Mapper
Dark Current Standard Deviation

Updated: 02/14/2014 – 03:03:45 UTC



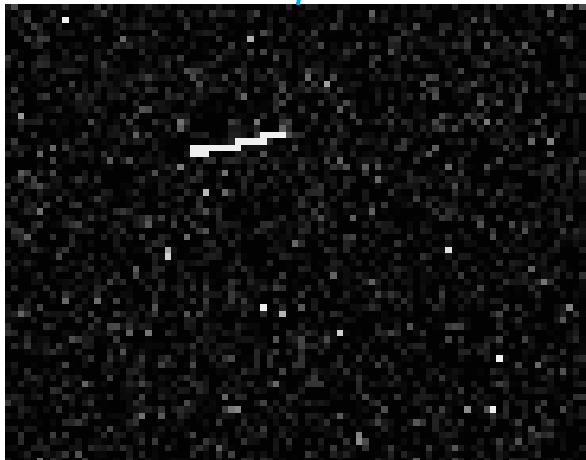
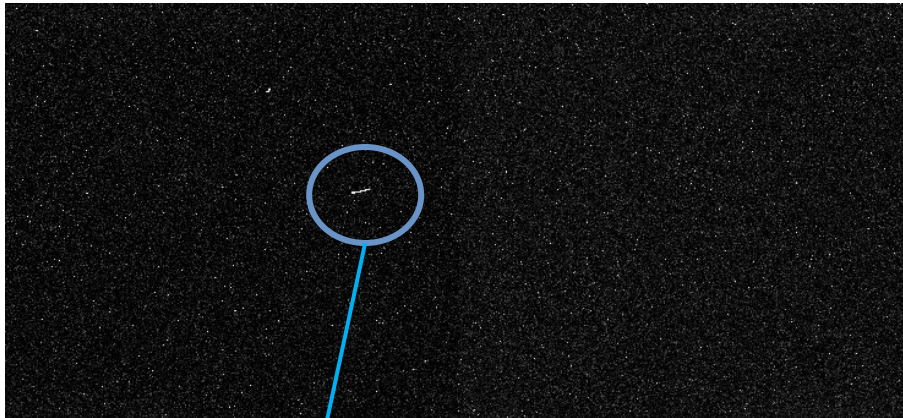
Suomi NPP OMPS Nadir Profiler
Dark Current Standard Deviation

Updated: 02/14/2014 – 04:47:11 UTC

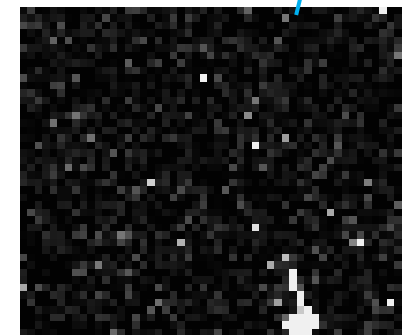


S-NPP OMPS NM/NP Anomaly

NM Anomalous Calibration Image



NP Anomalous Calibration Image

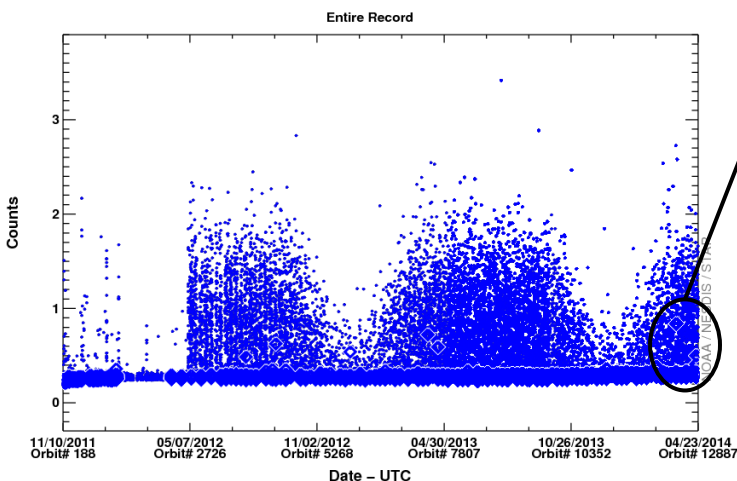
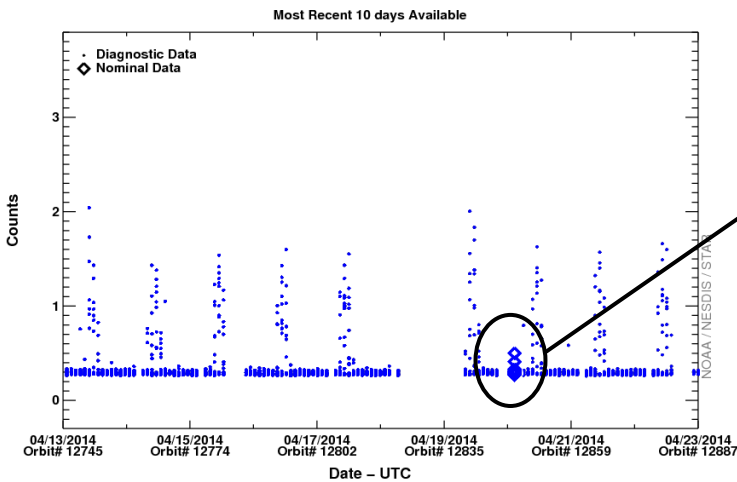


Particles from solar activity?
Cosmic rays?

S-NPP OMPS NM Anomaly

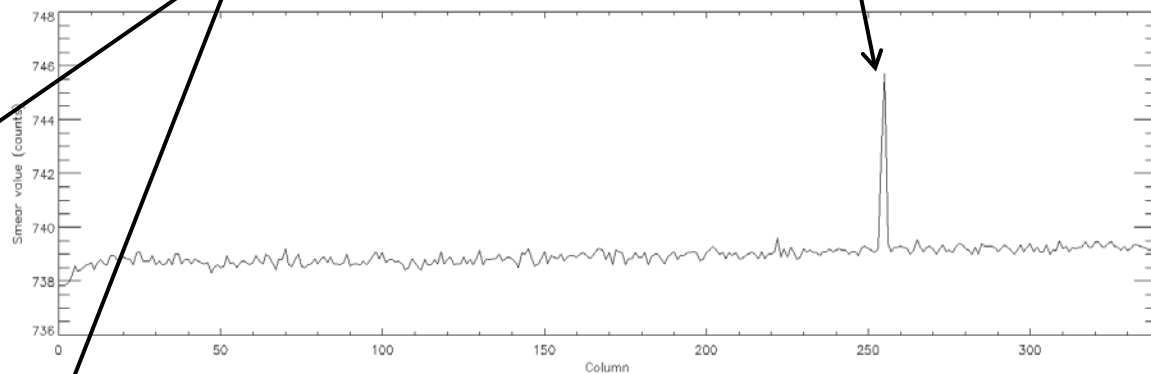
NM Anomaly in PEATE Calibration SDR data on April 20th: “spike” for one column of CCD1 smear signal in calibration dark image

Suomi NPP OMPS Nadir Mapper
Dark Smear Counts Standard Deviation, Left Side
Updated: 04/29/2014 – 02:17:28 UTC



High standard deviation for the smears corresponding to the image with the transient

Transient found in two columns of 35th NM nominal dark image from April 20th



- Smear transients do affect Earthview (EV) data
- Effect is small
 - ✓ Caused 0.13% and 0.07% error in dark current rates, which amounts to 0.39 and 0.21 EV count (out of ~230,000).
- OMPS team is working to fix the necessary filters.



Instrument Anomaly Notification



- Notify through e-mails
- Provide instrument status
- Provide data availability
- Provide data quality

From Ninghai Sun <nsun@rhw1049.star1.nesdis.noaa.gov>
Subject **NPP ATMS Lunar Intrusion Detected (2014-05-09)**
To Ninghai.Sun@noaa.gov

NPP ATMS Space View Lunar Intrusion is Detected on 2014-05-09

Channel 1	Lunar Intrusion Affected Scan Numbers =	2802
Channel 2	Lunar Intrusion Affected Scan Numbers =	2854
Channel 3	Lunar Intrusion Affected Scan Numbers =	1251
Channel 4	Lunar Intrusion Affected Scan Numbers =	1259
Channel 5	Lunar Intrusion Affected Scan Numbers =	1260
Channel 6	Lunar Intrusion Affected Scan Numbers =	1264
Channel 7	Lunar Intrusion Affected Scan Numbers =	1260
Channel 8	Lunar Intrusion Affected Scan Numbers =	1256
Channel 9	Lunar Intrusion Affected Scan Numbers =	1250
Channel 10	Lunar Intrusion Affected Scan Numbers =	1246
Channel 11	Lunar Intrusion Affected Scan Numbers =	1226
Channel 12	Lunar Intrusion Affected Scan Numbers =	1228
Channel 13	Lunar Intrusion Affected Scan Numbers =	1218
Channel 14	Lunar Intrusion Affected Scan Numbers =	1179
Channel 15	Lunar Intrusion Affected Scan Numbers =	1147
Channel 16	Lunar Intrusion Affected Scan Numbers =	1234
Channel 17	Lunar Intrusion Affected Scan Numbers =	607
Channel 18	Lunar Intrusion Affected Scan Numbers =	606
Channel 19	Lunar Intrusion Affected Scan Numbers =	598
Channel 20	Lunar Intrusion Affected Scan Numbers =	601
Channel 21	Lunar Intrusion Affected Scan Numbers =	607
Channel 22	Lunar Intrusion Affected Scan Numbers =	598

!!! Please go to http://www.star.nesdis.noaa.gov/icvs/status_NPP_ATMS.php to check Lunar Intrusion geophysical location and duration time.

From Ninghai Sun <nsun@orbit082L.orbit2.nesdis.noaa.gov>
Subject **ICVS warning message (2012-07-08 04:28:08 UTC)**
To Ninghai Sun

NOAA-19 AMSU-A Channel 8
HSS.AMAX.IIP.D12189.S2346.E0137.B1759495 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.736
HSS.AMAX.IIP.D12189.S2204.E2352.B1759394 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.738
HSS.AMAX.IIP.D12189.S2021.E2209.B1759293 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.743
HSS.AMAX.IIP.D12189.S1832.E2027.B1759092 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.738
HSS.AMAX.IIP.D12189.S1652.E1837.B1758991 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.718
HSS.AMAX.IIP.D12189.S1526.E1648.B1758989 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.677
HSS.AMAX.IIP.D12189.S1346.E1532.B1758889 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.711
HSS.AMAX.IIP.D12189.S1205.E1352.B1758788 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.659
HSS.AMAX.IIP.D12189.S1024.E1211.B1758687 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.663
HSS.AMAX.IIP.D12189.S0849.E1030.B1758586 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.686
HSS.AMAX.IIP.D12189.S0706.E0854.B1758485 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.701
HSS.AMAX.IIP.D12189.S0519.E0712.B1758384 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.719
HSS.AMAX.IIP.D12189.S0330.E0525.B1758283 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.696
HSS.AMAX.IIP.D12189.S0142.E0335.B1758182 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.689

NOAA-19 AMSU-A Channel 7
HSS.AMAX.IIP.D12189.S2346.E0137.B1759495 IEdT within specification .
HSS.AMAX.IIP.D12189.S2204.E2352.B1759394 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.253
HSS.AMAX.IIP.D12189.S2021.E2209.B1759293 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.255
HSS.AMAX.IIP.D12189.S1832.E2027.B1759092 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.266
HSS.AMAX.IIP.D12189.S1652.E1837.B1758991 IEdT within specification .
HSS.AMAX.IIP.D12189.S1526.E1648.B1758989 IEdT within specification .
HSS.AMAX.IIP.D12189.S1346.E1532.B1758889 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.253
HSS.AMAX.IIP.D12189.S1205.E1352.B1758788 IEdT within specification .
HSS.AMAX.IIP.D12189.S1024.E1211.B1758687 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.250
HSS.AMAX.IIP.D12189.S0849.E1030.B1758586 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.254
HSS.AMAX.IIP.D12189.S0706.E0854.B1758485 IEdT within specification .
HSS.AMAX.IIP.D12189.S0519.E0712.B1758384 IEdT within specification .
HSS.AMAX.IIP.D12189.S0330.E0525.B1758283 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.252
HSS.AMAX.IIP.D12189.S0142.E0335.B1758182 IEdT out of specification !!!! Spec. = 0.2500
Current = 0.252

NOAA-19 MHS Channel 3
HSS.MHSX.IIP.D12189.S2346.E0137.B1759495 IEdT out of specification !!!! Spec. = 1.0000
Current = 3.0732



Path Forward



- Support SDR teams to maintain high quality satellite data products for S-NPP
 - Improve anomaly notification function
 - Provide flexible customized datasets for analysis
 - Improve ICVS-LTM system execution efficiency
 - Provide support for more sensors and more parameters
 - Improve sensor absolute bias monitoring module
 - Improve function of current ICVS-LTM website
- Extend current ICVS-LTM to support future NOAA and collaborative satellite programs
 - JPSS
 - GOES-R
 - GCOM