



**North Slope of Alaska ARM Facilities**  
**Monthly Status Update**  
**Sandia National Labs**

**December 2018**

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## 1 North Slope Facilities Management Executive Summary

This monthly report is intended to communicate the status of North Slope ARM facilities managed by Sandia National Labs.

### Operations Team

- \* Mark Ivey- ARM Alaska Sites Manager (SNL)
- \* Fred Helsel- Barrow and AMF3 Site Manager (SNL)
- \* Darielle Dexheimer- Tethered Balloon Operations (SNL)
- \* Valerie Sparks- ARM Project Office (SNL)
- \* Martin Stuefer- Rapid Response Team (UAF)
- \* Randy Peppler- ARM DQ Office Manager (OU)

## 2 Budget

FY2017 Financials (as of December 14, 2018)

	December	YTD
Carryover funds	\$4,850,599	
Funds Allocated YTD	\$1,160,000	
Carryover plus YTD funds	\$6,010,599	
Cost, burdened amount	\$1,584,566	
Uncosted Funds	\$4,426,033	
Commits, burdened total	\$1,213,297	
Current fiscal year uncommitted funds	\$3,212,736	
Subsequent fiscal year (SFY) commits	\$1,500,705	
Total uncommitted funds, including SFY commits	\$1,712,031	
Fully Burdened Staff Costs	\$162,000	\$946,000
Fully Burdened Contract Costs	\$234,000	\$638,000
Fully Burdened Total Costs	\$396,000	\$1,585,000

### **3 Summary of Current Management Issues**

#### **Management summary of current issues for November 2018**

1. We had a minor vehicle accident in Barrow involving Jimmy Ivanoff and a snow plow at the USAF radar station. Jimmy was in one of our GSA vehicles near the DEWLine station waiting for the snowplow to finish working on a section of road. The snowplow operator did not see Jimmy's vehicle and backed into him. We filed reports and will work this issue with GSA.
2. Jimmy had a death in his immediate family. He will be out for a few days. We are working with Martin Stuefer to bring on Ross Bergener as an occasional worker to fill in when needed in Barrow for situations like this.
3. Mark will talk with Anne Jensen early January about Walter's retirement and staff transitions.
4. We are preparing for a visit by Sally McFarlane, Nicki Hickmon, and Jim Mather on Jan 7.
5. The microturbines are running well and delivering prime power at AMF3 so far this winter.
6. We will post a job opening for a technologist in January.
7. We are starting a NEPA Checklist application for the addition of 10-12 pilings at the ARM Barrow facility.

### **Safety**

**AMF3- No incident/Injury**

**Barrow - No Incident/Injury**

### **4 Tethered Balloon Operations**

#### **TBS Report for December 2018**

The TBS crew continued making strides to upgrade and reoutfit both TBS trailers for the upcoming 2019 season. One winch was disassembled to allow for modifications and the addition of a variable speed-controlled motor. In addition, the old electronics box and frame that were previously housed on the trailer were removed. This allowed the addition of space to store generators and helium, and to remount the winch to the frame of the trailer which increases the capability of the winch. In addition, new balloon arms were designed which allows more secure docking of the balloon. Furthermore, a new helium rack was designed to replace the old aluminum one where many cracked welds were found during inspection. With the addition of the new helium rack, there was additional free space added to allow for the mounting of generators and storage boxes on the front of the trailer at a much lower height. This is beneficial due to the fact there will be less "catch points" for the tether during operations, meaning the balloon can be more safely operated at higher winds and steeper angles than before. The last milestone of this month was solving the logistical issue of being able to carry spare gasoline on the trailer. It was found that the safest, easiest way to store gasoline was though obtaining a transfer tank which is permitted for the use of gasoline. A 20 gallon tank will be purchased in January which will give TBS the capability to run for ~80 flight hours before needing to refuel. An overview of TBS, and distributed temperature sensing and aerosol data collected with the TBS, were also presented at the Fall AGU 2018 Meeting.



*Old NM winch trailer electronics control box and mounting frame were removed to make the trailer user friendly.*



*Trailer was outfitted with an old helium rack to add capability. Winch was mounted to the frame of the trailer and 4" U-channel was added to further secure the winch to the frame.*



*A new helium rack and U-channel crossmember being fabricated.*

## 6 North Slope Facilities

## AMF3

## Current and Upcoming Site Visits

Todd Houchens/SNL 12/14- 16 KAZR shield install

## Current and Upcoming IOPs

NA

## Site News

NA

## Site and Safety Issues

**ENG0003771** Modify the CSPHOT deployment at NSA and OLI, DQPR 7346 new moon tracking CIMEL TS has communications errors. Unfortunately, the CIMELTS has not functioned properly since its arrival and leads us to believe it may be a manufacturer defect. We don't believe this unit was tested before it was sent to AMF3. *Ongoing.*

**DQPR-7365:** No 1 min SKYRAD data in plot browser one-minute data is being stored. Plot browser show one-hour updates continuing despite replacing the CR3 logger program on the logger.

**NC0012763** - AMF SKYRAD logger data collection issues. Extra quotation mark on the S/N in the Skyrad logger's status table.

TOA5","SKY","CR3000","","4217719017.008","CR3000.Std.24","CPU:AMFOLI\_SKY\_180925B.CR3","48463","Table213" You can see an extra character in the fourth header column (I think this is typically where the logger SN is output). This character seems to be added by the logger, and not the program.

Data collection was only receiving hourly data and not the 1 min data. Issue was eventually identified to be a CR3000 faulty SN caused due to a power outage that occurred on site. Technologist swapped CR3000 datalogger with onsite spare following a download of all the data on the logger. Logger SN7031 was removed and Logger SN7032 was installed. After configuring the necessary IP, Net Mask, and Gateway logger and instrument cluster began properly reporting 1min and hourly data to the data acquisition system at 2018-12-16 ~21:15UTC.

#### **Unmet Needs**

NA

#### **Site Changes/Upgrades**

Site has been prepared for winter.

#### **Site Staffing - N/A**

## **Barrow**

#### **Current and Upcoming Site Visits**

Jun Lui, Jamy Lee/University of Michigan	10/28-12/22	Arctic Aerosol Sources & Mixing States IOP
Todd Houchens/SNL	12/16-18	SACR maintenance

#### **Current and Upcoming IOPs**

SNPP/NPOESS Ground Truth Sonde Launch, Phase 5 – start date Oct 1, 2016

Seismic Probes for NSF– POP Ends, Oct 31, 2018

Global Navigation Satellite System (GNSS) – start date July 2017

Heated Pyrheliometer IOP requesting extension - winter 2018

RIVAL - Sonde RS92 RS41 comparison. (Donna Holdridge)

ARM Field Campaign: 2018-6948- Arctic Aerosol Sources & Mixing States. Oct 28 – Dec 20, 2018.

Arctic Observing eXperiment: March 2013-March 2019

ARM Radiosondes for SNPP/JPSS Validation

Heated Pyrheliometer IOP requesting extension

Seasonal Evolution of Land and Sea Ice Albedo. May 2019

**Site News**

NA

**Site and Safety Issues**

NA

**Unmet Needs**

Donna Holdridge is working with NWS to modify data format for the RBL. Sandia National Laboratories fire marshal has reviewed the NWS hydrogen generator drawings and has an issue with how much hydrogen will be stored inside the generator shelter. Sandia doesn't believe this meets national code.

**Site Changes/Upgrades**

Site has been prepped for winter and is operating in winter mode.

Telehandler has been repaired and is back in service.

Cables chewed by foxes on various instruments has been complete.

**Site Staffing Issues**

NA

*Appendices: Instrument Status – Provided by Martin Stuefer and Telayna Gordon*

**- Appendix A: AMF3**

INFORMAL AMF3 INSTRUMENT STATUS REPORT FOR December 23 - December 28, 2018

BRIEF STATUS OF INSTRUMENTS AND SITE IN OLIKTOK AS OF 2018/12/28:

Facilities	Operational
Data Systems	Operational
Vehicles	Operational
Desktop Computers	Operational
SKYRAD - SKY Radiometer on Stand for downwelling	Operational
MFRSR - Multifilter Rotating Shadowband Radiometer	Not Operational
GNDRAD - Ground Radiometer on Stand for Upwelling	Operational
MFR2.5m - Multifilter Radiometer at 2.5m height	Not Operational
MAWS - Automatic Weather Station	Operational
MET - Surface & Tower Meteorological Instruments	Operational
CMH - Chilled Mirror Hygrometer	Operational
AMC - Soil, up/downwelling radiation measurements	Operational
ECOR - Eddy Correlation Flux System	Operational
MWR3C - Three Channel Microwave Radiometer	Operational
MPL - Micropulse Lidar	Operational
DL - Doppler Lidar	Operational
RL - Raman Lidar	Not Operational
CEIL - Vaisala Ceilometer	Operational
KAZR - Ka ARM Zenith Radar	Operational as per warno.arm.gov
BBSS - Balloon Borne Sounding System	Operational
TSI - Total Sky Imager	Not Operational
AOS - Aerosol Observing System	Partly Operational
AOSMET - AOS Meteorological Measurements	Operational
CO - AOS Carbon Monoxide Analyzer	Operational
CPC - Condensation Particle Counter	Operational
CAPS - Cavity Attenuated Phase Shift Extinction Monitor	Not Operational
ACSM - Aerosol Chemical Speciation Monitor	Not Operational
HTD-MA - Humidified Tandem Differential Mobility Analyzer	Not Operational
GHG - PICARRO	Operational
NEPH - Nephelometer	Operational
PSAP - Particle Soot Absorption Photometer	Operational
UHSAS - Ultra-High Sensitivity Aerosol Spectrometer	Operational
IMPACTOR - AOS Impactor	Operational
OZONE - AOS Ozone	Operational
CCN - Cloud Condensation Nuclei Particle Counter	Not Operational
LPM - Laser Precipitation Monitor	Operational
GEONOR - Geonor Weighing Gauge	Operational
SRS - Snow Depth Sensor	Operational
AERI - Atmospheric Emitted Radiance Interferometer	Operational
CIMEL - Cimel Sunphotometer	Not Operational
IRT - Infrared Thermometer	Operational
MET-AIR - DataHawk Unmanned Aerial System	Operational
TBS - Tethered Balloon System	Operational
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\* Oliktok Instruments in Detail: \*

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INFRASTRUCTURE --- Facilities --- Operational.

INFRASTRUCTURE --- Data Systems --- Operational.

2018/12/26, CM-2018-AMF3-VSN-2761: HDD S/N NA7Q2CRF was filled, so it was replaced with HDD S/N NA7Q2CPN. Ops will ship HDD S/N NA7Q2CRF via USPS tracking # 9114 9014 9645 0852 3626 47.

INFRASTRUCTURE --- Vehicles --- Operational.

INFRASTRUCTURE --- Desktop Computers --- Operational.

SKYRAD --- SKYRAD general --- Operational.

2018/12/18, DQPR-7365: ADC cleared the ingest on 2018/12/18. Normal plots are appearing on DQExplorer starting at 00:00 UTC on 2018/12/17. The most recent DQPR status is "open - requires action."

2018/12/07, DQPR-7342: Visual checks of the global horizontal PSP should be made starting at about September 15, 2019, when skies are clear enough, to see if there is any shadowing from about 1 to 2 UTC. The most recent DQPR status is "open - requires action."

2018/11/30, DQPR-7365: OLI site ops downloaded the most recent data from the logger and found that one minute data is being stored. This suggests that the problem would not be associated with the CR3000 logger or the SKYRAD program that is in it, and further troubleshooting external to the logger is needed.

2018/11/29, DQPR-7365: Plotbrowser plots show one hour updates are still continuing despite replacing the CR3 logger program on the logger. Upgrading the logger to a new operating system may be the next step that is tried. The most recent DQPR status is "open - requires action."

SKYRAD --- PIR 1 shaded --- Operational.

SKYRAD --- PIR 2 shaded --- Operational.

SKYRAD --- SOLAR Tracker --- Operational.

SKYRAD --- B&W diffuse --- Operational.

SKYRAD --- NIP --- Operational.

SKYRAD --- PSPg --- Operational.

SKYRAD --- MFRSR --- Not Operational. Removed for winter.

2018/11/16, DQPR-7179: DQR D181116.3 was assigned to Christian Herrera due to the MFRSR being removed on 11/11. The most recent DQPR status is "in progress - assignments."

2018/11/11, CM-2018-AMF3-VSN-2714/DQPR-7420: MFRSR SN # 199 needed to be removed for winter calibration, so ops powered down the instrument, removed the cables, and sealed them in plastic bags. The unit was packed and shipped for calibration at SGP (shipped to James Martin). Christian Herrera was assigned DQR D181112.3. The most recent DQPR status is "in progress - assignments."

TIPTWR --- GNDRAD general --- Operational.

TIPTWR --- MFR2.5m --- Not Operational. Removed for winter.

TIPTWR --- PIRgnd --- Operational.

TIPTWR --- PSPgnd --- Operational.

MAWS --- Automatic Weather Station --- Operational.

MET --- METTOWER general --- Operational.

MET --- CMH --- Operational. Mirror Was Cleaned this Week.

2018/12/27, CM-2018-AMF3-VSN-2762: CMH relative humidity data was rising and falling by roughly 10 degrees over a 60 second period causing the data to look "noisy". In response, ops removed the mirror assembly and performed a mirror cleaning at 22:46 UTC. Data are looking more normal at this time.

MET --- Barometer --- Operational.

MET --- TEMPERATURE / HUMIDITY --- Operational.

MET --- WIND INSTRUMENTS (SONIC) --- Operational.

MET --- PWD --- Operational.

MET --- AMC --- Operational.

ECOR --- ECOR --- Operational.

ECOR --- SEBS --- Operational.

MW RADIOMETERS --- MWR3C --- Operational.

LIDAR --- Micropulse LIDAR --- Operational.

LIDAR --- Doppler LIDAR --- Operational.

LIDAR --- Raman LIDAR --- Not Operational. Shut Down for winter.

LIDAR --- CEIL --- Operational.

RADAR --- KAZR --- Operational as per warno.arm.gov. RF Shield Replaced.

Sonde --- BBSS --- Operational.

2018/12/25, CM-2018-AMF3-VSN-2759/CM-2018-AMF3-VSN-2760: Technicians were unable to launch the 17:30 and 23:30 UTC balloons due to high wind conditions. Winds are >30 mph sustained and gusting >40 mph. Launches will resume when weather conditions permit.

IMG --- TSI --- Not Operational. Removed for winter.

AOS --- General --- Partly Operational, Some Instruments Shut Down.

AOS --- AOSMET --- Operational.

2018/10/29, DQPR-7391: Wind speed and wind direction are often missing beginning at 16:46 UTC on 2018/10/16. There were short intermittent periods of missing data prior to this date, but the periods of missing data have become more frequent. Site ops commented that this problem happens every winter since the WXT520 unit sits on top of the AOS connex and is non-heated. It cannot be serviced/maintained over the winter months. Kenneth Kehoe decided to leave the end date of this DQPR open until the ice is no longer an issue as to warn data users now. Jenni Kyrouac submitted DQR D181030.1. The most recent DQPR status is "in progress - assignments."

AOS --- CO - Analyzer --- Operational.

AOS --- CPC (CPCU and CPCF) --- Operational.

AOS --- CAPS --- Not Operational, Instrument at BNL.

2018/10/05, DQPR-5816: The repaired unit is back at BNL and was just used in the ARM-sanctioned PSAP filter laboratory study. One of the three pumps failed during this study and BNL is awaiting the delivery of the replacement pumps. Once replaced, the instrument can be shipped back to the site. DQR D181005.1 has been assigned to Arthur Sedlacek. The most recent DQPR status is "in progress - assignments."

AOS --- ACSM --- Not Operational. Removed from Service for Redeployment to AMF2.

AOS --- HT-DMA --- Not Operational. Instrument Removed for the winter.

AOS --- GHG-Picarro --- Operational.

AOS --- UHSAS --- Operational.

AOS --- NEPH --- Operational.

2018/12/27, DQPR-7519: Data appears to have been affected by cold weather and ice/snow between 12/01 at 23:46 UTC and 12/16 at 23:46 UTC. Data tables show incorrect/indeterminate data for the 'Bs' and 'Bbs' variables over extended periods. The most recent DQPR status is "open - requires action."

2018/12/16, DQPR-7511: The wet nephelometer bulb was burnt out from 2017/10/21 at 16:00 UTC to 2017/11/03 at 23:23 UTC. Data from this time are incorrect. The most recent DQPR status is "open - requires action."

2018/12/02, CM-2018-AMF3-VSN-2738/DQPR-7489: During the daily AOS rounds, site ops found that the instrument's bulb had burned out, so they removed and replaced it between 16:50 and 16:55 UTC. The problem appears to have started at 16:45 UTC on 2018/11/30. DQR D181207.1 has been assigned to Janek Uin. The most recent DQPR status is "in progress - assignments."

AOS --- IMPACTOR --- Operational.

AOS --- Ozone --- Operational.

AOS --- PSAP --- Operational.

2018/11/11, DQPR-7418: Data was not available from 02/25 at 18:03 UTC to 2/26 at 18:39 UTC. DQRs for other instruments at this location indicate that the UPS failed during this time. DQR D181112.1 was assigned to Arthur Sedlacek. The most recent DQPR status is "in progress - assignments."

AOS --- IMPACTOR --- Operational.

AOS --- CCN --- Not Operational. At BNL, Waiting for Parts and Working on Performance Issues.

2018/08/13, DQPR-7136: New parts were installed, and a full flow calibration and a zero test was performed. The instrument is working well. Janek is waiting for an SMPS to become available for SS% calibration. The most recent DQPR status is "in progress - assignments."

Precip --- LPM --- Operational. Ingest Work in Progress.

2018/08/29, DQPR-7265: The ingest is not yet operational. The most recent DQPR status is "open - requires action."

Precip --- GEONOR --- Operational. Ingest Work in Progress.

2018/11/29, DQPR-7267: The ingest is currently down, so we may want to leave this open until start/end dates/times can be accurately determined. The most recent DQPR status is "in progress - assignments."

Precip --- SRS --- Operational. Ingest Work in Progress.

2018/11/29, DQPR-7266: Ingests are currently down, so we may want to leave this open until start/end dates/times can be accurately determined. The most recent DQPR status is "in progress - assignments."

Other --- AERI --- Operational.

2018/12/24, CM-2018-AMF3-VSN-2758: The AERI thermostatically shut off overnight due to low temperatures in the instrument shelter. Site Ops deployed extra heaters around AMF3, including right in front of the AERI. The system was rebooted and operational again as of 16:43 UTC.

Other --- CIMEL --- Not Operational. The Instrument Was No Longer Performing Scans.

2018/12/04, CM-2018-AMF3-VSN-2740/DQPR-7346: The CIMEL was no longer performing its normal scans. After site ops performed numerous tests, the mentor came to the conclusion that the best thing would be to remove the instrument due to the loss of functionality. Site ops removed the instrument from its base and removed the cables from the shelter between 19:00 and 19:25 UTC. The instrument will be packaged in its case and shipped to the manufacturer (AERONET) for repairs. The most recent DQPR status is "waiting - for spares."

Other --- DataHawk Unmanned Aerial System --- Operational, not a full time instrument.

Other --- IRT --- Operational.

Other --- TBS --- Operational.

2018/11/11, DQPR-7419: Data was not available from 18:00 UTC on 04/01 to 23:07 UTC on 04/03. DQR D181112.2 was assigned to Dari Dexheimer. The most recent DQPR status is "in progress - assignments."

## - Appendix B- Barrow

### INFORMAL NSA INSTRUMENT STATUS REPORT FOR December 23 - December 28, 2018

#### BRIEF STATUS OF INSTRUMENTS AND SITE IN Utqiāġvik (C1) AS OF 2018/12/28:

Facilities	Operational
Data Systems	Operational
Vehicles	Operational
Desktop Computers	Operational
SKYRAD - SKY Radiometer on Stand for Downwelling	Operational
MFRSR - Multifilter Rotating Shadowband Radiometer	Not Operational
NIMFR - Normal Incidence Multifilter Radiometer	Not Operational
GNDRAD - Ground Radiometer on Stand for Upwelling	Operational
MFR10m - Multifilter Radiometer at 10m height	Not Operational
MET - Surface & Tower Meteorological Instruments	Operational
AMC - Soil, Up/Downwelling Radiation Measurements	Operational
ECOR-twr - Eddy Correlation Flux System	Operational
MWR - Microwave Radiometer	Operational
MWRP - Microwave Radiometer Profiler	Operational
MWRHF - Microwave Radiometer High Frequency	Operational
GVR - G-band Vapor Radiometer	Operational
GVRP - G-band Vapor Radiometer Profiler	Operational
HSRL - High Spectral Resolution Lidar	Operational
MPL - Micropulse Lidar	Operational
CEIL - Vaisala Ceilometer	Operational
DL - Doppler LIDAR	Operational
KAZR - Ka ARM Zenith Radar	Operational
KaWSACR - Ka-Band Scanning ARM Cloud Radar	Partly Operational
XSAPR - X-Band Scanning ARM Precipitation Radar	Operational
BBSS (Autosonde) - Balloon Borne Sounding System	Operational
AOS - Aerosol Observing System	Operational
CLAP - Continuous Light Absorption Photometer	Operational

CPC - Condensation Particle Counter	Operational
NEPH - Nephelometer	Operational
IMPACTOR - AOS Impactor	Operational
TSI - Total Sky Imager	Not Operational
TOWERCAM - 40m tower camera	Operational
Great White Camera	Operational
MASC - Multi-angle Snowflake Camera	Operational
LPM/LDIS - Laser Precipitation Monitor	Operational
SRS - Snow Depth Sensor	Operational
PIP - Precipitation Imaging Package	Operational
AERI - Atmospheric Emitted Radiance Interferometer	Operational
CIMEL - Cimel Sunphotometer	Not Operational
IRT - Infrared Thermometer	Operational
IOP - OYESNSA	Operational
IOP - RIVAL	Operational
IOP - CHP1	Not Operational
IOP - GNSS	Operational

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\* Barrow Instruments in Detail: \*

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INFRASTRUCTURE --- Facilities --- Operational.

INFRASTRUCTURE --- Data Systems --- Operational.

2018/12/24, CM-2018-NSA-VSN-4820: The site data disk was filled, so it was replaced with a new one at 18:50 UTC.

INFRASTRUCTURE --- Vehicles --- Operational.

INFRASTRUCTURE --- Desktop Computers --- Operational.

SKYRAD --- SKYRAD General --- Operational.

SKYRAD --- PIR 1 Shaded --- Operational.

SKYRAD --- PIR 2 Shaded --- Operational.

SKYRAD --- SOLAR Tracker --- Operational.

SKYRAD --- B&W diffuse --- Operational.

SKYRAD --- NIP --- Operational.

SKYRAD --- PSPg --- Operational.

SKYRAD --- MFRSR --- Not Operational, Winter Removal.

SKYRAD --- NIMFR --- Not Operational, Winter Removal.

2018/09/21, DQPR-7224: James will inspect and test the instrument during winter calibrations. The most recent DQPR status is "open - requires action.

TIPTWR --- GNDRAD general --- Operational.

TIPTWR --- MFR10m --- Not Operational, Winter Removal.

TIPTWR --- PIRgnd --- Operational.

TIPTWR --- PSPgnd --- Operational.

MET --- METTOWER general --- Operational.

MET --- CMH --- Operational.

MET --- Barometer --- Operational.

MET --- TEMPERATURE / HUMIDITY --- Operational, but Noisy Data is Being Investigated.

2018/11/14, DQPR-7034: The 10m level humidity data are often spiking twice a day, around the same times. This problem was apparent prior to maintenance and is addressed in DQPR-6542. This issue has continued after swap, with a suspected start date of 2017/10/09 at 22:00 UTC. Site ops noted that caps are missing from the shield at that level, which may be causing the problem. Jenni posted a picture of the instrument with the missing cap on the DQPR. The tower swap outs are now scheduled for spring 2019. The most recent DQPR status is "waiting - for spares."

MET --- WIND INSTRUMENTS (SONIC) --- Operational.

MET --- PWD --- Operational.

MET --- AMC --- Operational.

2018/11/16, DQPR-5694: Adam Theisen is wondering when the calibration will happen, and if the ingest is handling missing data vs saturated signals properly. The most recent DQPR status is "in progress - assignments."

ECOR --- ECOR-twr --- Operational.

ECOR --- SEBS --- Operational.

2018/11/06, DQPR-7280/CM-2018-NSA-VSN-4764: David Cook commented that the wetness sensor goes below the lower limit of the range when it's iced up--there is nothing that can be done to prevent it. Data will also spike above the upper limit of the range after the ice melts; the sensor does not need to be replaced. A DQR should be written to explain this situation to the data user, so D181105.10 with the start date of the instrument installation, was assigned to Ryan Sullivan. This information should also be put into the instrument handbook. Walter checked the rain sensor anyway between 21:15 and 21:30 and found it clean and dry; he also cleaned and checked the ECOR instruments. The most recent DQPR status is "open - requires action."

MW RADIOMETERS --- MWR --- Operational.

2018/11/29, DQPR-7376: The fan was replaced on 11/8 at 20:00 UTC, and Maria Cadeddu has submitted DQR D181129.1. The most recent DQPR status is "in progress - assignments."

MW RADIOMETERS --- MWRP --- Operational.

MW RADIOMETERS --- MWRHF --- Operational, but Data Still Shows Excessive Noise Conditions. 2018/02/09, DQPR-4165: Adam Theisen asked Maria Cadeddu if there has been any discussions on the future of the MWRHF. The current DQPR status is "in progress- assignments."

MW RADIOMETERS --- GVR --- Operational.

2018/12/10, DQPR-7222: The instrument motor was replaced and the instrument was sent back to the NSA. However, we are having problems running the software. Prosensing engineers are supporting the troubleshooting. The most recent DQPR status is "in progress - assignments."

MW RADIOMETERS --- GVRP --- Operational.

LIDAR --- HSRL --- Operational.

LIDAR --- MPL --- Operational.

LIDAR --- CEIL --- Operational.

LIDAR --- Doppler LIDAR --- Operational. Blower Needs to Be Replaced.

RADAR --- KAZR --- Operational.

RADAR --- KAWSACR --- Partly Operational. WSACR under Testing and Data Are Not Being Collected.

2018/08/31, Warno.arm.gov: The mentor visited the site and performed RF measurements on the subsystems. Configuration, calibration, and testing will continue.

RADAR --- XSAPR --- Operational.

2018/08/31, Warno.arm.gov: The upgrade is completed and the latest repairs are being tested. Discussion for the baseline mode will be initiated soon. The baseline will be discussed in conjunction with the SACR baseline.

Sonde --- BBSS (Autosonde or Great White Manual Launches) --- Operational.

AOS --- General --- Operational.

AOS --- AETH --- Operational.

2018/11/30, DQPR-7479: All the data have successfully transferred after the hiccup. The most recent DQPR status is "open - requires action."

AOS --- CLAP --- Operational.

2018/11/30, DQPR-7477: There was a conflict between an OS distribution upgrade and network connection issues that stopped data transfer for all AOS instruments. However, all data now seems to have been transferred. The most recent DQPR status is "open - requires action."

AOS --- CPC --- Operational, but Some Data Quality Issues.

2018/11/20, DQPR-7443: Elisabeth Andrews is trying to figure out what caused the problem, so she is going to wait to submit a DQR until the cause is known. The most recent DQPR status is "open - requires action."

2018/11/06, DQPR-7443/7444: The CPC number concentration was oscillating with a regular frequency (over about 24 min) from 10/27 at 15:13 UTC to 12:09 UTC on 10/29, and again from 11/03 at 6:43 UTC to 11/05 at 00:01 UTC. Elisabeth Andrews is not sure if the problem is related to the instrument, the sampling system, environmental conditions (e.g., wind), or some combination of things.

AOS --- NEPH --- Operational.

AOS --- IMPACTOR --- Operational.

IMG --- TSI --- Not Operational. Removed for winter.

IMG --- TOWERCAM --- Operational.

IMG --- Great White Camera --- Operational.

Precip --- MASC --- Operational.

Precip --- LPM/LDIS --- Operational.

2018/11/13, DQPR-7427: Since 10/27/18 at 3:57 UTC, metrics were unavailable. The DSView log indicates the following error: status: Could Not Map Input CSV Data To Output Dataset.

Raw data appear to be on the ADC computer so this does not appear to involve a site issue. The most recent DQPR status is "open - requires action."

Precip --- SRS --- Operational, Ingest Work in Progress.

2018/11/10, DQPR-7416: Data are unavailable starting at 19:00 UTC on 10/19. This appears to be an ingest issue per DSView. This is because the raw data file format for the SRS at NSA (and OLI) has changed (see ENG0003770 for more detail). As such the ingest is not processing the new raw data files. The ingest will be updated to accommodate the new file format (INST01114). The most recent DQPR status is "open - requires action."

Precip --- PIP --- Operational.

2018/12/27, CM-2018-NSA-VSN-4821: David Swank emailed that the PRECIPVID collection had not found data since 00:00 UTC on 2018/12/23, so the software was restarted on 2018/12/27 at 03:00 UTC.

Other --- AERI --- Operational.

Other --- CIMEL --- Not Operational.

2018/12/27, CM-2018-NSA-VSN-4822/4823: The mentor requested that the CSPHOT be brought inside due to issues with the instrument not moving, so Jimmy Ivanoff pulled the instrument and head between 18:30 and 19:15 UTC, leaving them inside the shelter to thaw out. He then tried taking the instrument out of auto mode and putting it in park between 22:00 and 22:30 UTC; however, the instrument would still not move.

Other --- IRT --- Operational.

IOP --- OYESNSA --- Operational.

IOP --- RIVAL --- Operational.

IOP --- CHP1 --- Not Operational.

IOP --- GNSS --- Operational.

## Distribution

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