

## **ICESat-2 PROJECT SCIENCE OFFICE REPORT**

**Monday, November 25, 2019 thru Sunday, December 1, 2019**

RGTs spanned: 903-1009

Cycle 5

### **Items of Note:**

All ATLAS housekeeping data is nominal; laser 2 is firing at energy level 4 and in science mode. The ISF worked to reset PCE2 in order to resolve ATLAS ARB-001, PCE2 Upper Threshold Crossing Anomaly. These steps were run successfully Monday 11/25/19, and PCE2 is functioning nominally once more.

**NSIDC ICESat-2 Metrics through December 1:** 2,806 total users of 10 available data products; 2,151,160 sciences files downloaded. ATL08 is once again in the lead with 1,247 users and 716,620 files downloaded! ATL03 remains in 2<sup>nd</sup> place with 913 users of 187,565 files, and ATL06 is in 3<sup>rd</sup> this week with 623 users and a **whopping 1,054,923** files downloaded.

Photon (Black) Phriday this week featured some famous landmarks that share a commonality in their names . . . check it out [here!](#)

**\*\*ELEMENT DETAILS BELOW\*\***

### **CAMS/POD:**

**CAMS:** Regular CAMS operations: constraint and conjunction monitoring for MW063 and MW064 and mission planning for MW065.

CAMS recommended Laser ARM for HIE event with 41962 for doy331(MW063) that self-mitigated.

CAMS continues to target the moorings at 36.0259 lat, -125.105 lon per the Science Team request.

**POD:** Regular POD operations continue. Intermediate POD was completed for GPS week 2079. Final POD was completed for GPS week 2077. All results appear nominal.

### **ISF:**

All ATLAS housekeeping data is nominal

Laser 2 is firing at energy level 4 and in science mode

WTEM Peak to Edge Ratio: 1.199

Laser 2 Temperature Error: -0.29C

SADA in SAILBOAT Mode

Spacecraft orientation: + X

Mission Planning:

MW64 ATS is loaded to the spacecraft and currently operating.

MW65 is being planned, nominal calibrations

---

Activities during the past week:

Real-time activities:

CAR454 to reset ATLAS PCE2 to clear an anomalous condition (note 1)

CAR455 to clear spacewire router errors (note 2)

CAR452 to adjust the SPD threshold settings (note3)

CAR91 and CAR102 to clear routine SBS and SXP errors

ATS activities:

Routine Instrument calibrations, Ocean scans and Vegetation Data collection.

Other Activities:

Prepared a mini ATS to mitigate HIE18 41962 (FLOCK 3P 17) with Laser to ARM mode. The HIE self-mitigated and the mini ATS was not loaded.

Near-term activities:

DMU034 2 Dec 2019 (2019/336) 15:33:14

Continuing to work on the ISF tech refresh - schedule dates for testing to be provided.

Perform TCS failover contingency operations (i.e., fail over to backup server practice)

Continue routine use of FLATLAS, but power the hardware down prior to the planned power outage of Bldg 1 on 12/13.

Notes/Issues:

1. CAR454 resets PCE2 to resolve ATLAS ARB-001, PCE2 Upper Threshold Crossing Anomaly.

These steps were run successfully Monday 11/25/19, (2019/329) and PCE2 is functioning nominally once more.

2. CAR455 cleared the spacewire router errors generated during the recovery from ATLAS ARB-001 on 2019/329

3. SPD lower and upper thresholds were reset to the nominal 25 and 75 millivolts on 2019/329 using CAR452 as part of the ATLAS ARB-001 activities.

LTO Schedule:

All items remain on schedule

**SIPS:**

- The SIPS is operating nominally:
  - o Ingested and distributed Level 0 data to the ISF.
  - o Generated L1A and L1B products and distributed ATL02s to the ISF, POD, and SCF.
  - o Distributed selected ATL01s to the ISF and SCF by special request.

- o Generated rapids ATL03, ATL04, ATL06, ATL07, ATL08, ATL09, and ATL10 using ANC03/04/05 files from the CAMS.
- o Distributed the rapid Science Data products to the SCF.
- Generated ATL01/ATL02s (expedited – Release E002) from the expedited L0 data for the 2019/329/19:46:46 - 19:51:59 AS2 contact.
- o Data products were distributed to the ISF and SCF.

### **ASAS:**

ASAS developers continue to work the top priority issues as identified by their respective ATBD lead.

L1B work involves verifying the improved QA and testing the modified receiver sensitivity equation.

L2/L3 atmosphere work continues with the interpolation of CAL method 3 and DDA ground detection.

ATL03 work is focused on verifying the POD/PPD degrade flags and (in the background) improved signal classification.

The Atmosphere L3B developer is generating ATL16s and ATL17s to test newly coded parameters.

The Land Ice code is being tested to verify the atmosphere flags read from ATL09.

The Land/Veg developer is adding flags to identify data availability issues regarding terrain/canopy.

The sea ice/freeboard is working on TEP removal, fixing NaNs in ATL10 and the L3B products.

The Land Ice ATL11 L3B code is being modified to work in a production environment. The developer has submitted changes to the ATL11 repository.

The inland water developer is working on EM Bias updates.

The ocean developer has produced initial ATL12 results with the redesigned ocean manager.

ASAS is starting to run the second series of functional tests.

### **SCF:**

The SCF is operating nominally. Data for releases 002 and R002 are being ingested and distributed. We received a small amount of expedited ATL02 data identified as release E002. Although this was unexpected, there were no major issues ingesting the files, and they are now available at the SCF. Users should note that this has caused the SCF's "latest" release

for ATL01 and ATL02 to become E002. Also, a few minor issues were examined and resolved. A file listing the current SCF data holdings is attached.

**ATL02/Instrument Science:**

NTR.

**ATL03:**

Final ATBD updates were made for release 003 to include a QA parameter indicating the percent of granule geolocation segments with the absolute difference between reference photon height and DEM height exceeding a threshold and a flag on the actual product indicating whether or not photons resulting from saturation are likely present in a particular granule or geolocation segment.

**ISF ACTIVITIES MISSION WEEK 064:**

\* Not in science mode

^ Could affect science data quality

- \* 2019/332:02:09:32.0000 TEP data collection Grid 81 Duration 3 minutes
- \* 2019/332:03:38:57.0000 TEP data collection Grid 7 Duration 3 minutes
- \* 2019/332:03:46:26.0000 TEP data collection Grid 115 Duration 3 minutes
- \* 2019/332:03:58:24.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2019/332:05:18:19.0000 AMCS Cal over open ocean Duration 2 minutes
- 2019/332:06:49:55.0000 OCEANscan Duration 22 minutes
- \* 2019/332:08:24:04.0000 TEP data collection Grid 72 Duration 3 minutes
- \* 2019/332:08:31:55.0000 TEP data collection Grid 180 Duration 3 minutes
- \* 2019/332:11:43:06.0000 TEP data collection Grid 211 Duration 3 minutes
- \* 2019/332:13:04:43.0000 TEP data collection Grid 29 Duration 3 minutes
- \* 2019/332:13:14:47.0000 TEP data collection Grid 173 Duration 3 minutes
- \* 2019/332:13:22:36.0000 TEP data collection Grid 280 Duration 3 minutes
- \* 2019/332:13:27:49.0000 TEP data collection Grid 352 Duration 3 minutes
- \* 2019/332:14:39:01.0000 TEP data collection Grid 27 Duration 3 minutes
- 2019/332:18:37:00.0000 OCEANscan Duration 22 minutes
- \* 2019/332:19:23:42.0000 TEP data collection Grid 56 Duration 3 minutes
- \* 2019/332:21:19:16.0000 TEP data collection Grid 340 Duration 3 minutes
- \* 2019/332:22:30:30.0000 TEP data collection Grid 15 Duration 3 minutes
- \* 2019/332:22:45:44.0000 TEP data collection Grid 230 Duration 3 minutes
- \* 2019/332:22:49:50.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- \* 2019/333:00:09:35.0000 TEP data collection Grid 84 Duration 3 minutes
- \* 2019/333:00:14:49.0000 TEP data collection Grid 156 Duration 3 minutes
- \* 2019/333:00:29:20.0000 TEP data collection Grid 372 Duration 3 minutes
- \* 2019/333:01:46:29.0000 TEP data collection Grid 118 Duration 3 minutes
- 2019/333:03:00:00.0000 Laser window dump Duration 2 minutes

\* 2019/333:03:18:10.0000 TEP data collection Grid 80 Duration 3 minutes  
\* 2019/333:04:52:39.0000 AMCS Cal over open ocean Duration 2 minutes  
2019/333:06:24:15.0000 OCEANscan Duration 22 minutes  
\* 2019/333:06:50:14.0000 TEP data collection Grid 398 Duration 3 minutes  
\* 2019/333:08:00:32.0000 AMCS Cal over open ocean Duration 2 minutes  
\* 2019/333:08:21:54.0000 TEP data collection Grid 396 Duration 3 minutes  
\* 2019/333:11:09:36.0000 TEP data collection Grid 104 Duration 3 minutes  
\* 2019/333:14:20:48.0000 TEP data collection Grid 135 Duration 3 minutes  
2019/333:15:05:20.0000 TOO TOOid=1228 Duration 3 minutes  
\* 2019/333:15:49:51.0000 TEP data collection Grid 61 Duration 3 minutes  
\* 2019/333:16:10:44.0000 TEP data collection Grid 348 Duration 3 minutes  
\* 2019/333:17:37:13.0000 TEP data collection Grid 238 Duration 3 minutes  
2019/333:18:11:21.0000 OCEANscan Duration 22 minutes  
\* 2019/333:19:06:17.0000 TEP data collection Grid 164 Duration 3 minutes  
\* 2019/333:22:24:11.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2019/334:01:31:15.0000 TEP data collection Grid 262 Duration 3 minutes  
\* 2019/334:02:57:44.0000 TEP data collection Grid 152 Duration 3 minutes  
\* 2019/334:04:26:59.0000 AMCS Cal over open ocean Duration 2 minutes  
2019/334:05:58:36.0000 OCEANscan Duration 22 minutes  
\* 2019/334:07:35:34.0000 AMCS Cal over open ocean Duration 2 minutes  
\* 2019/334:07:53:38.0000 TEP data collection Grid 360 Duration 3 minutes  
\* 2019/334:10:59:36.0000 TEP data collection Grid 320 Duration 3 minutes  
\* 2019/334:11:04:05.0000 TEP data collection Grid 392 Duration 3 minutes  
\* 2019/334:12:20:51.0000 TEP data collection Grid 138 Duration 3 minutes  
\* 2019/334:15:34:39.0000 TEP data collection Grid 205 Duration 3 minutes  
\* 2019/334:15:47:41.0000 TEP data collection Grid 384 Duration 3 minutes  
\* 2019/334:17:08:57.0000 TEP data collection Grid 203 Duration 3 minutes  
2019/334:17:45:41.0000 OCEANscan Duration 22 minutes  
\* 2019/334:20:14:55.0000 TEP data collection Grid 162 Duration 3 minutes  
\* 2019/334:20:22:44.0000 TEP data collection Grid 270 Duration 3 minutes  
2019/334:20:46:29.0000 RTWscan Duration 90 minutes  
\* 2019/334:23:32:48.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2019/335:00:57:47.0000 TEP data collection Grid 155 Duration 3 minutes  
\* 2019/335:02:29:27.0000 TEP data collection Grid 117 Duration 3 minutes  
\* 2019/335:04:01:20.0000 AMCS Cal over open ocean Duration 2 minutes  
2019/335:05:32:56.0000 OCEANscan Duration 22 minutes  
\* 2019/335:07:09:54.0000 AMCS Cal over open ocean Duration 2 minutes  
\* 2019/335:10:18:17.0000 TEP data collection Grid 105 Duration 3 minutes  
\* 2019/335:11:57:48.0000 TEP data collection Grid 174 Duration 3 minutes  
\* 2019/335:15:22:01.0000 TEP data collection Grid 385 Duration 3 minutes  
\* 2019/335:16:48:29.0000 TEP data collection Grid 275 Duration 3 minutes  
2019/335:17:20:01.0000 OCEANscan Duration 22 minutes  
\* 2019/335:19:39:33.0000 TEP data collection Grid 19 Duration 3 minutes  
2019/335:20:20:50.0000 RTWscan Duration 90 minutes

\* 2019/335:23:07:09.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2019/336:00:47:45.0000 TEP data collection Grid 371 Duration 3 minutes  
2019/336:02:10:00.0000 Stellar window dump Duration 90 minutes  
\* 2019/336:03:48:03.0000 AMCS Cal over open ocean Duration 2 minutes  
\* 2019/336:05:09:57.0000 AMCS Cal over open ocean Duration 2 minutes  
2019/336:06:41:34.0000 OCEANscan Duration 22 minutes  
^ 2019/336:15:03:09.0000 DMU34 Duration 55 minutes  
2019/336:18:28:39.0000 OCEANscan Duration 22 minutes  
\* 2019/336:22:41:29.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2019/337:04:44:18.0000 AMCS Cal over open ocean Duration 2 minutes  
2019/337:06:15:55.0000 OCEANscan Duration 22 minutes  
2019/337:18:03:00.0000 OCEANscan Duration 22 minutes  
\* 2019/337:22:15:50.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2019/338:04:18:39.0000 AMCS Cal over open ocean Duration 2 minutes  
2019/338:05:50:16.0000 OCEANscan Duration 22 minutes  
\* 2019/338:07:27:14.0000 AMCS Cal over open ocean Duration 2 minutes  
2019/338:16:04:50.0000 TOO TOOid=1189 Duration 3 minutes  
2019/338:17:37:21.0000 OCEANscan Duration 22 minutes  
\* 2019/338:21:50:11.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2019/338:23:24:29.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes