

ICESat-2 PROJECT SCIENCE OFFICE REPORT

Monday, December 16, 2019 thru Sunday, December 22, 2019

RGTs spanned: 1224-1330

Cycle 5

SUMMARY:

All ATLAS housekeeping data is nominal; laser 2 is firing at energy level 4 and in science mode. SIPS installed Build 4.3 on the operations cluster; this build consists of SDMS V6.17 (no ASAS changes). These are mostly SDMS enhancements and some fixes (nothing critical).

NSIDC ICESat-2 Metrics through December 23: 5,733* total users of 10 available data products; 2,448,832 sciences files downloaded. ATLO3 is in the lead* with 3,668 users* and 7353,882 files downloaded! ATLO8 bumps* to 2nd place with 1,342 users of 815,114 files, and ATLO6 is in 3rd this week with 681 users and 1,082,723files downloaded.

* There was a large increase in ATLO3 hosts from Amazon AWS users. The NSIDC data management team is figuring out how to translate this into actual user numbers. But, in the meantime, the ATLO3 team will enjoy this victory!!

The next PSO weekly report will be sent the week of January 6, 2020. The PSO wishes everyone a happy holiday season!

****ELEMENT DETAILS BELOW****

CAMS/POD:

CAMS: Regular CAMS operations: constraint and conjunction monitoring for MW066 and MW067 and mission planning for MW068.

CAMS recommended -5deg SLEW for HIE event with 25544 (ISS) doy349(MW066).

CAMS recommended Laser ARM for HIE event with 42024 (FLOCK 3P 71) for doy351(MW066).

CAMS recommended Laser ARM for HIE event with 41611 (FLOCK 2P 4) for doy355(MW067) 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 weeks 2082 & 2083. Final POD was completed for GPS week 2081. All results appear nominal.

POD is currently working on calibration solutions for DoY 250-320, the results of which will be used to create final calibrated ANC products for this time period.

ISF:

All ATLAS housekeeping data is nominal

Laser 2 is firing at energy level 4 and in science mode
WTEM Peak to Edge Ratio: 1.189
Laser 2 Temperature Error: -0.27C
SADA in SAILBOAT Mode
Spacecraft orientation: + X

Mission Planning:

MW67 ATS is loaded to the spacecraft and currently operating, includes a two orbit TEP stare

MW68 is being planned, nominal calibrations

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Activities during the past week:

Real-time activities:

Executed sCAR166 12/16th, 17th, 18th (2019/350-352) to raise the VBG temperature to optimize the laser wavelength (note 1)

Ran sCAR91 and sCAR102 to clear routine SBS, SXP errors

Supported ground station recertification

ATS activities:

Routine Instrument calibrations, Ocean scans and Vegetation Data collection.

Other Activities:

Planned split-ATS to perform a -5 degree slew: LCA24 25544 (ISS) 15-Dec-2019 11:30:53

Planned mini-ATS putting Laser to ARM mode: HIE20 42024 (FLOCK 3P 71) 17-Dec-2019 03:12:37, this event self-mitigated.

Powered up FLATLAS 12/19 without incident.

Near-term activities:

Continuing to work on the ISF tech refresh

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

Notes/Issues:

1. After the mini VBG sweep on 12/14/19 (2019/348) the WTEM peak to edge ratio did not return to the optimum value due to laser hysteresis. The behavior can and has occurred previously as a normal response to set point changes and is of no concern.

LTO Schedule:

All items remain on schedule

**SIPS:**

· The SIPS is operating nominally:

- Ingested and distributed Level 0 data to the ISF.
- Generated L1A and L1B products and distributed ATL02s to the ISF, POD, and SCF.
- Distributed selected ATL01s to the ISF and SCF by special request.
- Generated rapid ATL03, ATL04, ATL06, ATL07, ATL08, ATL09, and ATL10 using ANC03/04/05 files from the CAMS.
- Distributed the rapid Science Data products to the SCF.
- Installed SIPS Build 4.3 on the Ops cluster. This build consists of SDMS V6.17 (no ASAS changes). These are mostly SDMS enhancements and some fixes (nothing critical).
- Received hardware slated for SIPS L+1. This is to augment the SIPS processing and storage capabilities.

### **SCF:**

The SCF is operating nominally. Data for releases 002 and R002 are being ingested and distributed. We expect the next batch of 002 data (about Sep. 5 to Nov. 7) to arrive soon, possibly next week, and have freed up sufficient disk space for it. Updates have been made in operations to the Subsetter and a data management script. A file listing the current SCF data holdings is attached.

\* Data Management -- Edits to the hold/publish request processing code were made to handle cases where the file name in the request is incorrect (e.g., typoed or not a file name), empty, or missing. Having tested that these work as expected, the changes were made in operations.

\* Subsetter -- A number of modules were updated in operations to implement two main changes: closing the input data file sooner, to help avoid collisions between multiple processes, and using a better algorithm for determining whether an output subsetted file differs meaningfully from the original input file, which should help prevent users from receiving empty subsetted files. A recent special request gave unexpected results (for the user) that were initially thought to be due to these changes, but further investigation showed the problem was with the user's request. The updated code is performing as expected.

\* Visualizer -- Two known issues in the v7.0 release have been resolved, and work continues on resolving high-priority issues, including simultaneously paging 1 or more qualifying subplots on a given tab.

### **ISF ACTIVITIES MISSION WEEK 067:**

- \* Not in science mode
- ^ Could affect science data quality

2019/353:01:20:54.0000 TOO PID=ISF2 TOOid=1253 RGT=1270 offpoint=0.17deg Duration 2 minutes

\* 2019/353:02:15:00.0000 Two orbits of TEP Stare Duration 190 minutes

2019/353:05:42:36.0000 OCEANscan Duration 22 minutes

\* 2019/353:06:28:12.0000 TEP data collection Grid 415 Duration 3 minutes  
\* 2019/353:07:24:36.0000 TEP data collection Grid 180 Duration 3 minutes  
\* 2019/353:09:01:30.0000 TEP data collection Grid 213 Duration 3 minutes  
\* 2019/353:09:35:30.0000 TEP data collection Grid 411 Duration 3 minutes  
\* 2019/353:09:41:02.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2019/353:10:35:47.0000 TEP data collection Grid 211 Duration 3 minutes  
\* 2019/353:10:43:36.0000 TEP data collection Grid 319 Duration 3 minutes  
2019/353:11:47:37.0000 TOO PID=ISF10 TOOid=1255 RGT=1276 offpoint=0.13deg Duration 2 minutes  
2019/353:11:53:44.0000 TOO PID=ISF11 TOOid=1249 RGT=1276 offpoint=2.65deg Duration 2 minutes  
2019/353:12:14:53.0000 Inclination Adjust maneuver 4 Duration 75 minutes  
\* 2019/353:13:44:22.0000 TEP data collection Grid 206 Duration 3 minutes  
\* 2019/353:14:18:23.0000 TEP data collection Grid 404 Duration 3 minutes  
2019/353:14:56:12.0000 TOO PID=ISF13 TOOid=1256 RGT=1278 offpoint=0.02deg Duration 2 minutes  
\* 2019/353:15:34:19.0000 TEP data collection Grid 419 Duration 3 minutes  
\* 2019/353:15:57:35.0000 AMCS Cal over open ocean Duration 2 minutes  
\* 2019/353:16:47:44.0000 TEP data collection Grid 130 Duration 3 minutes  
\* 2019/353:16:56:32.0000 TEP data collection Grid 237 Duration 3 minutes  
\* 2019/353:17:03:22.0000 TEP data collection Grid 345 Duration 3 minutes  
2019/353:17:29:42.0000 OCEANscan Duration 22 minutes  
\* 2019/353:20:04:08.0000 TEP data collection Grid 233 Duration 3 minutes  
\* 2019/353:20:12:26.0000 TEP data collection Grid 340 Duration 3 minutes  
\* 2019/353:21:28:46.0000 TEP data collection Grid 87 Duration 3 minutes  
\* 2019/353:21:44:55.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2019/353:22:14:43.0000 TEP data collection Grid 356 Duration 3 minutes  
\* 2019/353:23:17:55.0000 TEP data collection Grid 300 Duration 3 minutes  
\* 2019/354:00:47:00.0000 TEP data collection Grid 226 Duration 3 minutes  
\* 2019/354:02:17:27.0000 TEP data collection Grid 188 Duration 3 minutes  
\* 2019/354:02:34:21.0000 TEP data collection Grid 403 Duration 3 minutes  
\* 2019/354:03:47:00.0000 AMCS Cal over open ocean Duration 2 minutes  
2019/354:05:16:57.0000 OCEANscan Duration 22 minutes  
\* 2019/354:06:55:38.0000 AMCS Cal over open ocean Duration 2 minutes  
\* 2019/354:09:15:34.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2019/354:10:12:40.0000 TEP data collection Grid 248 Duration 3 minutes  
\* 2019/354:11:52:14.0000 TEP data collection Grid 317 Duration 3 minutes  
2019/354:12:56:05.0000 TOO PID=ISF39 TOOid=1257 RGT=1292 offpoint=0.08deg Duration 2 minutes  
\* 2019/354:13:23:56.0000 TEP data collection Grid 279 Duration 3 minutes  
\* 2019/354:14:53:01.0000 TEP data collection Grid 205 Duration 3 minutes  
\* 2019/354:15:32:07.0000 AMCS Cal over open ocean Duration 2 minutes  
2019/354:17:04:03.0000 OCEANscan Duration 22 minutes  
\* 2019/354:18:09:05.0000 TEP data collection Grid 308 Duration 3 minutes

- \* 2019/354:18:40:44.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2019/354:21:16:53.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- \* 2019/354:22:39:14.0000 TEP data collection Grid 121 Duration 3 minutes
- \* 2019/355:01:58:15.0000 TEP data collection Grid 260 Duration 3 minutes
- \* 2019/355:03:21:43.0000 AMCS Cal over open ocean Duration 2 minutes
- 2019/355:04:51:18.0000 OCEANscan Duration 22 minutes
- \* 2019/355:06:30:21.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2019/355:10:24:24.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- \* 2019/355:12:50:27.0000 TEP data collection Grid 172 Duration 3 minutes
- \* 2019/355:15:06:40.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2019/355:15:59:02.0000 TEP data collection Grid 167 Duration 3 minutes
- \* 2019/355:16:08:20.0000 TEP data collection Grid 311 Duration 3 minutes
- 2019/355:16:38:23.0000 OCEANscan Duration 22 minutes
- \* 2019/355:18:15:16.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2019/355:19:18:02.0000 TEP data collection Grid 306 Duration 3 minutes
- 2019/355:19:39:12.0000 RTWscan Duration 90 minutes
- \* 2019/355:22:25:31.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- \* 2019/355:23:53:05.0000 TEP data collection Grid 191 Duration 3 minutes
- \* 2019/356:00:00:54.0000 TEP data collection Grid 299 Duration 3 minutes
- \* 2019/356:01:20:45.0000 TEP data collection Grid 81 Duration 3 minutes
- \* 2019/356:02:56:32.0000 AMCS Cal over open ocean Duration 2 minutes
- 2019/356:04:25:39.0000 OCEANscan Duration 22 minutes
- \* 2019/356:06:05:05.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2019/356:09:58:57.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- \* 2019/356:15:31:58.0000 TEP data collection Grid 131 Duration 3 minutes
- 2019/356:16:12:44.0000 OCEANscan Duration 22 minutes
- \* 2019/356:17:49:43.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2019/356:18:49:47.0000 TEP data collection Grid 270 Duration 3 minutes
- 2019/356:19:13:32.0000 RTWscan Duration 90 minutes
- \* 2019/356:21:59:51.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- \* 2019/357:02:45:19.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2019/357:04:05:31.0000 AMCS Cal over open ocean Duration 2 minutes
- 2019/357:05:34:17.0000 OCEANscan Duration 22 minutes
- \* 2019/357:09:33:29.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- 2019/357:12:10:43.0000 TOO PID=ISF129 TOOid=1254 RGT=1338 offpoint=0.84deg Duration 2 minutes
- \* 2019/357:15:49:47.0000 AMCS Cal over open ocean Duration 2 minutes
- 2019/357:17:21:22.0000 OCEANscan Duration 22 minutes
- \* 2019/357:21:34:12.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- 2019/357:21:45:00.0000 Laser window dump Duration 2 minutes
- \* 2019/358:03:40:16.0000 AMCS Cal over open ocean Duration 2 minutes
- 2019/358:05:08:37.0000 OCEANscan Duration 22 minutes
- \* 2019/358:06:47:45.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2019/358:09:08:03.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes

- \* 2019/358:10:42:21.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- 2019/358:12:05:00.0000 Stellar window dump Duration 90 minutes
- \* 2019/358:15:24:07.0000 AMCS Cal over open ocean Duration 2 minutes
- 2019/358:16:55:43.0000 OCEANscan Duration 22 minutes
- \* 2019/358:18:32:42.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2019/358:21:10:56.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- \* 2019/359:03:15:01.0000 AMCS Cal over open ocean Duration 2 minutes
- 2019/359:04:42:58.0000 OCEANscan Duration 22 minutes
- 2019/359:06:23:38.0000 TOO PID=ISF189 TOOid=1250 RGT=1364 offpoint=0.92deg Duration 2 minutes
- \* 2019/359:06:26:58.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2019/359:10:16:54.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- \* 2019/359:14:58:28.0000 AMCS Cal over open ocean Duration 2 minutes
- 2019/359:16:30:04.0000 OCEANscan Duration 22 minutes
- \* 2019/359:18:07:03.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2019/359:20:36:11.0000 TEP data collection Grid 196 Duration 3 minutes