

**ICESat-2 PROJECT SCIENCE OFFICE REPORT**  
**Monday, October 19, 2020 thru Sunday, October 25, 2020**

RGTs spanned: 380 - 486  
Cycle 9

**SUMMARY:**

All ATLAS housekeeping data is nominal; laser 2 is firing at energy level 4 and in science mode. Acceptance reviews for ASAS v5.4 are underway as we roll towards software delivery and release 004 data product development!

POD delivered final calibrated ANC products covering 17 July-7 September 2020 to SIPS; SIPS is in the process of generating new final release 003 data products with these new ancillary products, and new data is at the SCF now. **ATBD leads: are asking for your feedback (hold requests submitted to SCF and/or go-ahead to release data to NSIDC) by Friday, November 13.**

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

**CAMS/POD:**

**CAMS:** Regular CAMS operations: constraint and conjunction monitoring for MW110 and MW111 and mission planning for MW112.

CAMS recommended Laser arm for 41606 (FLOCK 2P 6) 295/08:39:45 - 295/08:39:55 (MW110). Event self-mitigated.

CAMS recommended Laser Arm for 45017 (NUSAT-7) 297/04:39:48-297/04:39:58 (MW111). Event self-mitigated.

CAMS recommended Laser Arm for 25544 (ISS) 299/11:00:33 - 299/11:00:43 (MW111). Event self-mitigated.

CAMS recommends laser arm for 41967 (FLOCK 3P1) 299/21:05:39 - 299/21:05:44 (MW111)

CAMS continues working with the project on ARB09.

**POD:** Regular POD operations continue. Intermediate POD was completed for GPS week 2127. Final POD was completed for GPS week 2125.

Sample ANC05 Products with relative beam alignment corrections were provide to SIPS for 3 sample mission weeks.

**ISF:**

All ATLAS housekeeping data is nominal

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

WTEM Peak to Edge Ratio: 1.213

Laser 2 Temperature Error: -0.29C

SADA in SAILBOAT Mode

Spacecraft orientation: - X

Mission Planning:

MW111 ATS is loaded to the spacecraft and currently operating (***PSO Activity List is not attached, ISF will deliver these one week later to cut down on revisions***)

MW112 AIP has been delivered, nominal calibrations; CAMS has delivered preliminary products.

~~~~~  
Activities during the past week:

Real-time activities:

monitoring via telework

On console updates to the VBG setpoint were performed on:

Monday 10/19 at 20:29

Wednesday 10/21 at 14:46

Friday 10/23 at 15:42

In each instance sCAR166 was executed to adjust the VBG setpoint temperature as the WTEM Peak to Edge ratio had drifted above the optimum value of 1.2

ATS activities:

MW\_110 (completed nominally)

MW\_111 (currently active):

Routine Instrument calibrations, TOOs, Ocean scans and Vegetation Data collection, Segmented RTW scans

Delivered a split ATS for DMU61c Saturday 24 Oct 2020 (DOY 298) at 17:10:06

Delivered a mini ATS for LCA64 41967 25-Oct-2020 21:05:44 which self-mitigated to become HIE33

Delivered a split for LCA64 ISS 28-Oct-2020 21:08:59, to be loaded later today (Tues Oct 27)

Other Activities:

PDB E.0.2 Testing

**Installed and tested on the development server**

**Installed and tested on FLATLAS**

Near-term upcoming activities:

PDB E.0.2 deployment in ops

Testing of receiver algorithm parameter updates

Facility:

**Updating ITOS servers to RedHat 7.0 due to EOL of 6.0 at the end of November**

**Installed on the playback server (itos2)**

**Install procedure updates needed for ops accounts setup and mail install**

Tech HW refresh:

ISF Tech Refresh Phase 2 hardware delivered to GSFC

Phase 1a setup and testing continues (on-hold for RedHat OS update)

Notes/Issues:

1. ARB09: RMM02 Anomaly - the team continues to analyze events and determine process (automated and manual) updates to mitigate the chance of a recurrence. The team has implemented changes to the manual processes for verification of planning products. The team is providing inputs for root cause analysis and corrective action.

LTO Schedule:

Tech refresh updates to be provided to ESMO Scheduler. Update to RedHat 7.0 takes priority and phase 2 hardware shipment was delayed.

### **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 rapids ATL03, ATL04, ATL06, ATL07, ATL08, ATL09, and ATL10 using ANC03/04/05 files from the CAMS.
  - Distributed the ATL01 and ATL02 Data products to NSIDC.
  - Distributed the rapid Science Data products to the SCF.
- Processed and distributed Release 003 L2A and L3A data products for July 17-September 16, 2020 to the SCF.
- SIPS received a sample set of ATL11 data products that we will send to NSIDC via the Acceptance Test System to verify that they can be successfully ingested.

### **ASAS:**

The 954b1 functional test data are available on SCF in /asas/release\_954b1. These are the functional test data that will support upcoming acceptance reviews. Please verify your products.

ASAS continues testing and documentation for the ASAS v5.4 release.

### **SCF:**

The SCF is operating nominally. Data for releases 003 and R003 are being ingested and distributed. The latest batch of release 003 data, covering July 17 to September 7, have arrived at the SCF and fulfillment of subscription (full granule and subsetting) is currently in progress. A file listing the current SCF data holdings is attached.

\* Data Management -- Deletion of rapid data products that will be replaced by the new finals has completed. Ingest of the new finals is being monitored and failed SDMS jobs rerun as needed; all such reruns made so far have completed successfully. Work continues on updating the ATL10 trending plotting code to create plots from the new calculations.

\* Subsetter -- No major problems in operations. Testing with the 954b1 data has turned up a minor issue where a warning from the Subsetter would be treated as an error by SDMS, so an update will be made to avoid this. No major issues have been encountered in testing so far.

\* Visualizer -- Work is being done to incorporate the new ATL20 product into the software. This will involve a new product dataframe file and some updates to the code, which are being developed.

### **ATL02/Instrument Science:**

Craig Swenson will be joining the Instrument Science team.

David Hancock has suggested a possible method for detecting transmit/receive data slips that does not depend on analysis of TEP data, and is therefore applicable to all three PCEs in all data granules. This will be evaluated as investigation of the data from 15 July, 26 September and other occasions continues.

In addition, work continues on:

- Quantifying the expected annual number of back reflections from solar arrays on other spacecraft (e.g. Starlink).
- Re-examining the distance limit for illuminating other spacecraft with ATLAS beams.
- Investigating and modeling the properties of saturated returns.
- Re-examining the temperature dependence of the ATLAS transmitted beam divergence.
- Improving the process for calibrating transmitter-receiver alignment.

### **ATL03:**

Continued investigation of suspicious data affected by time tag misalignment and verification of test data for release 004 acceptance reviews. The team met this week to do substantial text updates to the ATBD for the latest release of the document.

## **ISF ACTIVITIES MISSION WEEK 111**

**\* Not in science mode**

**^ Could affect science data quality**

2020/296:02:05:25.0000 OCEANscan Duration 22 minutes  
\* 2020/296:03:16:00.0000 TEP data collection Grid 380 Duration 3 minutes  
\* 2020/296:04:32:02.0000 TEP data collection Grid 126 Duration 3 minutes  
\* 2020/296:04:50:26.0000 TEP data collection Grid 377 Duration 3 minutes  
\* 2020/296:06:18:15.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/296:07:43:13.0000 TEP data collection Grid 157 Duration 3 minutes  
\* 2020/296:07:51:59.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/296:08:18:52.0000 TEP data collection Grid 427 Duration 3 minutes  
\* 2020/296:09:31:04.0000 TEP data collection Grid 334 Duration 3 minutes  
\* 2020/296:10:46:34.0000 TEP data collection Grid 81 Duration 3 minutes  
\* 2020/296:10:55:39.0000 TEP data collection Grid 188 Duration 3 minutes  
\* 2020/296:11:04:50.0000 TEP data collection Grid 332 Duration 3 minutes  
\* 2020/296:11:27:27.0000 TEP data collection Grid 422 Duration 3 minutes  
\* 2020/296:12:18:26.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/296:12:44:56.0000 TEP data collection Grid 401 Duration 3 minutes  
2020/296:13:52:40.0000 OCEANscan Duration 22 minutes  
\* 2020/296:15:27:01.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/296:17:00:52.0000 TEP data collection Grid 72 Duration 3 minutes

\* 2020/296:18:52:08.0000 TEP data collection Grid 284 Duration 3 minutes  
\* 2020/296:19:01:31.0000 TEP data collection Grid 428 Duration 3 minutes  
\* 2020/296:19:18:54.0000 TEP data collection Grid 410 Duration 3 minutes  
\* 2020/296:20:16:34.0000 TEP data collection Grid 175 Duration 3 minutes  
\* 2020/296:21:57:02.0000 TEP data collection Grid 244 Duration 3 minutes  
\* 2020/297:00:52:34.0000 TEP data collection Grid 60 Duration 3 minutes  
\* 2020/297:01:08:14.0000 TEP data collection Grid 275 Duration 3 minutes  
2020/297:01:39:46.0000 OCEANscan Duration 22 minutes  
\* 2020/297:02:42:31.0000 TEP data collection Grid 273 Duration 3 minutes  
\* 2020/297:04:27:15.0000 TEP data collection Grid 414 Duration 3 minutes  
2020/297:04:40:34.0000 Segmented RTWscan Part 1 Duration 37 minutes  
2020/297:05:29:51.0000 Segmented RTWscan Part 2 Duration 35 minutes  
2020/297:06:10:29.0000 Segmented RTWscan Part 3 Duration 13 minutes  
\* 2020/297:07:26:53.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/297:10:41:47.0000 TEP data collection Grid 369 Duration 3 minutes  
\* 2020/297:11:52:46.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/297:13:27:04.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/297:15:01:18.0000 OCEANscan Duration 22 minutes  
\* 2020/297:15:42:33.0000 Adjust the VBG Setpoint to 62.99 to optimize the laser wavelength Duration 1 minute  
\* 2020/297:16:43:18.0000 TEP data collection Grid 180 Duration 3 minutes  
\* 2020/297:19:59:42.0000 TEP data collection Grid 283 Duration 3 minutes  
\* 2020/297:23:13:29.0000 TEP data collection Grid 350 Duration 3 minutes  
\* 2020/298:00:24:35.0000 TEP data collection Grid 24 Duration 3 minutes  
\* 2020/298:00:34:45.0000 TEP data collection Grid 168 Duration 3 minutes  
\* 2020/298:00:45:08.0000 TEP data collection Grid 312 Duration 3 minutes  
\* 2020/298:02:01:11.0000 TEP data collection Grid 58 Duration 3 minutes  
\* 2020/298:02:09:02.0000 TEP data collection Grid 166 Duration 3 minutes  
\* 2020/298:02:24:41.0000 TEP data collection Grid 381 Duration 3 minutes  
2020/298:02:48:23.0000 OCEANscan Duration 22 minutes  
\* 2020/298:05:26:58.0000 TEP data collection Grid 305 Duration 3 minutes  
\* 2020/298:06:46:40.0000 TEP data collection Grid 87 Duration 3 minutes  
\* 2020/298:07:01:13.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/298:11:27:07.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/298:11:45:41.0000 TOO TOOid 1757 RGT 463 offpoint 1.39deg Duration 2 minutes  
\* 2020/298:13:01:24.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/298:14:35:38.0000 OCEANscan Duration 22 minutes  
\* 2020/298:16:09:59.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
^ 2020/298:16:33:18.0000 DMU61c for RGT excursion Duration 75 minutes  
\* 2020/298:17:59:45.0000 TEP data collection Grid 286 Duration 3 minutes  
\* 2020/298:20:50:11.0000 TEP data collection Grid 30 Duration 3 minutes  
\* 2020/298:21:13:32.0000 TEP data collection Grid 353 Duration 3 minutes  
\* 2020/299:01:56:25.0000 TEP data collection Grid 346 Duration 3 minutes  
2020/299:02:22:44.0000 OCEANscan Duration 22 minutes  
\* 2020/299:05:04:59.0000 TEP data collection Grid 341 Duration 3 minutes  
\* 2020/299:06:35:34.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes

\* 2020/299:11:03:54.0000 TEP data collection Grid 80 Duration 3 minutes  
\* 2020/299:11:10:34.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/299:12:35:45.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/299:14:10:00.0000 OCEANscan Duration 22 minutes  
\* 2020/299:15:44:20.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/299:17:15:57.0000 TEP data collection Grid 35 Duration 3 minutes  
2020/299:17:30:00.0000 Laser window dump Duration 2 minutes  
\* 2020/299:23:46:03.0000 TEP data collection Grid 205 Duration 3 minutes  
2020/300:01:57:05.0000 OCEANscan Duration 22 minutes  
\* 2020/300:06:09:56.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/300:07:42:43.0000 TEP data collection Grid 265 Duration 3 minutes  
\* 2020/300:10:48:41.0000 TEP data collection Grid 224 Duration 3 minutes  
\* 2020/300:10:59:07.0000 TEP data collection Grid 368 Duration 3 minutes  
\* 2020/300:12:10:06.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/300:13:44:21.0000 OCEANscan Duration 22 minutes  
\* 2020/300:15:18:41.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/300:16:53:05.0000 TEP data collection Grid 71 Duration 3 minutes  
\* 2020/300:21:46:07.0000 TEP data collection Grid 208 Duration 3 minutes  
2020/301:01:31:27.0000 OCEANscan Duration 22 minutes  
2020/301:04:32:15.0000 Segmented RTWscan Part 1 Duration 37 minutes  
2020/301:05:21:30.0000 Segmented RTWscan Part 2 Duration 35 minutes  
2020/301:06:02:05.0000 Segmented RTWscan Part 3 Duration 14 minutes  
\* 2020/301:07:18:34.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
2020/301:08:56:36.0000 TOO TOOid 1755 RGT 507 offpoint 4.35deg Duration 2 minutes  
\* 2020/301:11:44:28.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/301:13:18:45.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/301:14:52:59.0000 OCEANscan Duration 22 minutes  
2020/302:02:40:05.0000 OCEANscan Duration 22 minutes  
\* 2020/302:06:52:55.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/302:11:18:49.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/302:12:53:06.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/302:14:27:20.0000 OCEANscan Duration 22 minutes  
\* 2020/302:16:01:41.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/302:21:08:44.0000 Put laser in ARM mode for LCA64 25544 (ISS) 28-Oct-2020  
21:08:59 Duration 1 minute  
2020/302:23:08:35.0000 TOO TOOid 1754 RGT 531 offpoint 2.91deg Duration 2 minutes