

**ICESat-2 PROJECT SCIENCE OFFICE REPORT**

**Monday, November 30, 2020 thru Sunday, December 6, 2020**

RGTs spanned: 914 - 1020

Cycle 9

**SUMMARY:**

All ATLAS housekeeping data is nominal; laser 2 is firing at energy level 4 and in science mode. SIPS conducted a TRR for SIPS Build 6.0 (consisting of ASAS V5.4), and will be starting acceptance testing soon.

ATL11 (time series of land ice heights) was released to NSIDC this past week! Check out the landing page [here!](#)

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

**CAMS/POD:**

**CAMS:** Regular CAMS operations: constraint and conjunction monitoring for MW116 and MW117 and mission planning for MW118.

CAMS recommended Laser Arm for 25544 (ISS) 341/04:03:50 - 341/04:04:00.

CAMS supported replan for MW117 DMU068a.

CAMS continues working with the project on ARB09.

**POD:** Regular POD operations continue. Intermediate POD was completed for GPS week 2133. Final POD was completed for GPS week 2131.

**ISF:**

All ATLAS housekeeping data is nominal

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

WTEM Peak to Edge Ratio: 1.21

Laser 2 Temperature Error: -0.23C

SADA in AIRPLANE Mode

Spacecraft orientation: - X

Mission Planning:

MW117 ATS is loaded to the spacecraft and currently operating

MW118 AIP has been delivered, nominal calibrations; CAMS has delivered preliminary products.

CAMS continues to perform daily laser conjunction screening and constraint analysis including screening for ISS visiting vehicles

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Activities during the past week:

Real-time activities:

monitoring via telework

**On-site for ATLAS commanding on Wednesday December 2 (sCAR166 to update VBG temperature) and Thursday December 3 (sCAR192 to update SHG temperature)**

Set ILRS nogo flag during DMUs 67a and 68a.

ATS activities:

MW\_116 (completed nominally - PSO Activity list attached)

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

**Commands to end the Receiver algorithm V10 test @ 2020/336:00:30 (December 1, 2020 00:30 UTC)**

MW\_117 (currently active):

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

Split ATS to add DMU068a.

Other Activities:

PDB E.0.2 Update

**Installed and tested on playback ISF server (itos2) - CCR010 closed.**

**PDB requires re-build. E.0.3 to be delivered early in December.**

Near-term upcoming activities:

Science team analysis of receiver algorithm V10 parameter test and recommendations for loading into ops.

Initial analysis shows the collection of ocean bottom data where in the past it had not been collected; data volume remained within the ATLAS allocation.

Facility:

**Q4 Patching in progress.**

**Q4 scanning on December 10.**

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

**Servers at the ISF are updated. bISF will be patched for Q4 and will be replaced with phase 2 HW running RHEL 7.0 before the end of January.**

Tech HW refresh:

ISF Tech Refresh Phase 2 hardware moved to B33 Room F325

Phase 1a setup and testing complete - planning for move to B32 SPOCC and install into ops

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 independent review board.

LTO Schedule:

Tech refresh updates to be provided to ESMO Scheduler. Update to RedHat 7.0 takes priority.

**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.
- Conducted TRR for SIPS Build 6.0 (consisting of ASAS V5.4). We will be starting Acceptance testing.
- Distributed selected ATL00s and ATL01s to the ISF by special request.

### **ASAS:**

L1A/L1B: The software developed to detect the Tx/Rx issue has been finalized and submitted to the SIPS Test Team for evaluation before installation into Ops. In testing the software has found most TxRx slip cases within minimal false positives. Granules with very few signal photons challenge the detection algorithm. The plan is to first execute the software on the most recent month of ATL01 data and evaluate the results. If acceptable, the software will then be executed on all ATL01s to date. Additionally created a near-copy of the ATL01 software that can use ATL02 as an input. This has already proven useful for another issue being worked.

L2A\_ALT: Work continues on the generation of a coarse polygon to define the geospatial bounds of ATL03 data. ATL03 is being used as the example, but this code is designed to be re-used on multiple data products. If this development is successful, it may yield more accurate geospatial metadata for NSIDC's search tools.

L2/L3 Atmosphere: Completed the addition the ability to read interpolated DEM values from release 004+ ANC39s instead of requiring DEM inputs to the PGE. This development revealed an alignment issue between the ATM profiles and the geophysical data added to ANC39. This alignment issue does not impact Release 004 ATL04 in any way.

L3B Atmosphere: Awaiting ATBD updates.

L3A Land Ice: PSO, ASAS and the land ice team are investigating a small notch within the ATL06 residual histograms.

L3B Land Ice: ATL11 is now live at NSIDC. A few issues regarding data completeness and failed granules are being worked.

L3B Sea Ice/Freeboard: Work on ATL21 regarding filtering the reference surface is ongoing.

L3A Land/Veg: Awaiting ATBD updates

Inland Water: ATL22 development is making good progress with the initial product content defined.

Ocean: ATL19 product refinement continues. A sample product is close.

### **SCF:**

The SCF is operating nominally. Data for releases 003 and R003 are being ingested and distributed. Full granule subscriptions have caught up and are current, but subsetting subscriptions are still in progress and will likely need 2-3 weeks to finish. To free up disk space, release 003 data for May 13 through July 16 have been deleted. A file listing the current SCF data holdings is attached.

\* Data Management -- A task has been logged in JIRA to see if subscriptions for rapid releases can be prioritized. The updated ATL10 trending code has been put into operations, as has a minor modification to ignore blank lines in data status requests (e.g., hold requests). In both cases, the code has been updated in AccuRev and relevant issues in JIRA updated.

\* Subsetter -- No problems in operations. The code updates for v5.4 data products are complete and ready for operations, but this change will be made closer to when release 004 data is expected to arrive at the SCF.

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

NTR.

### **ATL03:**

Continuing investigation of TxRx alignment slip cases. More impacted data for all data products has been taken down from distribution at NSIDC.

## **ISF ACTIVITIES MISSION WEEK 116**

\* Not in science mode

^ Could affect science data quality

- \* 2020/331:00:26:21.0000 TEP data collection Grid 22 Duration 3 minutes
- \* 2020/331:00:44:38.0000 TEP data collection Grid 273 Duration 3 minutes
- 2020/331:01:16:10.0000 OCEANscan Duration 22 minutes
- \* 2020/331:02:21:32.0000 TEP data collection Grid 307 Duration 3 minutes
- \* 2020/331:03:37:33.0000 TEP data collection Grid 53 Duration 3 minutes
- \* 2020/331:04:01:03.0000 TEP data collection Grid 376 Duration 3 minutes
- \* 2020/331:05:18:31.0000 TEP data collection Grid 159 Duration 3 minutes
- \* 2020/331:05:29:01.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- \* 2020/331:05:35:20.0000 TEP data collection Grid 374 Duration 3 minutes
- \* 2020/331:07:24:31.0000 Put laser in ARM mode for LCA66 42030 (FLOCK 3P 52) 26-Nov-2020 07:24:46 Duration 1 minute
- \* 2020/331:08:17:47.0000 TEP data collection Grid 10 Duration 3 minutes
- \* 2020/331:08:25:39.0000 TEP data collection Grid 118 Duration 3 minutes
- \* 2020/331:08:34:35.0000 TEP data collection Grid 225 Duration 3 minutes
- \* 2020/331:08:41:18.0000 TEP data collection Grid 333 Duration 3 minutes
- \* 2020/331:09:54:54.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
- 2020/331:10:13:28.0000 TOO TOOid 1776 RGT 966 offpoint 4.73deg Duration 2 minutes
- \* 2020/331:11:29:12.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
- \* 2020/331:11:49:09.0000 TEP data collection Grid 329 Duration 3 minutes

2020/331:13:03:26.0000 OCEANscan Duration 22 minutes  
\* 2020/331:14:37:46.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/331:16:11:52.0000 TEP data collection Grid 70 Duration 3 minutes  
\* 2020/331:16:19:43.0000 TEP data collection Grid 178 Duration 3 minutes  
2020/331:16:25:16.0000 TOO TOOid 1775 RGT 970 offpoint 1.86deg Duration 2 minutes  
\* 2020/331:17:59:13.0000 TEP data collection Grid 247 Duration 3 minutes  
\* 2020/331:19:25:41.0000 TEP data collection Grid 137 Duration 3 minutes  
2020/331:21:44:41.0000 TOO TOOid 1779 RGT 973 offpoint 0.41deg Duration 2 minutes  
2020/331:21:50:00.0000 Stellar window dump Duration 90 minutes  
\* 2020/332:00:13:47.0000 TEP data collection Grid 202 Duration 3 minutes  
2020/332:00:50:31.0000 OCEANscan Duration 22 minutes  
\* 2020/332:03:35:23.0000 TEP data collection Grid 377 Duration 3 minutes  
\* 2020/332:05:03:22.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/332:08:13:02.0000 TEP data collection Grid 298 Duration 3 minutes  
\* 2020/332:08:20:19.0000 TEP data collection Grid 406 Duration 3 minutes  
\* 2020/332:09:29:04.0000 TEP data collection Grid 44 Duration 3 minutes  
\* 2020/332:09:37:01.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/332:09:49:56.0000 TEP data collection Grid 331 Duration 3 minutes  
\* 2020/332:11:03:32.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/332:12:37:47.0000 OCEANscan Duration 22 minutes  
\* 2020/332:13:02:29.0000 TEP data collection Grid 399 Duration 3 minutes  
\* 2020/332:14:12:07.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/332:15:53:22.0000 TEP data collection Grid 179 Duration 3 minutes  
\* 2020/332:15:56:41.0000 TEP data collection Grid 214 Duration 3 minutes  
\* 2020/332:17:17:53.0000 TEP data collection Grid 33 Duration 3 minutes  
\* 2020/332:17:41:23.0000 TEP data collection Grid 356 Duration 3 minutes  
\* 2020/332:20:33:52.0000 TEP data collection Grid 136 Duration 3 minutes  
\* 2020/332:20:55:12.0000 TEP data collection Grid 423 Duration 3 minutes  
\* 2020/332:23:42:54.0000 TEP data collection Grid 131 Duration 3 minutes  
2020/333:00:24:52.0000 OCEANscan Duration 22 minutes  
\* 2020/333:01:14:24.0000 TEP data collection Grid 93 Duration 3 minutes  
\* 2020/333:01:37:38.0000 TEP data collection Grid 416 Duration 3 minutes  
\* 2020/333:03:04:31.0000 TEP data collection Grid 306 Duration 3 minutes  
\* 2020/333:04:37:42.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/333:04:46:39.0000 TEP data collection Grid 411 Duration 3 minutes  
\* 2020/333:06:10:29.0000 TEP data collection Grid 265 Duration 3 minutes  
\* 2020/333:06:18:19.0000 TEP data collection Grid 373 Duration 3 minutes  
\* 2020/333:10:37:53.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/333:10:55:58.0000 TEP data collection Grid 294 Duration 3 minutes  
2020/333:12:12:07.0000 OCEANscan Duration 22 minutes  
\* 2020/333:13:46:28.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/333:16:54:51.0000 TEP data collection Grid 69 Duration 3 minutes  
\* 2020/333:18:33:07.0000 TEP data collection Grid 139 Duration 3 minutes  
\* 2020/333:20:19:06.0000 TEP data collection Grid 280 Duration 3 minutes  
\* 2020/333:20:23:14.0000 TEP data collection Grid 352 Duration 3 minutes  
\* 2020/333:23:27:41.0000 TEP data collection Grid 275 Duration 3 minutes

\* 2020/333:23:35:30.0000 TEP data collection Grid 383 Duration 3 minutes  
2020/333:23:59:12.0000 OCEANscan Duration 22 minutes  
2020/334:03:00:01.0000 Segmented RTWscan Part 1 Duration 37 minutes  
2020/334:03:49:15.0000 Segmented RTWscan Part 2 Duration 35 minutes  
2020/334:04:29:51.0000 Segmented RTWscan Part 3 Duration 14 minutes  
\* 2020/334:05:46:20.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
2020/334:07:24:21.0000 TOO TOOid 1777 RGT 1010 offpoint 1.15deg Duration 2  
minutes  
\* 2020/334:10:12:13.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/334:11:46:31.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/334:13:20:45.0000 OCEANscan Duration 22 minutes  
^ 2020/334:15:18:20.0000 DMU66c for RGT excursion Duration 74 minutes  
\* 2020/334:16:44:49.0000 TEP data collection Grid 285 Duration 3 minutes  
\* 2020/334:18:16:30.0000 TEP data collection Grid 247 Duration 3 minutes  
\* 2020/334:19:42:58.0000 TEP data collection Grid 137 Duration 3 minutes  
\* 2020/334:19:56:00.0000 TEP data collection Grid 316 Duration 3 minutes  
\* 2020/334:21:25:06.0000 TEP data collection Grid 242 Duration 3 minutes  
\* 2020/335:00:17:59.0000 TEP data collection Grid 22 Duration 3 minutes  
2020/335:01:07:48.0000 OCEANscan Duration 22 minutes  
\* 2020/335:02:10:06.0000 Put laser in ARM mode for LCA67 31601 (OFEQ 7) 30-Nov-  
2020 02:10:21 Self mitigated Duration 1 minute  
\* 2020/335:02:13:10.0000 TEP data collection Grid 307 Duration 3 minutes  
\* 2020/335:03:29:11.0000 TEP data collection Grid 53 Duration 3 minutes  
\* 2020/335:03:43:28.0000 TEP data collection Grid 232 Duration 3 minutes  
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\* 2020/335:16:11:22.0000 TEP data collection Grid 178 Duration 3 minutes  
\* 2020/336:00:05:26.0000 TEP data collection Grid 202 Duration 3 minutes  
\* 2020/336:00:30:01.0000 Disable Receiver Algorithm V10 Parameter test Duration 1  
minute  
2020/336:00:42:10.0000 OCEANscan Duration 22 minutes  
2020/336:01:45:00.0000 Laser window dump Duration 2 minutes  
\* 2020/336:04:45:41.0000 TEP data collection Grid 159 Duration 3 minutes  
\* 2020/336:04:55:01.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/336:09:20:43.0000 TEP data collection Grid 44 Duration 3 minutes  
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