

ICESat-2 PROJECT SCIENCE OFFICE REPORT

Monday, September 14, 2020 thru Sunday, September 20, 2020

RGTs spanned: 1232 - 1338

Cycle 8

SUMMARY:

All ATLAS housekeeping data is nominal; laser 2 is firing at energy level 4 and in science mode. With a little over a week to go before code freeze, ASAS is busy wrapping up open issues, testing PGEs and beginning the documentation process.

ELEMENT DETAILS BELOW

CAMS/POD:

CAMS: Regular CAMS operations: constraint and conjunction monitoring for MW105 and MW106 and mission planning for MW107.

CAMS recommended laser arm for 42042 (FLOCK 3P56) 259/21:42:20 - 21:42:30(MW105).

CAMS continues working with the project on ARB09.

POD: Regular POD operations continue. Intermediate POD was completed for GPS week 2122. Final POD was completed for GPS week 2120.

ISF:

All ATLAS housekeeping data is nominal

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

WTEM Peak to Edge Ratio: 1.204

Laser 2 Temperature Error: -0.35C

SADA in SAILBOAT Mode

Spacecraft orientation: - X

Mission Planning:

MW106 ATS is loaded to the spacecraft and currently operating (PSO Activity List is attached)

MW107 AIP has been delivered, nominal calibrations; CAMS has delivered preliminary products.

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Activities during the past week:

Real-time activities:

monitoring via telework

**Onsite Thursday (9/17) and today (9/21) to adjust the VBG temperature and clear FSW red limit**

ATS activities:

MW\_106 (currently loaded and executing):

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

RTW scans

**DMU059**

Other Activities:

**System Quarterly scanning on Thursday September 17 - no high vulnerabilities detected**

Near-term upcoming activities:

PDB E.O.2 testing and deployment

Facility:

Tech HW refresh:

Procurement in progress for ISF Tech Refresh Phase 2 to complete during FY20  
Phase 1a setup and testing continues

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:

No updates

**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.
- Delivered all span 2 and 6 ATL03s from January, June and October 2019 to cooler.
- Delivered Release 003 ATL04/ATL09 from May 14-July 16, 2020 to NSIDC.
- Participated in the ESDIS Assessment and Authorization (A&A) audit.

**ASAS:**

With a little over a week to go before code freeze, ASAS is busy wrapping up open issues, testing PGEs and beginning the documentation process.

ASAS ran 2 weeks of ATL03s to create the pod2 dataset (which is available on SCF) for the purposes of testing old ANC04s with new ANC05s.

ASAS initially executed the 954a4 functional test, but has abandoned that test in favor of 954a5, which is running now.

954a5 will be the last functional test before the code freeze and its data will be available upon request from Jeff by the beginning of next week.

**SCF:**

The SCF is operating nominally. Data for releases 003 and R003 are being ingested and distributed; full granule subscriptions are current, and subsetting subscriptions are in progress. All ATL20 release 001 data files produced have been ingested. A file listing the current SCF data holdings is attached.

\* Data Management -- Some information for ATL20 in the database tables needed correcting to properly account for subproducts. This change was made with no effect on normal operations. Work continues on implementing two new plots for ATL10. A simple program was developed as an initial test of the current approach.

\* Subsetter -- Continued to perform normally with no failed jobs. Tests were performed with ATL20 release 001 data confirming that the code handles this new product correctly.

\* Web site -- An issue where some web pages were visible without logging in first was identified and has been corrected. We are looking into an automated way of preventing any new pages created in the future from experiencing this issue.

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

A paper is in preparation on detailed characterization of the ATLAS impulse response, including the small “after-pulses” that are visible in extremely strong surface returns.

In addition, work continues on:

- Investigation of data from July 15.
- Quantifying the expected annual number of back reflections from solar arrays on other spacecraft (e.g. Starlink).
- Investigating and modeling the properties of saturated returns.
- Writing up the results of the study of variation of range bias on orbital and seasonal time scales.
- Re-examining the temperature dependence of the ATLAS transmitted beam divergence.
- Improving the process for calibrating transmitter-receiver alignment.

### **ATL03:**

The past couple of weeks have been dedicated to discussing the inclusion of updated/calibrated ancillary data products, relative beam alignment calibration and range bias updates to the release 004 data products.

## **ISF ACTIVITIES MISSION WEEK 106**

- \* 2020/261:02:52:00.0000 TEP data collection Grid 401 Duration 3 minutes
- \* 2020/261:03:05:16.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
- 2020/261:04:29:02.0000 OCEANscan Duration 22 minutes
- \* 2020/261:04:55:03.0000 TEP data collection Grid 2 Duration 3 minutes
- \* 2020/261:06:02:50.0000 TEP data collection Grid 361 Duration 3 minutes
- \* 2020/261:07:45:20.0000 TEP data collection Grid 286 Duration 3 minutes
- \* 2020/261:07:52:45.0000 TEP data collection Grid 178 Duration 3 minutes

\* 2020/261:08:03:38.0000 TEP data collection Grid 33 Duration 3 minutes  
\* 2020/261:09:35:17.0000 TEP data collection Grid 67 Duration 3 minutes  
\* 2020/261:12:17:45.0000 TEP data collection Grid 423 Duration 3 minutes  
\* 2020/261:12:38:37.0000 TEP data collection Grid 134 Duration 3 minutes  
^ 2020/261:13:31:15.0000 DMU059a Duration 72 minutes  
\* 2020/261:15:28:56.0000 TEP data collection Grid 382 Duration 3 minutes  
\* 2020/261:15:52:27.0000 TEP data collection Grid 57 Duration 3 minutes  
2020/261:16:16:17.0000 OCEANscan Duration 22 minutes  
\* 2020/261:17:16:17.0000 TEP data collection Grid 199 Duration 3 minutes  
\* 2020/261:17:24:06.0000 TEP data collection Grid 91 Duration 3 minutes  
^ 2020/261:18:28:22.0000 Adjust the VBG Setpoint to 62.90 to optimize the laser wavelength Duration 1 minute  
\* 2020/261:18:39:34.0000 TEP data collection Grid 342 Duration 3 minutes  
\* 2020/261:18:42:45.0000 TEP data collection Grid 305 Duration 3 minutes  
\* 2020/261:19:04:16.0000 TEP data collection Grid 16 Duration 3 minutes  
\* 2020/261:19:50:50.0000 TEP data collection Grid 429 Duration 3 minutes  
\* 2020/261:20:15:56.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/261:20:32:41.0000 TEP data collection Grid 86 Duration 3 minutes  
\* 2020/261:21:53:56.0000 TEP data collection Grid 265 Duration 3 minutes  
\* 2020/261:22:06:58.0000 TEP data collection Grid 84 Duration 3 minutes  
\* 2020/261:23:17:46.0000 TEP data collection Grid 407 Duration 3 minutes  
\* 2020/261:23:30:50.0000 TEP data collection Grid 226 Duration 3 minutes  
\* 2020/262:01:05:19.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/262:02:02:46.0000 TEP data collection Grid 348 Duration 3 minutes  
2020/262:02:16:56.0000 TOO TOOid 1723 RGT 1294 offpoint 4.64deg Duration 2 minutes  
minutes  
\* 2020/262:02:31:35.0000 TEP data collection Grid 330 Duration 3 minutes  
\* 2020/262:02:39:37.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/262:04:03:23.0000 OCEANscan Duration 22 minutes  
\* 2020/262:05:48:11.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/262:07:14:27.0000 TEP data collection Grid 359 Duration 3 minutes  
\* 2020/262:07:24:53.0000 TEP data collection Grid 214 Duration 3 minutes  
\* 2020/262:08:16:13.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/262:09:54:13.0000 TEP data collection Grid 336 Duration 3 minutes  
\* 2020/262:10:46:10.0000 TEP data collection Grid 29 Duration 3 minutes  
\* 2020/262:11:54:43.0000 TEP data collection Grid 388 Duration 3 minutes  
\* 2020/262:12:18:07.0000 TEP data collection Grid 63 Duration 3 minutes  
\* 2020/262:12:47:09.0000 TEP data collection Grid 116 Duration 3 minutes  
\* 2020/262:12:54:32.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/262:13:36:50.0000 TEP data collection Grid 277 Duration 3 minutes  
\* 2020/262:14:20:31.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/262:15:50:38.0000 OCEANscan Duration 22 minutes  
\* 2020/262:17:27:47.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/262:18:17:06.0000 TEP data collection Grid 306 Duration 3 minutes  
\* 2020/262:18:27:31.0000 TEP data collection Grid 162 Duration 3 minutes  
\* 2020/262:19:09:32.0000 TEP data collection Grid 215 Duration 3 minutes

\* 2020/262:19:50:17.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/262:20:34:18.0000 TEP data collection Grid 69 Duration 3 minutes  
\* 2020/262:21:24:34.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/262:23:44:34.0000 TEP data collection Grid 100 Duration 3 minutes  
\* 2020/262:23:51:38.0000 TEP data collection Grid 208 Duration 3 minutes  
\* 2020/263:00:29:02.0000 TEP data collection Grid 369 Duration 3 minutes  
2020/263:01:30:00.0000 Laser window dump Duration 2 minutes  
\* 2020/263:02:13:32.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/263:02:58:23.0000 TEP data collection Grid 167 Duration 3 minutes  
2020/263:03:37:44.0000 OCEANscan Duration 22 minutes  
\* 2020/263:05:11:54.0000 TEP data collection Grid 362 Duration 3 minutes  
\* 2020/263:05:21:18.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/263:06:38:32.0000 Segmented RTWscan Part 1 Duration 37 minutes  
2020/263:07:27:38.0000 Segmented RTWscan Part 2 Duration 35 minutes  
2020/263:08:08:14.0000 Segmented RTWscan Part 3 Duration 14 minutes  
\* 2020/263:09:24:51.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
2020/263:09:42:45.0000 TOO TOOid 1724 RGT 1314 offpoint 4.67deg Duration 2 minutes  
2020/263:12:05:00.0000 Stellar window dump Duration 90 minutes  
\* 2020/263:13:50:45.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/263:15:24:59.0000 OCEANscan Duration 22 minutes  
\* 2020/263:16:59:20.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/263:18:41:17.0000 TEP data collection Grid 179 Duration 3 minutes  
\* 2020/263:20:58:32.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/264:01:08:51.0000 TEP data collection Grid 313 Duration 3 minutes  
2020/264:01:37:43.0000 TOO TOOid 1720 RGT 1324 offpoint 1.55deg Duration 2 minutes  
2020/264:03:12:05.0000 OCEANscan Duration 22 minutes  
\* 2020/264:03:57:47.0000 TEP data collection Grid 21 Duration 3 minutes  
\* 2020/264:05:46:03.0000 TEP data collection Grid 235 Duration 3 minutes  
\* 2020/264:07:26:12.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
2020/264:07:42:48.0000 TOO TOOid 1725 RGT 1328 offpoint 4.69deg Duration 2 minutes  
2020/264:08:59:12.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/264:13:25:06.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/264:14:59:23.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/264:16:33:37.0000 OCEANscan Duration 22 minutes  
\* 2020/264:21:34:37.0000 TEP data collection Grid 319 Duration 3 minutes  
2020/265:04:20:43.0000 OCEANscan Duration 22 minutes  
\* 2020/265:08:33:33.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/265:12:59:27.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/265:14:33:44.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/265:16:07:58.0000 OCEANscan Duration 22 minutes  
^ 2020/265:16:38:22.0000 Adjust the VBG Setpoint to 62.93 to optimize the laser wavelength Duration 1 minute  
\* 2020/265:17:42:19.0000 AMCS Cal over open Pacific ocean Duration 2 minutes

2020/265:18:17:11.0000 TOO TOOid 1726 RGT 1350 offpoint 4.70deg Duration 2 minutes

2020/266:03:55:04.0000 OCEANscan Duration 22 minutes

\* 2020/266:08:07:54.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes

\* 2020/266:09:27:38.0000 TEP data collection Grid 85 Duration 3 minutes

\* 2020/266:12:44:11.0000 AMCS Cal over open Pacific ocean Duration 2 minutes

\* 2020/266:14:08:05.0000 AMCS Cal over open Pacific ocean Duration 2 minutes

2020/266:15:42:19.0000 OCEANscan Duration 22 minutes

2020/266:16:17:14.0000 TOO TOOid 1727 RGT 1364 offpoint 4.68deg Duration 2 minutes

\* 2020/266:17:16:40.0000 AMCS Cal over open Pacific ocean Duration 2 minutes

\* 2020/267:01:20:59.0000 TEP data collection Grid 241 Duration 3 minutes

2020/267:03:29:25.0000 OCEANscan Duration 22 minutes

2020/267:06:30:13.0000 Segmented RTWscan Part 1 Duration 37 minutes

2020/267:07:19:18.0000 Segmented RTWscan Part 2 Duration 35 minutes

2020/267:07:59:58.0000 Segmented RTWscan Part 3 Duration 14 minutes

\* 2020/267:09:15:38.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes

\* 2020/267:13:42:26.0000 AMCS Cal over open Pacific ocean Duration 2 minutes

2020/267:15:16:40.0000 OCEANscan Duration 22 minutes

\* 2020/267:16:51:01.0000 AMCS Cal over open Pacific ocean Duration 2 minutes

2020/267:20:34:27.0000 TOO TOOid 1728 RGT 1382 offpoint 4.69deg Duration 2 minutes