

**ICESat-2 PROJECT SCIENCE OFFICE REPORT**  
**Monday, August 31, 2020 thru Sunday, September 6, 2020**

RGTs spanned: 1018 - 1124  
Cycle 8

**SUMMARY:**

All ATLAS housekeeping data is nominal; laser 2 is firing at energy level 4 and in science mode. With about 3 weeks to go before code freeze, ASAS is busy wrapping up open issues, testing PGEs and beginning the documentation process. ATBD leads → please make sure to check in with your ASAS developer and approve any changes that they might have sent your way!

\*\*ELEMENT DETAILS BELOW\*\*

**CAMS/POD:**

**CAMS:** Regular CAMS operations: constraint and conjunction monitoring for MW103 and MW104 and mission planning for MW105.

CAMS recommended laser arm for 25544(ISS) 246/14:28:18 - 246/14:28:28 (MW104). Event self-mitigated

CAMS continues working with the project on ARB09.

**POD:** Regular POD operations continue. Intermediate POD was completed for GPS week 2120. Final POD was completed for GPS week 2118.

Regular POD operations continue. Intermediate POD was completed for GPS week 2120. Final POD was completed for GPS week 2118.

**ISF:**

All ATLAS housekeeping data is nominal  
Laser 2 is firing at energy level 4 and in science mode  
WTEM Peak to Edge Ratio: 1.220  
Laser 2 Temperature Error: -0.33C  
SADA in SAILBOAT Mode  
Spacecraft orientation: - X

Mission Planning:

MW104 ATS is loaded to the spacecraft and currently operating (PSO Activity List is attached)

MW105 AIP has been delivered, nominal calibrations

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Activities during the past week:

Real-time activities:

monitoring via telework

Onsite today to update the BSM XY Offsets:

2020/252:14:20:06.7240 Update BSM XY Offsets X 19.9 Y 8.7

ATS activities:

MW\_104 (currently loaded and executing):

Routine Instrument calibrations, TOOs, Ocean scans and Vegetation Data collection, modified Split ATS to mitigate HIEs with 45250 and 45251 with LCAs 58 and 59

\* 2020/253:11:10:54.0000 Laser in ARM mode for LCA58 45250 (XJS D) 09-Sep-2020 11:11:09

\* 2020/253:22:10:30.0000 Laser in ARM mode for LCA59 45251 (XJS E) 09-Sep-2020 22:10:45

Other Activities:

Near-term upcoming activities:

PDB E.0.2 testing and deployment

TEP Stare during MW105

Facility:

Quarterly Patching of Ops computers: 09/10/2020 (Jordan and Daniel will be on-site in B33 and B32)

Quarterly scanning: 09/17/2020

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:

Schedule updates provided to ESMO scheduler

### **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 5.1 consisting of ASASV5.3.4 and SDMS V7.0.1. This release contains v1.1 of atlas\_l3b\_si (and associated utilities) and is intended to produce Release 001 of the ATL20 gridded freeboard product. Acceptance Testing has started.
- Distributed final Release 003 ATL13 data products from May 15 thru July 15, 2020 to NSIDC.
- Distributed final Release 003 ATL06s from June 25 to July 16 to NSIDC with the appropriate holds requested by the Science Team.

### **ASAS:**

With about 3 weeks to go before code freeze, ASAS is busy wrapping up open issues, testing PGEs and beginning the documentation process.

L1A: No open issues for the ASAS v5.4 release.

L1B: No open issues for the ASAS v5.4 release.

L2A\_ALT: Updated the ATL03 interface to allow older versions of ATL03 to be read by PGE code expecting quality\_ph, roll, pitch, yaw, etc. No open issues for the ASAS v5.4 release.

L2/L3 Atmosphere: Working on finalized L2A constants and L3A cloud/surface discrimination in high-relief terrain.

L3A Ice Sheet: No open issues for the ASAS v5.4 release. A crossover analysis performed by the ATBD lead showed consistent results in the ATL06 heights.

L3A Sea Ice/Freeboard: Along-track slope and free2mean changes are in testing.

L3A Land/Veg: Use of the new ATL03 quality\_ph data is in testing.

L3A Inland Water: The addition of anomalous short segment information to ATL13 and the removal of TEP photons from processing is in work.

L3A Ocean: Use of the new ATL03 quality\_ph data is in work..

L3B Land Ice: The team is attempting to use polygons within the metadata to define geographic extents. End-to-end reprocessing of ATL11s is underway.

L3B Atmosphere: No open issues for the ASAS v5.4 release.

L3B Freeboard: Work is underway on the addition of ATL21.

L3B Ocean: Work continues on L3B Ocean with development of browse and QA products.

#### **SCF:**

The SCF is operating nominally. Data for releases 003 and R003 are being ingested and distributed. Subscriptions continue to be filled using the latest batch of finals received (5/14 through 7/16). The cause of the web site being inaccessible for ~4 hours one morning last week was identified, and we are looking into whether such an event can be prevented or mitigated in the future. A file listing the current SCF data holdings is attached.

\* Data Management -- Preparation for handling ATL20 has begun. Some sample files were obtained from ASAS to assist with this. Scripts to create the required database tables have been written, and we are looking into what code changes are necessary.

\* Subsetter -- Operations continue normally with no failed jobs. Since we do not plan to subset ATL20, there should be few if any changes to the Subsetter code to handle this data product.

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

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.
- Investigating and explaining “interesting” behavior revealed by the expanded ATLAS QA screening process.
- Improving the process for calibrating transmitter-receiver alignment.

**ATL03:**

Continued improvements to quality\_ph saturation flagging for release 004. Additionally, ATBD updates to the reference DEM and geophysical correction sections are underway to put the document current for what is planned for release 004.

**ISF ACTIVITIES MISSION WEEK 104**

2020/247:02:38:19.0000 TOO TOOid 1698 RGT 1065 offpoint 1.52deg Duration 2 minutes

\* 2020/247:02:47:16.0000 AMCS Cal over open Pacific ocean Duration 2 minutes

\* 2020/247:03:03:54.0000 TEP data collection Grid 5 Duration 3 minutes

2020/247:04:11:02.0000 OCEANscan Duration 22 minutes

\* 2020/247:05:55:50.0000 AMCS Cal over open Pacific ocean Duration 2 minutes

2020/247:07:11:50.0000 Segmented RTWscan Part 1 Duration 37 minutes

2020/247:08:01:03.0000 Segmented RTWscan Part 2 Duration 34 minutes

2020/247:08:41:29.0000 Segmented RTWscan Part 3 Duration 15 minutes

\* 2020/247:10:28:04.0000 TEP data collection Grid 391 Duration 3 minutes

\* 2020/247:10:33:17.0000 TEP data collection Grid 319 Duration 3 minutes

\* 2020/247:10:46:19.0000 TEP data collection Grid 138 Duration 3 minutes

^ 2020/247:12:26:09.0000 DMU058a Duration 74 minutes

\* 2020/247:13:47:05.0000 TEP data collection Grid 242 Duration 3 minutes

\* 2020/247:15:08:19.0000 TEP data collection Grid 420 Duration 3 minutes

\* 2020/247:15:26:35.0000 TEP data collection Grid 167 Duration 3 minutes

\* 2020/247:15:31:49.0000 TEP data collection Grid 95 Duration 3 minutes

2020/247:15:58:17.0000 OCEANscan Duration 22 minutes

\* 2020/247:16:45:24.0000 TEP data collection Grid 381 Duration 3 minutes

\* 2020/247:17:09:00.0000 TEP data collection Grid 56 Duration 3 minutes

\* 2020/247:18:16:54.0000 TEP data collection Grid 415 Duration 3 minutes

\* 2020/247:18:27:21.0000 TEP data collection Grid 271 Duration 3 minutes  
\* 2020/247:18:40:23.0000 TEP data collection Grid 90 Duration 3 minutes  
\* 2020/247:19:58:14.0000 TEP data collection Grid 305 Duration 3 minutes  
\* 2020/247:20:09:27.0000 TEP data collection Grid 160 Duration 3 minutes  
\* 2020/247:20:17:18.0000 TEP data collection Grid 52 Duration 3 minutes  
\* 2020/247:21:24:55.0000 TEP data collection Grid 411 Duration 3 minutes  
\* 2020/247:21:32:13.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/247:21:41:08.0000 TEP data collection Grid 194 Duration 3 minutes  
\* 2020/247:21:48:20.0000 TEP data collection Grid 86 Duration 3 minutes  
\* 2020/247:22:11:28.0000 TEP data collection Grid 31 Duration 3 minutes  
\* 2020/247:23:15:31.0000 TEP data collection Grid 191 Duration 3 minutes  
\* 2020/248:02:07:10.0000 TEP data collection Grid 404 Duration 3 minutes  
\* 2020/248:02:21:36.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/248:03:55:54.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/248:05:19:40.0000 OCEANscan Duration 22 minutes  
\* 2020/248:06:53:50.0000 TEP data collection Grid 396 Duration 3 minutes  
\* 2020/248:07:04:16.0000 TEP data collection Grid 252 Duration 3 minutes  
\* 2020/248:07:09:25.0000 TEP data collection Grid 180 Duration 3 minutes  
\* 2020/248:07:37:13.0000 TEP data collection Grid 17 Duration 3 minutes  
\* 2020/248:10:20:40.0000 TEP data collection Grid 139 Duration 3 minutes  
2020/248:11:24:39.0000 TOO TOOid 1701 RGT 1086 offpoint 4.68deg Duration 2  
minutes  
\* 2020/248:11:49:45.0000 TEP data collection Grid 209 Duration 3 minutes  
\* 2020/248:11:57:34.0000 TEP data collection Grid 100 Duration 3 minutes  
\* 2020/248:13:31:52.0000 TEP data collection Grid 98 Duration 3 minutes  
2020/248:17:06:55.0000 OCEANscan Duration 22 minutes  
\* 2020/248:18:09:31.0000 TEP data collection Grid 163 Duration 3 minutes  
\* 2020/248:19:47:37.0000 TEP data collection Grid 124 Duration 3 minutes  
\* 2020/248:21:06:34.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/248:21:12:06.0000 TEP data collection Grid 231 Duration 3 minutes  
\* 2020/248:21:20:42.0000 TEP data collection Grid 122 Duration 3 minutes  
\* 2020/249:01:55:57.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/249:03:30:14.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/249:04:54:01.0000 OCEANscan Duration 22 minutes  
\* 2020/249:06:41:13.0000 TEP data collection Grid 216 Duration 3 minutes  
\* 2020/249:11:29:18.0000 TEP data collection Grid 137 Duration 3 minutes  
\* 2020/249:12:41:48.0000 TEP data collection Grid 424 Duration 3 minutes  
\* 2020/249:13:05:02.0000 TEP data collection Grid 99 Duration 3 minutes  
\* 2020/249:14:27:28.0000 TEP data collection Grid 277 Duration 3 minutes  
2020/249:16:41:16.0000 OCEANscan Duration 22 minutes  
\* 2020/249:17:46:52.0000 TEP data collection Grid 127 Duration 3 minutes  
2020/249:18:50:28.0000 TOO TOOid 1702 RGT 1106 offpoint 4.68deg Duration 2  
minutes  
\* 2020/249:20:40:55.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/249:22:13:59.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/250:01:30:58.0000 AMCS Cal over open Pacific ocean Duration 2 minutes

\* 2020/250:03:04:35.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/250:04:28:21.0000 OCEANscan Duration 22 minutes  
\* 2020/250:06:13:10.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/250:07:46:58.0000 TEP data collection Grid 251 Duration 3 minutes  
\* 2020/250:12:43:11.0000 TEP data collection Grid 63 Duration 3 minutes  
2020/250:13:27:01.0000 TOO TOOid 1709 RGT 1118 offpoint 0.38deg Duration 2 minutes  
2020/250:15:16:15.0000 TOO TOOid 1703 RGT 1119 offpoint 4.67deg Duration 2 minutes  
2020/250:16:15:37.0000 OCEANscan Duration 22 minutes  
\* 2020/250:17:23:26.0000 TEP data collection Grid 92 Duration 3 minutes  
\* 2020/250:18:59:11.0000 TEP data collection Grid 54 Duration 3 minutes  
\* 2020/250:20:15:15.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/250:20:23:57.0000 TEP data collection Grid 196 Duration 3 minutes  
\* 2020/250:21:49:33.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/251:00:54:00.0000 TEP data collection Grid 369 Duration 3 minutes  
\* 2020/251:01:07:03.0000 TEP data collection Grid 188 Duration 3 minutes  
\* 2020/251:01:12:16.0000 TEP data collection Grid 116 Duration 3 minutes  
\* 2020/251:01:18:17.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/251:02:29:55.0000 TOO TOOid 1699 RGT 1126 offpoint 2.83deg Duration 2 minutes  
minutes  
\* 2020/251:02:38:56.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/251:04:02:42.0000 OCEANscan Duration 22 minutes  
\* 2020/251:05:47:31.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/251:06:55:00.0000 Stellar window dump Duration 90 minutes  
2020/251:08:33:24.0000 TOO TOOid 1705 RGT 1130 offpoint 4.70deg Duration 2 minutes  
minutes  
\* 2020/251:15:20:52.0000 TEP data collection Grid 131 Duration 3 minutes  
2020/251:15:49:58.0000 OCEANscan Duration 22 minutes  
\* 2020/251:21:23:53.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/252:02:13:17.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/252:03:47:34.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/252:04:59:12.0000 TOO TOOid 1706 RGT 1143 offpoint 4.69deg Duration 2 minutes  
minutes  
2020/252:05:11:20.0000 OCEANscan Duration 22 minutes  
2020/252:06:37:51.0000 Segmented RTWscan Part 1 Duration 37 minutes  
2020/252:07:27:23.0000 Segmented RTWscan Part 2 Duration 35 minutes  
2020/252:08:07:49.0000 Segmented RTWscan Part 3 Duration 14 minutes  
\* 2020/252:14:20:06.7240 Update BSM XY Offsets X 19.9 Y 8.7 Duration 1 minute  
2020/252:16:58:36.0000 OCEANscan Duration 22 minutes  
\* 2020/252:20:58:14.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/253:01:47:38.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
\* 2020/253:03:21:55.0000 AMCS Cal over open Pacific ocean Duration 2 minutes  
2020/253:04:45:41.0000 OCEANscan Duration 22 minutes  
\* 2020/253:11:10:54.0000 Laser in ARM mode for LCA58 45250 (XJS D) 09-Sep-2020  
11:11:09 Duration 1 minute

2020/253:16:32:57.0000 OCEANscan Duration 22 minutes  
\* 2020/253:20:32:35.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/253:22:10:30.0000 Laser in ARM mode for LCA59 45251 (XJS E) 09-Sep-2020  
22:10:45 Duration 1 minute  
2020/253:23:25:00.0000 TOO TOOid 1707 RGT 1170 offpoint 4.66deg Duration 2  
minutes