

ICESat-2 PROJECT SCIENCE OFFICE REPORT
Monday, May 20, 2019 thru Sunday, May 26, 2019

RGTs spanned: 791-897
Cycle 3

Items of Note:

All ATLAS housekeeping data is nominal; laser 2 is firing at energy level 4 and in science mode. DMU016 executed successfully on May 20, 2019 using the CAMS provided PYP-PYP attitude sequences. Final preparations were made by SIPS, ASAS and data product teams throughout the week to support **our first public data release at the NASA DAAC at NSIDC today, May 28!!!**

[NASA GSFC Press Release: First ICESat-2 Global Data Released: Ice, Forests and More](#)

[First Data Sets from ICESat-2 Data Now Available through NSIDC DAAC](#)

[Tweet from NASA ICE](#)

[Tweet from NSIDC](#)

****ELEMENT DETAILS BELOW****

CAMS/POD/PPD:

CAMS: Regular CAMS operations continue with constraint and conjunction monitoring for mission weeks 36 and 37, and mission planning for mission week 38.

DMU016 executed successfully on May 20, 2019 using the CAMS provided PYP-PYP attitude sequences.

There were two split loads created this week. The first split load for MW036 was created to avoid a laser conjunction on May 21, 2019 with 42042 (FLOCK 3P 46). A 10 second laser to arm command was added to the ATS to mitigate the event. The second split load for MW037 was created to avoid two laser conjunction, 1) 25544 (ISS) on May 24, 2019 and 2) 36119 (WISE) on May 26, 2019. A new SAT was created with a +5 degree slew to avoid event 1 and a 10 second laser to arm command was added the ATS to mitigate event 2.

POD: Final POD was completed for GPS week 2051, results appear nominal. Intermediate POD for GPS week 2053 is on hold while we sort out recent ATL02 file delivery questions with SIPS.

PPD: We are working on an LRS stellar side report for the Project in terms of our current assessment of its operational performance and limitations. Otherwise, we continue on the expected cadence of ANC05 deliveries.

ISF:

All ATLAS housekeeping data is nominal
Laser 2 is firing at energy level 4 and in science mode
WTEM Peak to Edge Ratio: 1.223
Laser 2 Temperature Error: -0.26C
SADA in Sailboat Mode
Spacecraft orientation: - X

Mission Planning:

MW37 ATS is loaded to the spacecraft and currently operating
MW38 is being planned.

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**Activities during the past week:**

**ATS activities:**

All ATLAS and pointing activities were routine and completed as planned

**Real-time activities:**

Daily/as-need: Executed standing CAR 91 and 102 (routine error cleanup)

ICESat2 performed DMU #16 2019/140 21:02:27.0000 (65 minute activity)

**Other Activities:**

The ISF worked with the ICESat2 team to update the existing split ATS (MW36) with an additional 10 second laser to ARM sequence to mitigate a laser conjunction via a 10 second laser to ARM sequence (2019/141/05:04:13).

The ISF worked with the ICESat2 team to prepare a split ATS (MW37) to mitigate two laser conjunctions: a +5 deg roll (ISS, 2019/144/15:02:52) and a 10 second laser to ARM sequence (WISE, 2019/146/10:48:27).

Team continues to investigate the inability to receive telemetry at the ISF from the bMOC (note 1).

Team continues to investigate the slow transfer of data from the T&C servers to the ops servers (RIONet to SEN). The impact is slow transfer of the telemetry PB data to OpenMCT. Can modify data stream that is going to openMCT.

The split PMT processing by ATLAS product type presented to the CCB and approved for release to ops.

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Next week's ATLAS activities:

Routine instrument and pointing calibration scheduled activities are in the MW37 ATS. (see attached)

Other Near-term activities:

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Notes/Issues:

1. The bMOC is unable to send telemetry to the ISF. We are awaiting the full analysis data from GCC as we and the MOC/bMOC continue to investigate the issue.

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LTO Schedule:

All items remain on schedule

ATLASCCR002 PDB E.0.1 install in operations to be Boarded at FOT CCB NET

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 using ANC03/04/05 files from the CAMS
 - Distributed ATL03 (rapids) to the SCF
- The SIPS started processing Release 001 data product on Monday
 - All ATL01 and ATL02 have been processed for data received to date
 - ATL03 has been processed for the period October/November 2018.

ASAS:

The functional test of ASAS PGE point delivery for the standard set of days was completed and test reports posted for developer review.

The inland water surface mask is being updated by John Robbins.

Sea ice/Freeboard – Continue work on jobs that hang. Started implementation of weighted mean for height and sigma computation.

Inland water completed the implementation of control parameter to search only selected water body types. Investigating implementation that will process each water body crossing as a single transect.

Land/Veg competed and submitted a number of changes to CCB for addition parameters on ATL08.

Ocean development implementing the background computation. Continued support investigations into difference in ASAS and MATLAB results.

The Atmosphere developer Starting development of the layer QA confidence based on the density method.

The L3B atmosphere PGE continued testing to finalize for delivery as an intermediate release.

SCF:

The SCF is operating nominally. Data for releases 001 and R001 are being ingested and distributed, and older data are being deleted as needed. An unexpected change in the structure of the browse products resulted in no browse images being extracted for the web site, but this was fixed promptly once the problem was identified; it is now working as expected. Version 5.1 of the Visualizer is expected to be released early next week. A file listing the current SCF data holdings is attached.

* Data Management -- The browse product issue noted above resulted in a backlog that was not clearing out due to files being pulled to the web site before processing completed. The web site's pull was stopped temporarily in order to allow browse processing to catch up, creating a small delay in getting browse products to the web site. A few minor code modifications were placed into operations to provide more control over jobs running in the SDMS software. A bug in one of our reports for TOOs that resulted in dates being one day too high was identified and fixed in the operational code; affected reports were rerun to correct them.

* Subsetter -- Efforts to get the Subsetter to work in Python 3 have continued, and most issues with setting up the Python 3 environment appear to be resolved.

* Visualizer -- Version 5.1 of the software should be available next week. The apps have been created and are undergoing some final testing before making the release available.

ATL02/Instrument Science:

Christopher Field identified returns from retroreflector targets at one of the ICESat-2 data calibration sites in Antarctica, using a method that looks for spikes in surface-return events per shot. The spatial profiles of the returns are consistent with pre-launch measurements of beam profiles, and other estimates of beam profiles from on-orbit returns.

Review of the range bias measurement and correction process continues.

ATL03:

Final ATBD and supporting documentation to accompany public data release was delivered. The monthly assessment of ATLAS channel radiometry and signal strength using ATL03 data revealed no major anomalies.

ISF ACTIVITIES MISSION WEEK 037:

* Not in science mode

^ Could affect science data quality

- * 2019/143:01:12:31.0000 TEP data collection for 3 minutes
- ^ 2019/143:02:21:22.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/143:02:46:48.0000 TEP data collection for 3 minutes
- 2019/143:03:34:00.0000 OCEANscan (22 minutes)
- * 2019/143:04:21:06.0000 TEP data collection for 3 minutes
- * 2019/143:05:55:23.0000 TEP data collection for 3 minutes
- * 2019/143:07:29:40.0000 TEP data collection for 3 minutes
- ^ 2019/143:07:46:50.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/143:10:14:44.0000 TEP data collection for 3 minutes
- * 2019/143:11:49:01.0000 TEP data collection for 3 minutes
- * 2019/143:13:23:19.0000 TEP data collection for 3 minutes
- ^ 2019/143:13:49:39.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/143:14:57:36.0000 TEP data collection for 3 minutes
- 2019/143:15:21:16.0000 OCEANscan (22 minutes)
- * 2019/143:16:31:54.0000 TEP data collection for 3 minutes
- ^ 2019/143:16:58:14.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/143:18:06:11.0000 TEP data collection for 3 minutes
- * 2019/143:19:40:28.0000 TEP data collection for 3 minutes
- * 2019/143:20:05:22.0000 TEP data collection for 3 minutes
- * 2019/143:21:38:17.0000 TEP data collection for 3 minutes
- * 2019/143:23:12:34.0000 TEP data collection for 3 minutes
- * 2019/144:00:46:52.0000 TEP data collection for 3 minutes
- ^ 2019/144:01:55:51.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/144:02:21:09.0000 TEP data collection for 3 minutes
- 2019/144:03:08:21.0000 OCEANscan (22 minutes)
- * 2019/144:03:55:26.0000 TEP data collection for 3 minutes
- * 2019/144:05:29:44.0000 TEP data collection for 3 minutes
- ^ 2019/144:07:21:11.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/144:08:14:47.0000 TEP data collection for 3 minutes
- ^ 2019/144:08:54:37.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/144:09:49:04.0000 TEP data collection for 3 minutes
- * 2019/144:11:23:22.0000 TEP data collection for 3 minutes
- * 2019/144:12:57:39.0000 TEP data collection for 3 minutes
- ^ 2019/144:13:24:00.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/144:14:31:57.0000 TEP data collection for 3 minutes

2019/144:15:00:00.0000 Laser Conjunction Avoidance #6 2544 (ISS) with +5 degree TOO for 4 minutes

- * 2019/144:16:06:14.0000 TEP data collection for 3 minutes
- ^ 2019/144:16:32:34.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/144:17:40:32.0000 TEP data collection for 3 minutes
- * 2019/144:19:14:49.0000 TEP data collection for 3 minutes
- * 2019/144:21:10:11.0000 TEP data collection for 3 minutes
- * 2019/144:22:44:28.0000 TEP data collection for 3 minutes
- * 2019/145:00:18:45.0000 TEP data collection for 3 minutes
- ^ 2019/145:01:30:20.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/145:01:53:03.0000 TEP data collection for 3 minutes
- 2019/145:02:42:42.0000 OCEANscan (22 minutes)
- * 2019/145:03:27:20.0000 TEP data collection for 3 minutes
- 2019/145:04:33:30.0000 TOO (TOOid=986) for 3 minutes
- ^ 2019/145:04:38:56.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/145:05:01:38.0000 TEP data collection for 3 minutes
- * 2019/145:06:35:55.0000 TEP data collection for 3 minutes
- ^ 2019/145:06:55:32.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/145:07:49:08.0000 TEP data collection for 3 minutes
- ^ 2019/145:08:29:49.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/145:09:23:25.0000 TEP data collection for 3 minutes
- * 2019/145:10:57:43.0000 TEP data collection for 3 minutes
- * 2019/145:12:32:00.0000 TEP data collection for 3 minutes
- ^ 2019/145:13:00:16.0000 AMCS Cal for 2 minutes over open ocean
- ^ 2019/145:14:00:00.0000 Stellar centroid image dump for 90 minutes
- * 2019/145:15:40:35.0000 TEP data collection for 3 minutes
- 2019/145:16:04:14.0000 OCEANscan (22 minutes)
- * 2019/145:17:14:52.0000 TEP data collection for 3 minutes
- * 2019/145:18:49:09.0000 TEP data collection for 3 minutes
- * 2019/145:20:44:31.0000 TEP data collection for 3 minutes
- * 2019/145:22:18:49.0000 TEP data collection for 3 minutes
- * 2019/145:23:53:06.0000 TEP data collection for 3 minutes
- ^ 2019/146:01:04:48.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/146:01:27:23.0000 TEP data collection for 3 minutes
- 2019/146:02:17:02.0000 OCEANscan (22 minutes)
- * 2019/146:03:01:41.0000 TEP data collection for 3 minutes
- 2019/146:03:43:50.0000 TOO (TOOid=978) for 3 minutes
- ^ 2019/146:04:13:24.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/146:04:35:58.0000 TEP data collection for 3 minutes
- 2019/146:05:17:50.0000 RTWscan (90 minutes)
- * 2019/146:07:44:33.0000 TEP data collection for 3 minutes
- ^ 2019/146:08:04:10.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/146:08:57:46.0000 TEP data collection for 3 minutes
- * 2019/146:10:32:03.0000 TEP data collection for 3 minutes

^ 2019/146:10:48:12.0000 Laser Conjunction Avoidance #7 36119 (WISE) with laser in ARM mode for one minute

* 2019/146:12:06:20.0000 TEP data collection for 3 minutes

^ 2019/146:12:49:01.0000 AMCS Cal for 2 minutes over open ocean

* 2019/146:13:40:38.0000 TEP data collection for 3 minutes

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