

ICESat-2 PROJECT SCIENCE OFFICE REPORT
Monday, May 13, 2019 thru Sunday, May 19, 2019

RGTs spanned: 684-790
Cycle 3

Items of Note:

All ATLAS housekeeping data is nominal; laser 2 is firing at energy level 4 and in science mode. SIPS started preparations for generation of Release 001 products for release to the SCF and NSIDC, and also received the latest Release 001 ESDTs from NSIDC. Public data release of all data products at NSIDC is still planned for Tuesday, May 28!

****ELEMENT DETAILS BELOW****

CAMS/POD/PPD:

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

CAMS recommended a 10 sec Laser Arm period for the laser conjunction with w/ Flock 3P 25 41964 on May 16, 2019 requiring a new ATS to be created for MW036 prior to loading on the spacecraft .

CAMS successfully planned a PYP-PYP attitude sequence for an upcoming maneuver DMU016 with entry slew timing adjustments to satisfy all spacecraft safety constraints. This was the first use of the CAMS MPT tool and first time in OPS the MCR process has been exercised. The CAMS planned PYP-PYP attitude sequence will allow for ICESat-2 to stay within RGT pointing requirements.

POD: Regular POD operations continued, after switch to new Vienna Mapping function grid file source was implemented and tested. Final POD for GPS week 2050 was completed. Intermediate POD for GPS week 2052 was completed. All results appear nominal.

ISF:

All ATLAS housekeeping data is nominal
Laser 2 is firing at energy level 4 and in science mode
WTEM Peak to Edge Ratio: 1.190
Laser 2 Temperature Error: -0.18C
SADA in Sailboat Mode
Spacecraft orientation: - X

Mission Planning:
MW36 ATS is loaded to the spacecraft and currently operating
MW37 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)

2019/133/15:30 execute CAR381 (note 1)

2019/136/14:28 and 2019/137/11:38 AS2 recertification testing (note 2)

2019/135/16:03 Executed standing CAT166 to update the VBG temperature setpoint (note 3)

Other Activities:

2019/136/11:55 The ISF worked with the ICESat2 team to prepare a split ATS which includes a 10 second laser to ARM sequence to mitigate a laser conjunction.

Team continues to investigate the inability to receive telemetry at the ISF from the bMOC (note 2).

Team is investigating the slow transfer of data from the T&C servers to the ops servers (RIONet to SEN). The switch was upgraded by the SPOCC but data is still slow. High-rate / volume of GEDI data seems to be the culprit. The impact is slow transfer of the telemetry PB data to OpenMCT.

Writing up the test results for the split PMT processing by ATLAS product type to improve efficiency. The update will be presented to the CCB for release to ops.

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Next week's ATLAS activities:

Routine instrument and pointing calibration scheduled activities are in the MW36 ATS. (see attached)

Other Near-term activities:

2019/140 21:02:27.0000 DMU016 for 65 minutes

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Notes/Issues:

1. Executed step 3 of CAR 381 to cleanup the onboard parameter files after we had confirmed the test ran successfully. CAR 381 tests the ATLAS Receiver Algorithm Parameter v8 updates. These updates improve amount of data collected over the Ocean, land-ice, sea-ice, and propagate the previously tested changes (v7a, CAR370) to the Alternate Knobs Files.

2. AS2 testing was in support of the PTP recertification and consists of verifying telemetry and command connections from the bMOC and ISF to AS2 during real-time contacts. As expected the bMOC continues to be 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.

3. The ISF updated the VBG setpoint to 63.11 to get the peak to edge ratio back to 1.2.

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LTO Schedule:

All items remain on schedule

ATLASCCR002 PDB E.O.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.
- Completed reprocessing of (Release 209) ATL03, ATL04, ATL06, ATL07, ATL08, ATL09, ATL10, ATL12, and ATL13 finals from Oct 14, 2018 - Feb 23, 2019 using the Release 005 ANC03/04/05 files from the POD.
- Started preparations for generation of Release 001 products for release to the SCF and NSIDC. Received the latest Release 001 ESDTs from NSIDC.

ASAS:

ASAS make a point delivery of all PGEs

The development lead continued ASAS code review for FPU exceptions.

Finished testing of the GEBCO bathymetry support routines.

Evaluation of the Arctic DEM/REMA for Land Ice continued with decision to use coarser resolution that initially considered.

Sea ice known hang ups issues have been identified and code fixed. Implementing layer flag. Investigating implementation of weighted mean for height and sigma computation.

Inland water improving the implementation of control parameter to search only selected water body types. Investigating ways to improve on and off water body processing.

Land/Veg development completed work on the point spread function and flag.

Ocean development has identified and fixed the missing data issues. Implementing the background computation. Supporting investigations into ~3 cm difference in height for low SWH.

The Atmosphere developer completed adding relative humidity to ATL04/9. is starting the implementation of the surface finding by the DDA.

The L3B atmosphere PGE is being prepared for delivery as an intermediate release.

SCF:

The SCF is operating nominally. We experienced a backlog of jobs over the weekend that slowed operations, and we temporarily disabled ingest on Monday to finish running jobs in the queue. This resulted in about a one-day delay in ingesting new products, which resumed on Tuesday, but all release 209 data produced by SIPS have now been ingested. Ingest of data for releases 204 and R209 is current and ongoing. Distribution, particularly for 209 data, is still in progress. We are preparing to handle the upcoming 001 release of data, expected to begin on Monday. A file listing the current SCF data holdings is attached.

* Data Management -- A few minor edits to the code have been made, tested, and approved for inclusion in operations. These will go live before the next data release and will provide more control over jobs running in the SDMS software. We are developing a few other such modifications, but these are not expected to be ready in time for the next data release.

* Subsetter -- Reports of users receiving files with no data have identified two issues. One is due to the Subsetter processing an empty file instead of recognizing it as empty, and the other is a bug in the algorithm that checks for valid data to return. Both issues are being worked on.

* Visualizer -- A few final bugs are being fixed in preparation for making the next release of the software. We are aiming to have v5.1 of the Visualizer ready for distribution at the end of next week.

ATL02/Instrument Science:

The ATL02 ATBD for Release 001 has been made available for publication, accompanied by a verification matrix, a list of conversion functions, and a "known issues and advisories" document.

Review of the range bias measurement and correction process continues. Particular attention is being paid to apparent shifts between Transmitter Echo times of flight between I&T and on-orbit operations.

ATL03:

We are continuing to update the necessary documentation to accompany data release from NSIDC (users' guide, known issues document, and data dictionary) to ensure that the public data release is fully supported by the latest data product information.

ISF ACTIVITIES MISSION WEEK 036:

- * Not in science mode
- ^ Could affect science data quality

- * 2019/136:01:03:34.0000 TEP data collection for 3 minutes
- ^ 2019/136:02:10:21.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/136:02:37:51.0000 TEP data collection for 3 minutes
- 2019/136:03:25:03.0000 OCEANscan (22 minutes)
- * 2019/136:04:12:09.0000 TEP data collection for 3 minutes
- * 2019/136:05:46:26.0000 TEP data collection for 3 minutes
- * 2019/136:07:20:43.0000 TEP data collection for 3 minutes
- ^ 2019/136:07:37:53.0000 AMCS Cal for 2 minutes over open ocean
- ^ 2019/136:09:12:11.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/136:10:05:47.0000 TEP data collection for 3 minutes
- * 2019/136:11:55:15.0000 Put laser in ARM mode for Laser Conjunction Avoidance #4 41964 (FLOCK-3P) for one minute
- 2019/136:15:12:18.0000 OCEANscan (22 minutes)
- * 2019/136:21:26:53.0000 TEP data collection for 3 minutes
- * 2019/136:23:01:10.0000 TEP data collection for 3 minutes
- * 2019/137:00:35:27.0000 TEP data collection for 3 minutes
- ^ 2019/137:01:45:04.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/137:02:09:45.0000 TEP data collection for 3 minutes
- 2019/137:02:59:23.0000 OCEANscan (22 minutes)
- * 2019/137:03:44:02.0000 TEP data collection for 3 minutes
- ^ 2019/137:04:00:00.0000 Stellar centroid image dump for 90 minutes (no stellar centroids)
- 2019/137:06:00:12.0000 RTWscan (90 minutes)
- * 2019/137:08:08:31.0000 TEP data collection for 3 minutes
- * 2019/137:08:26:54.0000 TEP data collection for 3 minutes
- ^ 2019/137:08:46:31.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/137:09:40:07.0000 TEP data collection for 3 minutes
- * 2019/137:11:14:24.0000 TEP data collection for 3 minutes
- * 2019/137:12:48:42.0000 TEP data collection for 3 minutes
- ^ 2019/137:13:20:42.0000 AMCS Cal for 2 minutes over open ocean
- * 2019/137:14:22:59.0000 TEP data collection for 3 minutes
- 2019/137:14:46:39.0000 OCEANscan (22 minutes)
- 2019/137:15:16:30.0000 TOO (TOOid=964) for 3 minutes
- * 2019/137:15:57:17.0000 TEP data collection for 3 minutes
- ^ 2019/137:16:23:37.0000 AMCS Cal for 2 minutes over open ocean
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