## ICESat-2 PROJECT SCIENCE OFFICE REPORT
## Monday, April 8, 2019 thru Sunday, April 14, 2019

RGTs spanned: 149-255
Cycle 3

**Items of Note:**
All ATLAS housekeeping data is nominal; laser 2 is firing at energy level 4 and in science mode.  ASAS has wrapped up v5.1 software development, and evaluation of ASAS v5.1 data products began as we prepare for public data release in May.  Much of the week was spent preparing for our bi-annual science team meeting being held the following week at NSIDC in Boulder, CO.

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

**CAMS/POD/PPD**:
**CAMS:** Regular CAMS operations continue with constraint and conjunction monitoring for MW031. CAMS will create a new MW031 SAT on Monday for the maneuver planned on 4/16.  CAMS is currently performing mission planning for MW032.
Charts/documentation were produced on the analysis of last week's HIE with the ISS on April 6th. An in-house review of the analysis will be conducted and the final package will be delivered to the project in the next week or two.

**POD:** Regular POD operations continue. Final POD was completed for GPS week 2045. All results appear nominal.

Continued the iterated estimation of the GPS antenna phase center variation map using data from the full mission.

POD is also working on calibration solutions (both MRF frame and individual beam solutions) using gyro timing bias corrected ANC05 products.

**ISF**:
 All ATLAS housekeeping data is nominal

Laser 2 is firing at energy level 4 and in science mode
WTEM Peak to Edge Ratio: 1.1936
Laser 2 Temperature Error: -0.23C
SADA in Sailboat Mode
Spacecraft orientation : - X

Mission Planning:
MW30 ATS is loaded to the spacecraft and currently operating, it includes additional RTW scans for POD/PPD

MW31 is being planned, it will include additional RTW scans for POD/PPD and a TOO.
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Activities during the past week
ATS activities:
All ATLAS and pointing activities were routine and completed as planned
A split ATS executed a laser FIRE to ARM (10 secs) to FIRE sequence to mitigate a possible laser conjunction with the ISS 2019/096/12:41 UTC

Real-time activities:
Daily / as-need: Executed standing CAR 91 to clear SBC errors.
2019/099/15:54 Executed standing CAR 266 to update the VBG temperature setpoint (note 1)

Other Activities:
Continued to investigate SBS errors (TRACKSTAT), working with the ASET.
Notified FSSE that PCE DFC errors occurred this week; from FSSE:
"These are expected and should not cause alarm. This error can occur in cases where there is high background noise rate or the signal return
is near the end of the range window". The errors are not sustained, nor do they occur at any specific geographical location or instrument activity.
Submitted a description of the methods used to compute the ATLAS zero range point bias, this will be included in a PSO technical note on the ATLAS range bias.

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Next week's ATLAS activities:
Routine instrument and pointing calibration scheduled activities are in the MW31 ATS. The ATS includes DMU 0014 beginning at 2019/106:18:59:23 and lasting 75 minutes (note 2)
Other Near-term activities:
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Notes/Issues:

1. The ISF updated the VBG setpoint to 63.03 to get the peak to edge ratio back to 1.2.
2. The ISF worked with FD and the PSO to schedule DMU 0014 so it will not impact OIB.
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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 April 25

**SIPS**:
- The SIPS is operating nominally:

- Ingested and distributed Level 0 data to the ISF.
- Generated Release 203 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 Release 208 (rapids) ATL03 using ANC03/04/05 files from the CAMS.
- Distributed ATL03 (rapids) to the SCF.
  - Reprocessed Rel 203 ATL01 and ATL02s from Oct 14-April 5 using SIPS Build 4.0.1.
  - Reprocessed Rel 207 ATL03s from Oct 14-Feb 24.
  - Distributed the reprocessed ATL02 and ATL03s to the SCF and NSIDC.

**ASAS**:
ASAS has wrapped up ASAS v5.1 development.

v951 products are currently being created within the ASAS playground.

SIPS is doing pre-release testing with a test version of ASAS.

**SCF**:
The SCF is operating nominally. Data for releases 203, 207, and 208 are being ingested and distributed to users as they are processed and match users' requests. A new release of the Visualizer software and its supporting material is now available on the SCF Web site. A file listing the current SCF data holdings is attached.

* Data Management -- We have been helping users upon request (e.g., with getting accounts and canceling subscriptions) and regularly monitoring the ingest of the new release 207 ATL03 products. We are also closely tracking available disk space to ensure that the ingest and distribution of products proceeds smoothly.

* Subsetter -- The latest version recently placed into operations has continued to perform as expected. One possible new issue has been raised, but additional information and supporting examples are needed to allow further investigation.

* Visualizer -- Testing of Version 5.0 of the Visualizer was completed, and the new release was created and posted to the web site. Designed to work with ASAS v5.0 data products, new features in this release include modifying certain types of subplots after they are created, a new masking option, more options for parameter math, two new paging options, and more discipline-specific custom plots.

**ATL02**:
A new parameter set for the on-board surface-finding algorithm was tested on ICESat-2 for four hours. The purpose was to eliminate opening telemetry bands for the TEP on spots where the TEP does not occur, and to extend by the time interval in which telemetry band boundaries are

continued when a return is not found.  The first change worked; the second showed that even more extension is needed.  Further changes are being tested in simulators to prepare for test on orbit.

Work continues on a new version of CAL 49 (receiver channel skews).  The changes were not included in Release 203 of ATL02 because of testing discrepancies.

Review comments are being incorporated into a new version of the ATL02 ATBD for final review before release.

**ATL03**:
ATL03 continues to collect text edits of the ATBD prior to a wide release at the end of April.  Evaluation of rapid release 208 continued with few to no issues to report.

**ISF ACTIVITIES MISSION 031**

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

^ 2019/101:02:59:12.0000 AMCS Cal for 2 minutes over open ocean
^ 2019/101:04:17:10.0000 AMCS Cal for 2 minutes over open ocean
  2019/101:05:48:45.0000 OCEANscan  (22 minutes)
  2019/101:17:36:00.0000 OCEANscan  (22 minutes)
\* 2019/101:20:20:55.0000 TEP data collection for 3 minutes
^ 2019/101:21:35:39.0000 AMCS Cal for 2 minutes over open ocean
\* 2019/101:21:55:13.0000 TEP data collection for 3 minutes
^ 2019/101:22:00:00.0000 Stellar centroid window dump for 90 minutes (no stellar centroids)
^ 2019/102:03:51:30.0000 AMCS Cal for 2 minutes over open ocean
  2019/102:05:23:05.0000 OCEANscan  (22 minutes)
^ 2019/102:07:00:05.0000 AMCS Cal for 2 minutes over open ocean
\* 2019/102:10:29:31.0000 TEP data collection for 3 minutes
  2019/102:17:10:21.0000 OCEANscan  (22 minutes)
\* 2019/102:19:55:16.0000 TEP data collection for 3 minutes
^ 2019/102:21:09:59.0000 AMCS Cal for 2 minutes over open ocean
\* 2019/102:21:29:33.0000 TEP data collection for 3 minutes
^ 2019/102:22:44:17.0000 AMCS Cal for 2 minutes over open ocean
^ 2019/103:03:25:50.0000 AMCS Cal for 2 minutes over open ocean
  2019/103:04:57:26.0000 OCEANscan  (22 minutes)
^ 2019/103:06:34:25.0000 AMCS Cal for 2 minutes over open ocean
\* 2019/103:10:03:52.0000 TEP data collection for 3 minutes

2019/103:16:44:41.0000 OCEANscan  (22 minutes)
* 2019/103:19:29:36.0000 TEP data collection for 3 minutes
* 2019/103:21:03:54.0000 TEP data collection for 3 minutes
^ 2019/103:22:18:37.0000 AMCS Cal for 2 minutes over open ocean
* 2019/104:00:32:09.0000 TEP data collection for 3 minutes
* 2019/104:02:06:28.0000 TEP data collection for 3 minutes
^ 2019/104:03:00:24.0000 AMCS Cal for 2 minutes over open ocean
* 2019/104:03:40:46.0000 TEP data collection for 3 minutes
2019/104:04:31:46.0000 OCEANscan  (22 minutes)
* 2019/104:05:15:05.0000 TEP data collection for 3 minutes
^ 2019/104:06:08:46.0000 AMCS Cal for 2 minutes over open ocean
* 2019/104:06:49:23.0000 TEP data collection for 3 minutes
2019/104:07:32:34.0000 RTWscan  (90 minutes)
* 2019/104:09:41:19.0000 TEP data collection for 3 minutes
* 2019/104:09:58:01.0000 TEP data collection for 3 minutes
2019/104:16:19:01.0000 OCEANscan  (22 minutes)
* 2019/104:20:38:14.0000 TEP data collection for 3 minutes
^ 2019/104:21:52:57.0000 AMCS Cal for 2 minutes over open ocean
* 2019/104:22:32:29.0000 TEP data collection for 3 minutes
* 2019/105:00:06:48.0000 TEP data collection for 3 minutes
* 2019/105:01:41:07.0000 TEP data collection for 3 minutes
^ 2019/105:02:48:54.0000 AMCS Cal for 2 minutes over open ocean
* 2019/105:03:15:26.0000 TEP data collection for 3 minutes
^ 2019/105:04:08:48.0000 AMCS Cal for 2 minutes over open ocean
* 2019/105:04:49:44.0000 TEP data collection for 3 minutes
2019/105:05:40:24.0000 OCEANscan  (22 minutes)
* 2019/105:06:24:03.0000 TEP data collection for 3 minutes
2019/105:07:06:55.0000 RTWscan  (90 minutes)
* 2019/105:09:32:40.0000 TEP data collection for 3 minutes
2019/105:17:27:39.0000 OCEANscan  (22 minutes)
* 2019/105:20:12:34.0000 TEP data collection for 3 minutes
^ 2019/105:21:27:18.0000 AMCS Cal for 2 minutes over open ocean
* 2019/105:21:46:51.0000 TEP data collection for 3 minutes
* 2019/105:22:07:10.0000 TEP data collection for 3 minutes
* 2019/105:23:41:28.0000 TEP data collection for 3 minutes
* 2019/106:01:15:47.0000 TEP data collection for 3 minutes
* 2019/106:02:50:06.0000 TEP data collection for 3 minutes
^ 2019/106:03:43:09.0000 AMCS Cal for 2 minutes over open ocean
* 2019/106:04:24:25.0000 TEP data collection for 3 minutes
2019/106:05:14:44.0000 OCEANscan  (22 minutes)
* 2019/106:05:58:44.0000 TEP data collection for 3 minutes
^ 2019/106:06:51:19.0000 AMCS Cal for 2 minutes over open ocean
* 2019/106:07:33:02.0000 TEP data collection for 3 minutes
* 2019/106:09:07:21.0000 TEP data collection for 3 minutes

* 2019/106:10:21:10.0000 TEP data collection for 3 minutes
  2019/106:17:01:59.0000 OCEANscan  (22 minutes)
^ 2019/106:18:59:23.0000 DMU0014 for 75 minutes
^ 2019/106:21:01:38.0000 AMCS Cal for 2 minutes over open ocean
* 2019/106:21:21:12.0000 TEP data collection for 3 minutes
^ 2019/106:22:35:55.0000 AMCS Cal for 2 minutes over open ocean
* 2019/106:23:16:09.0000 TEP data collection for 3 minutes
* 2019/107:00:50:28.0000 TEP data collection for 3 minutes
* 2019/107:02:24:47.0000 TEP data collection for 3 minutes
^ 2019/107:03:17:29.0000 AMCS Cal for 2 minutes over open ocean
* 2019/107:03:59:06.0000 TEP data collection for 3 minutes
  2019/107:04:49:04.0000 OCEANscan  (22 minutes)
* 2019/107:05:33:25.0000 TEP data collection for 3 minutes
^ 2019/107:06:26:04.0000 AMCS Cal for 2 minutes over open ocean
* 2019/107:07:07:43.0000 TEP data collection for 3 minutes
* 2019/107:08:42:02.0000 TEP data collection for 3 minutes
* 2019/107:09:55:30.0000 TEP data collection for 3 minutes
* 2019/107:10:15:27.0000 TEP data collection for 3 minutes
  2019/107:16:36:20.0000 OCEANscan  (22 minutes)
^ 2019/107:20:00:00.0000 Stellar centroid image dump for 90 minutes (no stellar centroids)
^ 2019/107:22:10:15.0000 AMCS Cal for 2 minutes over open ocean
* 2019/107:22:50:52.0000 TEP data collection for 3 minutes