ICESat-2 PROJECT SCIENCE OFFICE REPORT
Monday, August 26, 2019 thru Sunday, September 1, 2019

RGTs spanned: 900-1006
Cycle 4

Items of Note:
All ATLAS housekeeping data is nominal; laser 2 is firing at energy level 4 and in science mode. ASAS is investigating a method for recovering the post-safehold data impacted by the incorrect leap seconds. SIPS Build 4.2 (containing updates to SDMS and ASAS software release 5.2 and patch release 5.2.1) successfully underwent Integration and Acceptance testing, and an operations readiness review is scheduled for this week.

NSIDC ICESat-2 Metrics through September 1: 1,244 total users of 10 available data products; 701,910 sciences files downloaded. ATL08 is in the lead with 486 users and 322,126 files downloaded! ATL03 is 2nd with 386 users and 92,826 files downloaded, followed by ATL06 with 374 users and 227,529 files downloaded. *(values from last week were incorrectly reported)*

ELEMENT DETAILS BELOW

CAMS/POD:
CAMS:
Regular CAMS operations continue with constraint and conjunction monitoring for mission weeks 50 and 51, and mission planning for mission week 52.
CAMS supported mini-ATS for MW051:

- Mitigated an FLOCK3P 35 (41964) HIE (0.163 Pl, laser miss < 1.3 km) with laser to arm;

Analysis of definitive ATL02 attitude with predictions to develop more accurate pointing predictions
Performed RGT control analyses for DOY 227, and documented findings. Compared with DOY 155 to how the results of the latest ICESat-2 onboard pointing bias updates.

POD:
Regular POD operations continue. Final POD was completed for GPS week 2065. Intermediate POD was completed for GPS week 2067. All results appear nominal.

POD generated pointing bias calibration solutions for dates with round-the-world scans between DoY 123-177. Final calibrated ANC products for this time period were then delivered to SIPS.

ISF:
All ATLAS housekeeping data is nominal
Laser 2 is firing at energy level 4 and in science mode

WTEM Peak to Edge Ratio: 1.218
Laser 2 Temperature Error: -0.27C
SADA in Airplane Mode
Spacecraft orientation: - X

Mission Planning:

MW51 ATS is loaded to the spacecraft and currently operating

MW52 is being planned, nominal calibration activities, randomized TEP locations, and a multi-step manual mode VBG sweep

~~~~~~

Activities during the past week:

Real-time activities:

Executed CAR 419 to load the v8 Rx Algorithm parameter files (note 1): 2019/241/14:54, 2019/241/16:27, 2019/241/19:33:22, 2019/242/11:11:44, 2019/242/14:28:29, 2019/242/17:48:19

Executed standing CAR 409 2019/242/22:23:59 (note 2)

Executed standing CAR166 to adjust the VBG setpoint temperature 2019/240/20:03

Executed standing CAR91 and to clear routine SBS and SXP errors

ATS activities:

Routine calibration activities, one TOO

Other Activities:

MW_51: Split ATS created for LCA14 with 41964 (2019/241 15:45)

ISF implemented a process to schedule randomized locations for the manual mode TEP collection activities.

Set the NOGO/GO ILRS flags around DMU23 2019/239.

Near-term activities:

Continuing to work with ASET and PSO regarding the frequency and location of nominal instrument calibrations

~~~~~~~~~~~~

Notes/Issues:

1: The v8 Rx Algo parameter files were loaded into memory on ATLAS, will be used to initialize the PCES via commands in the ATS 2019/246.

2. sCAR405 investigates and clears ATLAS PCE computer logging errors

~~~~~~~~~~~~

~~~~~~~~~~~~

LTO Schedule:

All items remain on schedule
RSA maintenance agreements are being renewed

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.
- Received the final ANC03/04/05 files for DOY 124-177 from the POD.
- SIPS Build 4.2 successfully underwent Integration and Acceptance testing
  - ORR is scheduled for September 4.

ASAS:
ASAS is investigating a method for recovering the post-safehold data impacted by the incorrect leap seconds.

ASAS is investigating the possible error in calculating total atmosphere path delay in ATL03.

An error in the algorithm for computing receiver/background sensitivity (when reprocessing) has been boarded.

Atmosphere work includes verification of the ATL09 density dimension algorithm and improvements to ATL16/17.

Land Ice work is focused on the L3B ATL11.

Inland water work is focused on subsurface.

Sea ice/freeboard work is focused on the L3B products.

Ocean work involves the computation of along-track distances.

SCF:
The SCF is operating nominally. Data for releases 001 and R001 are being ingested and distributed. A few hours of downtime were required for system upgrades, but operations quickly caught up once normal processing resumed. Testing of the data management scripts in Python 3 is complete, so moving towards running Python 3 in operations will begin next week. Work continued on updating the SCF to handle new data products ATL16 and ATL17, expected to come in the next major data release. A file listing the current SCF data holdings is attached.

* Data Management -- Database and code updates needed to handle ATL16 and ATL17 were made in a test environment. Initial tests of data ingest from SIPS's test server and fulfilling user requests for these data at the SCF both went well. The changes, pending possible updates from further testing, will be placed into operations before these data products begin arriving at the SCF. Some code changes to help speed up transaction trending calculations appear to work in initial tests, but additional checks may be needed before they are ready for operations. We hope to have a full release of the Python 3 code up and running in operations within two weeks, before the next major data release.

* Subsetter -- Some relatively minor edits were made to deal with ATL16 and ATL17. At present, subsetting of these products will not be allowed, because the results are unlikely to be what users expect.

* Visualizer -- Converting the code base to Python 3 continued. It may be possible to have built-in background maps, but further checking will be needed to confirm this. The color-coded on map plot type code needs to be rewritten to work with new packages used in Python 3, and this is in progress.

ISF ACTIVITIES MISSION WEEK 051:

* Not in science mode
^ Could affect science data quality

^ 2019/241 01:26:01.0000 DMU23 Duration 70 minutes
* 2019/241:03:16:02.0000 TEP data collection Duration 3 minutes
* 2019/241:03:35:38.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2019/241:08:18:31.0000 AMCS Cal over open ocean Duration 2 minutes
* 2019/241:09:38:27.0000 AMCS Cal over open ocean Duration 2 minutes
2019/241:11:10:04.0000 OCEANscan Duration 22 minutes
* 2019/241:15:44:51.0000 LCA14 41964 (FLOCK 3P 25) 29-Aug-2019 15:45:01 with Laser in ARM mode Duration 1 minute
* 2019/241:15:50:21.0000 TEP data collection Duration 3 minutes
* 2019/241:17:24:38.0000 TEP data collection Duration 3 minutes
* 2019/241:18:58:56.0000 TEP data collection Duration 3 minutes
* 2019/241:20:33:13.0000 TEP data collection Duration 3 minutes
* 2019/241:22:07:31.0000 TEP data collection Duration 3 minutes
2019/241:22:57:09.0000 OCEANscan Duration 22 minutes
* 2019/241:23:41:48.0000 TEP data collection Duration 3 minutes
* 2019/242:01:16:05.0000 TEP data collection Duration 3 minutes
* 2019/242:02:50:23.0000 TEP data collection Duration 3 minutes
* 2019/242:03:09:59.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2019/242:09:12:48.0000 AMCS Cal over open ocean Duration 2 minutes
2019/242:10:44:25.0000 OCEANscan Duration 22 minutes
* 2019/242:12:20:41.0000 AMCS Cal over open ocean Duration 2 minutes

* 2019/242:15:26:58.0000 TEP data collection Duration 3 minutes
* 2019/242:16:58:59.0000 TEP data collection Duration 3 minutes
* 2019/242:18:33:17.0000 TEP data collection Duration 3 minutes
  2019/242:19:25:30.0000 TOO (TOOid=1127) Duration 3 minutes
* 2019/242:20:07:34.0000 TEP data collection Duration 3 minutes
* 2019/242:21:41:51.0000 TEP data collection Duration 3 minutes
  2019/242:22:31:30.0000 OCEANscan Duration 22 minutes
* 2019/242:23:16:09.0000 TEP data collection Duration 3 minutes
* 2019/243:00:50:26.0000 TEP data collection Duration 3 minutes
* 2019/243:02:24:43.0000 TEP data collection Duration 3 minutes
* 2019/243:02:44:20.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2019/243:08:47:09.0000 AMCS Cal over open ocean Duration 2 minutes
  2019/243:10:18:46.0000 OCEANscan Duration 22 minutes
* 2019/243:11:55:44.0000 AMCS Cal over open ocean Duration 2 minutes
* 2019/243:16:33:20.0000 TEP data collection Duration 3 minutes
* 2019/243:18:07:37.0000 TEP data collection Duration 3 minutes
* 2019/243:19:41:55.0000 TEP data collection Duration 3 minutes
* 2019/243:21:16:12.0000 TEP data collection Duration 3 minutes
  2019/243:22:05:51.0000 OCEANscan Duration 22 minutes
* 2019/243:22:50:30.0000 TEP data collection Duration 3 minutes
* 2019/244:00:24:47.0000 TEP data collection Duration 3 minutes
* 2019/244:01:59:04.0000 TEP data collection Duration 3 minutes
* 2019/244:02:18:41.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2019/244:03:33:22.0000 TEP data collection Duration 3 minutes
* 2019/244:03:52:58.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2019/244:08:21:30.0000 AMCS Cal over open ocean Duration 2 minutes
  2019/244:09:53:06.0000 OCEANscan Duration 22 minutes
* 2019/244:11:30:05.0000 AMCS Cal over open ocean Duration 2 minutes
* 2019/244:16:07:41.0000 TEP data collection Duration 3 minutes
* 2019/244:17:41:58.0000 TEP data collection Duration 3 minutes
* 2019/244:19:16:16.0000 TEP data collection Duration 3 minutes
* 2019/244:20:50:33.0000 TEP data collection Duration 3 minutes
  2019/244:21:40:12.0000 OCEANscan Duration 22 minutes
* 2019/244:22:24:50.0000 TEP data collection Duration 3 minutes
* 2019/244:23:59:08.0000 TEP data collection Duration 3 minutes
* 2019/245:03:07:42.0000 TEP data collection Duration 3 minutes
* 2019/245:03:27:19.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2019/245:08:08:12.0000 AMCS Cal over open ocean Duration 2 minutes
* 2019/245:09:30:08.0000 AMCS Cal over open ocean Duration 2 minutes
  2019/245:11:01:44.0000 OCEANscan Duration 22 minutes
* 2019/245:15:42:01.0000 TEP data collection Duration 3 minutes
* 2019/245:17:16:19.0000 TEP data collection Duration 3 minutes
* 2019/245:18:50:36.0000 TEP data collection Duration 3 minutes
* 2019/245:20:24:54.0000 TEP data collection Duration 3 minutes

* 2019/245:21:59:11.0000 TEP data collection Duration 3 minutes
2019/245:22:48:50.0000 OCEANscan Duration 22 minutes
* 2019/245:23:33:28.0000 TEP data collection Duration 3 minutes
* 2019/246:01:07:46.0000 TEP data collection Duration 3 minutes
* 2019/246:02:42:03.0000 TEP data collection Duration 3 minutes
* 2019/246:03:01:40.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2019/246:09:04:28.0000 AMCS Cal over open ocean Duration 2 minutes
2019/246:10:36:05.0000 OCEANscan Duration 22 minutes
* 2019/246:13:30:00.0000 Enable Receiver Algorithm V8 Parameters with PCEs out of science mode Duration 4 minutes
* 2019/246:15:17:24.0000 TEP data collection Duration 3 minutes
* 2019/246:16:50:39.0000 TEP data collection Duration 3 minutes
* 2019/246:18:24:57.0000 TEP data collection Duration 3 minutes
* 2019/246:19:59:14.0000 TEP data collection Duration 3 minutes
* 2019/246:21:33:31.0000 TEP data collection Duration 3 minutes
2019/246:22:23:10.0000 OCEANscan Duration 22 minutes
* 2019/246:23:07:49.0000 TEP data collection Duration 3 minutes
* 2019/247:00:42:06.0000 TEP data collection Duration 3 minutes
* 2019/247:02:16:23.0000 TEP data collection Duration 3 minutes
* 2019/247:02:36:00.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2019/247:08:38:49.0000 AMCS Cal over open ocean Duration 2 minutes
2019/247:10:10:25.0000 OCEANscan Duration 22 minutes
* 2019/247:11:47:23.0000 AMCS Cal over open ocean Duration 2 minutes
* 2019/247:16:25:00.0000 TEP data collection Duration 3 minutes
* 2019/247:17:59:17.0000 TEP data collection Duration 3 minutes
* 2019/247:19:33:34.0000 TEP data collection Duration 3 minutes
* 2019/247:21:07:52.0000 TEP data collection Duration 3 minutes
2019/247:22:02:00.0000 Stellar window dump Duration 90 minutes