ICESat-2 PROJECT SCIENCE OFFICE REPORT
Monday, April 6, 2020 thru Sunday, April 12, 2020

RGTs spanned: 160-266
Cycle 7

SUMMARY:
All ATLAS housekeeping data is nominal; laser 2 is firing at energy level 4 and in science mode. Operations continue nominally, in our fourth week of telework, with no major disruptions.

NSIDC ICESat-2 Metrics through April 13: 1,743 total users of 10 available data products; 3,728,929 sciences files downloaded. ATL03 is in the lead with 724 unique users of 492,316 files downloaded. ATL08 is in a close second with 704 unique users and 1,581,237 files downloaded, and ATL06 is in third place with 479 unique users and 1,351,421 files downloaded.

ELEMENT DETAILS BELOW

CAMS/POD:
CAMS: Regular CAMS operations: constraint and conjunction monitoring for MW082 and MW083 and mission planning for MW084.
CAMS recommended laser arm for laser conjunction with WISE (36119) 09Apr 03:58 (MW083). Event self-mitigated

POD: Nominal operations continue. Intermediate POD was completed for GPS week 2099. Final POD was completed for GPS week 2097.

ISF:
All ATLAS housekeeping data is nominal
Laser 2 is firing at energy level 4 and in science mode
WTEM Peak to Edge Ratio: 1.199
Laser 2 Temperature Error: -0.31C
SADA in AIRPLANE Mode
Spacecraft orientation: + X

Mission Planning:
MW83 ATS is loaded to the spacecraft and currently operating
MW84 has been delivered, nominal calibrations
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Activities during the past week:

Real-time activities:
No realtime commanding was performed due to GSFC Stage 4 status

ATS activities:
Routine Instrument calibrations, Ocean scans and Vegetation Data collection
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Other Activities:
Supported the creation of a mini-ATS for HIE25, the event self-mitigated.
DMU044a 2020/100:14:53 Duration 55 minutes ISF set ILRS NOGO/GO flags around the activities.

Near-term activities:

Tech HW refresh:
On hold due to Stage 4 status

Facility:
RSA Token re-order - monitoring delivery of tokens
Critical patching completed via telework

Notes/Issues:
N/A

LTO Schedule:
All items remain on schedule

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 rapid Science Data products to the SCF.
- SIPS completed reprocessing the following data products for October 14, 2018-November 15, 2019:
  - Release 003 ATL01, ATL02, ATL03, ATL04, ATL06, ATL08, ATL09, ATL12, and ATL13. These products are being delivered to the NSIDC.
- SIPS completed processing Release 002 ATL16 and ATL17 for October 14, 2018-March 06, 2020. They have been distributed to the PSO for review.
- Conducted a TRR for SIPS Build 4.4.2 on April 9 and it is now undergoing Acceptance testing. This Build contains the ASAS v5.3.2 patch (including atlas_l3a_si V4.3.1) and SDMS V6.18.2/ATLAS V1.16.1.

ASAS:
ASAS v5.3.2 was approved for acceptance testing within the TRR. After acceptance testing, the next step is ORR.

The atlas_l3a_atm code is being updated to improve low-rate blowing snow.

ASAS generating ATL11 per-cycle tiles on the ADAPT cluster. Issues regarding extremely slow I/O are being investigated on the ADAPT side. Some progress was made importing an ATL11 into H5ES Designer.

For Land/Veg, the code to handle truncated geolocation segments is nearing the end of testing..

L3B Freeboard (ATL20) has been given preliminary approval by the ATBD lead. Testing is underway on browse, metadata and QA generation for ATL20.

L3A Sea Ice/Freeboard work is focused on freeboard unit tests and weak beam alignment of Atmosphere data.

L3A Inland Water is progressing on the saturation flag. Several test datasets have been generated for evaluation.

L3B Ocean work is underway on the ATL19 product. The PGE infrastructure has been coded and a strawman ATL19 generated.

SCF:
The SCF is operating nominally. Data for releases 003 and R003 are being ingested and distributed, with ATL07 and ATL10 expected to arrive later this month. ATL16 and ATL17 release 002 data (their latest) are now available for the life of the mission. Testing of recent bug fixes for the Visualizer is ongoing. A file listing the current SCF data holdings is attached.

* Data Management -- After SIPS produced rel002 for ATL16 and ATL17 for the life of the mission, they were ingested and made available to the Science Team for evaluation. The status of some product/release combinations were updated in the database to clean up some reports and provide more current information for use with the web site data request form.

* Subsetter -- One ATL09 file failed subsetting, apparently due to multiple jobs accessing the same input file simultaneously. An edit was made to the database to rerun the affected file, after which subsetting was successful.

* Visualizer -- The software has been updated internally to version 7.13. Changes are mostly bug fixes but also include availability of new ATL16 and ATL17 parameters for 2D Image and RGB Image plot types. Testing continues and remaining bugs found are being fixed. The highest priority JIRA issues should be resolved within the next few weeks.

ATL02/Instrument Science:
Work continues on:

- Updated range bias calibration
- Variation of range bias on orbital and seasonal time scales
- Modeling the behavior of the ATLAS receiver during extreme saturation events.
- Refining the QA screening process
- Improving the process for calibrating transmitter-receiver alignment

ATL03:
Work continues on release 004 updates, including saturation signal editing and continuing to investigate the TEP-as-signal that sometimes still occur.

ISF ACTIVITIES MISSION WEEK 083:

* Not in science mode
^ Could affect science data quality

2020/100:00:15:03.0000 OCEANscan Duration 22 minutes
* 2020/100:04:14:41.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
2020/100:08:54:46.0000 TOO TOOid 1401 RGT 211 offpoint 1.41deg Duration 2 minutes
* 2020/100:08:58:40.0000 TEP data collection Grid 296 Duration 3 minutes
* 2020/100:09:03:52.0000 TEP data collection Grid 223 Duration 3 minutes
* 2020/100:09:19:34.0000 TEP data collection Grid 7 Duration 3 minutes
* 2020/100:10:30:32.0000 AMCS Cal over open ocean Duration 2 minutes
2020/100:11:25:00.0000 Laser window dump Duration 2 minutes
2020/100:12:02:08.0000 OCEANscan Duration 22 minutes
* 2020/100:13:39:07.0000 AMCS Cal over open ocean Duration 2 minutes
2020/100:14:11:25.0000 TOO TOOid 1399 RGT 214 offpoint 4.62deg Duration 2 minutes
^ 2020/100:14:53:46.0000 DMU44a Duration 55 minutes
* 2020/100:19:56:05.0000 TEP data collection Grid 351 Duration 3 minutes
* 2020/100:20:11:14.0000 TEP data collection Grid 135 Duration 3 minutes
* 2020/100:20:16:58.0000 TEP data collection Grid 62 Duration 3 minutes
* 2020/100:21:43:24.0000 TEP data collection Grid 168 Duration 3 minutes
* 2020/100:23:07:16.0000 TEP data collection Grid 310 Duration 3 minutes
2020/100:23:37:09.0000 TOO TOOid 1398 RGT 220 offpoint 4.59deg Duration 2 minutes
2020/100:23:49:23.0000 OCEANscan Duration 22 minutes
* 2020/101:00:46:46.0000 TEP data collection Grid 236 Duration 3 minutes
* 2020/101:02:36:45.0000 TEP data collection Grid 17 Duration 3 minutes
* 2020/101:03:49:02.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2020/101:05:23:20.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2020/101:07:11:45.0000 TEP data collection Grid 118 Duration 3 minutes
* 2020/101:10:04:54.0000 AMCS Cal over open ocean Duration 2 minutes
2020/101:11:36:29.0000 OCEANscan Duration 22 minutes
* 2020/101:13:13:28.0000 AMCS Cal over open ocean Duration 2 minutes
* 2020/101:14:42:20.0000 TEP data collection Grid 431 Duration 3 minutes
* 2020/101:14:52:47.0000 TEP data collection Grid 287 Duration 3 minutes
* 2020/101:16:16:37.0000 TEP data collection Grid 429 Duration 3 minutes
* 2020/101:18:01:22.0000 TEP data collection Grid 282 Duration 3 minutes
* 2020/102:00:28:57.0000 TEP data collection Grid 128 Duration 3 minutes
* 2020/102:04:57:41.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2020/102:06:24:13.0000 TEP data collection Grid 408 Duration 3 minutes
* 2020/102:06:43:30.0000 TEP data collection Grid 155 Duration 3 minutes
* 2020/102:09:39:29.0000 AMCS Cal over open ocean Duration 2 minutes
2020/102:11:10:50.0000 OCEANscan Duration 22 minutes
* 2020/102:12:47:50.0000 AMCS Cal over open ocean Duration 2 minutes

2020/102:14:11:39.0000 RTWscan Duration 90 minutes
* 2020/102:17:46:08.0000 TEP data collection Grid 138 Duration 3 minutes
2020/102:21:11:34.0000 TOO TOOid 1400 RGT 249 offpoint 4.57deg Duration 2 minutes
* 2020/102:22:13:21.0000 TEP data collection Grid 348 Duration 3 minutes
2020/102:22:58:06.0000 OCEANscan Duration 22 minutes
2020/103:00:32:23.0000 OCEANscan Duration 22 minutes
* 2020/103:04:32:02.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2020/103:09:27:59.0000 AMCS Cal over open ocean Duration 2 minutes
* 2020/103:10:47:53.0000 AMCS Cal over open ocean Duration 2 minutes
2020/103:12:19:29.0000 OCEANscan Duration 22 minutes
* 2020/103:14:17:09.0000 TEP data collection Grid 71 Duration 3 minutes
* 2020/103:15:40:59.0000 TEP data collection Grid 213 Duration 3 minutes
2020/103:16:03:04.0000 TOO TOOid 1397 RGT 261 offpoint 4.61deg Duration 2 minutes
* 2020/103:21:42:29.0000 TEP data collection Grid 420 Duration 3 minutes
* 2020/103:23:40:16.0000 TEP data collection Grid 93 Duration 3 minutes
* 2020/104:02:35:48.0000 TEP data collection Grid 269 Duration 3 minutes
* 2020/104:04:06:23.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2020/104:04:20:31.0000 TEP data collection Grid 122 Duration 3 minutes
2020/104:08:46:27.0000 TOO TOOid 1403 RGT 272 offpoint 3.82deg Duration 2 minutes
* 2020/104:10:22:14.0000 AMCS Cal over open ocean Duration 2 minutes
2020/104:11:53:50.0000 OCEANscan Duration 22 minutes
* 2020/104:13:30:08.0000 AMCS Cal over open ocean Duration 2 minutes
* 2020/104:13:48:52.0000 TEP data collection Grid 108 Duration 3 minutes
2020/104:23:41:05.0000 OCEANscan Duration 22 minutes
* 2020/105:02:04:56.0000 TEP data collection Grid 342 Duration 3 minutes
* 2020/105:03:40:44.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2020/105:05:15:01.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2020/105:07:00:50.0000 TEP data collection Grid 154 Duration 3 minutes
* 2020/105:09:56:35.0000 AMCS Cal over open ocean Duration 2 minutes
2020/105:11:28:10.0000 OCEANscan Duration 22 minutes
* 2020/105:13:05:10.0000 AMCS Cal over open ocean Duration 2 minutes
* 2020/105:17:50:26.0000 TEP data collection Grid 318 Duration 3 minutes
* 2020/105:19:40:22.0000 TEP data collection Grid 99 Duration 3 minutes
2020/105:20:28:24.0000 TOO TOOid 1404 RGT 295 offpoint 1.60deg Duration 2 minutes
* 2020/105:20:50:53.0000 TEP data collection Grid 422 Duration 3 minutes
* 2020/105:21:09:27.0000 TEP data collection Grid 169 Duration 3 minutes
* 2020/105:21:14:22.0000 TEP data collection Grid 97 Duration 3 minutes
2020/105:23:15:26.0000 OCEANscan Duration 22 minutes
* 2020/106:04:45:14.0000 TEP data collection Grid 374 Duration 3 minutes
* 2020/106:04:49:22.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2020/106:09:27:27.0000 TEP data collection Grid 367 Duration 3 minutes
* 2020/106:09:30:56.0000 AMCS Cal over open ocean Duration 2 minutes
2020/106:11:02:31.0000 OCEANscan Duration 22 minutes
* 2020/106:12:39:30.0000 AMCS Cal over open ocean Duration 2 minutes
2020/106:14:03:19.0000 RTWscan Duration 90 minutes
2020/106:20:05:00.0000 Stellar window dump Duration 90 minutes
* 2020/106:22:18:05.0000 TEP data collection Grid 167 Duration 3 minutes
2020/106:22:49:46.0000 OCEANscan Duration 22 minutes