

ICESat-2 PROJECT SCIENCE OFFICE REPORT
Monday, August 5, 2019 thru Sunday, August 11, 2019

RGTs spanned: 581-686
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 holding acceptance reviews of the PGEs included in ASAS v5.2. POD performed calibration solutions for the first round-the-world scans after the spacecraft GPS-TAI offset correction (DoY 208, 211, 212). These gave much improved results compared to solutions for dates prior to the fix (post safe-hold), and roll/pitch pointing bias solutions came out as expected.

Photon Phriday reached our biggest audience yet – this week, it featured melt ponds in Greenland from the large melt event that took place the previous weekend. [Check it out here!](#)

NSIDC ICESat-2 Metrics through August 11: 1,054 total users of 10 available data products; 618,740 sciences files downloaded. ATL08 still the winner with 405 users and 292,248 files downloaded! ATL06 is a distant 2nd with 318 users and 192,412 files downloaded, followed by ATL03 with 309 users and 85,375 files downloaded.

****ELEMENT DETAILS BELOW****

CAMS/POD/PPD:

CAMS:

Regular CAMS operations continue with constraint and conjunction monitoring for mission weeks 47 and 48, and mission planning for mission week 49.

CAMS updated TLEP (Two Line Element Propagator) code to access and pull TLEs from Space-Track in a more stable, fail-safe way.

CAMS supported an ATS split load and a mini-ATS for MW048:

- Created an SAT on Aug 9, 2019 to fix the duration of the AMCScal overlap with subsequent activities, as well as schedule daily RTW scans post bias upload
- Mitigated an NEXUS HIE (0.8 PI, laser miss < 5 km) with laser to arm;

POD:

Regular POD operations continue. Intermediate POD was completed for GPS week 2064. Final POD was completed for GPS week 2062. All results appear nominal.

Calibration solutions, relative to both rapid & final ANC05 products, were performed for the first round-the-world scans after the spacecraft GPS-TAI offset correction (DoY 208, 211, 212). These gave much improved results compared to solutions for dates prior to the fix (post safe-hold), and roll/pitch pointing bias solutions came out as expected.

ISF:

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

WTEM Peak to Edge Ratio: 1.245
Laser 2 Temperature Error: -0.35C
SADA in Airplane Mode
Spacecraft orientation: - X

Mission Planning:

MW48 ATS is loaded to the spacecraft and currently operating, it includes Veg Track
off-points

MW49 is being planned, it will include two full orbits of manual mode TEP data
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**Activities during the past week:**

**Real-time activities:**

Executed standing CAR307 and CAR102 at 2019/221/17:10 UTC to clear routine DFC  
and SXP errors

**ATS activities:**

Routine calibration activities  
LCA13 mitigated via a 10 second laser to ARM 2019/218/16:55 UTC (ISF verified  
ARM via telemetry)

**Other Activities:**

ISF processed a mini-ATS 10 second laser to ARM sequence to mitigate the  
upcoming LCA14 8/11/19.  
Successful test of the Rx Algorithm V8 parameters load (EEPROM) at FLATLAS.  
Set the go/nogo ILRS flag around DMU21 (2019/221/01:50 - 03:15 UTC)  
ISF worked with the PSO and Rx Algorithms teams to plan the loading of v8 to ATLAS  
after the laser vector update and OIB.  
Storage server received and configured, test bed LINUX servers order went through,  
both are part of the upcoming Tech refresh activity.

**Near-term activities:**

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

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Notes/Issues:

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#### LTO Schedule:

All items remain on schedule

RSA maintenance agreements are being renewed

#### **SIPS:**

- The SIPS is operating nominally:
  - o Ingested and distributed Level 0 data to the ISF.
  - o Generated L1A and L1B products and distributed ATL02s to the ISF, POD, and SCF.
  - o Distributed selected ATL01s to the ISF and SCF by special request.
  - o Generated rapids ATL03 using ANC03/04/05 files from the CAMS.
  - o Distributed ATL03 (rapids) to the SCF.
- All Release 001 upper-level products (ATL04, 06, 07, 08, 09, 10, 12, 13) for DOY 055-122 were delivered to NSIDC.
- Revised ASAS 5.2 has been delivered to the SIPS and is currently undergoing SIPS Integration testing with SDMS V6.16.0.

#### **ASAS:**

ASAS is holding acceptance reviews of the PGEs included in ASAS v5.2.

Developers are working on the outstanding issues deemed as highest priority by the respective ATBD lead.

ASAS is investigating the impact of anomalies within the ArcticDEM on code using the DEM values.

ASAS has delivered a customized version of the L1B PGE to the ATLAS SET for analysis of pre-launch data.

The plan is to upgrade Jira/Confluence/AccuRev starting late Friday 8/16. Jeff will send out an email notification to the users of those applications.

#### **SCF:**

The SCF is operating nominally. Data for releases 001 and R001 are being ingested and distributed, with subsetting subscriptions still being fulfilled. Integration testing of the Python 3 version of the data management scripts and the Subsetter continues.

\* Data Management -- Testing the Python 3 version of the code continues. There have been no significant problems, so far.

\* Subsetter -- Testing the Python 3 version of the code continues in conjunction with testing the data management scripts, so far there have been no significant issues.

\* Visualizer -- Work continued on converting the code to Python 3.

### **ATL02/Instrument Science:**

The searchable database of all ATL02 QA parameters is being populated.

Work continues on:

- Re-analysis of TEP and MA/AT return times of flight during instrument thermal/vacuum testing, using the latest TOF computation methods.
- A new method for analyzing the results of on-orbit AMCS calibrations. The current method does not separate return from background, and is usable only for AMCS calibrations done over the night side of the earth. The new method will allow AMCS calibrations to be done usefully over the day side as well.
- Analysis of the time variations of the TEP time of flight, particularly on the orbital time scale.
- Investigation of apparent change in Spot 3 TEP strength after the late June/early July safehold
- Estimation of OFM transmittance peak shift from 2-step VBG sweep data

### **ISF ACTIVITIES MISSION WEEK 048:**

\* Not in science mode

^ Could affect science data quality

2019/220:01:56:35.0000 RTWscan (90 minutes)

\* 2019/220:04:23:17.0000 TEP data collection for 3 minutes

\* 2019/220:04:42:54.0000 AMCS Cal for 2 minutes over open ocean

\* 2019/220:09:21:05.0000 AMCS Cal for 2 minutes over open ocean

2019/220:10:43:02.0000 OCEANscan (22 minutes)

\* 2019/220:12:20:00.0000 AMCS Cal for 2 minutes over open ocean

\* 2019/220:16:57:36.0000 TEP data collection for 3 minutes

\* 2019/220:18:31:53.0000 TEP data collection for 3 minutes

\* 2019/220:20:06:10.0000 TEP data collection for 3 minutes

\* 2019/220:21:40:28.0000 TEP data collection for 3 minutes

2019/220:22:30:26.0000 OCEANscan (22 minutes)

\* 2019/220:23:14:45.0000 TEP data collection for 3 minutes

\* 2019/221:00:49:02.0000 TEP data collection for 3 minutes

^ 2019/221-02:07:36.0000 DMU21 for 60 minutes

\* 2019/221:03:57:37.0000 TEP data collection for 3 minutes

\* 2019/221:04:17:14.0000 AMCS Cal for 2 minutes over open ocean

\* 2019/221:10:20:03.0000 AMCS Cal for 2 minutes over open ocean

2019/221:11:51:39.0000 OCEANscan (22 minutes)

\* 2019/221:16:31:56.0000 TEP data collection for 3 minutes

\* 2019/221:18:06:14.0000 TEP data collection for 3 minutes

\* 2019/221:19:40:31.0000 TEP data collection for 3 minutes

- \* 2019/221:21:14:49.0000 TEP data collection for 3 minutes
- \* 2019/221:22:49:06.0000 TEP data collection for 3 minutes
- 2019/221:23:38:45.0000 OCEANscan (22 minutes)
- \* 2019/222:00:23:24.0000 TEP data collection for 3 minutes
- \* 2019/222:01:57:41.0000 TEP data collection for 3 minutes
- \* 2019/222:03:31:58.0000 TEP data collection for 3 minutes
- \* 2019/222:03:51:35.0000 AMCS Cal for 2 minutes over open ocean
- \* 2019/222:09:54:24.0000 AMCS Cal for 2 minutes over open ocean
- 2019/222:11:26:01.0000 OCEANscan (22 minutes)
- \* 2019/222:13:02:59.0000 AMCS Cal for 2 minutes over open ocean
- \* 2019/222:17:40:35.0000 TEP data collection for 3 minutes
- \* 2019/222:19:14:52.0000 TEP data collection for 3 minutes
- \* 2019/222:20:49:10.0000 TEP data collection for 3 minutes
- \* 2019/222:22:23:27.0000 TEP data collection for 3 minutes
- 2019/222:23:13:06.0000 OCEANscan (22 minutes)
- \* 2019/222:23:57:45.0000 TEP data collection for 3 minutes
- \* 2019/223:01:32:02.0000 TEP data collection for 3 minutes
- \* 2019/223:03:06:19.0000 TEP data collection for 3 minutes
- \* 2019/223:03:25:56.0000 AMCS Cal for 2 minutes over open ocean
- \* 2019/223:04:40:17.0000 TEP data collection for 3 minutes
- \* 2019/223:05:00:14.0000 AMCS Cal for 2 minutes over open ocean
- \* 2019/223:09:28:45.0000 AMCS Cal for 2 minutes over open ocean
- 2019/223:11:00:22.0000 OCEANscan (22 minutes)
- \* 2019/223:12:37:20.0000 AMCS Cal for 2 minutes over open ocean
- \* 2019/223:14:00:06.0000 LCA14 43937 (NEXUS) on 11-Aug-2019 14:00:21 with laser in ARM mode for one minute
- \* 2019/223:17:14:56.0000 TEP data collection for 3 minutes
- \* 2019/223:18:49:13.0000 TEP data collection for 3 minutes
- \* 2019/223:20:23:31.0000 TEP data collection for 3 minutes
- \* 2019/223:21:57:48.0000 TEP data collection for 3 minutes
- 2019/223:22:47:27.0000 OCEANscan (22 minutes)
- \* 2019/223:23:32:06.0000 TEP data collection for 3 minutes
- \* 2019/224:01:06:23.0000 TEP data collection for 3 minutes
- 2019/224:01:48:15.0000 RTWscan (90 minutes)
- \* 2019/224:04:14:58.0000 TEP data collection for 3 minutes
- \* 2019/224:04:34:35.0000 AMCS Cal for 2 minutes over open ocean
- \* 2019/224:09:10:45.0000 AMCS Cal for 2 minutes over open ocean
- 2019/224:10:34:43.0000 OCEANscan (22 minutes)
- \* 2019/224:16:49:17.0000 TEP data collection for 3 minutes
- \* 2019/224:18:23:34.0000 TEP data collection for 3 minutes
- \* 2019/224:19:57:52.0000 TEP data collection for 3 minutes
- \* 2019/224:21:32:09.0000 TEP data collection for 3 minutes
- 2019/224:22:21:55.0000 OCEANscan (22 minutes)
- \* 2019/224:23:06:27.0000 TEP data collection for 3 minutes

- \* 2019/225:00:40:44.0000 TEP data collection for 3 minutes
- \* 2019/225:02:15:01.0000 TEP data collection for 3 minutes
- \* 2019/225:03:49:18.0000 TEP data collection for 3 minutes
- \* 2019/225:04:08:56.0000 AMCS Cal for 2 minutes over open ocean
- \* 2019/225:10:11:44.0000 AMCS Cal for 2 minutes over open ocean
- 2019/225:11:43:21.0000 OCEANscan (22 minutes)
- \* 2019/225:16:23:38.0000 TEP data collection for 3 minutes
- \* 2019/225:17:57:55.0000 TEP data collection for 3 minutes
- \* 2019/225:19:32:12.0000 TEP data collection for 3 minutes
- ^ 2019/225:21:00:00.0000 Laser Window dump for 7 minutes
- \* 2019/225:22:40:47.0000 TEP data collection for 3 minutes
- 2019/225:23:30:26.0000 OCEANscan (22 minutes)
- \* 2019/226:00:15:05.0000 TEP data collection for 3 minutes
- \* 2019/226:01:49:22.0000 TEP data collection for 3 minutes
- \* 2019/226:03:23:39.0000 TEP data collection for 3 minutes
- \* 2019/226:03:43:16.0000 AMCS Cal for 2 minutes over open ocean
- 2019/226:11:17:42.0000 OCEANscan (22 minutes)
- \* 2019/226:12:54:40.0000 AMCS Cal for 2 minutes over open ocean
- \* 2019/226:17:32:16.0000 TEP data collection for 3 minutes
- \* 2019/226:19:06:33.0000 TEP data collection for 3 minutes
- \* 2019/226:20:40:51.0000 TEP data collection for 3 minutes
- \* 2019/226:22:15:08.0000 TEP data collection for 3 minutes
- 2019/226:23:04:47.0000 OCEANscan (22 minutes)
- \* 2019/226:23:49:26.0000 TEP data collection for 3 minutes