

## **ICESat-2 PROJECT SCIENCE OFFICE REPORT**

**Monday, December 30, 2019 thru Sunday, January 5, 2019**

RGTs spanned: 51-157

Cycle 6

### **Items of Note:**

Happy new year to all!!

All ATLAS housekeeping data is nominal; laser 2 is firing at energy level 4 and in science mode. SIPS has distributed Release 002 ATL13 data products to NSIDC (October 14, 2018 – September 6, 2019). Work on release 003 data products continues as scheduled, with ASAS and SIPS deadlines intact for this month and a planned release at NSIDC by the end of March.

Kelly Brunt and Thomas Overly have embarked on the 2019/2020 88S ground traverse in Antarctica! Follow their updates on the [NASA Earth Observatory](#) blog!

**NSIDC ICESat-2 Metrics through January 5:** 1,413\* total users of 10 available data products; 2,607,780 sciences files downloaded. ATL03 is in the lead with 586 unique users of 388,693 files downloaded. ATL08 is in a close second with 553 unique users and 896,908 files downloaded, and ATL06 is in third place with 400 unique users and 1,110,780 files downloaded.

\* The NSIDC data support folks are now reporting the number of NASA Earthdata users downloading ICESat-2 data, instead of unique web hosts (hence the seemingly lower number of data users).

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

### **CAMS/POD:**

**CAMS:** Regular CAMS operations: constraint and conjunction monitoring for MW068 and MW069 and mission planning for MW070.

CAMS recommended -5deg SLEW for HIE event with 25544 (ISS) doy363(MW068). ISF proceeded with Laser Arm instead due to upload time constraints

CAMS continues to target the moorings at 36.0259 lat, -125.105 lon per the Science Team request.

**POD:** Regular POD operations continue. Intermediate POD was completed for GPS week 2085. Final POD was completed for GPS week 2083. 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: 1.207

Laser 2 Temperature Error: -0.16C  
SADA in SAILBOAT Mode  
Spacecraft orientation: + X

**Mission Planning:**

MW69 ATS is loaded to the spacecraft and currently operating  
MW70 is being planned, nominal calibrations

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**Activities during the past week:**

**Real-time activities:**

Executed sCAR166 to raise the VBG setpoint 2019/365 and 2020/003 (Dec 31 and Jan 3rd)  
Ran sCAR91 and sCAR102 to clear routine SBS, SXP errors

**ATS activities:**

Routine Instrument calibrations, Ocean scans and Vegetation Data collection.

**Other Activities:**

**Near-term activities:**

Continuing to work on the ISF tech refresh  
Perform TCS failover contingency operations (i.e., fail over to backup server practice)

**Notes/Issues:**

**LTO Schedule:**

All items remain on schedule

**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, ATL04, ATL06, ATL07, ATL08, ATL09, and ATL10 using ANC03/04/05 files from the CAMS.
  - o Distributed the rapid Science Data products to the SCF.
- Distributed Release 002 ATL13 data products to NSIDC (October 14, 2018 – September 6, 2019).

**ASAS:**

ASAS developers continue to work the top priority issues as identified by their respective ATBD lead.

L1B will be addressing the hot fix delivery for PCE2 mixed transit fine count reported flipped.

ATL03 work will be elevating implementation of the saturation flags

The Atmosphere L2A and L3A developer has fixed several errors that showed up in function testing. Planned work will be to remove the surface from density cloud confidence computation.

The Atmosphere L3B developer is populating the reformatted ATL16 for evaluation and preparing a code delivery. Also work is progressing on smoothing the data used for plot images.

The Land Ice code developer is implementing the changes on the residual histogram to cover wider width and multiple histogram bin sizes

The Land/Veg developer has implemented changes for the flagging of 20 m segments within the 100 meter land segment to indicate canopy and terrain photons exist and waiting ATBD lead evaluation. Also working next issues that require ATBD update to complete.

The sea ice/freeboard developer has implementation of bounds on the surface used for freeboard reference surfaces and reporting of those surfaces used surfaces. Also has completed changes to photons selected for saturation flag that ATBD lead is evaluating. Now working on fixes for several errors that showed up in functional testing

The Sea Ice ATL20 L3B the developer is working to provide a first example reformatted ATL16 product with data

The Land Ice ATL11 L3B the developer provided data to land ice ATBD lead for evaluation on using the surface mask in the production of ATL11

The inland water developer provide data to ATBD lead for evaluation from the implementation of windspeed, surface temperature and snow-ice flag to ATBD lead to evaluate. Working on optimization of inland water code.

The ocean developer is debugging the initial implementation of the filtering algorithm to remove photons below the wave crest.

**SCF:**

The SCF is operating nominally. Data for releases 002 and R002 are being ingested and distributed. The next batch of data (about Sep. 5 to Nov. 7) has not arrived yet but is expected soon, now that the POD has the rapid data products they need to start the process of creating final products. The Visualizer has been updated to v7.1; included in this version are an option

to show product lineage and the ability to page multiple subplots with the same total number of pages on a tab or separate figure simultaneously. A file listing the current SCF data holdings is attached.

### **ISF ACTIVITIES MISSION WEEK**

\* Not in science mode

^ Could affect science data quality

- \* 2020/002:01:30:38.0000 TEP data collection Grid 224 Duration 3 minutes
- \* 2020/002:03:02:10.0000 AMCS Cal over open ocean Duration 2 minutes
- 2020/002:03:15:00.0000 Laser window dump Duration 2 minutes
- 2020/002:04:26:17.0000 OCEANscan Duration 22 minutes
- \* 2020/002:05:13:14.0000 TEP data collection Grid 380 Duration 3 minutes
- \* 2020/002:06:10:49.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2020/002:06:18:43.0000 TEP data collection Grid 324 Duration 3 minutes
- \* 2020/002:07:47:47.0000 TEP data collection Grid 250 Duration 3 minutes
- \* 2020/002:07:58:13.0000 TEP data collection Grid 394 Duration 3 minutes
- \* 2020/002:08:23:35.0000 TEP data collection Grid 340 Duration 3 minutes
- \* 2020/002:08:29:39.0000 TEP data collection Grid 267 Duration 3 minutes
- \* 2020/002:10:02:36.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- \* 2020/002:10:55:58.0000 TEP data collection Grid 246 Duration 3 minutes
- \* 2020/002:11:01:35.0000 TEP data collection Grid 317 Duration 3 minutes
- \* 2020/002:12:33:16.0000 TEP data collection Grid 279 Duration 3 minutes
- \* 2020/002:14:00:59.0000 TEP data collection Grid 169 Duration 3 minutes
- \* 2020/002:14:41:47.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2020/002:15:37:43.0000 TEP data collection Grid 202 Duration 3 minutes
- 2020/002:16:13:23.0000 OCEANscan Duration 22 minutes
- \* 2020/002:17:46:19.0000 TEP data collection Grid 362 Duration 3 minutes
- \* 2020/002:17:50:22.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2020/002:18:58:15.0000 TEP data collection Grid 377 Duration 3 minutes
- \* 2020/002:19:31:11.0000 TEP data collection Grid 251 Duration 3 minutes
- \* 2020/002:20:58:44.0000 TEP data collection Grid 357 Duration 3 minutes
- \* 2020/002:21:53:49.0000 TEP data collection Grid 193 Duration 3 minutes
- \* 2020/002:22:02:53.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- \* 2020/002:23:41:07.0000 TEP data collection Grid 370 Duration 3 minutes
- \* 2020/003:02:37:02.0000 AMCS Cal over open ocean Duration 2 minutes
- 2020/003:04:00:38.0000 OCEANscan Duration 22 minutes
- \* 2020/003:05:45:41.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2020/003:08:01:23.0000 TEP data collection Grid 304 Duration 3 minutes
- \* 2020/003:08:05:38.0000 TEP data collection Grid 232 Duration 3 minutes
- \* 2020/003:09:34:35.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- \* 2020/003:14:19:54.0000 AMCS Cal over open ocean Duration 2 minutes

2020/003:15:47:43.0000 OCEANscan Duration 22 minutes  
^ 2020-003-17:05:04.0000 DMU036 Duration 55 minutes  
2020/003:18:48:31.0000 RTWscan Duration 90 minutes  
\* 2020/003:21:34:50.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/004:00:37:02.0000 TEP data collection Grid 189 Duration 3 minutes  
\* 2020/004:02:14:23.0000 AMCS Cal over open ocean Duration 2 minutes  
2020/004:03:34:58.0000 OCEANscan Duration 22 minutes  
\* 2020/004:05:20:33.0000 AMCS Cal over open ocean Duration 2 minutes  
\* 2020/004:05:58:49.0000 TEP data collection Grid 343 Duration 3 minutes  
\* 2020/004:06:53:27.0000 TEP data collection Grid 216 Duration 3 minutes  
\* 2020/004:08:41:11.0000 TEP data collection Grid 393 Duration 3 minutes  
\* 2020/004:09:08:54.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/004:10:44:18.0000 TEP data collection Grid 300 Duration 3 minutes  
\* 2020/004:15:24:46.0000 AMCS Cal over open ocean Duration 2 minutes  
2020/004:16:56:21.0000 OCEANscan Duration 22 minutes  
\* 2020/004:21:09:11.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/005:03:21:07.0000 AMCS Cal over open ocean Duration 2 minutes  
2020/005:04:43:36.0000 OCEANscan Duration 22 minutes  
\* 2020/005:08:43:15.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
2020/005:10:48:38.0000 TOO PID=ISF107 TOOid=1270 RGT=148 offpoint=0.09deg Duration 2 minutes  
\* 2020/005:14:59:06.0000 AMCS Cal over open ocean Duration 2 minutes  
2020/005:15:31:18.0000 TOO PID=ISF115 TOOid=1271 RGT=151 offpoint=0.07deg Duration 2 minutes  
2020/005:16:30:42.0000 OCEANscan Duration 22 minutes  
\* 2020/005:18:07:41.0000 AMCS Cal over open ocean Duration 2 minutes  
\* 2020/005:20:43:32.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/006:02:56:00.0000 AMCS Cal over open ocean Duration 2 minutes  
2020/006:04:17:57.0000 OCEANscan Duration 22 minutes  
\* 2020/006:06:04:37.0000 AMCS Cal over open ocean Duration 2 minutes  
\* 2020/006:08:17:36.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/006:14:33:27.0000 AMCS Cal over open ocean Duration 2 minutes  
2020/006:16:05:03.0000 OCEANscan Duration 22 minutes  
\* 2020/006:17:42:02.0000 AMCS Cal over open ocean Duration 2 minutes  
\* 2020/006:20:17:52.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
\* 2020/006:21:54:33.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
2020/007:01:03:42.0000 TOO PID=ISF166 TOOid=1269 RGT=173 offpoint=3.24deg Duration 2 minutes  
\* 2020/007:02:30:54.0000 AMCS Cal over open ocean Duration 2 minutes  
2020/007:03:52:18.0000 OCEANscan Duration 22 minutes  
\* 2020/007:05:39:33.0000 AMCS Cal over open ocean Duration 2 minutes  
\* 2020/007:09:28:37.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes  
2020/007:14:05:00.0000 Stellar window dump Duration 90 minutes  
2020/007:15:39:23.0000 OCEANscan Duration 22 minutes

- \* 2020/007:17:16:22.0000 AMCS Cal over open ocean Duration 2 minutes
- 2020/007:18:40:11.0000 RTWscan Duration 90 minutes
- \* 2020/007:21:28:53.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- \* 2020/008:02:05:48.0000 AMCS Cal over open ocean Duration 2 minutes
- 2020/008:03:26:38.0000 OCEANscan Duration 22 minutes
- \* 2020/008:05:14:27.0000 AMCS Cal over open ocean Duration 2 minutes
- \* 2020/008:09:02:57.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
- \* 2020/008:15:16:26.0000 AMCS Cal over open ocean Duration 2 minutes
- 2020/008:16:48:01.0000 OCEANscan Duration 22 minutes