**ICESat-2 PROJECT SCIENCE OFFICE REPORT**
**Monday, October 5, 2020 thru Sunday, October 11, 2020**

RGTs spanned: 166 - 272
Cycle 9

**SUMMARY**:
All ATLAS housekeeping data is nominal; laser 2 is firing at energy level 4 and in science mode.  The 954b1 functional test data are available on SCF in /asas/release_954b1. These are the functional test data that will support upcoming ASAS v5.4/release 004 acceptance reviews.

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

**CAMS/POD:**
**CAMS:**  Regular CAMS operations: constraint and conjunction monitoring for MW108 and MW109 and mission planning for MW110.
CAMS  recommended laser arm for 41976 (FLOCK 3P 60) 283/13:00:31 - 283/13:00:41(MW109). Event self-mitigated.
CAMS recommends laser arm for 44105 (BLUEWALKER1)286/07:00:37 - 286/07:00:47(MW109).
CAMS continues working with the project on ARB09.

**POD:** Regular POD operations continue. Intermediate POD was completed for GPS week 2125. Final POD was completed for GPS week 2123.

**ISF:**
All ATLAS housekeeping data is nominal
Laser 2 is firing at energy level 4 and in science mode
WTEM Peak to Edge Ratio: 1.181
Laser 2 Temperature Error: -0.23C
SADA in SAILBOAT Mode
Spacecraft orientation: - X

Mission Planning:
MW109 ATS is loaded to the spacecraft and currently operating (PSO Activity List is attached)
MW110 AIP has been delivered, nominal calibrations; CAMS has delivered preliminary products.

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Activities during the past week:
  Real-time activities:
    monitoring via telework
    **Onsite Thursday (10/08) to adjust the VBG temperature and support PDB E.0.2 testing with the bMOC**

  ATS activities:
    MW_108 (completed nominally)
    MW_109 (currently active):
      Routine Instrument calibrations, TOOs, Ocean scans and Vegetation Data collection, Segmented RTW scans

**Monthly TEP Stare 2020/2 (Oct 3)**

Other Activities:
  PDB E.0.2 Testing
    **Installed and tested on the development server**
    **Onsite Wednesday (10/07) to install and test PDB E.0.2 on FLATLAS**

Near-term upcoming activities:
  PDB E.0.2 deployment in ops
  Testing of receiver algorithm parameter updates

Facility:
  **Updating ITOS servers to RedHat 7.0 due to EOL of 6.0 at the end of November**
    **Installed on the playback server (itos2)**
      **Install procedure updates needed for ops accounts setup and mail install**
  Tech HW refresh:
    ISF Tech Refresh Phase 2 hardware delivered to GSFC
    Phase 1a setup and testing continues (on-hold for RedHat OS update)

Notes/Issues:
1. ARB09: RMM02 Anomaly - the team continues to analyze events and determine process (automated and manual) updates to mitigate the chance of a recurrence.  The team has implemented changes to the manual processes for verification of planning products.  The team is providing inputs for root cause analysis and corrective action.

**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 ATL01 and ATL02 Data products to NSIDC.
  o Distributed the rapid Science Data products to the SCF.
· Started upgrade of the ASAS PG cluster to Ubuntu 20.04.

**ASAS:**
The 954b1 functional test data are available on SCF in /asas/release_954b1. These are the functional test data that will support upcoming acceptance reviews. Please verify your products.

ASAS continues testing and documentation for the ASAS v5.4 release.

**SCF:**
The SCF is operating nominally.  Data for releases 003 and R003 are being ingested and distributed.  Approximately 3000 files remain to run through subsetting subscriptions, and these are expected to finish in about a week.  Release 954b1 data have been copied by ASAS to the SCF and are now available for users.  A file listing the current SCF data holdings is attached.

* Data Management -- An ATL01 request sent to SIPS did not include ground tracks specified by the user, requiring extra communication to ensure it was filled correctly; this has been logged in JIRA for further investigation.  Work continues on coding the calculations for new ATL10 trending plots; a final check is being done before testing begins on the dev system.

* Subsetter -- Two ATL09 files failed subsetting recently due to the multiple simultaneous access issue.  The server was configured in a way that should have avoided this, but it may have reduced rather than eliminated the problem.  Fortunately, the fix is just a matter of setting the files to rerun, which they did successfully.

**ATL02/Instrument Science:**
Katie Gosmeyer's last day working on the ICESat-2/ATLAS instrument science team was October 6.  She has taken a position on another project.

Steven Holland has taken over maintenance of the QA database and screening system.

Investigation of data from July 15 and September 26 indicates that a) the newly-discovered phenomenon (which occured on July 15 during an anomaly of a known type, and on September 26 by itself) does not involve an error within the PCE2 start time data and b) appears to involve some kind of slip between two data streams.  The exact nature of the slip, and whether it is within PCE2 or between PCE2 and the other PCEs, is still under investigation.

In addition, work continues on:


- Quantifying the expected annual number of back reflections from solar arrays on other spacecraft (e.g. Starlink).

- Investigating and modeling the properties of saturated returns.

- Re-examining the temperature dependence of the ATLAS transmitted beam divergence.

- Improving the process for calibrating transmitter-receiver alignment.

**ATL03**:
Preparations for the ATL03 rel004 acceptance review are underway.

## ISF ACTIVITIES MISSION WEEK 109

* Not in science mode
^ Could affect science data quality


* 2020/282:02:37:07.0000 TEP data collection Grid 94 Duration 3 minutes
* 2020/282:02:47:33.0000 TEP data collection Grid 238 Duration 3 minutes
  2020/282:03:21:42.0000 OCEANscan Duration 22 minutes
* 2020/282:04:16:35.0000 TEP data collection Grid 164 Duration 3 minutes

* 2020/282:05:40:42.0000 TEP data collection Grid 18 Duration 3 minutes
* 2020/282:05:48:18.0000 TEP data collection Grid 125 Duration 3 minutes
* 2020/282:05:53:32.0000 TEP data collection Grid 197 Duration 3 minutes
* 2020/282:06:01:20.0000 TEP data collection Grid 305 Duration 3 minutes
* 2020/282:07:15:00.0000 TEP data collection Grid 15 Duration 3 minutes
* 2020/282:07:34:32.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2020/282:08:01:03.0000 TEP data collection Grid 428 Duration 3 minutes
* 2020/282:08:51:39.0000 TEP data collection Grid 49 Duration 3 minutes
* 2020/282:10:41:36.0000 TEP data collection Grid 262 Duration 3 minutes
* 2020/282:11:57:52.0000 TEP data collection Grid 8 Duration 3 minutes
* 2020/282:12:03:22.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
* 2020/282:13:34:43.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
  2020/282:15:08:57.0000 OCEANscan Duration 22 minutes
* 2020/282:16:43:17.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
* 2020/282:17:06:35.0000 TEP data collection Grid 396 Duration 3 minutes
* 2020/282:17:22:27.0000 Adjust the VBG Setpoint to 63.02 to optimize the laser
wavelength Duration 1 minute
* 2020/282:17:26:47.0000 TEP data collection Grid 414 Duration 3 minutes
* 2020/282:20:04:44.0000 TEP data collection Grid 248 Duration 3 minutes
* 2020/282:20:17:48.0000 TEP data collection Grid 427 Duration 3 minutes
* 2020/282:21:31:12.0000 TEP data collection Grid 138 Duration 3 minutes
* 2020/282:21:39:02.0000 TEP data collection Grid 245 Duration 3 minutes
* 2020/282:21:52:05.0000 TEP data collection Grid 425 Duration 3 minutes
* 2020/282:22:57:53.0000 TEP data collection Grid 28 Duration 3 minutes
* 2020/282:23:01:23.0000 TEP data collection Grid 63 Duration 3 minutes
* 2020/282:23:05:30.0000 TEP data collection Grid 135 Duration 3 minutes
* 2020/282:23:18:32.0000 TEP data collection Grid 315 Duration 3 minutes
* 2020/283:00:45:00.0000 TEP data collection Grid 205 Duration 3 minutes
* 2020/283:00:55:26.0000 TEP data collection Grid 348 Duration 3 minutes
* 2020/283:02:06:28.0000 TEP data collection Grid 23 Duration 3 minutes
  2020/283:02:56:03.0000 OCEANscan Duration 22 minutes
* 2020/283:03:53:35.0000 TEP data collection Grid 200 Duration 3 minutes
* 2020/283:04:01:24.0000 TEP data collection Grid 308 Duration 3 minutes
* 2020/283:05:20:02.0000 TEP data collection Grid 90 Duration 3 minutes
* 2020/283:05:30:29.0000 TEP data collection Grid 234 Duration 3 minutes
* 2020/283:07:08:53.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2020/283:07:15:12.0000 TEP data collection Grid 375 Duration 3 minutes
* 2020/283:10:10:45.0000 TEP data collection Grid 191 Duration 3 minutes
  2020/283:11:54:41.0000 TOO TOOid 1739  RGT 234  offpoint 4.56deg Duration 2 minutes
* 2020/283:13:09:04.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
  2020/283:14:43:18.0000 OCEANscan Duration 22 minutes
* 2020/283:16:17:38.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
* 2020/283:18:04:48.0000 TEP data collection Grid 251 Duration 3 minutes
* 2020/283:18:08:48.0000 TEP data collection Grid 323 Duration 3 minutes
  2020/283:18:14:00.0000 Stellar window dump Duration 90 minutes
* 2020/283:21:18:35.0000 TEP data collection Grid 318 Duration 3 minutes

* 2020/284:00:27:10.0000 TEP data collection Grid 313 Duration 3 minutes
* 2020/284:01:40:31.0000 TEP data collection Grid 24 Duration 3 minutes
  2020/284:02:30:24.0000 OCEANscan Duration 22 minutes
* 2020/284:03:27:56.0000 TEP data collection Grid 201 Duration 3 minutes
* 2020/284:05:12:39.0000 TEP data collection Grid 342 Duration 3 minutes
  2020/284:05:31:12.0000 Segmented RTWscan Part 1 Duration 37 minutes
  2020/284:06:20:21.0000 Segmented RTWscan Part 2 Duration 34 minutes
  2020/284:07:00:48.0000 Segmented RTWscan Part 3 Duration 14 minutes
* 2020/284:08:17:31.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2020/284:11:19:23.0000 TEP data collection Grid 189 Duration 3 minutes
* 2020/284:11:29:48.0000 TEP data collection Grid 332 Duration 3 minutes
* 2020/284:12:43:25.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
  2020/284:14:17:39.0000 OCEANscan Duration 22 minutes
* 2020/284:15:51:59.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
* 2020/284:22:11:35.0000 TEP data collection Grid 101 Duration 3 minutes
* 2020/284:22:29:50.0000 TEP data collection Grid 352 Duration 3 minutes
  2020/285:03:39:02.0000 OCEANscan Duration 22 minutes
* 2020/285:06:18:41.0000 TEP data collection Grid 304 Duration 3 minutes
* 2020/285:07:51:52.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2020/285:12:17:46.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
* 2020/285:13:52:03.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
* 2020/285:14:15:21.0000 TEP data collection Grid 364 Duration 3 minutes
  2020/285:15:26:17.0000 OCEANscan Duration 22 minutes
* 2020/285:21:58:58.0000 TEP data collection Grid 281 Duration 3 minutes
  2020/286:03:13:23.0000 OCEANscan Duration 22 minutes
* 2020/286:06:15:00.0000 TEP Stare 2 orbits of TEP calibration Duration 192 minutes
* 2020/286:11:53:28.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
* 2020/286:13:26:24.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
  2020/286:15:00:38.0000 OCEANscan Duration 22 minutes
* 2020/286:16:34:59.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
  2020/287:02:47:44.0000 OCEANscan Duration 22 minutes
* 2020/287:07:00:34.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2020/287:11:40:27.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
* 2020/287:13:00:45.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
  2020/287:14:34:59.0000 OCEANscan Duration 22 minutes
* 2020/287:16:09:19.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
  2020/288:02:22:05.0000 OCEANscan Duration 22 minutes
  2020/288:05:22:53.0000 Segmented RTWscan Part 1 Duration 37 minutes
  2020/288:06:11:59.0000 Segmented RTWscan Part 2 Duration 35 minutes
  2020/288:06:52:32.0000 Segmented RTWscan Part 3 Duration 14 minutes
* 2020/288:08:09:12.0000 AMCS Cal over open Atlantic ocean Duration 2 minutes
* 2020/288:12:35:06.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
  2020/288:14:09:20.0000 OCEANscan Duration 22 minutes
* 2020/288:15:43:40.0000 AMCS Cal over open Pacific ocean Duration 2 minutes
  2020/288:19:10:00.0000 Laser window dump Duration 2 minutes