

ICECAPS-ACE Weekly Report

November 2nd – November 8th, 2020

Heather Guy



Moon halo and parhelia behind the Big House, on 2020-11-04.

Photo: Heather Guy

General Notes:

We saw some colder temperatures and lots of drifting and blowing snow this week. I cleaned the SKYOPC measurement chamber, repaired the pump that failed last week, and restarted data collection on 2020-11-06. I also spent some time trying to troubleshoot a communication issue between the HATPRO and the MWR computer. This issue is currently unresolved, there have been no MWR data since 2020-11-03, and we are currently working on a plan to remove the HATPRO from the MSF roof to continue troubleshooting inside.

General Weather Observations:

Date	Time (Z)	Wind	Weather	Visibility	Sky	Temp (C)	Notes
11-02	12	24 kts at 052	SN, BLSN	800	VV023	-31	
11-03	12	15 kts at 132		4800	SCT187	-35	Low cloud / fog on horizon.
11-04	12	16 kts at 229	BR, DRSN	800	OVC082	-27	
11-05	12	7 kts at 098	BR	4800	SCT029, FEW131	-38	
11-06	12	9 kts at 193		3200	SCT033	-42	
11-07	12	19 kts at 199	BLSN	500	VV010	-35	
11-08	12	16 kts at 191		9999	FEW	-52	Mist patches on horizon. BLSN overnight.

Significant Weather Observations:

- 2020-11-03 1400Z: Parhelia.
- 2020-11-04 2330Z: Moon halo, upper tangent arc and parhelic circle.
- 2020-11-06 1420Z: Sun halo.
- 2020-11-06 1517Z: Parhelia.
- 2020-11-07 1348Z: Thick fog forming downwind of SMG generator plume. Otherwise good visibility.

MSF

- Operating normally

ICECAPS-ACE Data Management:

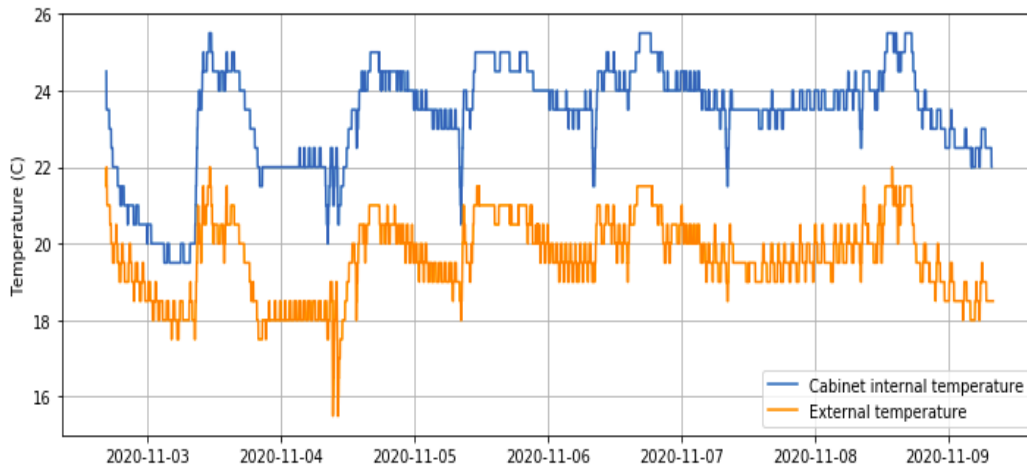
- 11-02: Data transfer completed at 0440Z.
- 11-03: Data transfer completed at 0418Z.
- 11-04: Data transfer completed at 0458Z.
- 11-05: Data transfer completed at 0416Z.
- 11-06: Data transfer completed at 0421Z.
- 11-07: Data transfer completed at 0416Z.
- 11-08: Data transfer completed at 0431Z.
- Note: Dataman external hard drive archive is 84% full.

TSI:

- Offline for the winter season.

Radiosonde:

- Once daily launches.
- 2020-11-06: Towards the end of the sounding logged several “Received frame from wrong radiosonde” warnings. Followed by “PTU filtering has been stopped” error. Sounding otherwise looked OK.
- See chart below for temperatures inside and outside the radiosonde cabinet over the last week:



MWR:

- 2020-11-03 1249Z: Cleared MWR ‘Slave elevation mirror not responding’ error. 150-90 receiver 1 & 2 temperature stability flags were briefly red.
- 2020-11-03 2344Z: Error: ‘Communication problem with radiometer detected’. Software is not able to detect HATPRO.
- 2020-11-04 1517Z: Rebooted computer and MWRs, still unable to detect HATPRO, ‘Baud rate programming failed, communication not established’.
- 2020-11-04 1621Z: Replaced HAPRO data cable, communication issue persists.
- 2020-11-05: Attempted another full reboot and tried rebooting with the spare server. Attempted switching power cables. Communication issue persists.
- 2020-11-06: Attempted switch ports on the computer and moving using the data cable from the 150-90 to talk to the HATPRO. Communication issue persists.

Troubleshooting is ongoing, we are in the process of planning to remove the HATPRO from the roof to continue troubleshooting inside the MSF.

Question: Can I restart data collection just on the 150-90 so we are at least getting some data?

SODAR:

- 2020-11-02 1724-1738Z: Cleaned and leveled the SODAR dishes.
- Operating normally.

POSS:

- Operating normally.

MASC:

- Offline for winter season.

MMCR:

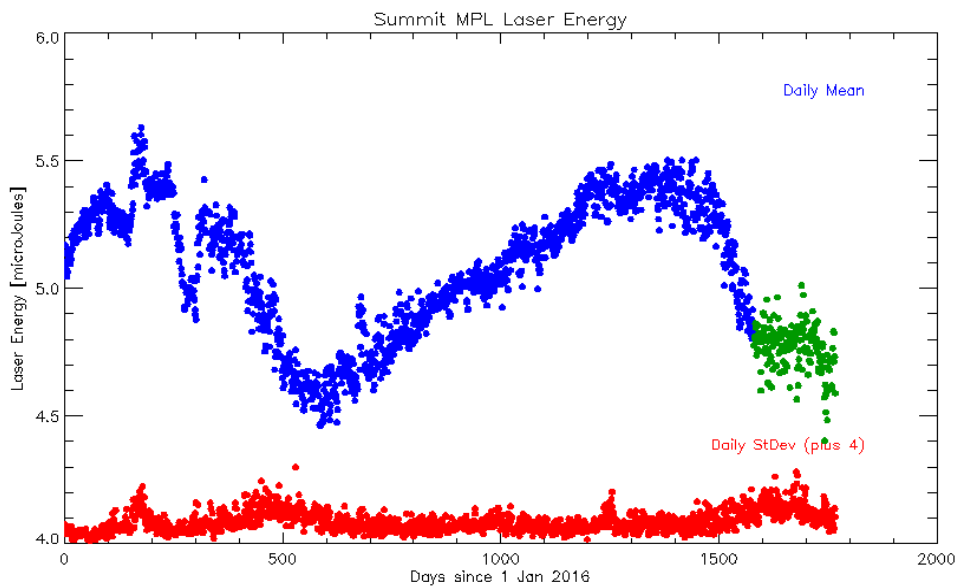
- 2020-11-06 1510Z: Adjusted data cable positioning after finding unrealistic outdoor temperature. All values (including +5v #1 and +5V #2) are now in range.
- Operating normally.

CAPABL:

- 2020-11-03 1322Z: Full system reboot due to low Licel voltage, error code 1000, and no data being recorded. Instrument back online at 1340z.
- 2020-11-04 1230Z: Same issue as yesterday, this time Neely fixed remotely by aborting and restarting data collection.
- Operating normally.
- Note: Email functionality on CAPABL software is not functional due to incorrect SMTP settings.

MPL:

- Operating normally. See plot below for changes in laser energy:

**CEILOMETER:**

- Operating normally.

PAERI:

- 2020-11-02 1704Z: Cleaned PAERI scene mirror after blowing snow.
- Operating normally.

IceCAM:

- Operating normally.

IcePIC:

- 2020-11-02 1738-1900Z: Small irregular shards, bullets and columns, 22 photos.
- 2020-11-05 1334-1429Z: Bullets, columns and bullet rosettes, 21 photos.

CPC:

- Offsite for repairs.

MSF - OPC:

- 2020-11-04 1300Z: Performed hard reboot of ACE computer due to unresponsive screen.
- Operating normally.

TAWO - OPC:

- Operating normally

SKYOPC:

- 2020-11-04: Cleaned inlet, outlet and measurement chamber with compressed air.
- 2020-11-06 1615-1709Z: Tested SKYOPC with NOAA's spare diaphragm pump, but it was not able to pull a sufficient vacuum.
- 2020-11-06 2028Z: SKYOPC back online with repaired VTE6 pump.
- Operating normally.

Fluxtower instrument suite:

- 2020-11-06: Collected enclosure temperature data, temperatures have ranged between -11°C and 29°C since 2020-08-26.
- Operating normally

Radiometers:

- 2020-11-06: Switched solar tracker back from sun mode to clock mode.
- Solar tracker misalignment ongoing, otherwise operating normally.