

# ICECAPS-ACE Weekly Report

September 7<sup>th</sup> – September 13<sup>th</sup>, 2020

Heather Guy



*Rare 46° degree halo visible alongside TAWO, 2020-09-08  
Photo: Heather Guy*

## General Notes:

This week we saw some clearer skies, lower temperatures and spectacular solar optics. Much of our focus has been on doing some last-minute cable run and flag line maintenance before winter sets in proper. Instrument troubleshooting projects this week included the MMCR low transmitter power (solved!) and the correcting the solar tracker alignment (ongoing). Planning and preparation for the installation of an external power supply in the radiosonde enclosure is still ongoing.

## General Weather Observations:

Date	Time (Z)	Wind	Weather	Visibility	Sky	Temp (C)	Notes
09-07	12	10 kts at 062	BR	1000	SCT066	-29	
09-08	12	16 kts at 350		4800	OVC021	-23	IC 1400 to 1800z
09-09	12	15 kts at 077	IC FZFG	1000	BKN007	-29	
09-10	12	9 kts at 288	BR	3600	FEW	-31	
09-11	12	9 kts at 320	IC	4800	FEW	-34	
09-12	12	11 kts at 158		3600	OVC005	-26	
09-13	12	12 kts at 132	BR	3600	SKC	-37	

### Significant Weather Observations:

- 2020-09-08 1440 - 1800Z: Upper and lower tangent arc, parahelia, 22 degree and 46 degree halo. See associated icepics.
- 2020-09-09 1206 - 2000Z: Upper and lower tangent arc and parahelia during diamond dust event.
- 2020-09-10 0900 - 1200Z: 22 degree halo during diamond dust event, see associated icepics.
- 2020-09-10 1230 – 1330Z: Fog bow.
- 2020-09-10 1400 – 1830Z: Clear sky diamond dust, upper and lower tangent arc and parahelia.

### MSF

- Operating normally

### ICECAPS-ACE Data Management:

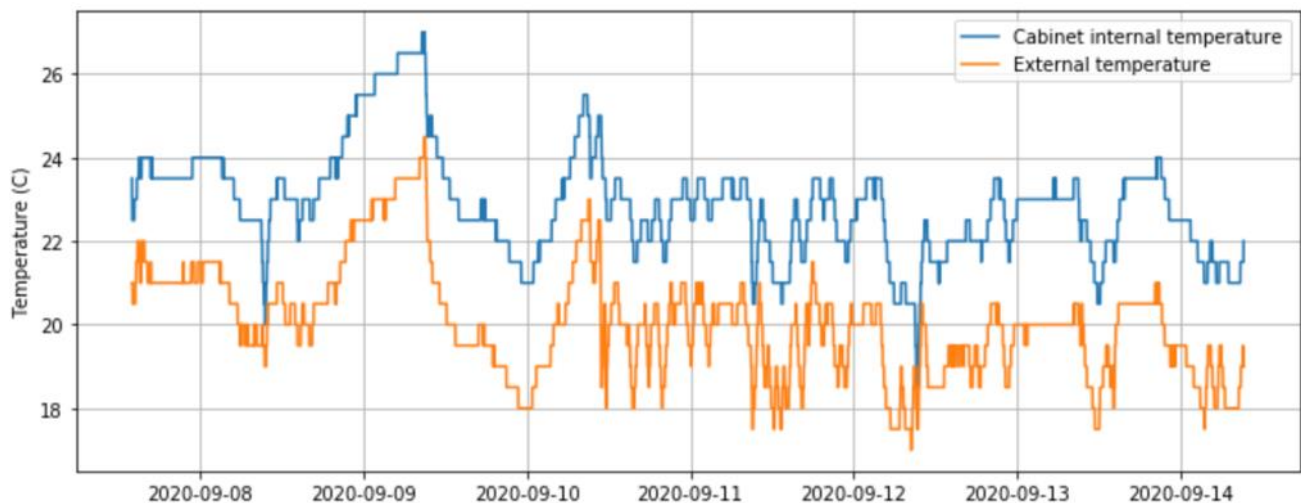
- 09-07: Data transfer completed at 0513Z.
- 09-08: Data transfer completed at 0453Z.
- 09-09: Data transfer completed at 0453Z.
- 09-10: Data transfer completed at 0502Z.
- 09-11: Data transfer completed at 0459Z.
- 09-12: Data transfer completed at 0446Z.
- 09-13: Data transfer completed at 0446Z.

### TSI:

- 2020-09-11 1231Z: TSI software crashed, required several reboots.
- Operating normally

### Radiosonde:

- Once daily launches.
- See chart below for temperatures inside and outside the radiosonde cabinet over the last week:



**MWR:**

- Operating normally

**SODAR:**

- 2020-09-07 1131-1149Z: Cleaned and leveled the SODAR dishes.
- Operating normally.

**POSS:**

- 2020-09-08 1154–1207Z: POSS powered down while new heating lightbulb was installed in enclosure.
- Operating normally.

**MASC:**

- Operating normally.

**MMCR:**

- 2020-09-08 1725-1851: MMCR rebooted four times to try and rectify low transmitter power, unsuccessful.
- 2020-09-10 1217Z: Sensitive cable behind the MMCR secured, transmitter power returned to normal values (178W).
- Operating normally.

**CAPABL:**

- Operating normally.

**MPL:**

- Operating normally.

**CEILOMETER:**

- Operating normally.

**PAERI:**

- 2020-09-07: Data issue between 0645 and 0700z, lots of red flags. Recovered OK.
- Operating normally.

**IceCAM:**

- Operating normally.

**IcePIC:**

- 2020-09-08 1640-1650Z: Plates, needles and columns, 13 photos collected.
- 2020-09-10 1120-1135Z: Columns, bullets, bullet rosettes and hexagonal plates associated with a 22 degree halo and ice crystal precip. 20 photos collected.

**CPC:**

- Offsite for repairs.

**MSF - OPC:**

- 2020-09-13 1445Z: Brought inside to defrost.
- Operating normally

**TAWO - OPC:**

- Operating normally.

**SKYOPC:**

- Operating normally.

**Fluxtower instrument suite:**

- 2020-09-09: KT15 did not record data overnight due to 'low internal temperature'.
- 2020-09-10: KT15 internal heater power cycled, is now functioning correctly.
- Operating normally

**Radiometers:**

- 2020-09-10 1330 – 1400Z: Attempt to re-align solar tracker, unsuccessful.
- 2020-09-11 1300 – 1400Z: Two more attempts to re-align solar tracker, unsuccessful.
- Radiometer quicklooks now available here:  
<http://homepages.see.leeds.ac.uk/~eehgu/radiometer/index.html>