

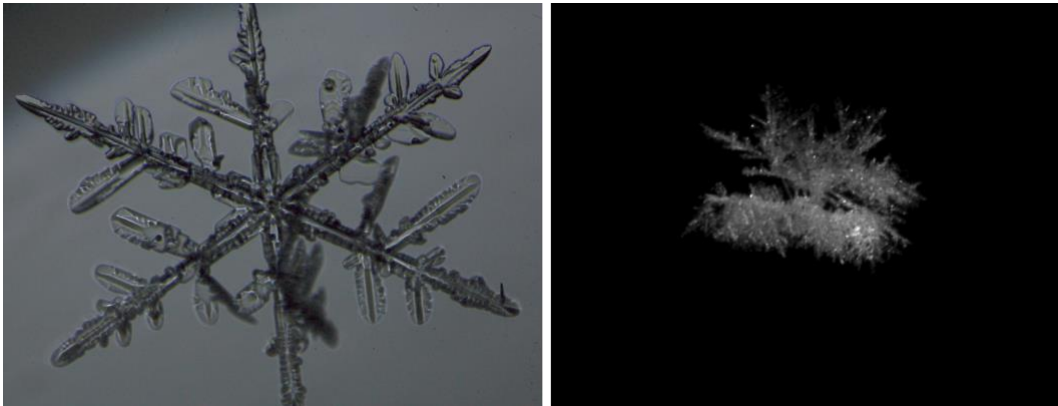
# ICECAPS-ACE Weekly Report

July 15 – July 21, 2019

Heather Guy



*TAWO building after 8.5ft lift. Note INP inlet is now unobstructed (top right).*



*Right: Dendrite photographed on 2019-07-19, Left: Image taken by the MASC at the same time.*

## General Notes:

A quieter week after the end of flight period 4. The big event at Summit this week was the movement of the Greenhouse berthing module, resulting in higher than usual heavy equipment operations around the main area of camp. An MSF levelling is planned to take place this coming Friday.

**General Weather Observations:**

Date	Time (Z)	Wind	Weather	Visibility	Sky	Temp	Notes
7-15	12	156°, 5.5 kn	IC	9999	BKN006	-11.5	
7-16	12	120°, 0.7 kn		9999	FEW	-15.4	
7-17	12	146°, 1.6 kn		9999	SCT065	-13.4	
7-18	12	287°, 2.3 kn		9999	OVC018	-7.6	
7-19	12	232°, 6.8 kn	-SN	9999	OVC034	-4.1	
7-20	12	228°, 6.6 kn		9999	BKN030	-4.5	
7-21	12	255°, 4.2 kn		4800	OVC027	-4.7	

**Significant Weather Observations:**

- 7-15 2300z: Fog bow and solar corona. Solar corona lasted approximately 1 hour, fog bow was present through the night and into the following morning.
- 7-19 1410-1430z: Circumzenithal arc, and rainbow? Underneath the sun.

**MSF**

- 7-19 1736z: Ventilation fan speed increased from 85% to 95% in an attempt to cool the MSF as temperatures near the PAERI were reaching 65F. MSF temperatures are now back to a more acceptable (though still warm) 61-63F.
- Building levelling planned for this coming Friday (7-26)

**ICECAPS-ACE Data Management:**

- 7-15: Data transfer completed at 05:15z
- 7-16: Data transfer completed at 08:19z – Backlog of MASC files sent
- 7-17: Data transfer completed at 05:11z
- 7-18: Dataman computer crashed whilst running .spot\_check\_archive.sh
- 7-19: No data transfer yesterday. Dataman hard reboot at 1525z
- 7-20: Data transfer completed at 11:55z – Back log files sent.
- 7-21: Data transfer completed at 06:03z

**MWR:**

- Operating normally.

**SODAR:**

- 7-19 1541z: Cleaned and levelled.
- Operating normally.

**POSS:**

- 7-19 1309-1531z POSS data acquisition stopped during Dataman computer reboot.
- The possibility of sending up a replacement cable for the POSS is being discussed with Matt Shupe. The cable exterior is badly eroded.
- Operating normally.

**MMCR:**

- 7-16: NetCDF errors on MMCR cannot be cleared.
- 7-17: No data files. Reboot attempted:
  - 1515z Reboot 1: Failed, TWTA current remains at 0.00
  - 1550z Reboot 2: Failed, TWTA current remains at 0.00
  - 1620z Reboot 3: Failed, TWTA current remains at 0.00

- 1645z Reboot 4: Possible success, Netcdf errors cleared. Calibration started.
- 7-18: Calibration lights have not gone out; radar data do not look convincing.
- 7-19 1903z: Complete reboot. MMCR now looks to be operating normally.
- 7-20: Data looks better, and errors cleared. Remaining issues:
  - Red 'added loss' light on TWTA continues to flash.
  - 5V#1 and 5V#2 remain out of tolerance.

**CAPABL:**

- Operating normally.

**MPL:**

- Operating normally.

**VCEIL:**

- Operating normally.

**IceCAM:**

- Operating normally

**PAERI:**

- 7-16: LW/SW responsivity flags red. Likely due to morning rime accumulation followed by me leaning over the window to check it was clear (I won't do this again!)
- Detector T and ABB T warnings yellow and red all week due to warm temperatures.

**TSI:**

- Offline.

**IcePIC:**

- 7-17 2125-2143z light snow, large dendrites, 11 photos uploaded.
- 7-19 1100-1130z, 4 photos uploaded.

**Radiosonde:**

- 7-16: Due to work on the Met tower 2D sonic, wind and temperature measurements from instruments on the Greenhouse tower were used for the morning launch.
- Computer rebooted at midday every day.

**MASC:**

- Operating normally, data files now transferring to Boulder.

**MSF - OPC:**

- Operating normally.

**TAWO – OPC:**

- Operating normally.

**SKYOPC:**

- Operating normally.

**CLASP:**

- Operating normally.

**CPC:**

- 7-15 1230z: Filter changed
- 7-17: Moved CPC condensate reservoir to the shelf Nate made back in March.
- 7-20: Butanol refilled.
- Operating normally

**Fluxtower instrument suite:**

- HOBO temperature sensor installed in fluxtower enclosure.
- Operating normally

**INP Freezing assay:**

- 7-20: One week of filter samples collected from TAWO, new sampling program started.
- No assay this week, freezing assays will be completed on Mondays from now on to fit in better with ICECAPS technician schedule.

**Aerosol vertical profiler:**

- 7-15 1620-1638z: Successful profile
- 7-17 1345-1701z: Drone instrument package run for two hours out at TAWO.
- 7-17 1925-1935z: Unsuccessful profile. Drone displayed unexpected behavior, emergency landing procedure was followed, and drone landed successfully. I believe there was an error with the starting elevation and will check this from now on.