**ICECAPS-ACE Weekly Report**

August 31 – September 6th, 2020

Heather Guy



*Reinstalling the fixed aspirated shield on the TAWO Met tower, 2020-09-02*

*Photo: Perri Barbour*

**General Notes:**

The big project this week was replacing the fan in the 14 m aspirated shield on the TAWO Met tower. We used the opportunity to do some preventative maintenance on the 9 m aspirated shield and inspected the rest of the fluxtower instruments and cables before the winter – everything else looked in good condition. Several snow events this week provided the opportunity to get familiar with the IcePICS setup, and by the end of the week I collected some clear photos of bullets and plates.

**General Weather Observations:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Date** | **Time (Z)** | **Wind** | **Weather** | **Visibility** | **Sky** | **Temp (C)** | **Notes** |
| 08-31 | 12 | 5 kts at 166 | FZFG | 800 | FEW | -29 | Fog layer above surface – can see TAWO legs but not building |
| 09-01 | 12 | 10kts at 148 | -SN | 4800 | OVC014 | -16 |  |
| 09-02 | 12 | 7kts at 142 |  | 4800 | BKN017, FEW 131 | -24 |  |
| 09-03 | 12 | 2kts at 226 | -SN | 4800 | BKN016 | -20 | Thin low-level cloud all day. |
| 09-04 | 12 | 10kts at 190 | FZFG | 800 | SKC | -28 | Fog cleared ~1600z. Cloud rolled in 2000z and brought SN/BLSN overnight. |
| 09-05 | 12 | 9kts at 200 | -SN | 4800 | SCT033, SCT131 | -21 | Halo present |
| 09-06 | 12 | 7kts at 224 | SN | 4800 | BKN016 | -17 |  |

**Significant Weather Observations:**

* 2020-08-31 0900 – 1000Z: Fog bow
* 2020-09-01 1944 – 2000Z: Sun dogs associated with diamond dust.
* 2020-09-02 0730 – 0815Z: Sun dogs (recorded on icecam)
* 2020-09-04 0900 – 1600Z: Fog bow
* 2020-09-05 0845 – 1130Z: Halo
* 2020-09-06 1320Z: Halo

**MSF**

* Operating normally

**ICECAPS-ACE Data Management:**

* 08-31: Data transfer completed at 0456Z.
* 09-01: Data transfer completed at 0455Z.
* 09-02: Data transfer completed at 0456Z.
* 09-03: Data transfer completed at 0437Z.
* 09-04: Data transfer completed at 0504Z.
* 09-05: Data transfer completed at 0426Z.
* 09-06: Data transfer completed at 0520Z.

**TSI:**

* Operating normally

**Radiosonde:**

* 2020-08-31: SPS connection lost multiple times (for < 5s each) during 12Z launch. Overall launch data looked OK.
* 2020-09-01: Switch to once daily (12Z) radiosonde launches
* See chart below for temperatures inside and outside the radiosonde cabinet over the last week:

****

**MWR:**

* 2020-09-04 2008z: Found with error: ‘Slave elevation mirror does not respond’. Passed normal daily checks once error was cleared.
* Operating normally

**SODAR:**

* 2020-08-31 1133-1150Z: Cleaned and leveled the SODAR dishes.
* Operating normally.

**POSS:**

* Operating normally.

**MASC:**

* 2020-09-04 1221-1222Z: MASC computer rebooted due to frozen trackpad.
* Operating normally.

**MMCR:**

* 2020-09-04 1554-1655: MMCR rebooted after persistent ‘NetCDF’ errors. Reboot took 3 attempts.
* 2020-09-05: MMCR dataman mount down. Reconnected after MMCR router was power cycled.
* 2020-09-06: Transmitter power low (68W) over the last 24 hours. Internal/external temperature and pitch/ roll values are out of range and unrealistic. PI contacted.

**CAPABL:**

* Operating normally.

**MPL:**

* Operating normally.

**CEILOMETER:**

* Operating normally.

**PAERI:**

* Operating normally.

**IceCAM:**

* Operating normally.

**IcePIC:**

* 2020-09-01 1200-1230Z: Irregulars, hexagonal plates and stellar dendrites. 8 photos collected.
* 2020-09-03 1140-1210Z: Irregulars, hexagonal and trigonal plates. 22 photos collected.
* 2020-09-05 1130-1140Z: Isolated bullets, hexagonal and trigonal plates. 16 photos collected.
* 2020-09-06 1320-1340Z: Bullets, hexagonal and trigonal plates, columns. 38 photos collected.

**CPC:**

* Offsite for repairs.

**MSF - OPC:**

* 2020-09-03 1225-1447Z: Offline for defrost and inspection.
* Operating normally

**TAWO - OPC:**

* Operating normally.

**SKYOPC:**

* 2020-09-04 1330-1625: Offline while pump exhaust was re-directed outside of building.
* Operating normally.

**Fluxtower instrument suite:**

* 2020-08-31 1735-1900Z: 9m and 14m aspirated shields removed from tower for repairs.
* 2020-09-02 1245–1345Z: 9m and 14m aspirated shields re-installed. Fan replaced on 14m aspirated shield.
* Operating normally

**Radiometers:**

* 2020-08-31: Solar tracker out of alignment, troubleshooting ongoing.