

METEOROLOGY

Mike Carmody, Principal Investigator, United States Antarctic Program

Palmer Station is Station 89061 in the World Meteorological Organization (WMO) Worldwide Network. Automated surface synoptic observations are made 8 times each day and emailed to the National Atmospheric and Oceanographic Administration (NOAA) for entry into the Global Telecommunication System (GTS).

The Palmer Automatic Weather Station (PAWS) is a collection of sensors, computers, and software that records the meteorological data and generates synoptic reports. PAWS began recording data in September of 2015. It was a replacement for the Palmer Meteorological Observing System (PalMOS) that was taken down in November 2017. The PAWS sensors and data acquisition hardware are located on a ridge in the backyard at -64.774130° -64.047440° at

an elevation of 38.3 meters above sea level using the World Geodetic System-84. In addition to the synoptic and METAR reporting, PAWS also archives the current conditions at one-minute intervals and displays both raw data and graphs of the sensor data on our local intranet.

The Research Associate acts as Chief Weather Observer on station, measuring, compiling and distributing all meteorological data. Snow accumulation is physically observed by taking an average of five accumulation stakes found near the PAWS system. All weather data is archived locally and forwarded once per month to the University of Wisconsin on the first day of each month for archiving and further distribution.

The local weather station (PAWS) operated well throughout the month. The Joubins weather station was visited on February 21 and February 24 and functionality was restored. The battery enclosure was removed and replaced with a more waterproof version. We visited the Gosslers weather station on February 25. The temperature sensor was corroded beyond salvation and the battery box needs to be replaced due to heavy corrosion.

One minute weather data is archived on the AMRC website:

<http://amrc.ssec.wisc.edu/data/ftp/pub/palmer/>.

Palmer Monthly Met summary for February, 2023

Temperature
Average: 2.3 °C / 36.2 °F
Maximum: 7.5 °C / 45.5 °F on 10 Feb 16:49
Minimum: -1.7 °C / 28.94 °F on 27 Feb 03:31
Air Pressure
Average: 983.1 mb
Maximum: 1006.1 mb on 16 Feb 17:21
Minimum: 966.8 mb on 21 Feb 16:53
Wind
Average: 11.1 knots / 12.8 mph
Peak (5 Sec Gust): 57 knots / 65 mph on 8 Feb 21:56 from ENE (62 deg)
Prevailing Direction for Month: NNE
Surface
Total Rainfall: 55.4 mm / 2.18 in
Total Snowfall: 0 cm / 0 in
Greatest Depth at Snow Stake: 0 cm / 0 in
WMO Sea Ice Observation: 1-5 bergs, bergy bits, growlers, and brash ice
Average Sea Surface Temperature: 1.82 °C / 35.3 °F