

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. All three remote AWS sites require maintenance so their functionality this season were sporadic at best. One minute weather data is archived on the AMRC website: <http://amrc.ssec.wisc.edu/data/ftp/pub/palmer/>

Monthly Weather Synopsis

The high temperature for the month was reached on April 20 when temperatures reached 40.6°F. The average fell below freezing and there were several storms which deposited a total of 23 inches of snow over the month. April experienced 1.75 inches of rain over the entire month, which is below the ten year average for April. The peak wind speed for the month was 49 knots on April 3.

Palmer Monthly Met summary for April, 2022

Temperature
Average: -5 °C / 31.1 °F
Maximum: 4.8 °C / 40.64 °F on 20 Apr 03:23
Minimum: -5.8 °C / 21.56 °F on 28 Apr 11:35
Air Pressure
Average: 982.9 mb

Maximum: 1008.2 mb on 30 Apr 05:59
Minimum: 959.2 mb on 12 Apr 18:42
Wind
Average: 9.5 knots / 11 mph
Peak (5 Sec Gust): 49 knots / 57 mph on 3 Apr 06:22 from NNE (33 deg)
Prevailing Direction for Month: NNE
Surface
Total Rainfall: 44.5 mm / 1.75 in
Total Snowfall: 59 cm / 23 in
Greatest Depth at Snow Stake: 29.8 cm / 11.6 in
WMO Sea Ice Observation: 1-5 Bergs, bergy bits, growlers, grease, shuga, and brash ice