

METEOROLOGY

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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 to the University of Wisconsin on the first day of each month for archiving and further distribution.



Figure 10. Working on the backyard weather station.

As of May 28, all remote island sites have gone dark for the winter. On May 29 & 30th, there was a communications issue between the backyard weather station and Terra Lab. This resulted in an ~18 hour data outage.

One minute weather data is archived on the AMRC website:

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

Palmer Monthly Met summary for May, 2023

Temperature
Average: -0.5 °C / 31 °F
Maximum: 5.7 °C / 42.26 °F on 31 May 16:54
Minimum: -7.6 °C / 18.32 °F on 5 May 10:36
Air Pressure
Average: 977.5 mb
Maximum: 999.1 mb on 10 May 16:05
Minimum: 949.4 mb on 5 May 22:35
Wind
Average: 15.1 knots / 17.4 mph

Peak (5 Sec Gust): 64 knots / 74 mph on 8 May 14:42 from NNE (22 deg)
Prevailing Direction for Month: NNE
Surface
Total Rainfall: 107.2 mm / 4.22 in
Total Snowfall: 54 cm / 21.1 in
Greatest Depth at Snow Stake: 38.6 cm / 15.1 in
WMO Sea Ice Observation: 1-5 bergs, bergy bits, growlers, brash ice, and grease ice
Average Sea Surface Temperature: -.07 °C / 31.9 °F

2023 is on track to be another record-breaking year for precipitation. May saw 107.2 mm of melted precipitation and a YTD total of 550.8 mm, the second highest on record after 2021.

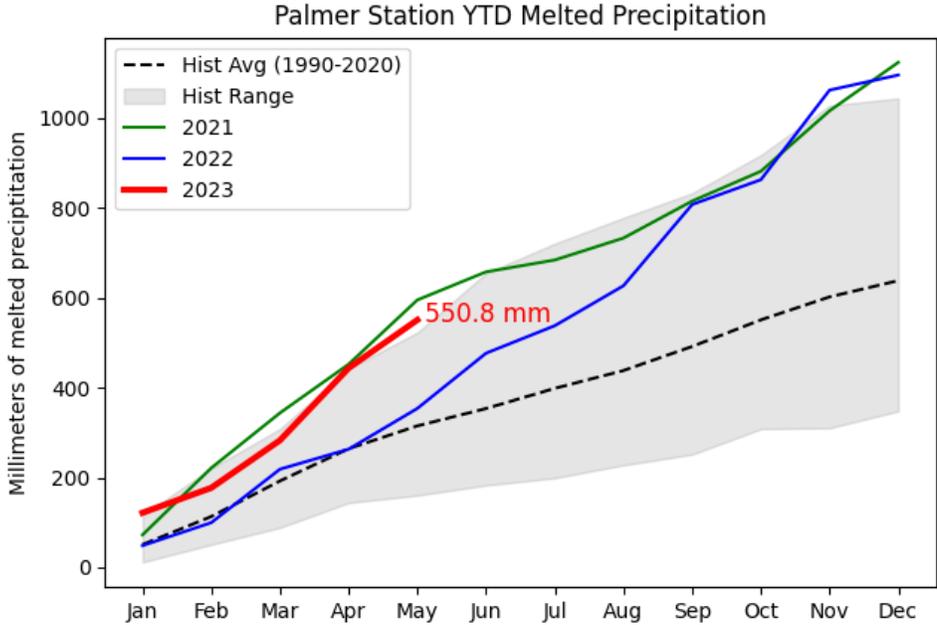


Figure 11. Palmer Station YTD melted precipitation, 1990-present.