

## METEOROLOGY

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Palmer Station is Station 89061 in the World Meteorological Organization (WMO) Worldwide Network. Automated surface synoptic observations are made eight 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  $-64.774130^{\circ}$   $-64.047440^{\circ}$  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.

The weather system suffered a 4 day outage in early October, but successfully returned to normal operation.

One minute weather data is archived on the AMRC website:

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

### Palmer Monthly Met summary for October, 2023

<b>Temperature</b>
<b>Average:</b> $-2.8^{\circ}\text{C}$ / $27^{\circ}\text{F}$
<b>Maximum:</b> $3.9^{\circ}\text{C}$ / $39.02^{\circ}\text{F}$ on 18 Oct 20:45
<b>Minimum:</b> $-8.4^{\circ}\text{C}$ / $16.88^{\circ}\text{F}$ on 28 Oct 05:29
<b>Air Pressure</b>
<b>Average:</b> 975.8 mb
<b>Maximum:</b> 1002 mb on 30 Oct 01:51
<b>Minimum:</b> 945.2 mb on 4 Oct 08:34
<b>Wind</b>
<b>Average:</b> 13.7 knots / 15.8 mph
<b>Peak (5 Sec Gust):</b> 61 knots / 70 mph on 18 Oct 23:43 from NNE (24 deg)
<b>Prevailing Direction for Month:</b> NNW

Surface
<b>Total Rainfall:</b> 50 mm / 1.97 in
<b>Total Snowfall:</b> 32 cm / 12.5 in
<b>Greatest Depth at Snow Stake:</b> 128.2 cm / 50 in
<b>WMO Sea Ice Observation:</b> 6-10 bergs, bergy bits, growlers, brash ice, grease ice, nilas, and pancake ice
<b>Average Sea Surface Temperature:</b> -1.31°C / 29.6°F

October was warmer and windier than September. October 2023 had a prevailing wind direction of NNW. Less snow fell than in September, and several rain and freezing rain events occurred. Overall the snow depth increased by 5 centimeters over the month. Octobers average temperature of 27°F was two degrees colder than October 2022. The average seawater temperature of 29.6°F was half a degree colder than October 2022.