

## **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.

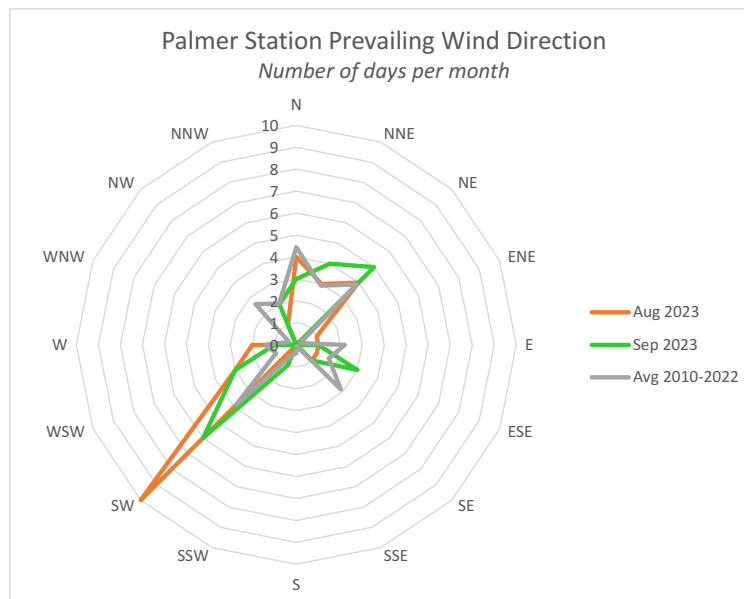
One minute weather data is archived on the AMRC website:

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

## Palmer Monthly Met summary for September, 2023

<b>Temperature</b>
<b>Average:</b> -4.4 °C / 24 °F
<b>Maximum:</b> 2.4 °C / 36.32 °F on 29 Sep 22:46
<b>Minimum:</b> -11.8 °C / 10.76 °F on 20 Sep 09:34
<b>Air Pressure</b>
<b>Average:</b> 991.7 mb
<b>Maximum:</b> 1018.8 mb on 6 Sep 22:17
<b>Minimum:</b> 957.1 mb on 26 Sep 19:53
<b>Wind</b>
<b>Average:</b> 9.8 knots / 11.2 mph
<b>Peak (5 Sec Gust):</b> 52 knots / 60 mph on 26 Sep 00:47 from NNE (30 deg)
<b>Prevailing Direction for Month:</b> SW
<b>Surface</b>
<b>Total Rainfall:</b> 42.4 mm / 1.67 in
<b>Total Snowfall:</b> 50 cm / 19.5 in
<b>Greatest Depth at Snow Stake:</b> 123.8 cm / 48.3 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> -1.34 °C / 29.6 °F

August and September 2023 had a prevailing wind direction of SW, instead of the typical NE. This was in contrast to all prior months of 2023, which saw an increased frequency of NE/NNE winds compared to previous years. As usual, August and September were also the coldest months of the year thus far, with average temperatures of -5.5°C and -4.4°C, respectively.



**Figure 12.** Prevailing wind direction for August and September 2023, compared to a 13-year historical average.