

PHYSICAL OCEANOGRAPHY

Palmer Station has a tide and conductivity gauge located on the west side of the pier at -64.774558° -64.055580° at a depth of 11.46 meters (WGS-84). It was reinstalled at this deeper depth after the completion of the Palmer Pier in June 2022.

The Research Associate acts as the station's physical oceanography observer by maintaining and observing the sea state. Observations of sea ice extent and growth stage are recorded along with continuous tidal height, ocean temperature, and ocean conductivity.

The tide gauge is still offline while we await the arrival of its replacement. New electronics arrive in April, and the new stilling well will arrive in October.

This month, the RA continued to provide ice imagery to the *R/V Revelle* and *R/V Sikuliaq* during their research cruises.

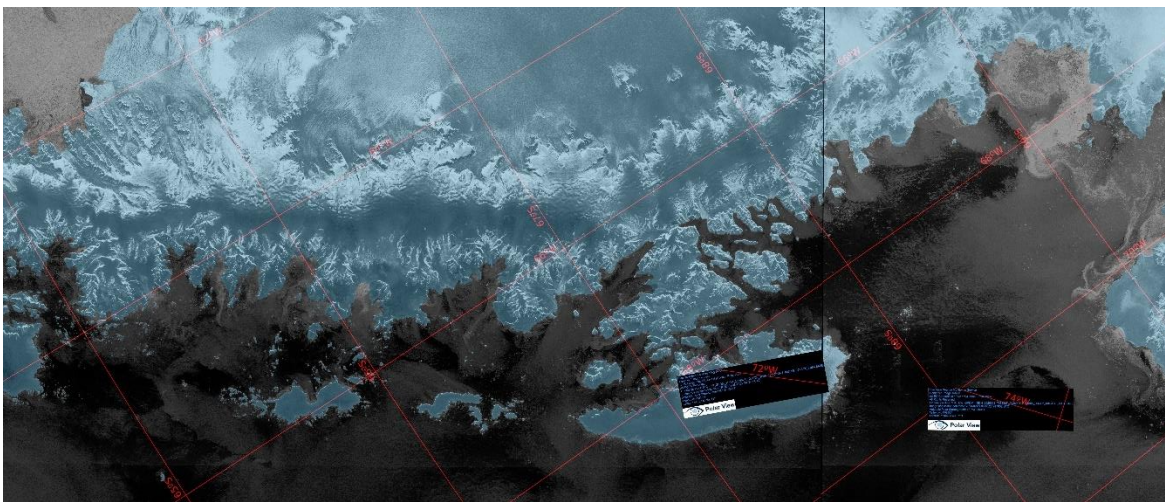


Figure 11. February 11th SAR sea ice imagery of the West Antarctic Peninsula, where UNOLS-01 is operating.
Source: Polar View/Sentinel-1C

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 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° -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 meteorological data. Snow accumulation is physically observed at five accumulation stakes found near the PAWS system. All weather data are archived locally and forwarded to the University of Wisconsin on the first day of each month for archiving and distribution.

The PAWS ceilometer has not been reporting since August 10th. Troubleshooting is ongoing. The PAWS barometer issues have been resolved, and the sensor has been reporting consistently since February 4th. All three remote weather stations continue to report reliably, with the exception of the AWS2 (Joubins) barometer. On February 1st, the Antenna Riggers and RA visited AWS2 to plumb & tension the tower and identify new potential locations for the tower baseplate. It is currently sitting on a rounded rock, which makes it prone to twisting.

Weather information for February 2026:

Weather this month was typical for this time of year, with an average air temperature of 2 °C and 35.8 mm of melted precipitation. There were two brief snowstorms on February 1st and 10th, but the backyard has otherwise been snow-free. As usual, the strongest winds came from the NNE, often carrying lots of precipitation.

One-minute weather data is archived on the AMRDC website:

<https://amrdcdata.ssec.wisc.edu/dataset?q=Palmer+Station>

Palmer Monthly Met Summary for February 2026

Temperature
Average: 2.0 °C / 35.6 °F
Maximum: 7.5 °C / 45.5 °F on 26 Feb 16:51
Minimum: -3.5 °C / 25.7 °F on 10 Feb 10:04
Air Pressure
Average: 982.3 mb
Maximum: 994.1 mb on 12 Feb 11:33
Minimum: 966.4 mb on 15 Feb 21:22
<i>Data unavailable 02/01 and 02/03</i>
Wind
Average: 9.4 knots / 10.8 mph
Peak (5 Sec Gust): 62 knots / 71 mph on 21 Feb 00:11 from NNE (32 deg)
Prevailing Direction for Month: NNW
Surface
Total Melted Precipitation: 35.8 mm / 1.4 in
Total Snowfall: 6 cm / 2.3 in
Greatest Depth at Snow Stake: 4.4 cm / 1.7 in
WMO Sea Ice Observation: 1-5 bergs, bergy bits, growlers, brash ice
Average Sea Surface Temperature: Not available due to broken tide sensor

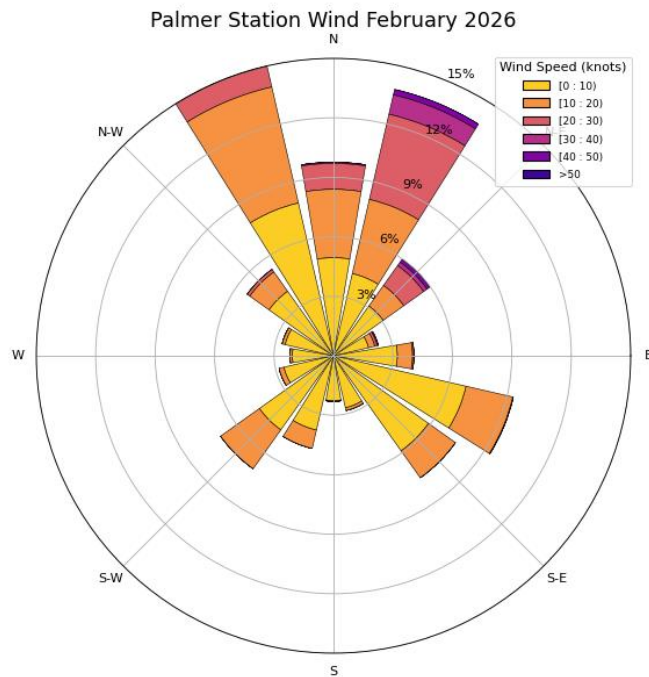


Figure 12. Palmer Station wind rose for February 2026. February saw a typical pattern of strong NNE winds, although the prevailing wind direction was NNW.

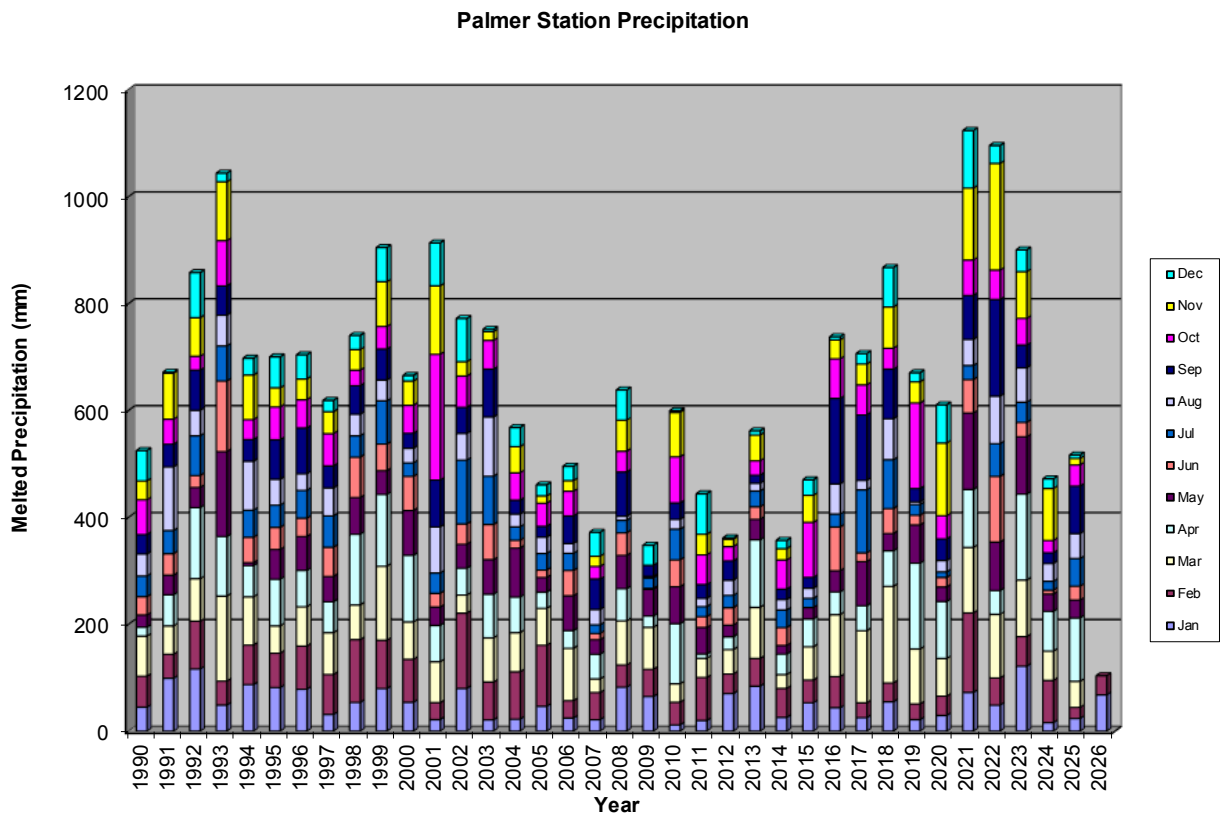


Figure 13. Palmer Station precipitation, 1990-present.