

Central Alaska Network

National Park Service
U.S. Department of the Interior

Alaska Region
Inventory & Monitoring Program



Denali NP & PRES • Wrangell-St. Elias NP & PRES • Yukon-Charley Rivers N PRES

Fall 2018

Weather & Climate Summary Denali National Park & Preserve Fall 2018

Photo: NPS, Ken Hill.

Denali Fall Weather 2018

It was the 3rd warmest fall on record at Denali Park headquarters. The average fall temperature was 32.6°F. Only four other fall seasons have had an average temperature above freezing. An extraordinary statistic from fall 2018 was the lack of snow. Only 5.2 inches of snow was recorded between September 1 and November 30. This is the lowest on record with more than 70 years of good observations.

The average temperature for September was 3.3°F warmer than normal. The month started out cooler than normal, but during the second week that pattern shifted and for the rest of the month temperatures were above average. The high temperature for the month occurred on September 12th at 65°F. Precipitation for the month was 74% of normal. No snow was recorded in September, normally ~ 5 inches would fall during the month.

Generally temperatures start to cool down in the fall as the days (available sunlight) get shorter, but that was not the case this October. It was the 2nd warmest October on record in Denali and at many other locations around the state. Temperatures were well above normal for most of the month. The average temperature for October was 35.2°F, which is whopping 12.3°F above normal. Record high temperatures occurred on October 2, 7, and 8. Normally about 10 inches of snow falls in October, but this year only 1.4 inches was recorded for the entire month. As far as October snowfalls go, this year ranks as the 4th lowest on record (tied with 1998).

The warmth continued into November with the average monthly temperature coming in 10.1°F above normal. There

was more variability in temperatures in November; some of the warmest days occurred during the last week of the month. Total snowfall was again well below normal with just under 4 inches for the month, normal is ~ 13 inches (Figures 1 and 2; Table 1, 2, and 3).

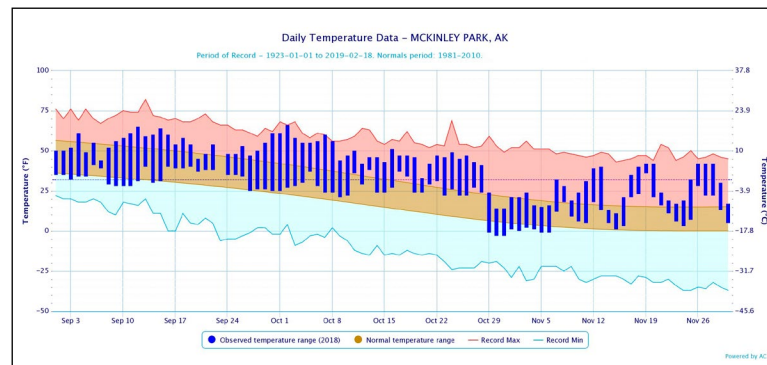


Figure 1. Fall 2018 daily temperatures at Denali showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

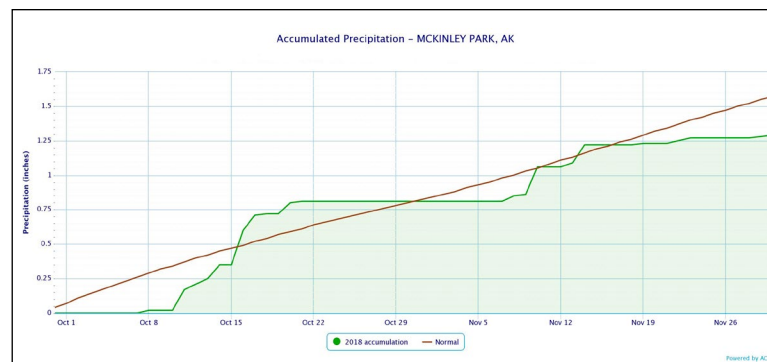


Figure 2. Fall 2018 accumulated precipitation at Denali (green) compared to normal (brown line).

Table 1. Temperature: Fall 2018 average monthly temperatures compared to the 1981-2010 normal.

Fall 2018	Average Monthly Temp (°F)	1981-2010 Normal (°F)	Departure from Normal (°F)	Monthly High (°F / Date)	Monthly Low (°F / Date)
September	43.7	40.4	+3.3	65 / Sep 12	25 / Sep 27, 30
October	35.2	22.9	+12.3	66* / Oct 2	-3 / Oct 30, 31
November	19.0	8.9	+10.1	42 / Nov 19, 20, 26-28	-1 / Nov 5,6

Fall Season Temperature Departure from Normal: +8.6°F; *Daily record high.

Table 2. Precipitation: Fall 2018 monthly precipitation totals compared to normal.

Fall 2018	Total Monthly Precip. (in.)	1981-2010 Normal (in.)	Departure from Normal (in.)	Greatest 24 -hr. total (in. / Date)	# Days with >=0.01 in. water
September	1.25	1.7	-0.45	0.21 / Sep 23	16
October	0.81	0.78	+0.03	0.25 / Oct 16	10
November	0.48	0.75	-0.27	0.20 / Nov 10	10

Fall Season Precipitation Departure from Normal: -0.69 inches (79% of normal).

Table 3. Snowfall: Fall 2018 monthly snowfall totals compared to normal.

Fall 2018	Total Monthly Snowfall (in.)	1981-2010 Normal (in.)	Departure from Normal (in.)	Greatest 24-hr snowfall total (in. / Date)	Cumulative snow-fall since 1-July in.
September	0	4.7	-4.7	–	–
October	1.4	9.9	-8.5	1.2 / Oct 20	1.4
November	3.8	13.2	-9.4	1.6 / Nov 14	5.2*

*Lowest early season (July 1 - November 30) cumulative snow on record.

Eielson Visitor Center Fall Warmth

2018 was the warmest fall on record at the Eielson Visitor Center weather station in Denali (elevation = 3,653'). We have been recording data continuously at this site since 2005 and this is the first time that the average fall temperature was above freezing. Over the past 14 years there has been a significant increase in the average fall temperatures at this location (Figure 3).

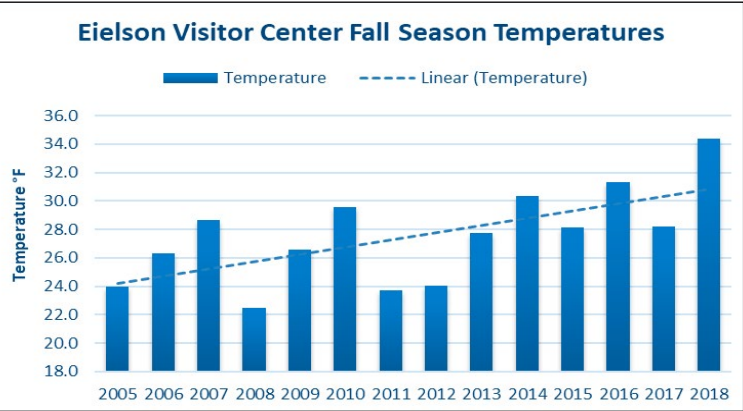


Figure 3. Fall temperatures at Eielson Visitor Center 2005-2018.

Climate Monitoring in Denali

NPS climate stations in Denali complement the long-term record available from the National Weather Service station at park headquarters.

Statewide Fall Warmth

According to Rick Thoman, a climatologist with the Alaska Center for Climate Assessment and Policy, 2018 was the 2nd warmest fall on record for Alaska with records dating back to 1925 (Figure 4). The decline in sea ice over the past several years has been a factor in the recent statewide warming trend.

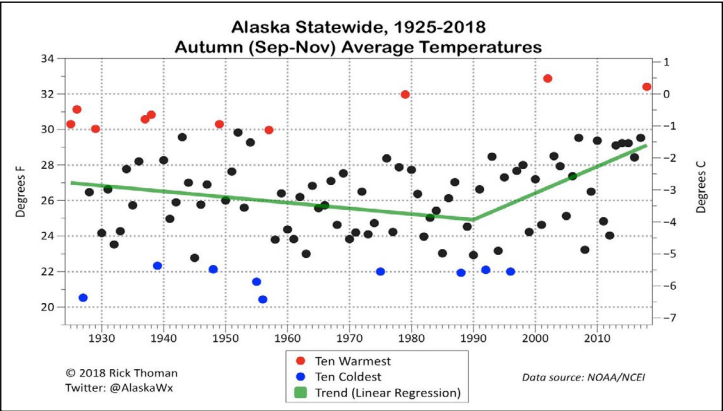


Figure 4. Fall 2018 was the 2nd warmest fall on record for Alaska. Graphic courtesy of Rick Thoman @AlaskaWX.

More Information

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[Current Weather in Denali](#)
<http://science.nature.nps.gov/im/units/cakn>

