

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 2019

Weather & Climate Summary Denali National Park & Preserve Fall 2019

NPS Photo

Denali Fall Weather 2019

It was another warm fall at Denali Park headquarters, 5.3 °F above normal and the 10th warmest on record. October was a snowy month with almost twice as much snow as normal, but overall the fall season (September – November) ended up just above normal with a snowfall total of 31.4 inches. With warmer than normal temperatures, the snow that fell was wet and the fall season ended up as the 8th wettest on record. The first day of persistent snow for the 2019-2020 season was October 6th.

The average temperature for September was 3.5 °F warmer than normal. On the 14th of the month the high temperature was 69 °F, a few degrees shy of the record 72 °F in 1929. Temperatures cooled the third week of September, but not enough to bring temperatures into the normal range. Precipitation for the month was 71% of normal. Only a trace amount of snow was recorded for the month, normally we would expect ~ 5 inches in September.

It was a warm and wet October at park headquarters. The first two weeks of October were snowy with ~18 inches of snow falling before mid-month. The snow was wet, equivalent to almost two inches of water for the month, normal is 0.78 inches. It was the 4th wettest October on record. The temperatures never really cooled off in October, and the month ended up 5.3 °F warmer than normal. The last few weeks were the warmest; on average ~15°F warmer than normal.

The warmth continued into November with the average monthly temperature coming in 7.1 °F above normal. The warmest days of the month (compared to normal)

occurred during the last two weeks of November. Temperatures are much more variable during the cold season and, despite the warmth, November 2019 did not even make the top 20 warmest. Total snowfall was near normal for the month with 12.8 inches, but like October, the water content of the snow was high. The snow water equivalent was 1.75 inches, an inch more than normal, and the 10th wettest on record (Figures 1 and 2; Table 1, 2, and 3).

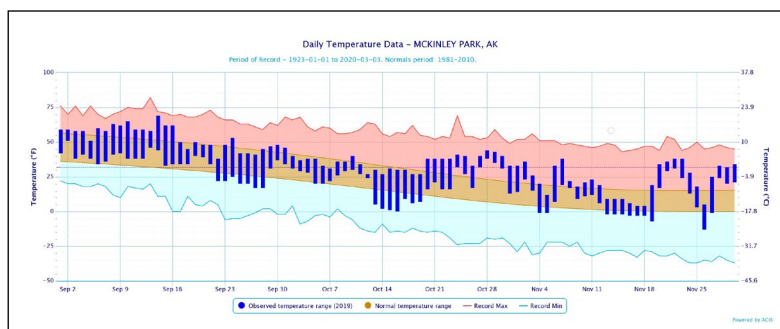


Figure 1. Fall 2019 daily temperatures at Denali showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

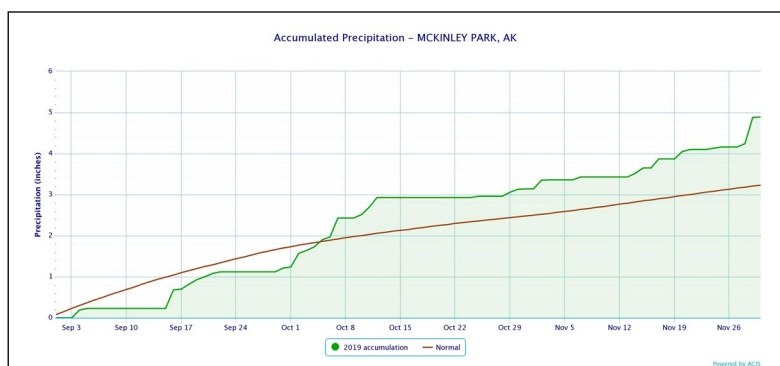


Figure 2. Fall 2019 accumulated precipitation at Denali (green) compared to normal (brown line).

Table 1. Temperature: Fall 2019 average monthly temperatures compared to the 1981-2010 normal.

Fall 2019	Average Monthly Temp (°F)	1981-2010 Normal (°F)	Departure from Normal (°F)	Monthly High (°F / Date)	Monthly Low (°F / Date)
September	43.9	40.4	+3.5	69 / Sep 14	17 / Sep 27, 28
October	28.2	22.9	+5.3	46 / Oct 1	0 / Oct 16
November	16.0	8.9	+7.1	38 / Nov 7, 22 ,23	-13 / Nov 26

Fall Season Temperature Departure from Normal: +5.3°F

Table 2. Precipitation: Fall 2019 monthly precipitation totals compared to normal.

Fall 2019	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	1.21	1.70	-0.49	0.45 / Sep 16	10
October	1.93	0.78	+1.15	0.46 / Oct 7	14
November	1.75	0.75	+1.00	0.64 / Nov 29	13

Fall Season Precipitation Departure from Normal: +1.66 inches (151% of normal)

Table 3. Snowfall: Fall 2019 monthly snowfall totals compared to normal.

Fall 2019	Total Monthly Snowfall (in.)	1981-2010 Normal (in.)	Departure from Normal (in.)	Greatest 24-hr snow-fall total (in. / Date)	Cumulative snow-fall since 1-July in.
September	T	4.7	-4.7	T / Sep 21, 26	T
October	18.6	9.9	+8.7	7.8 / oct 7	18.6
November	12.8	13.2	-0.4	2.9 / Nov 17	31.4

Eielson Visitor Center Fall Warmth

There has been a significant increase in fall temperatures since 2006 when we first started measuring temperature year-round at Eielson Visitor Center (Figure 3). The fall of 2019 ranks as third warmest of the past 14 fall seasons.

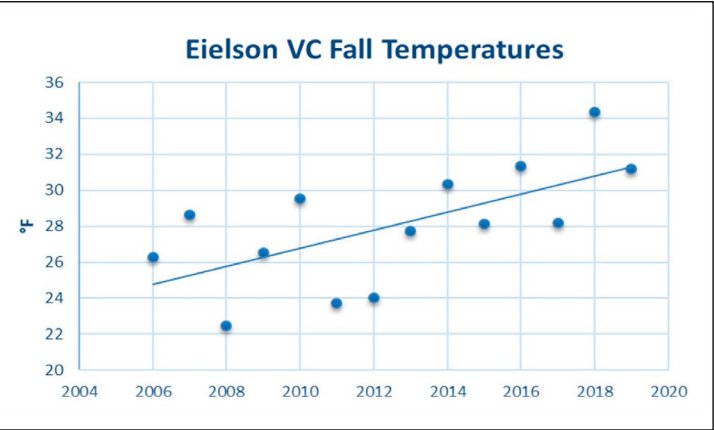


Figure 3. Fall temperatures at Eielson Visitor Center 2006-2019.

Statewide Trend in Fall Temperatures

The statewide trend over the past 50 years shows warming over the entire state with the greatest increases in fall temperatures in the central interior, west coast, and north slope regions of Alaska (Figure 4). The decline in sea ice over the past several years has been a factor in the recent statewide warming trend.

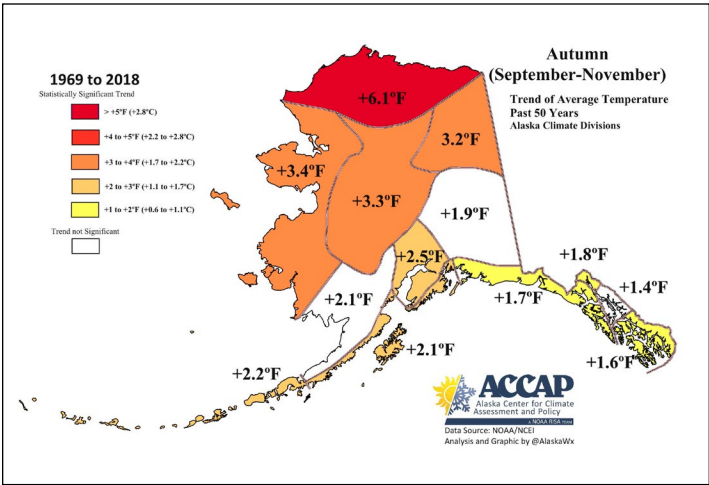


Figure 4. Fall temperature trends over the past 50 years across Alaska. Analysis and graphic by Rick Thoman @AlaskaWx.

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Current Weather in Denali

<https://www.nps.gov/im/cakn/index.htm>

Data disclaimer: Please note that the near-real time data used to generate these reports is subject to change. QA/QC data from the NPS CAKN climate stations are available at [NPS Data Store](#)

