

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

Winter 2017-2018

Weather & Climate Summary Denali National Park & Preserve Winter 2017-2018

Denali Winter Weather 2017-2018

December was crazy warm with very little snow. It was 13.6°F warmer than normal and the second warmest December on record (1985 was warmer). The temperature dipped below 0°F on only two occasions in December, and even then it only dropped to -15°F. Two daily high records were set on December 13 and 14 when the temperatures reached 44°F. The average temperature for December 2017 was 20.5°F. Snowfall totals were <50% of normal with a total of 6.5 inches. Total precipitation (water equivalent) was 63% of normal for the month.

January temperatures were quite variable. The month started off warm, but it cooled off by the end of the first week. Mid-January was unseasonably warm until the 20th when temperatures dipped to the lowest of the season. The low temperature for the month was -32°F. The wild temperature swings balanced out and the monthly average temperature ended up right at normal at 3.1°F. Snowfall was just below normal with 7.9 inches of total snow for the month, normally January snowfall totals average ~ 9 inches. Monthly precipitation totaled 0.41 inches; normal is 0.63 inches.

February ended up just above normal at 8.1°F for the month. Temperatures were again variable with low temperatures in the early part of the month that were 20 degrees colder than normal and temps mid-month that were 20 degrees warmer than normal. Snowfall totals were well above normal at 18.5 inches, compared to the normal 8.4 inches. The total monthly precipitation (water equivalent) was 1.24 inches, which is 230% of normal.

The average winter temperature at Denali was 10.6°F which is +4.7°F warmer than the 1981-2010 normal. The total winter precipitation was 2.23 inches, just above normal. Winter

2017-2018 ranks as the 12th warmest winter over the period of record (1926-2018, winters with ≤5 missing days, n= 71). See Figures 1 and 2; Tables 1, 2, and 3.

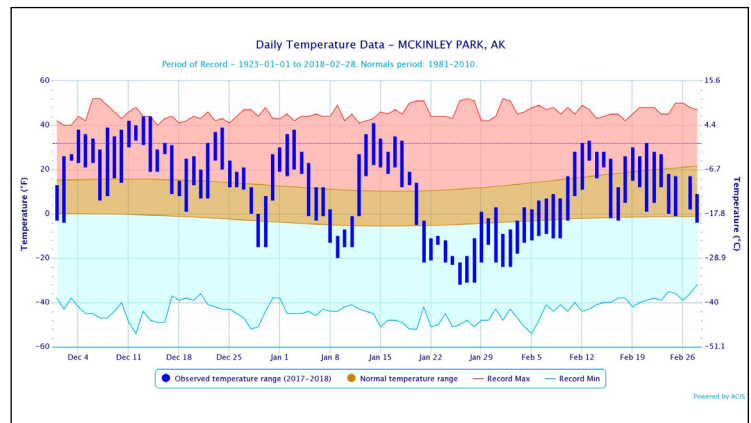


Figure 1. Winter 2017-2018 daily temperatures at Denali showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

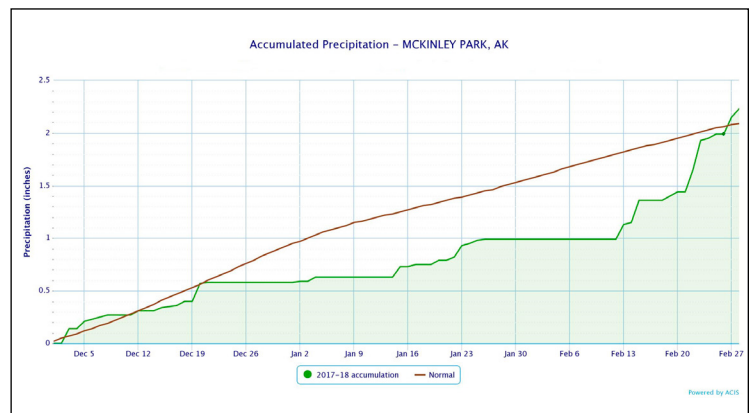


Figure 2. Winter 2017-2018 accumulated precipitation at Denali (green) compared to normal (brown line).

Table 1. Temperature: Winter 2017-2018 average monthly temperatures compared to the 1981-2010 normal.

Winter 2017-2018	Average Monthly Temp (°F)	1981-2010 Normal (°F)	Departure from Normal (°F)	Monthly High (°F / Date)	Monthly Low (°F / Date)
December	20.5	6.9	+13.6	44 / Dec 13*, 14*	-15 / Dec 29
January	3.1	3.1	0.0	41 / Jan 14	-32 / Jan 26
February	8.1	7.6	+0.5	33 / Feb 13	-24 / Feb 1

Winter Season Temperature Departure from Normal: +4.7°F; *Record daily high.

Table 2. Precipitation: Winter 2017-2018 monthly precipitation totals compared to normal.

Winter 2017-2018	Total Monthly Precip. (in.)	1981-2010 Normal (in.)	Departure from Normal (in.)	Greatest 24-hr. total (in. / Date)	# Days with ≥0.01 in. water
December	0.58	0.92	-0.34	0.17 / Dec 20	12
January	0.41	0.63	-0.22	0.11 / Jan 23	10
February	1.24	0.54	+0.70	0.28 / Feb 23	11

Winter Season Precipitation Departure from Normal: +0.14 inches (107% of normal).

Table 3. Snowfall: Winter 2017-2018 monthly snowfall totals compared to normal.

Winter 2017-2018	Total Monthly Snowfall (in.)	1981-2010 Normal (in.)	Departure from Normal (in.)	Greatest 24-hr snowfall total (in. / Date)	Seasonal Cumulative Snowfall (in.)
December	6.5	15.4	-8.9	2.7 / Dec 20	52.9
January	7.9	9	-1.1	2.5 / Jan 15	60.8
February	18.5	8.4	+10.1	4.5 / Feb 23	79.3

Climate Monitoring in Denali

NPS climate stations in Denali complement the long-term record available from the National Weather Service station at park headquarters (Figure 3).

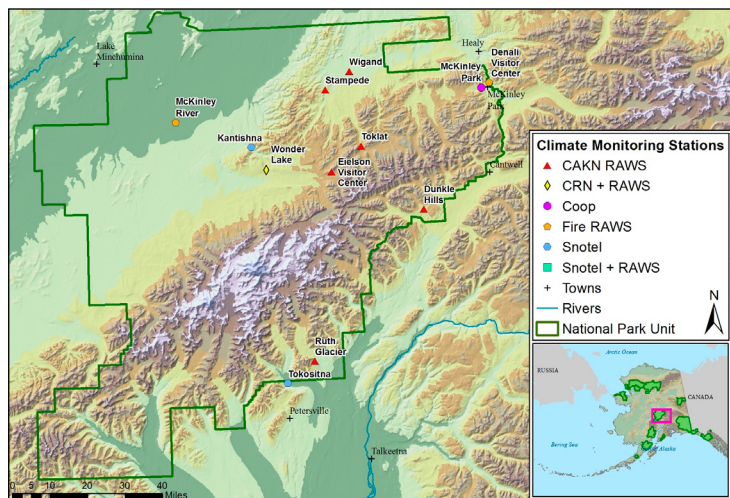


Figure 3. NPS climate stations in Denali National Park & Preserve.

Denali Staff Contribute to Awesome Record

This is a *shout out* to all those folks at the kennels that take the time every day to record the weather observations at the National Weather Service Cooperative Weather Observation Station at Denali Park headquarters. Park staff have been conducting this daily ritual since August of 1925. It may seem trivial, but your efforts have sustained one of the longest and most valuable weather records we have in the state of Alaska. **Thank you!**

Statewide Warmth in December

Alaska had its warmest December on record (Figure 4). The average temperature statewide was 15°F warmer than the long-term average. The winter also ended with Arctic sea ice hitting an all-time record low (Figure 5).

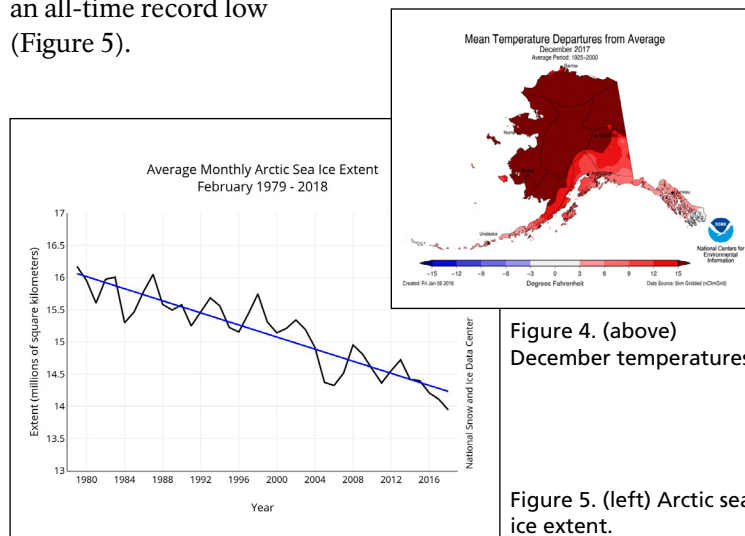


Figure 4. (above) December temperatures.

Figure 5. (left) Arctic sea ice extent.

More Information

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[Current Weather in Denali](#)