



Quarterly Weather & Climate Summary Denali National Park & Preserve Fall 2016

Denali Fall Weather

September was a bit warmer and wetter than normal. The average monthly temperature of 42.0°F was 1.6°F warmer than normal. The high temperature for the month was 69°F, which occurred on the 4th and the low temperature 19°F was recorded on September 28th. The total precipitation (water equivalent) for September was 2.25 inches, which is 132% of normal. Trace amounts of snowfall were recorded on the 25th, 28th, and 30th.

October was warmer than normal with an average temperature of 27.0°F compared to a normal temperature of 22.9°F. There was measurable precipitation on only 6 out of 31 days of the month totaling 0.43 inches of water, 55% of normal. Total snowfall for the month was only 2.6 inches compared to a normal total of 9.9 inches. It was the 5th latest date with a snow depth equal to or greater than 1 inch (Oct. 21). Overall, October ranked as the 9th lowest snowfall total on record.

November was warmer and drier than normal. The average temperature for the month was 1.7°F warmer than normal at 10.6°F. Total precipitation was 4.8 inches of snowfall containing 0.3 inches of water equivalent. Normal snowfall is 13.2 inches.

Overall, fall of 2016 was 2.5°F warmer than normal and the 35th warmest fall on record. A total of 2.98 inches of rain fell over the three month period, 92% of normal. (Figures 1 and 2; Tables 1, 2, and 3).

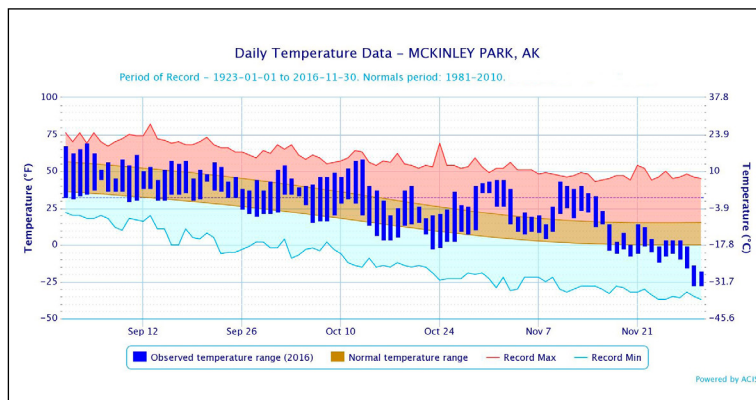


Figure 1. Fall 2016 daily temperatures at Denali showing **record maximum** (red), **record minimum** (blue), **normal** (brown) and **2016 observed range** (blue bars).

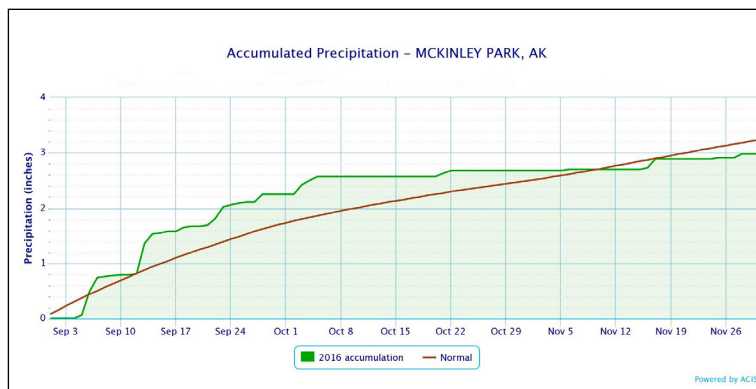


Figure 2. Fall **2016 accumulated precipitation** at Denali (green) compared to **normal** (brown line).

Table 1. Temperature: Fall 2016 average monthly temperatures compared to the 1981-2010 normal.

Fall 2016	Average Monthly Temp (°F)	1981-2010 Normal (°F)	Departure from Normal (°F)	Monthly High (°F / Date)	Monthly Low (°F / Date)
September	42.0	40.4	+1.6	69 / Sept. 4	19 / Sept. 28
October	27.0	22.9	+4.1	58 / Oct. 13	-3 / Oct. 23
November	10.6	8.9	+1.7	44 / Nov. 1, 2	-28 / Nov 29, 30

Fall Season Temperature Departure from Normal: + 2.5 °F

Table 2. Precipitation: Fall 2016 monthly precipitation totals compared to normal.

Fall 2016	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	2.25	1.70	+0.55	0.55 / Sept. 13	20
October	0.43	0.78	-0.35	0.17 / Oct. 3	5
November	0.30	0.75	-0.45	0.16 / Nov. 17	5

Fall Season Precipitation Departure from Normal: -0.25 inches (93% of normal)

Table 3. Snowfall: Fall 2016 monthly snowfall totals compared to normal.

Fall 2016	Total Monthly Snowfall (in.)	1981-2010 Normal (in.)	Departure from Normal (in.)	Greatest 24-hr snow-fall total (in. / Date)	Seasonal Cumulative Snowfall (in.)
September	Trace	4.7	-4.7	T / Sept. 25 & 28	Trace
October	2.6	9.9	-7.3	1.7 / Oct. 22	2.6
November	4.8	13.2	-8.4	2.0 / Nov 17	7.4

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).

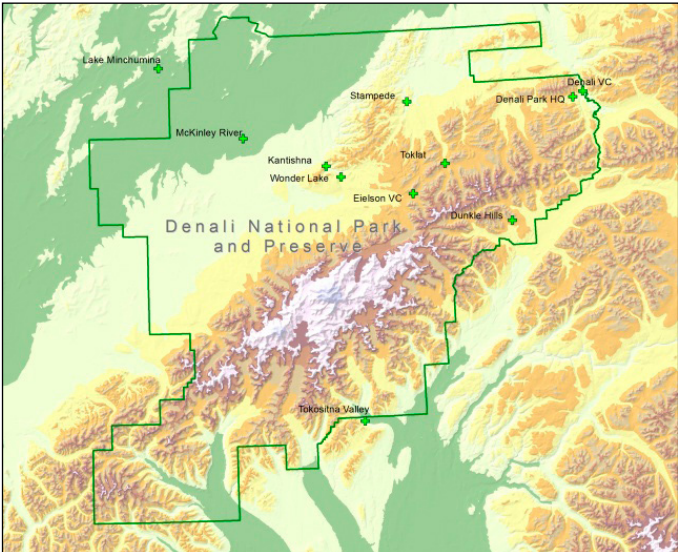


Figure 3. NPS climate stations in Denali National Park & Preserve

More Information

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Mountain Stations: Temperatures Up High

In 2016, the Denali mountaineering team helped establish two new sites on Denali, one at 16,200’ (16K) and one at 17,200’ (17K).

Fall Temperature Summary: For the fall season (September-November), 16k temperatures ranged from -38.0°F to 27.1°F. Temperatures did not exceed the freezing threshold at any point, and temperatures did not get above 0°F in November. At 17k, the average monthly temperature was -6.6°F for September and -7.2°F for October. November was much colder with an average monthly temperature of -26.4°F and a minimum of -42.9°F on the 29th. Summary statistics are shown below (Table 4).

Month	16k Avg.	17k Avg.	16k Max.	17k Max.	16k Min.	17k Min.
8	12.2	5.8	31.7	23.3	-2.1	-6.6
9	-2.2	-6.6	27.1	22.4	-26.5	-27.7
10	-3.7	-7.2	23.5	21.5	-28.6	-33.7
11	-22.7	-26.4	-7.4	-8.0	-38.0	-42.9
12	-25.1	-28.8	1.6	-2.5	-41.3	-46.4

Table 4. Air temperatures at 16K and 17K on Denali.