



Weather & Climate Summary Denali National Park & Preserve Summer 2018

Denali Summer Weather 2018

Overall, the basic climate parameters of average temperature and total precipitation were near-normal for summer 2018 in Denali. June was cooler than normal, July was warm and dry, and August was wet. The summer season ended up 0.2°F warmer than normal with a seasonal average temperature of 53.2°F. A total of 9.35 inches of rain fell over the three month period, which is 116% of normal (Figures 1 and 2; Tables 1 and 2).

For June, the average monthly temperature of 51.7°F was 1.1°F cooler than normal. The coolest temperatures were mid-month, with a low of 27°F on June 12. Total rainfall for the month was 2.56 inches, compared to a normal of 2.15 inches. More than half the rainfall came the second week of the month. The daily total of 0.99 inches on June 11 was a daily record. There were 21 days with measureable precipitation (≥ 0.01 inches) in June, which ties 2016 for the highest count of rainy days in 82 years of nearly complete observations.

July was warmer and drier than normal. The average air temperature was 1.5°F warmer than normal at 57.1°F. The high temperature for the summer was 81°F on July 23. Total precipitation for the month was 1.78 inches, only 55% of normal. The greatest 24-hour rainfall event occurred on July 1 with 0.51 inches of rain.

August was wet, with temperatures close to the long-term average. August had 25 days with measureable (≥ 0.01 inches) rainfall and all but one day recorded at least a trace. This is a new record for the station based on 82 years of nearly complete observations. While the number of days

with rainfall was unprecedented, the total rainfall amount for the month was 5.01 inches, which is the 7th highest on record.

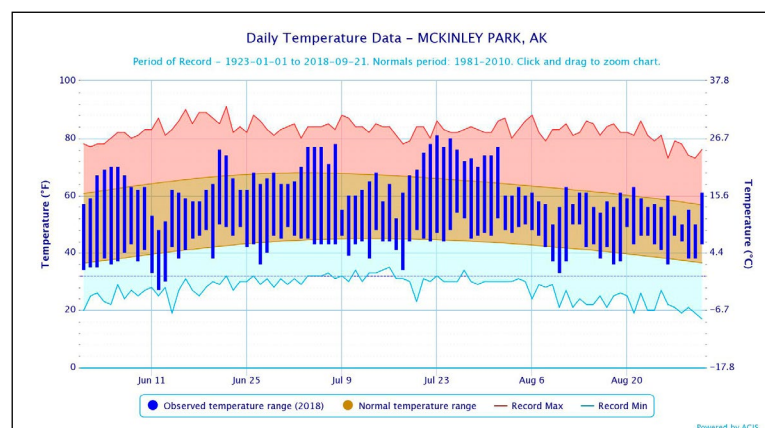


Figure 1. Summer 2018 daily temperatures at Denali showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

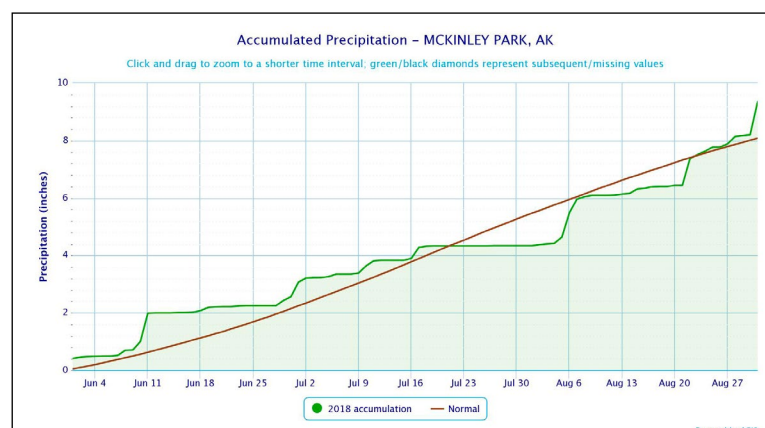


Figure 2. Summer 2018 accumulated precipitation at Denali (green) compared to normal (brown line).

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

Summer 2018	Average Monthly Temp (°F)	1981-2010 Normal (°F)	Departure from Normal (°F)	Monthly High (°F / Date)	Monthly Low (°F / Date)
June	51.7	52.8	-1.1	76 / June 21	27 / June 12
July	57.1	55.6	+1.5	81 / July 23	24 / July 18
August	50.8	50.6	+0.2	77 / Aug 1	33 / Aug 10

Summer Season Temperature Departure from Normal: +0.2°F.

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

Summer 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
June	2.56	2.15	+0.41	0.99* / June 11	21
July	1.78	3.22	-1.44	0.51 / July 1	14
August	5.01	2.71	+2.30	1.15 / Aug 31	25

Summer Season Precipitation Departure from Normal: +1.27 inches (116% of normal); *Daily Record.

Rainy Days

On average since 1951, 43 summer days see at least 0.01 inches of rainfall each year at Denali HQ. However, this number has increased substantially for many recent summers (Figure 3). Seven of the top ten summers have occurred in the last decade. In 2016, 69 out of 82 days recorded measurable precipitation, the highest of any year. There were 60 days with measureable precipitation in 2018. The pattern is evident for each summer

month, with the largest summer changes driven by the number of wet days in August.

The trend in total precipitation amount is less obvious and not statistically significant for the 1951-2018 time period (Figure 4). Total summer rainfall was highest in the summer of 1967, followed by the 2002 and 2015.

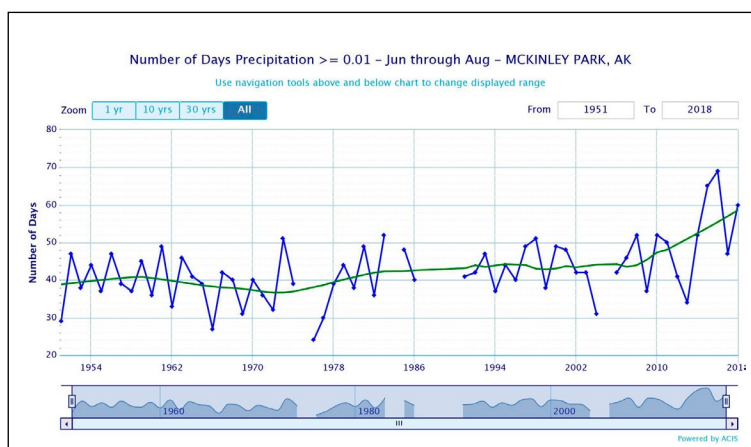


Figure 3. The number of summer days with measureable precipitation has increased significantly since 1951. Observed values in blue; local regression trend in green. Years with more than three missing daily observations excluded.

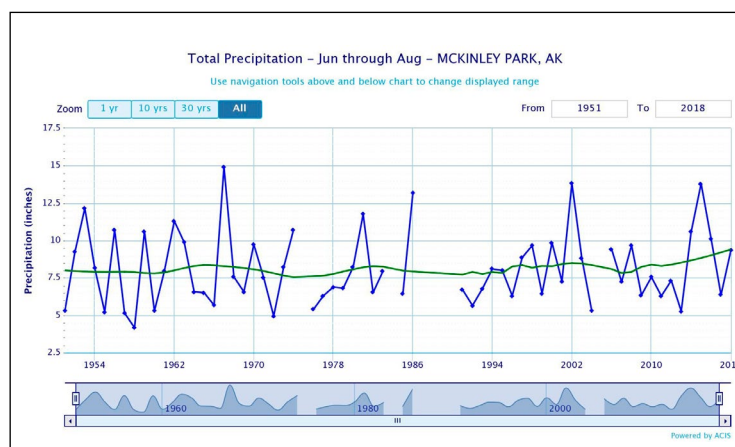


Figure 4. Total precipitation amount at Denali headquarters 1951-2018.

Climate Monitoring in Denali

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

August 2018 was a wet month in the park. Eielson Visitor Center had 12.36 inches, Wonder Lake had 9.94 inches, and Kantishna had 10.9 inches of rain for the month.

More Information

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[Current Weather in Denali](#)

<http://science.nature.nps.gov/im/units/cakn>

