



Weather & Climate Summary Denali National Park & Preserve Summer 2024



1924-2024. Celebrating 100 years of climate observations at Denali with climate inspired art. Many thanks to the kennels team for taking the daily weather observations. NPS Photos/Emily Miller

Denali Park Headquarters (HQ) Summer 2024

Summer 2024 was warmer and drier than normal at Denali Park HQ. The summer season was 0.5°F warmer than the 1991-2020 normal. The total summer rainfall was 5.93 inches, only 69% of normal. June and July were much drier than normal, while August was slightly wetter than normal (Table 1 and 2, Figures 1 and 2). We celebrated 100 years of observations from this station in August, one of the longest climate records in Alaska!

June

June was much warmer and drier than normal. For 17 consecutive days starting on June 16 the daily high temperature reached 70°F or higher. This is the second longest run of consecutive $\geq 70^\circ\text{F}$ days on record. The average temperature for the month was 2.6°F warmer than normal and the 10th warmest June on record. The total rainfall was 1.30 inches, which is 54% of normal. There was measurable rain 10 days out of 30 days in June, with the rainiest two days on June 14 and 15 with a 2-day total of 0.76 inches. The Riley Fire started on June 30 near the park entrance, prompting evacuations and disrupting park and community operations.

July

The average temperature for July ended up right at normal at 55.5°F, with extreme daily variability including record lows and record highs. Most of the first part of July was near normal to slightly cooler than normal. Temperatures dipped mid-month with a record low temperature of 34°F on July 16. The minimum daily temperatures between July 16 and 19 were cooler than normal. After that, temperatures warmed. Four consecutive days starting on July 22 had high temperatures that reached 80°F or above. This was the fifth longest run of consecutive daily highs $\geq 80^\circ\text{F}$. July rainfall was well below normal at 1.36 inches, which is only 44% of normal.

August

August ended up cooler than normal with just above normal rainfall. The average monthly temperature didn't quite reach 50°F and ended up 1.1°F cooler than normal. On August 31 the minimum temperature was 30°F, the first temperature below freezing since June 4. The monthly rainfall total was 0.26 inches above normal. August 24, 2024 marked the 100th anniversary of daily climate observations at Denali.

Table 1. Denali Park HQ average monthly temperatures compared to the 1991-2020 normal.

Summer 2024	Average Monthly Temp (°F)	1991-2020 Normal (°F)	Departure from Normal (°F)
June	55.6	53.0	+2.6
July	55.5	55.5	0.0
August	49.8	50.9	-1.1

Summer temperature departure from normal: +0.5°F

Table 2. Denali Park HQ monthly precipitation totals compared to normal.

Summer 2024	Total Monthly Precip. (in.)	1991-2020 Normal (in.)	Departure from Normal (in.)
June	1.30	2.42	-1.12
July	1.36	3.12	-1.76
August	3.27	3.01	+0.26

Summer precipitation departure from normal: -2.62 in. (69% of normal).

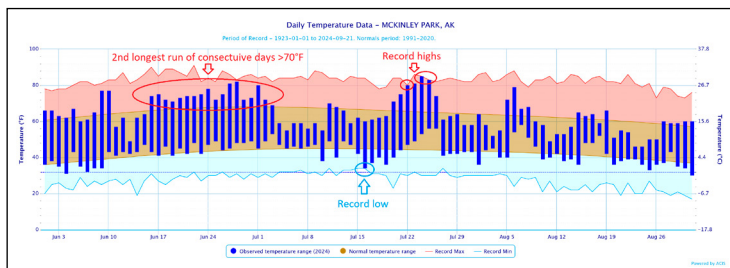


Figure 1. Summer 2024 daily temperatures at Denali Park HQ showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars). Data from: <http://xmacis.rcc-acis.org/>.

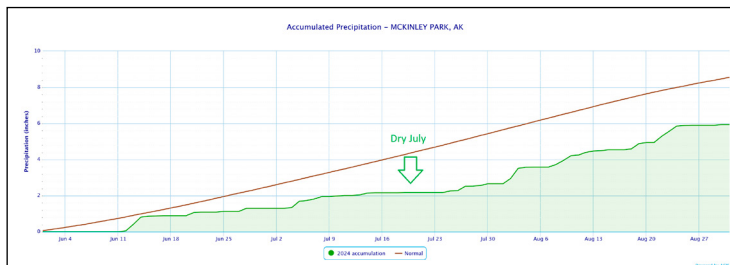


Figure 2. Summer 2024 accumulated precipitation at Denali Park HQ (green) compared to normal (brown line). Data from: <http://xmacis.rcc-acis.org/>.

Talkeetna Summer Season 2024

Talkeetna was cooler and wetter than normal this summer. The summer season ended up 1.0°F cooler than the 1991-2020 normal. June was the anomaly. It was 1.6°F warmer than normal with only 49% of the normal rainfall. On June 22 the high temperature reached 83°F, a daily record. July and August were both more than 2°F cooler than normal. July had twice as much rain as normal. The normal summer rainfall total is 9.28 inches, this summer 12.06 inches fell.

Summer Climate Highlights

Warmer Summers at Toklat

The average temperature for the summer season at Toklat was 51.1°F, just above the site average with 19 years on record (Figure 3). Overall, summer temperatures have increased significantly since 2006 when we began continuous measurements. The warmest summer was 2013 (53.5°F) and the coolest was 2008 (47.3°F).

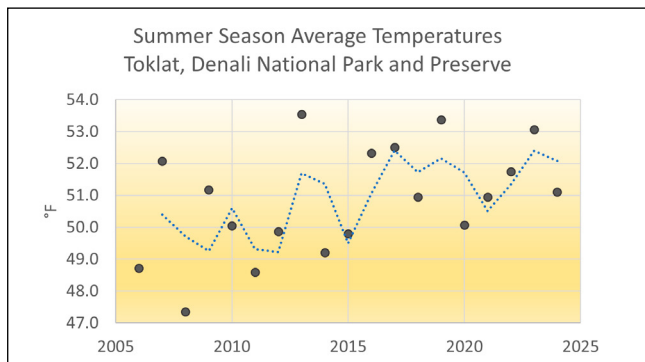


Figure 3. Summer season average temps at Toklat, Denali NP&P.

Windy Summer

Summer 2024 ranked as the windiest on record for most of Alaska (back to 1940), particularly for the western half of the

state. Check out Richard James' [Deep Cold: Alaska Weather & Climate](#) blog for more details. August winds in Denali were impressive. Figure 4 shows the statewide wind ranking for the month with the red shaded areas ranking as the windiest, including areas of Denali.

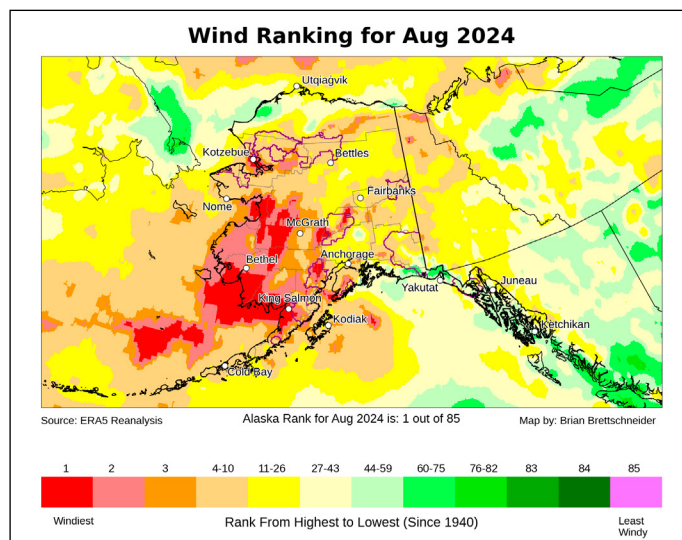


Figure 4. Statewide wind ranking map for August 2024 (back to 1940). Map courtesy of Brian Brettschneider. Red shading indicates areas that ranked as the windiest.

Tokositna Valley Rain

Park headquarters was drier than normal this summer, but areas south of the Alaska Range were wetter than normal. The summer rainfall total at the Tokositna Valley SNOTEL was 23.8 inches, 7 inches more than average. Summer rainfall has increased significantly at this site (back to 2007). The wettest summer was 2022 with 30.8 inches of rain and the driest summer was 2019 with only 3.6 inches (Figure 5).

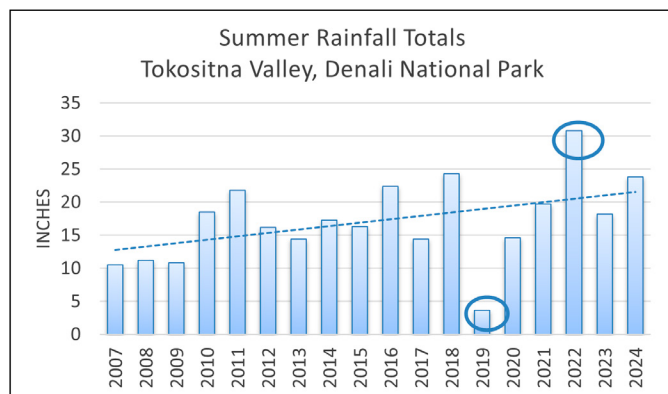


Figure 5. Summer rainfall totals have increased significantly at the Tokositna Valley SNOTEL site between 2007 and 2024 (using Mann-Kendall trend test).

More Information

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[Current weather in Denali](#)

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](#)