



Weather & Climate Summary Denali National Park & Preserve Summer 2017

Teklanika River, Denali National Park and Preserve, photo by Ken Hill.

Denali Summer Weather

June, July, and August were all warmer and drier than normal in Denali. The summer season ended up 1.7°F warmer than normal with a seasonal average temperature of 54.7°F. 2017 was tied with 1941 and 1953 as the 12th warmest summer on record (1926-2017; summer seasons with ≤5 days of missing data, n=83). A total of 6.36 inches of rain fell over the three month period, which is 79% of normal (Figures 1 and 2; Tables 1 and 2).

June was warmer and drier than normal. The average monthly temperature of 53.9°F was 1.1°F warmer than normal. The warmer than normal temperatures occurred during the first part of June and then moderated to near normal temperatures toward the end of the month. The minimum daily temperatures mid-month were on the cool side. The high temperature for the month was 83°F, which occurred on the 10th; a new record high for that date. The total rainfall for June was 1.88 inches, 87% of normal.

July was also warmer and drier than normal. The average air temperature was 2.2°F warmer than normal at 57.8°F. Total precipitation for the month was 2.87 inches, normal is 3.22 inches for July. The greatest 24-hour rainfall event occurred on July 10 with 0.61 inches of rain.

August was warmer and much drier than normal. The average temperature for the month was 1.7°F warmer than normal at 52.3°F. It was 82°F on August 7th, which is a record high temperature for that day. A total of 1.61 inches of rain fell during the month, which is 60% of normal.

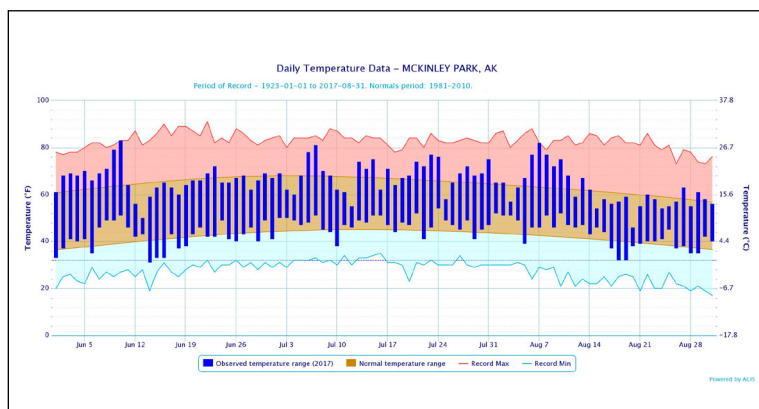


Figure 1. Summer 2017 daily temperatures at Denali showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

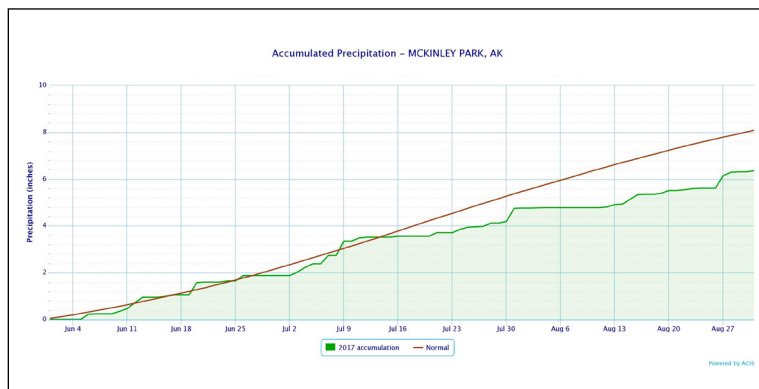


Figure 2. Summer 2017 accumulated precipitation at Denali (green) compared to normal (brown line).

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

Summer 2017	Average Monthly Temp °F	1981-2010 Normal °F	Departure from Normal °F	Monthly High °F / Date	Monthly Low °F / Date
June	53.9	52.8	+1.1	83* / Jun 10	31 / Jun 14
July	57.8	55.6	+2.2	81 / Jul 7	38 / Jul 10
August	52.3	50.6	+1.7	82* / Aug 7	32 / Aug 18,19

Summer Season Temperature Departure from Normal: +1.7°F; *Record daily highs

Table 2. Precipitation: Summer 2017 monthly precipitation totals compared to normal.

Summer 2017	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	1.88	2.15	-0.27	0.52 / Jun 20	13
July	2.87	3.22	-0.35	0.61 / Jul 10	16
August	1.61	2.71	-1.10	0.53 / Aug 27	18

Summer Season Departure from Normal: -1.72 inches (79% of normal)

Climate Monitoring in Denali National Park and Preserve

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

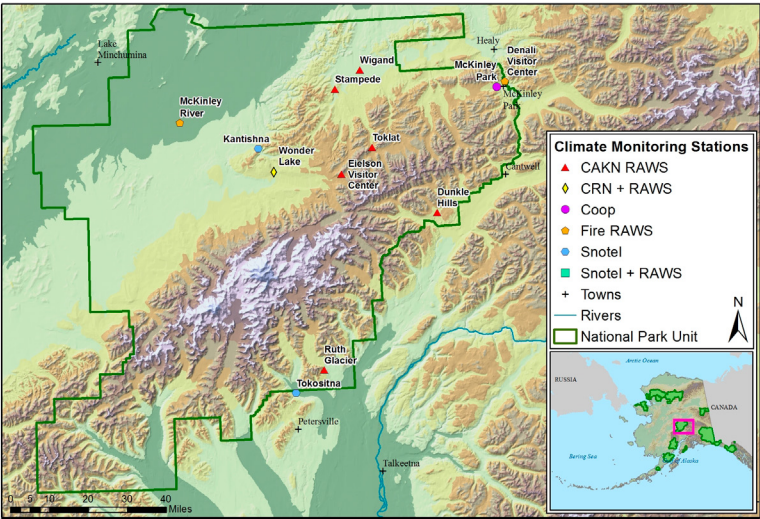


Figure 3. Map of climate stations in Denali.

Summer temperatures in YUCH

Figure 4 shows the average 2017 summer temperatures at paired high and low elevation climate stations on the south side of the Alaska Range in Denali National Park and Preserve. The Ruth Glacier station sits on the southern flanks of the Tokosha Mountains just west of the terminus of the Ruth Glacier in the Alaska Range at an elevation of 3,300'. It is an alpine site within the Cook Inlet climate division influenced by the moisture and warmth of the Pacific Ocean. The temperatures are cool in summer and relatively warm in the winter. The Tokositna Valley site is about 9 miles west of the Ruth Glacier site at an elevation of 850'. For summer 2017, Ruth Glacier was on average ~6°F cooler than Tokositna Valley. The difference in temperature was greater for the warmer months

of June and July with a spread of about 7°F. In August, when temperatures started to cool down for the season, the difference between the sites was ~5°F.

The seasonal precipitation maximum occurs in August and September in this region. The total precipitation at the two sites in June averaged ~ 1.4 inches, while the total in August was ~ 11 inches.

There are very few long-term temperature or precipitation records for sites at higher elevations in Alaska. The CAKN climate monitoring sites are improving state climate models by instrumenting higher elevation sites, like Ruth Glacier, in the mountainous regions of Alaska national parks.

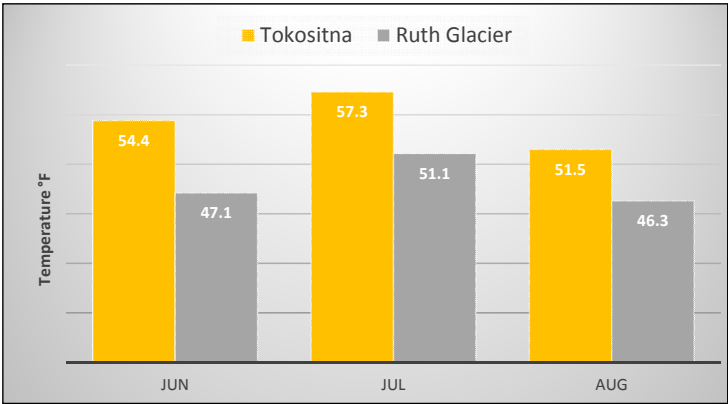


Figure 4. 2017 average summer temperatures at the Ruth Glacier and Tokositna climate stations.

More Information

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[Current Weather in Denali](#)