



Wrangell Mountains Near Hidden Lake. NPS Photo/Bryan Petryl

Weather & Climate Summary Wrangell-St. Elias National Park & Preserve Summer 2023

Gulkana Summer Weather 2023

Overall, the summer in Gulkana was warm and dry. The average temperature was 57.8°F, which is 2.4°F above the 1991-2020 normal. Although 2013, 2016, and 2019 were all warmer, this was the 6th warmest summer since 1943. With only 2.17 inches of rain, it was the 4th driest summer on record and the driest summer since 2004. Gulkana was exceptionally dry, but most of Wrangell-St. Elias was wetter than normal.

June

June was dry with near-normal temperatures. The average monthly temperature was 54.9°F. No temperature records were broken in June. Mid-month was cooler than usual with an overnight low below freezing on June 15. With only 0.22 inches of precipitation, it was the second driest June on record – only 1946 was drier. The only day with more than 0.10 inches of rain recorded was on June 1.

July

July was warm and dry. The highest temperature in July was 83°F on July 23rd and 31st. Overall, the month tied for the 4th warmest since continuous records began in 1943. Only two days recorded rainfall with more than 0.10 inches (0.24 inches on the 12th and 0.16 inches on the 19th). Just over half an inch of rain fell in the month, making it the 4th driest July since 1943.

August

August was another very warm month and rainfall was below normal. With an average temperature of 58.0°F, August was 4.5°F warmer than normal and tied for the 3rd warmest on

record. Warm nights the last week of the month were out of the ordinary with overnight lows in the mid-50s (normal minimum temperatures at this time are around 40°F). A total of 1.41 inches of rain fell during August, with 1.10 inches recorded between the 9th and 16th. Summer 2023 ended up 2.4°F warmer than normal and only 43% of normal precipitation. See Table 1 and 2; Figure 1 and 2.

Table 1. Summer 2023 average monthly temperatures compared to the 1991-2020 normal.

Summer 2023	Average Monthly Temp (°F)	1991-2020 Normal (°F)	Departure from Normal (°F)
June	54.5	54.9	-0.4
July	61.0	57.9	+3.1
August	58.0	53.5	+4.5

Summer Temperature Departure from normal: +2.4°F

Table 2. Summer 2023 monthly precipitation totals compared to normal.

Summer 2023	Total Monthly Precip. (in.)	1991-2020 Normal (in.)	Departure from Normal (in.)
June	0.22	1.36	-1.14
July	0.54	1.74	-1.20
August	1.41	1.91	-0.50

Summer Precipitation Departure from normal: -2.84 in. (43% of normal).

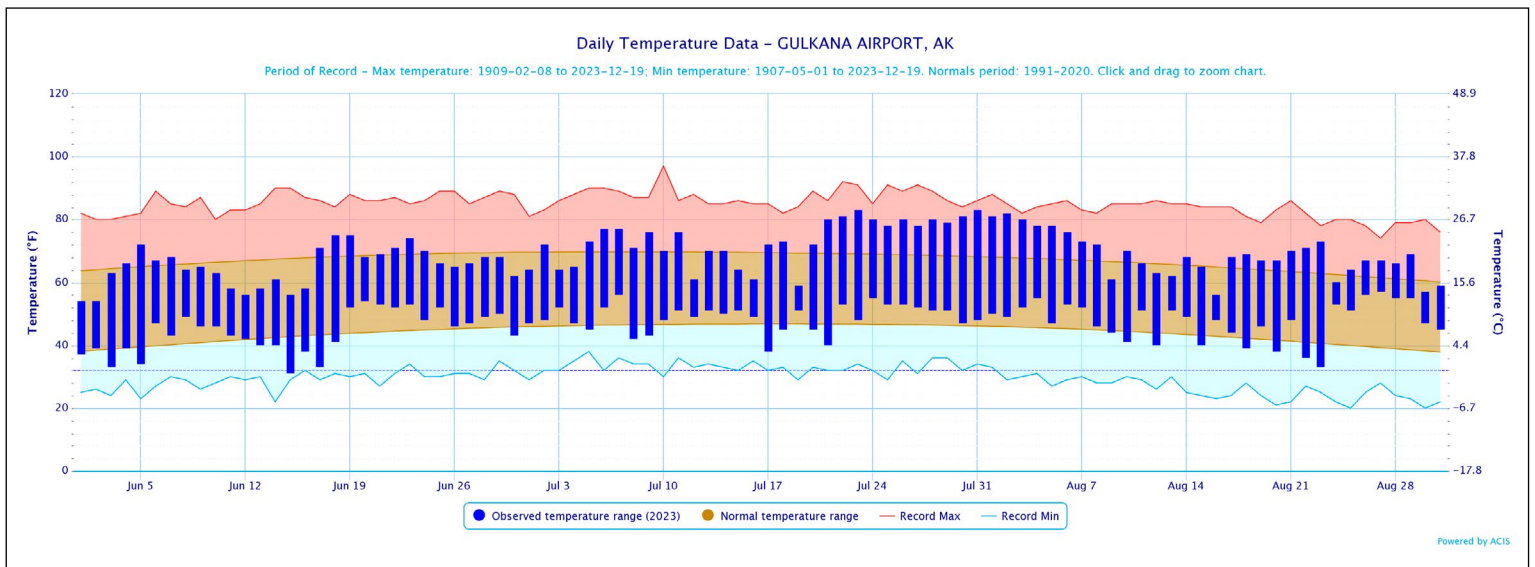


Figure 1. Summer 2023 daily temperatures at Gulkana showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

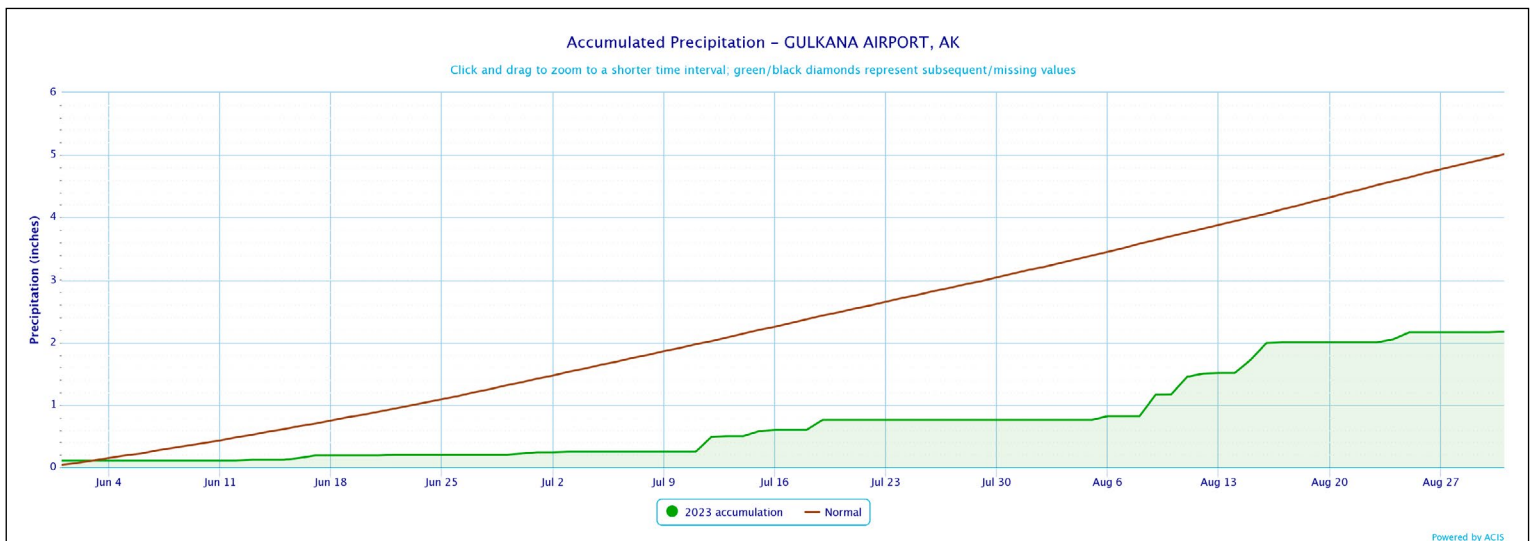
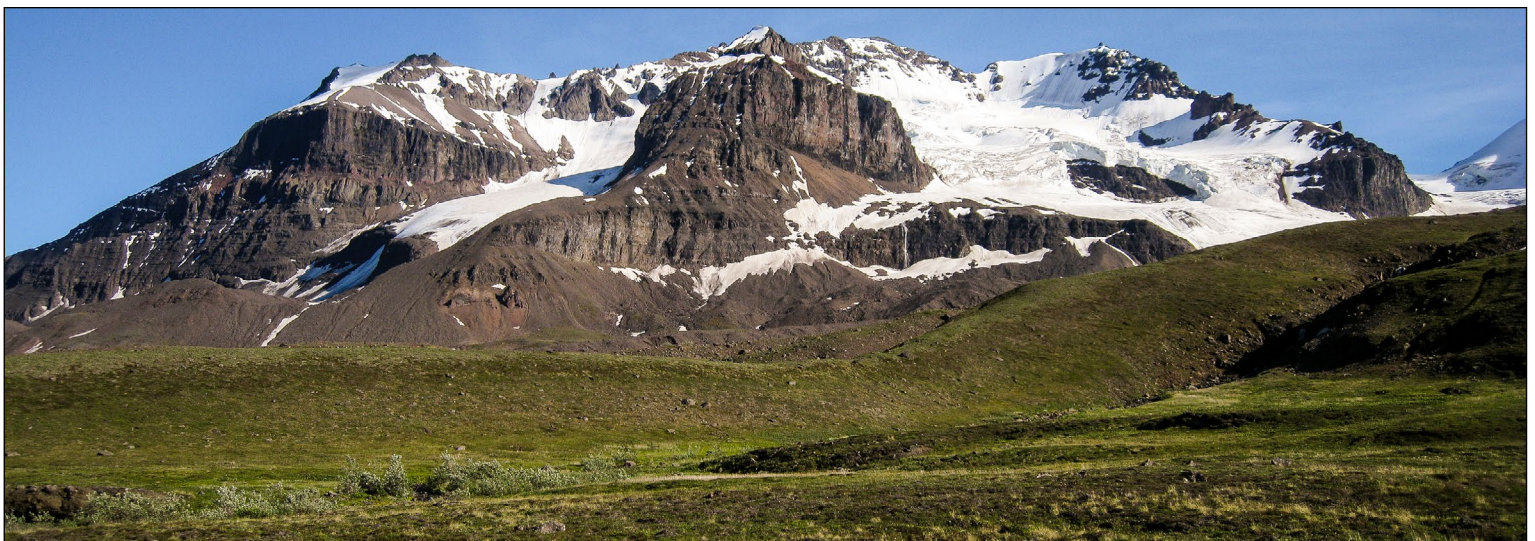
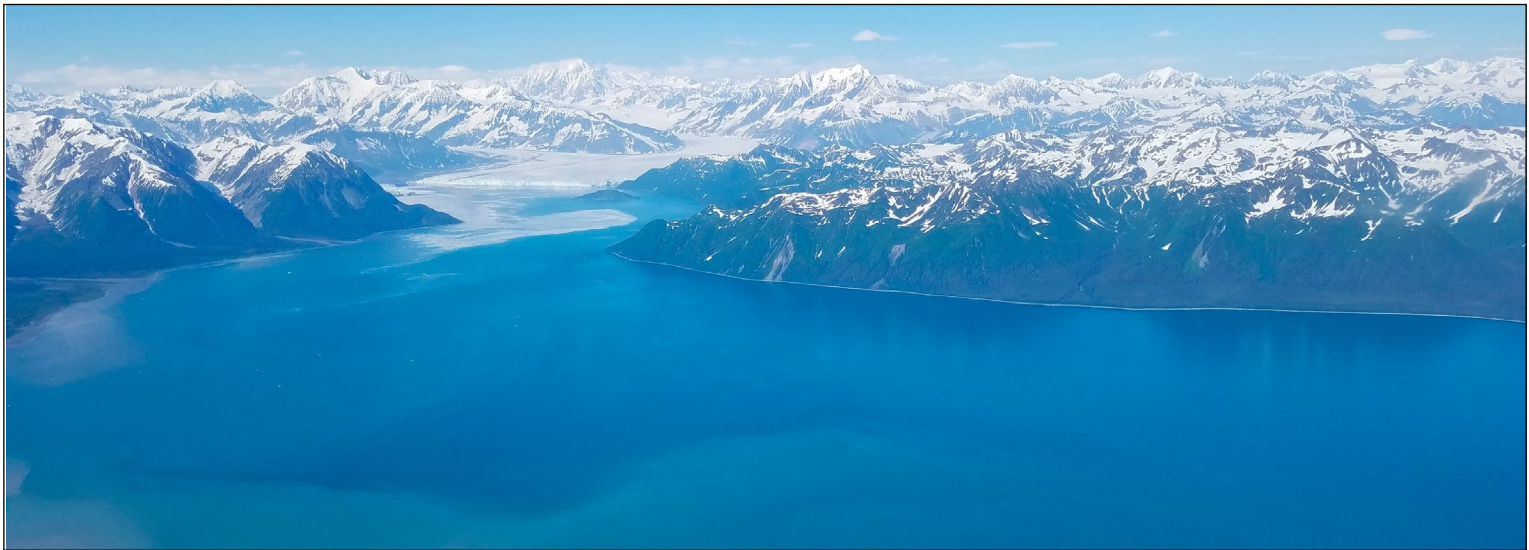


Figure 2. Summer 2023 accumulated precipitation at Gulkana (green) compared to normal (brown line).



Goat Trail-Skolai Pass Area. NPS Photo



Icy Bay. NPS Photo

Yakutat Summer Weather 2023

Climate observations in Yakutat go back to 1917 with some gaps in the 1930s and 1940s. Summer 2023 was warmer and drier than normal. The average summer temperature was 54.5°F compared to a normal of 54.0°F. It was the driest July on record (100 years of data) with only 1.14 inches of rain. Total summer rainfall was 18.58 inches, only 69% of normal.

June

June temperatures were cooler than normal at 51.3°F. Clear nights at the beginning of the month dropped temperatures into the mid 30s even though high temperatures were warmer than usual. The high temperature for the month was 71°F on June 19th. Precipitation was above normal in June with 8.07 inches recorded. The first and third weeks of June were relatively dry whereas the second and last week of June were quite wet. Overall, the month was 150% of normal precipitation.

July

July was dry with near-normal temperatures. The average July temperature was 0.3°F warmer than normal. It was the driest July on record with 100 years of observations! Rain was only recorded on six days of the month and totaled 1.14 inches, only 15% of normal. As a recent comparison, July 2022 had recorded rainfall on 20 days that totaled 9.27 inches.

August

August was warmer and drier than normal. The high temperature for the summer was 76°F on August 5th. The following ten days were wet with temperatures above normal at night. The overnight lows of 56°F and 57°F on August 26-27 were among the warmest late-August nights on record. August marks the start of the rainy season. The average rainfall goes from just 5.41 inches in June to almost 14 inches in August. This August the rainfall total was below normal at 9.37 inches, 67% of normal. See Table 3 and 4; Figure 3 and 4.

Table 3. Summer 2023 average monthly temperatures compared to the 1991-2020 normal.

Summer 2023	Average Monthly Temp (°F)	1991-2020 Normal (°F)	Departure from Normal (°F)
June	51.3	51.9	-0.6
July	55.7	55.4	+0.3
August	56.4	54.7	+1.7

Summer temperature departure from normal: +0.5°F

Table 4. Summer 2023 monthly precipitation totals compared to normal.

Summer 2023	Total Monthly Precip. (in.)	1991-2020 Normal (in.)	Departure from Normal (in.)
June	8.07	5.41	+2.66
July	1.14	7.63	-6.49
August	9.37	13.91	-4.54

Summer precipitation departure from normal: -8.37 in. (69% of normal).



Catching rain drops. NPS Photo/Ken Hill

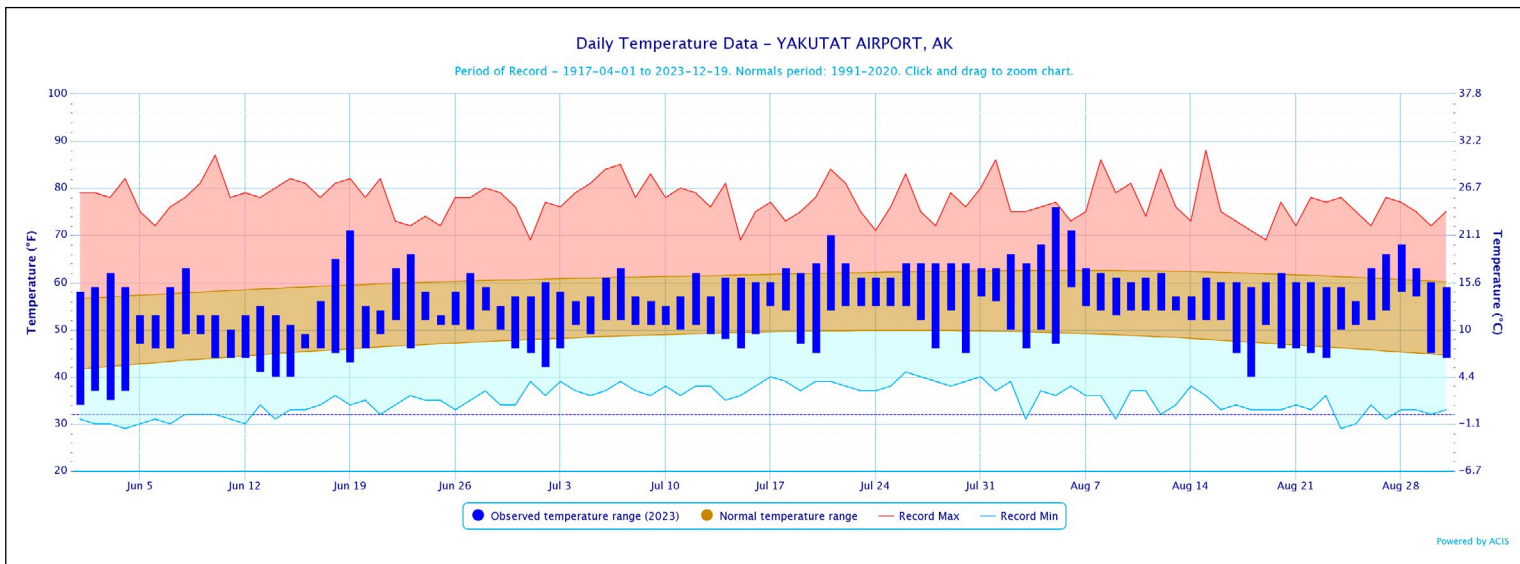


Figure 3. Summer 2023 daily temperatures at Yakutat showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

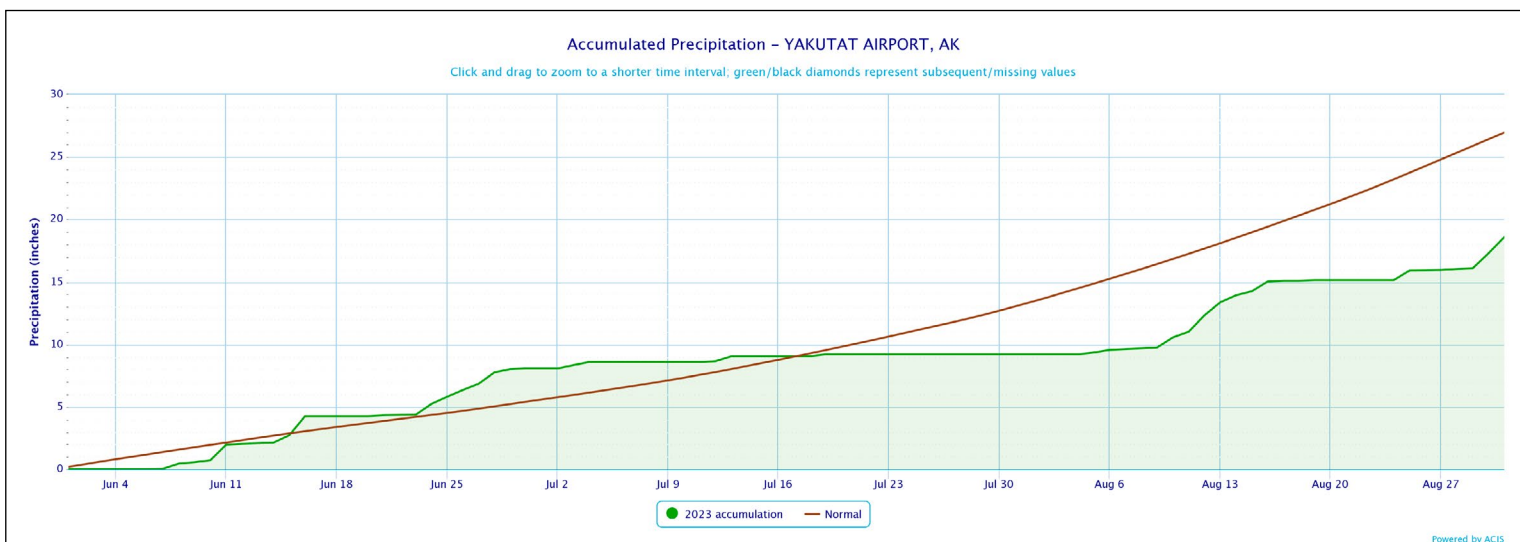


Figure 4. Summer 2023 accumulated precipitation at Yakutat (green) compared to normal (brown line).



Malaspina Glacier. NPS Photo

Chicken Creek Temperature

All of Wrangell-St. Elias (WRST) was warmer than normal this summer, but some areas north of the Wrangell Mountains were especially hot. The Chicken Creek climate station sits at 5240 feet elevation in the Nutzotin Mountains northeast of Chisana. The station recorded its warmest July, August, and summer season in 2023. Summer temperatures at Chicken Creek have been increasing since the station was installed in 2005 (Figure 5).

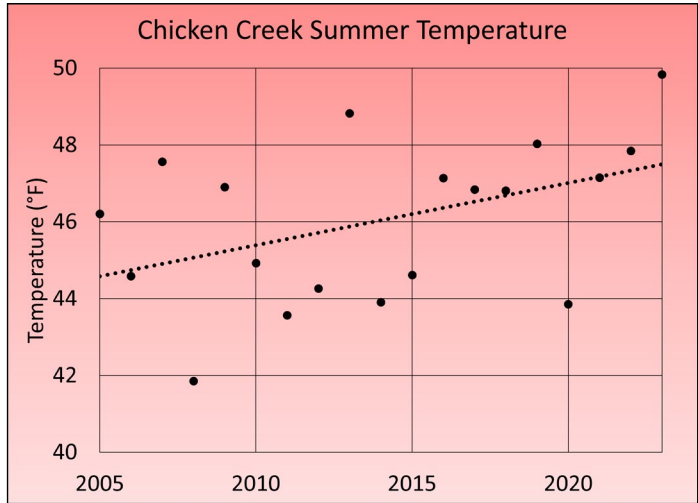


Figure 5. Summer air temperature at Chicken Creek climate station, Wrangell – St. Elias National Park and Preserve, 2005-2023.

Summer Precipitation in WRST and beyond

Although Gulkana and Yakutat were drier than normal, most of WRST was wetter than usual. Modeled data from 1940-2023 indicates that most of WRST ranked among the top 25 wettest summers in 2023 (light green colors in Figure 6). Portions of the Chugach Mountain range were likely in the top 10 (dark green areas). At the NPS Gates Glacier climate

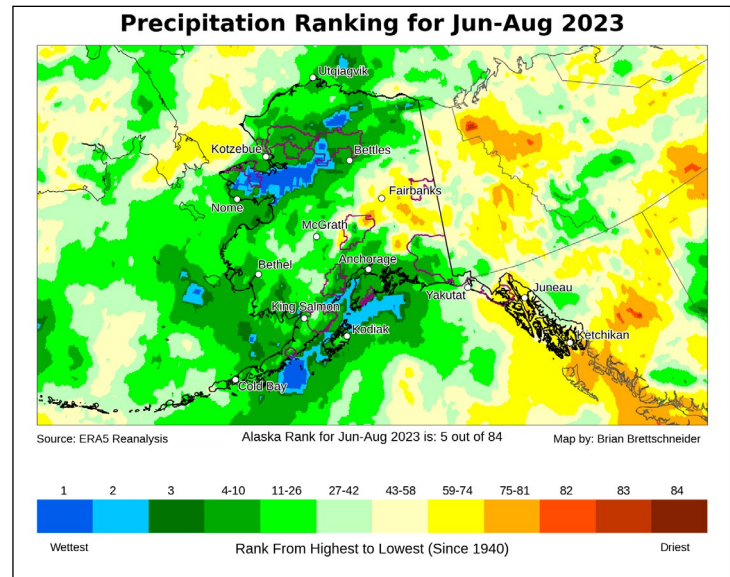


Figure 6. Summer 2023 precipitation in Alaska. Dark blue is ranked as the wettest on record and dark brown colors are ranked as the driest. Figure generated by Brian Brettschneider using ERA5 reanalysis data.

station near McCarthy, total summer precipitation was 16.82 inches compared to a median of 11.62 inches (Figure 7). The wettest summer at this location over the past 15 years was in 2018, when almost 15 inches of rain was recorded in August alone.

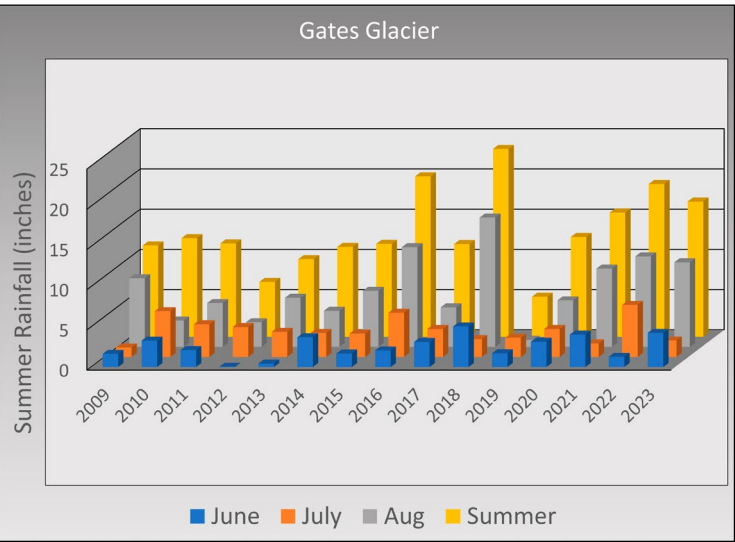
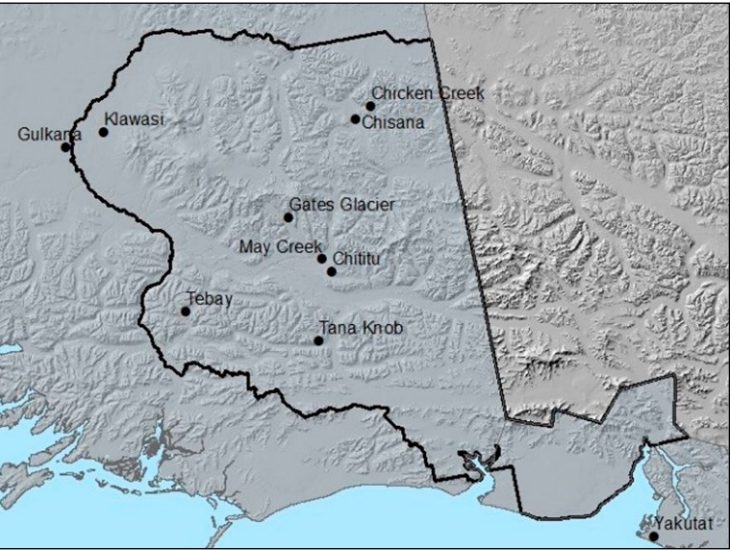


Figure 7. June, July, August, and total summer season precipitation at NPS Gates Glacier climate station in Wrangell-St. Elias National Park and Preserve 2009-2023.

Current Weather in Wrangell-St. Elias



[Click this link](#) for current weather in Wrangell-St. Elias

More Information

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<https://www.nps.gov/im/cakn/climate.htm>
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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](#)