

Central Alaska Network

National Park Service
U.S. Department of the Interior

Alaska Region
Inventory & Monitoring Program



Denali NP & Pres. • Wrangell-St. Elias NP & Pres. • Yukon-Charley Rivers N Pres.

Summer 2017

Weather & Climate Summary Wrangell-St. Elias National Park & Preserve Summer 2017

Mt. Blackburn and the Kennicott Glacier, Wrangell Mountains, photo by Ken Hill.

Gulkana and Yakutat Summer Temperatures

The average summer temperatures in both Gulkana and Yakutat were warmer than normal.

In Gulkana, June was 1.8°F warmer than normal with an average temperature of 56.2°F. A record high and low were recorded a week apart. The record high was on June 9th at 87°F and a new record low was set on June 16 at 32°F. The high temperature was also the high temperature for the summer. The July temperatures continued to be above normal. The monthly average temperature was 59.4°F, which is 1.8°F above normal. Temperatures remained warm through August. It was 1.4°F warmer than normal with a monthly average of 54.9°F. The first week of the month was quite warm compared to normal daily temperatures. Overall the summer of 2017 was 1.7°F warmer than normal with an average temperature of 56.8°F (Figure 1, Table 1).

In Yakutat, the monthly mean temperature for June was 52.0°F compared to a normal of 50.8°F. Temperatures were warmest near the beginning of the month. July temperatures continued above normal. It was the 7th warmest July on record (1917-2017) with an average monthly temperature of 56.1°F, which is 1.8°F above normal. On July 6th the high temperature was 76°F, which was the high for the month and for the summer. The average monthly temperature for August was also above normal at 55.3°F, 1.5°F above the 1981-2010 normal. The high temperature for the month was 67°F and it was recorded on five days of the month: August 1, 3, 5, 8, and 9. Overall, the summer season was 1.5°F above normal with an average temperature of 54.5°F (Figure 1, Table 1).

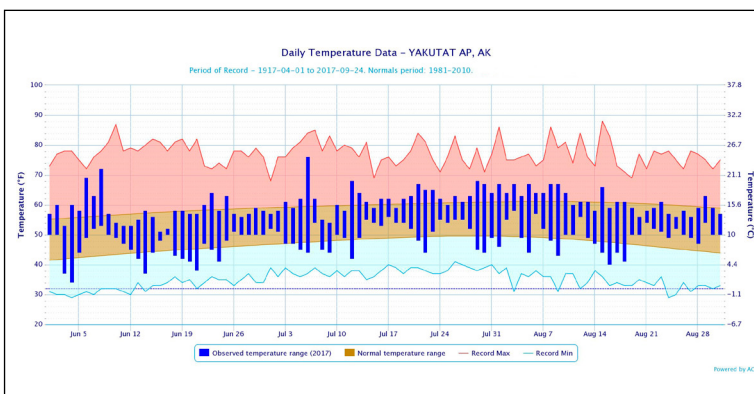
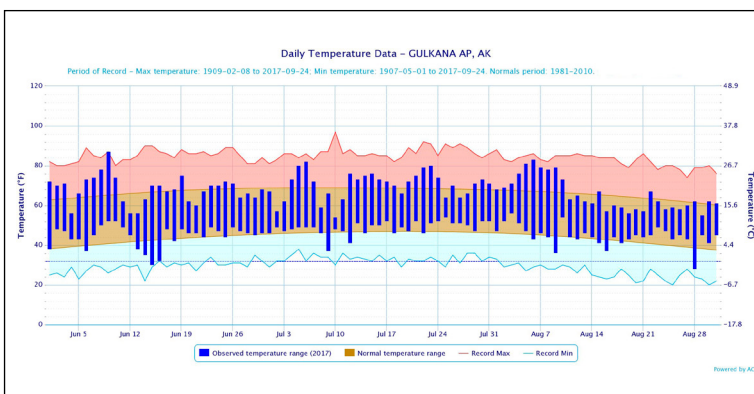


Figure 1. Summer 2017 daily temperatures at Gulkana and Yakutat showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

Table 1. Temperature: Gulkana (top) and Yakutat (bottom) summer 2017 temperatures compared to 1981-2010 normals.

Gulkana Summer 2017	Average Monthly Temp °F	1981-2010 Normal °F	Departure from Normal °F	Monthly High °F / Date	Monthly Low °F / Date
June	56.2	54.4	+1.8	87* / Jun 9	32** / Jun 16
July	59.4	57.6	+1.8	82 / Jul 6	37 / Jul 9
August	54.9	53.5	+1.4	83 / Aug 6	28-Aug-28

Summer Season Temperature Departure from Normal: +1.7°F; *Record daily high, **Record daily low

Yakutat Summer 2017	Average Monthly Temp °F	1981-2010 Normal °F	Departure from Normal °F	Monthly High °F / Date	Monthly Low °F / Date
June	52.0	50.8	+1.2	72 / Jun 8	34 / Jun 4
July	56.1	54.3	+1.8	76 / Jul 6	42 / Jul 12
August	55.3	53.8	+1.5	67 / Many	40 / Aug 16

Summer Season Departure from Normal: +1.5°F

Summer 2017 Precipitation

Summer rainfall totals were only 65% of normal in Gulkana, while Yakutat ended up with near normal rainfall for the summer. June and July were drier than normal in Yakutat, but August was wet and bumped the summer rainfall total close to normal.

In Gulkana, June was much drier than normal. The first day of measurable precipitation (>0.01 inches) was June 20 with 0.12 inches. Only three other days in June had any measurable precipitation. The monthly total was 0.34 inches, which is 24% of normal. July precipitation was close to normal with a total of 1.84 inches of rain; normal is 1.81 inches. August was drier than normal, with the total precipitation for the month at 1.07 inches, which is 59% of normal. Summer is generally the wettest season in Gulkana, however the summer of 2017 was quite dry with a total of 3.25 inches, which is 65% of normal (Figure 2, Table 2).

June and July are statistically the two driest months of the year in Yakutat and in 2017 they were drier than normal. The monthly total for June was 3.81 inches, normal is 6.39 inches. In July, 3.98 inches of rain was recorded, which is 51% of normal. August generally signals the beginning of the wet season for Yakutat and August 2017 did not disappoint. The rainfall total for the month was 20.78 inches, well above the normal 14.07 inches that is expected. Thanks to the rain in August, the summer

precipitation total ended up near normal with 28.57 inches; the 1981-2010 normal is 28.34 inches. Overall, a normal summer in terms of rainfall totals (Figure 2; Table 2).

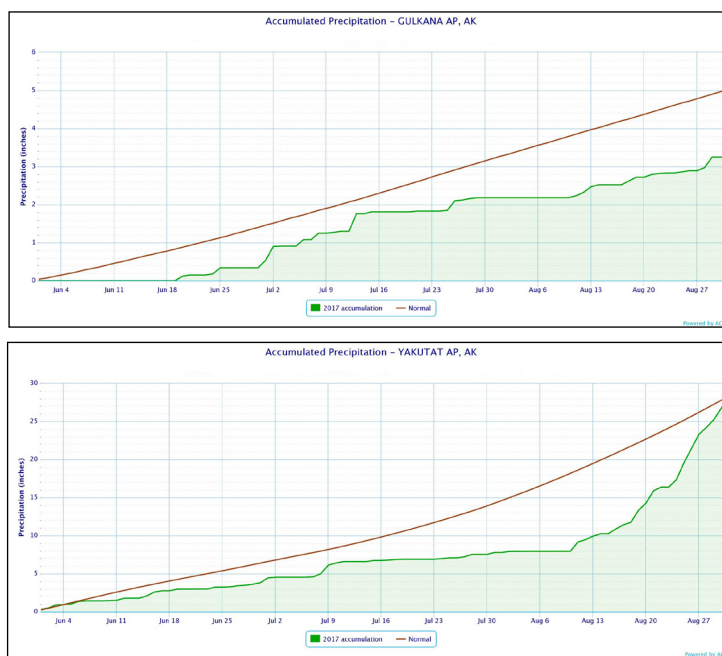


Figure 2. Summer 2017 accumulated precipitation at Gulkana (top, green) and Yakutat (bottom, green) compared to normal (brown line).

Table 2. Precipitation: Gulkana (top) and Yakutat (bottom) summer 2017 precipitation totals compared to 1981-2010 normals.

Gulkana 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	0.34	1.40	-1.06	0.16 / Jun 25	4
July	1.84	1.81	+0.03	0.46 / Jul 13	15
August	1.07	1.80	-0.73	0.28 / Aug 29	13

Summer Season Precipitation Departure from Normal: -1.76 inches (65% of normal)

Yakutat 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	3.81	6.39	-2.58	0.50 / Jun 16	21
July	3.98	7.88	-3.90	1.12 / Jul 9	18
August	20.78	14.07	6.71	2.21 / Aug 25	22

Summer Season Departure from Normal: +0.23 inches (101% of normal)

Climate Monitoring in Wrangell-St. Elias

The NPS climate stations in Wrangell-St. Elias (WRST) have been collecting climate data for the past decade as part of the Central Alaska Network climate monitoring program (Figure

3). The NPS stations complement long-term records available from the National Weather Service stations in Gulkana and Yakutat.

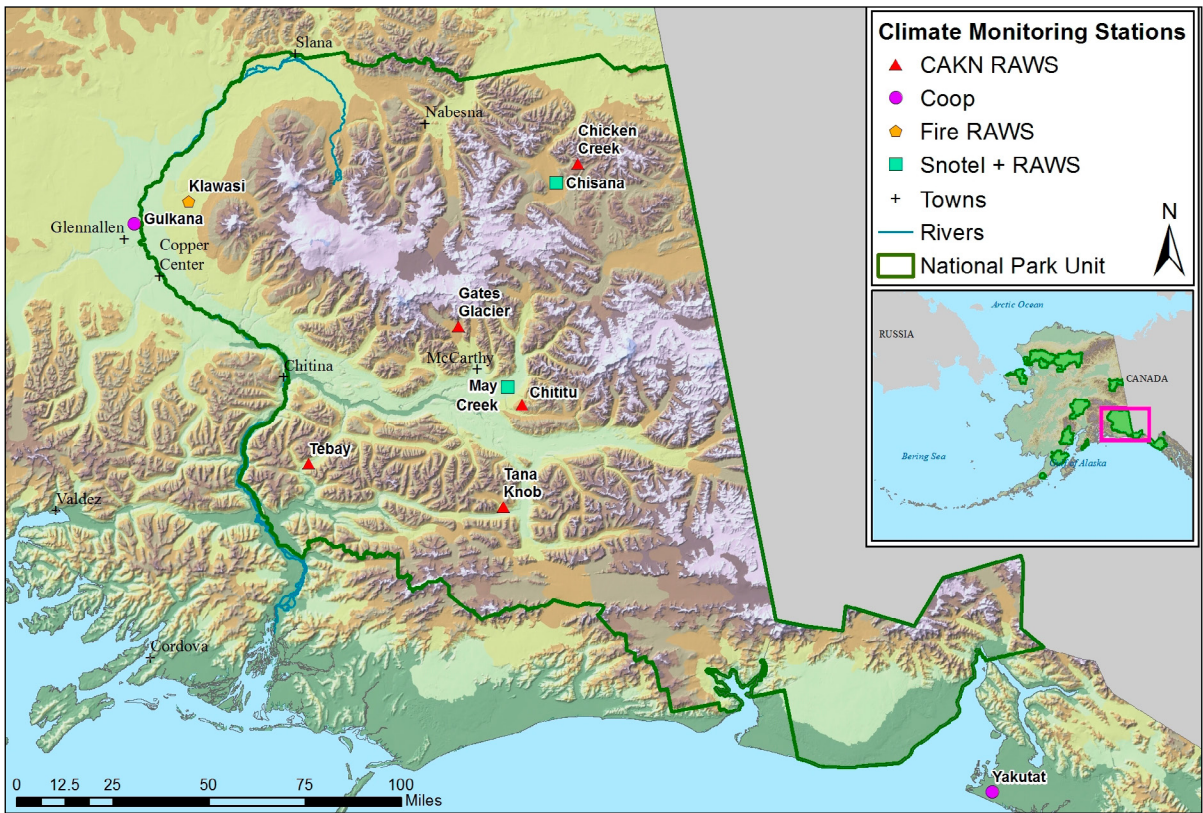


Figure 3. NPS stations in Wrangell-St. Elias National Park & Preserve.

Summer Temperatures in WRST

Figure 4 shows the average 2017 summer temperatures at paired high and low elevation climate stations near McCarthy. Chititu sits on a high exposed knob, at an elevation of 4,616’ and the May Creek is about 6 miles northwest of Chititu at an elevation of 1,600’ in the valley below. For summer 2017, Chititu was on average ~9°F cooler than May Creek. The difference in temperature was greater for the warmer months of June and July with a spread of about 10°F. In August, when temperatures started to cool down for the season, the difference between the sites was ~7°F.

There are very few long-term temperature records for sites at higher elevations in Alaska. The CAKN climate monitoring sites are improving state climate models by instrumenting

higher elevation sites, like Chititu, in the mountainous regions of Alaska national parks.

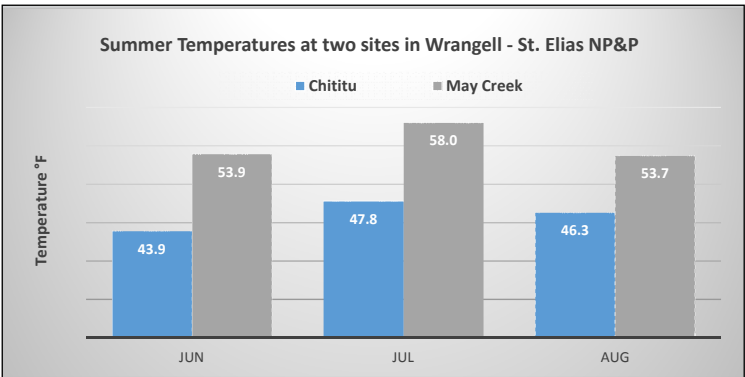


Figure 4. 2017 summer temperatures at Chititu and May Creek in Wrangell-St. Elias NP&P.



More Information

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[Current weather in Wrangell-St. Elias](#)