

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 2018

Weather & Climate Summary Wrangell-St. Elias National Park & Preserve Summer 2018

Frederika Mountain, Wrangell-St. Elias National Park & Preserve. Photo: NPS, Ken Hill.

Gulkana and Yakutat Weather Summer 2018

The average summer temperature in Gulkana was near normal, whereas Yakutat had the 6th warmest summer on record.

In Gulkana, June was 0.7°F cooler than normal with an average temperature of 53.7°F. The July temperatures were above normal with an average monthly temperature of 59.5°F, which is 1.9°F above normal. There were some chilly nights in July, with record lows on July 13 (34°F) and July 18 (33°F). August temperatures were near-normal most of the month, stabilized by persistent clouds and rain. Overall the summer of 2018 was 0.5°F warmer than normal with an average temperature of 55.7°F (Figure 1, Table 1).

In Yakutat, the monthly mean temperature for June was 51.8°F compared to a normal of 50.8°F. The hottest day of the month was June 20th, with a high of 73°F. July 2018 was the 4th warmest on record (1917-2018) with temperatures well above normal almost the entire month. The average monthly temperature of 57.0°F was 2.7°F above normal. It was a nice 4th of July with clear skies and a high of 76°F. The average monthly temperature for August was also above normal at 56.6°F, 2.8°F above the 1981-2010 normal. It ended up as the 5th warmest August on record and the 6th warmest summer overall (Figure 1, Table 1).

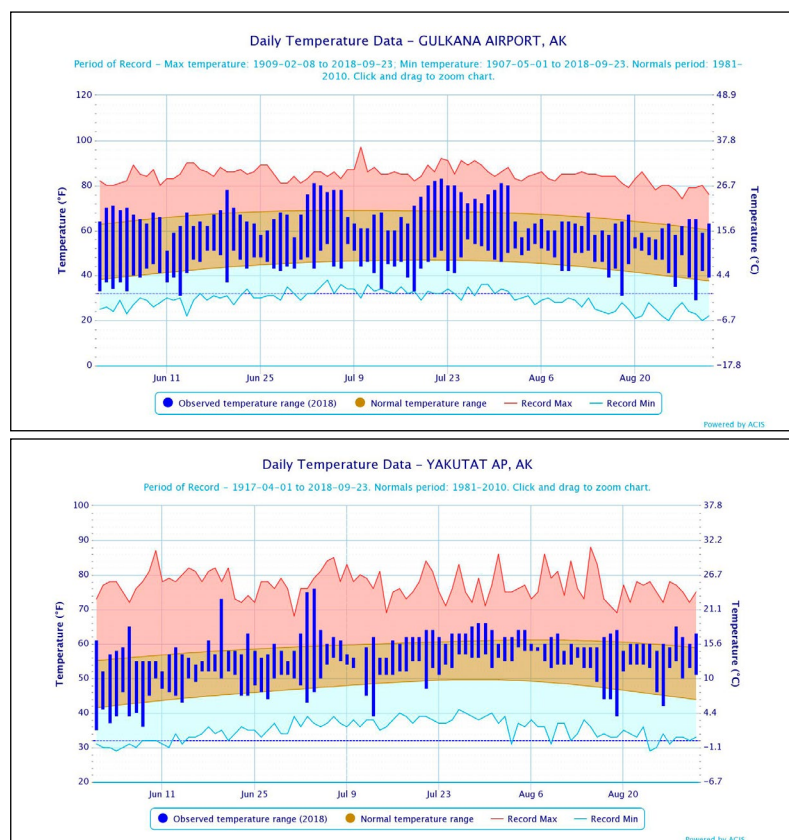


Figure 1. Summer 2018 daily temperatures at Gulkana (top) and Yakutat (bottom) showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

Table 1. Temperature: Gulkana (top) and Yakutat (bottom) Summer 2018 temperatures compared to 1981-2010 normals.

Gulkana Summer 2018	Average Monthly Temp (°F)	1981-2010 Normal (°F)	Departure from Normal (°F)	Monthly High (°F / Date)	Monthly Low (°F / Date)
June	53.7	54.4	-0.7	78 / June 20	31* / June 13
July	59.5	57.6	+1.9	83 / July 22	33* / July 18
August	53.8	53.5	+0.3	80 / Aug 1	29 / Aug 29

Summer Season Temperature Departure from Normal: +0.5°F; *Record daily low.

Yakutat Summer 2018	Average Monthly Temp (°F)	1981-2010 Normal (°F)	Departure from Normal (°F)	Monthly High (°F / Date)	Monthly Low (°F / Date)
June	51.8	50.8	+1.0	73 / June 20	35 / June 1
July	57.0	54.3	+2.7	76 / July 4	39 / July 13
August	56.6	53.8	+2.8	65 / Aug 28	39 / Aug 19

Summer Season Temperature Departure from Normal: +2.2°F.

Summer Temperatures in Wrangell-St. Elias

Figure 2 shows the average 2018 summer temperatures at paired high and low elevation climate stations at Chisana and Chicken Creek. Chisana is located north of the Wrangell Mountains in a high elevation valley bottom at 3,318 feet. Less than 10 miles to the northeast, the Chicken Creek site sits on a bench at 5,240 feet. For summer 2018, Chicken Creek was on average 6.1°F cooler than Chisana. The difference in temperature was greater for the warmer months of June and July with a spread of 6 to 8°F. In August, when temperatures started to cool down for the season, the difference between the sites was ~5°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 Chicken Creek, in the mountainous regions of Alaska national parks.

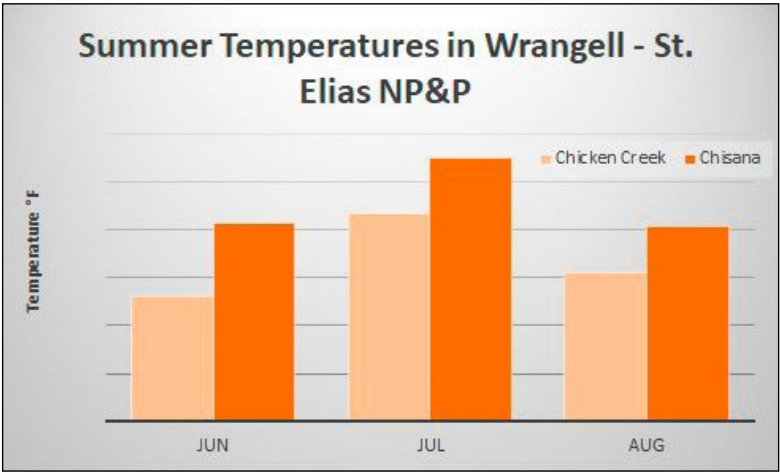


Figure 2. 2018 summer temperatures at Chicken Creek and Chisana in Wrangell-St. Elias National Park & Preserve.



Gulkana and Yakutat Summer 2018 Precipitation

It was the 2nd wettest summer in Gulkana (1949-2018) thanks to plenty of rain in June and August. Yakutat ended up with near normal rainfall for the summer, which still means about 4x as much rain as Gulkana.

In Gulkana, June was the 4th wettest on record. The first half of the month was particularly rainy, with a total of 1.93 inches recorded between June 5th and 11th. Fourteen days in June had measurable precipitation. The monthly total was 2.77 inches, which is 198% of normal. Things dried out in July with only 0.67 inches compared to a normal of 1.81 inches. Rains returned in August with precipitation recorded on 18 out of 31 days. The monthly total was 4.31 inches, the second wettest August on record. With the help of a wet June, the total rainfall for summer 2018 was 154% of normal and the second wettest summer on record after 1973 (Figure 3, Table 2).

June and July are statistically the two driest months of the year in Yakutat and in 2018 they were drier than normal. The monthly total for June was 4.96 inches, normal is 6.39 inches. In July, 6.95 inches of rain was recorded, which is 88% of normal. August generally signals the beginning of the wet season for Yakutat and August 2018 did not disappoint. The rainfall total for the month was 20.01 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 31.90 inches; the 1981-2010 normal is 28.34 inches. Overall, a normal summer in terms of rainfall totals in Yakutat (Figure 3, Table 2).

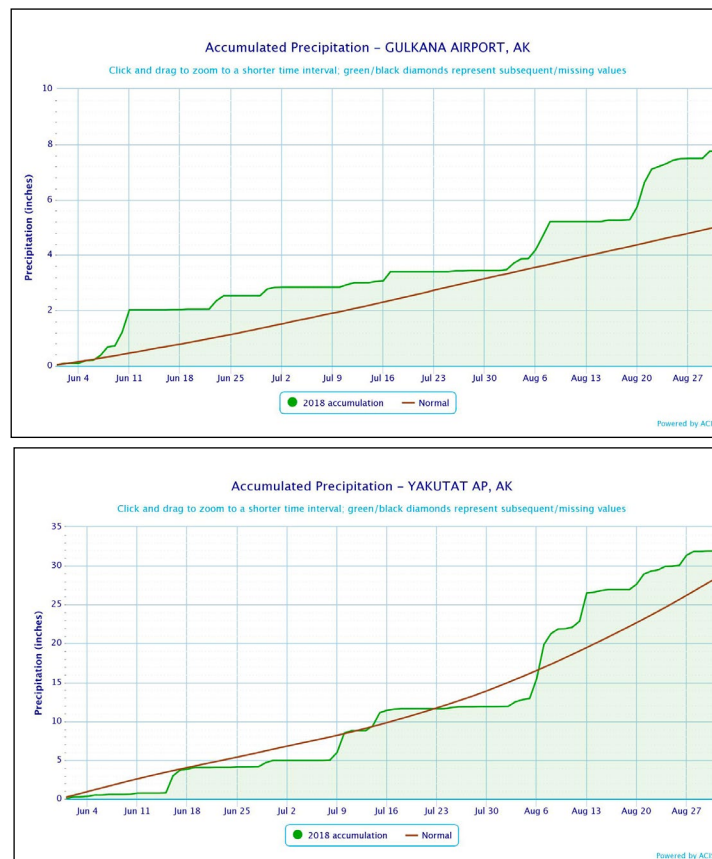


Figure 3. Summer 2018 accumulated precipitation (green) at Gulkana (top) and Yakutat (bottom) compared to normal (brown line).

Table 2. Precipitation: Gulkana (top) and Yakutat (bottom) Summer 2018 precipitation totals compared to 1981-2010 normals.

Gulkana 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	2.77	1.40	+1.37	0.81 / June 11	14
July	0.67	1.81	-1.14	0.33 / July 17	9
August	4.31	1.80	+2.51	0.88 / Aug 21	18

Summer Season Departure from Normal: +2.74 inches (155% of normal).

Yakutat 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	4.96	6.39	-1.43	2.20 / June 26	17
July	6.95	7.88	-0.93	2.49 / July 10	13
August	20.01	14.07	+5.94	4.35 / Aug 7	26

Summer Season Departure from Normal: +3.58 inches (113% of normal).

Climate Monitoring in Wrangell-St. Elias

The NPS climate stations in Wrangell-St. Elias (WRST) have been collecting climate data for over a decade as part of the Central Alaska Network climate monitoring program. The NPS stations complement long-term records available from the National Weather Service stations in Gulkana and Yakutat.

More Information

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

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

