

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

Spring/Summer 2020

Weather & Climate Summary Wrangell-St. Elias National Park & Preserve Spring/Summer 2020

A summer vista from Chititu, Wrangell-St. Elias Park and Preserve. NPS Photo.

Gulkana Spring/Summer Weather 2020

Spring

Overall, spring was slightly cooler and wetter than normal. The average temperature was 30.2°F, which is -0.7°F below the 1981-2010 normal. It was the 3rd wettest spring season at Gulkana with a total of 2.43 inches of melted snow and rain, 204% of normal. Gulkana has 78 years of daily weather data.

It was a cold and snowy March. The average monthly temperature was -5.2°F colder than normal with the temperature bottoming out at -33°F on March 6th. A total of 1.03 inches of melted snow was recorded, more than three times the normal amount for March and ranked as the 4th wettest on record. April temperatures started out cooler than normal but hit a record high of 60°F on April 18. Overall, the average temperature for the month was about a half a degree cooler than normal. Total precipitation for April was almost twice the normal. May was 3.6°F warmer than normal with two new daily record highs on May 9 at 74°F and May 10 at 75°F. It ranked as the 7th warmest May. The wet trend continued in May with

total precipitation 146% of normal. Almost 80% of the monthly precipitation fell on May 25th with a daily total of 0.74 inches.

Summer

The average summer temperature was just above normal at 55.2°F and the summer rainfall total was 123% of normal with 6.16 inches.

June was chilly and wet. The average monthly temperature was almost two degrees cooler than normal with >1.5 times more rain than normal. Most of that fell on three days: June 8 (0.66 inches), June 22 (0.45 inches) and June 30 (0.37 inches). July was warmer than normal and slightly drier than normal. The highest temperature for July was 78°F on July 4th and 15th. August was 1.2°F warmer than normal and wetter than normal. A total of 2.15 inches of rain fell during August, with 0.94 inches of that total recorded on August 10th. See Table 1 and 2; Figure 1 and 2.

Table 1. Spring/Summer 2020 average monthly temperatures compared to the 1981-2010 normal.

Spring/ Summer 2020	Average Monthly Temp (°F)	1981-2010 Normal (°F)	Departure from Normal (°F)
March	10.4	15.6	-5.2
April	31.3	31.8	-0.5
May	48.8	45.2	+3.6
June	52.5	54.4	-1.9
July	58.5	57.6	+0.9
August	54.7	53.5	+1.2

Spring Temperature Departure from normal: -0.7°F

Summer Temperature Departure from normal: +0.1°F

Table 2. Spring/Summer 2020 monthly precipitation totals compared to normal.

Spring/ Summer 2020	Total Monthly Precip. (in.)	1981-2010 Normal (in.)	Departure from Normal (in.)
March	1.03	0.30	+0.73
April	0.45	0.24	+0.21
May	0.95	0.65	+0.30
June	2.15	1.40	+0.75
July	1.50	1.81	-0.31
August	2.51	1.80	+0.71

Spring Precipitation Departure from normal: +1.24 in. (204%)

Summer Precipitation Departure from normal: +1.15 in. (123%)

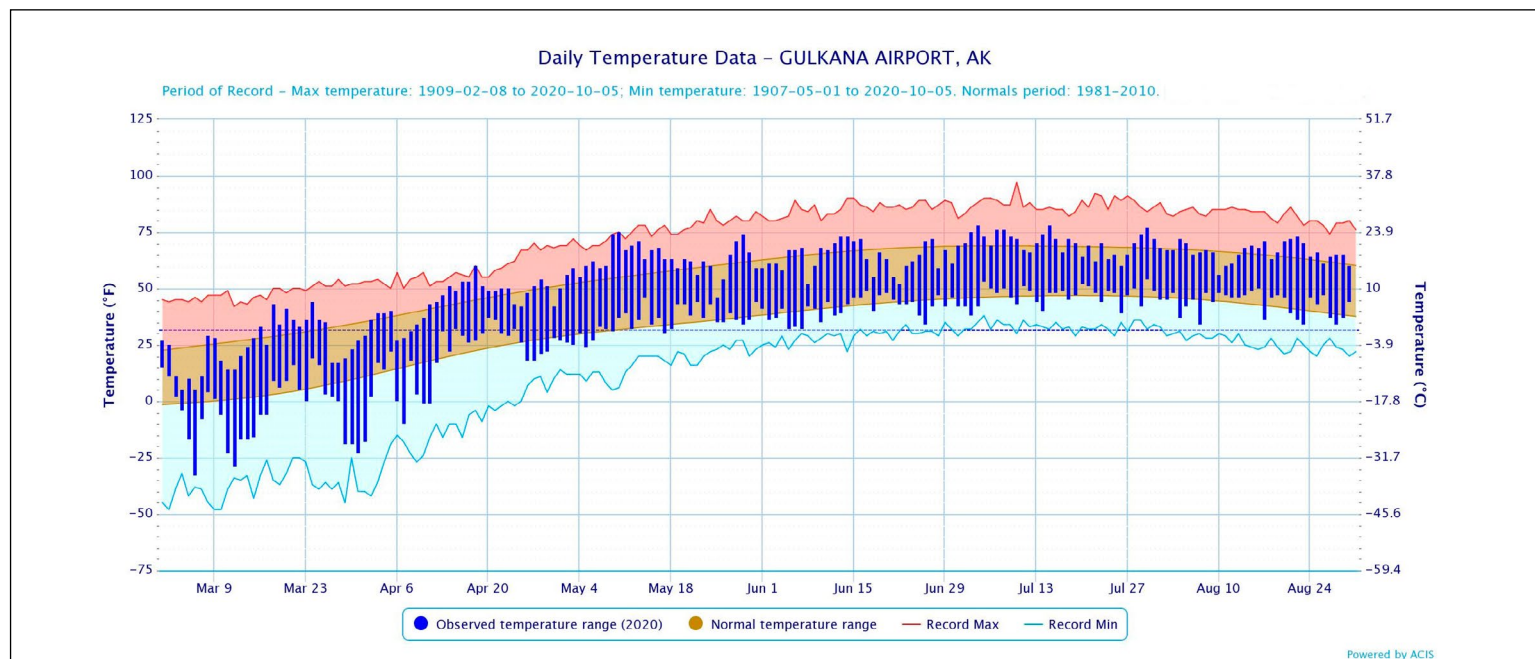


Figure 1. Spring/Summer 2020 daily temperatures at Gulkana showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

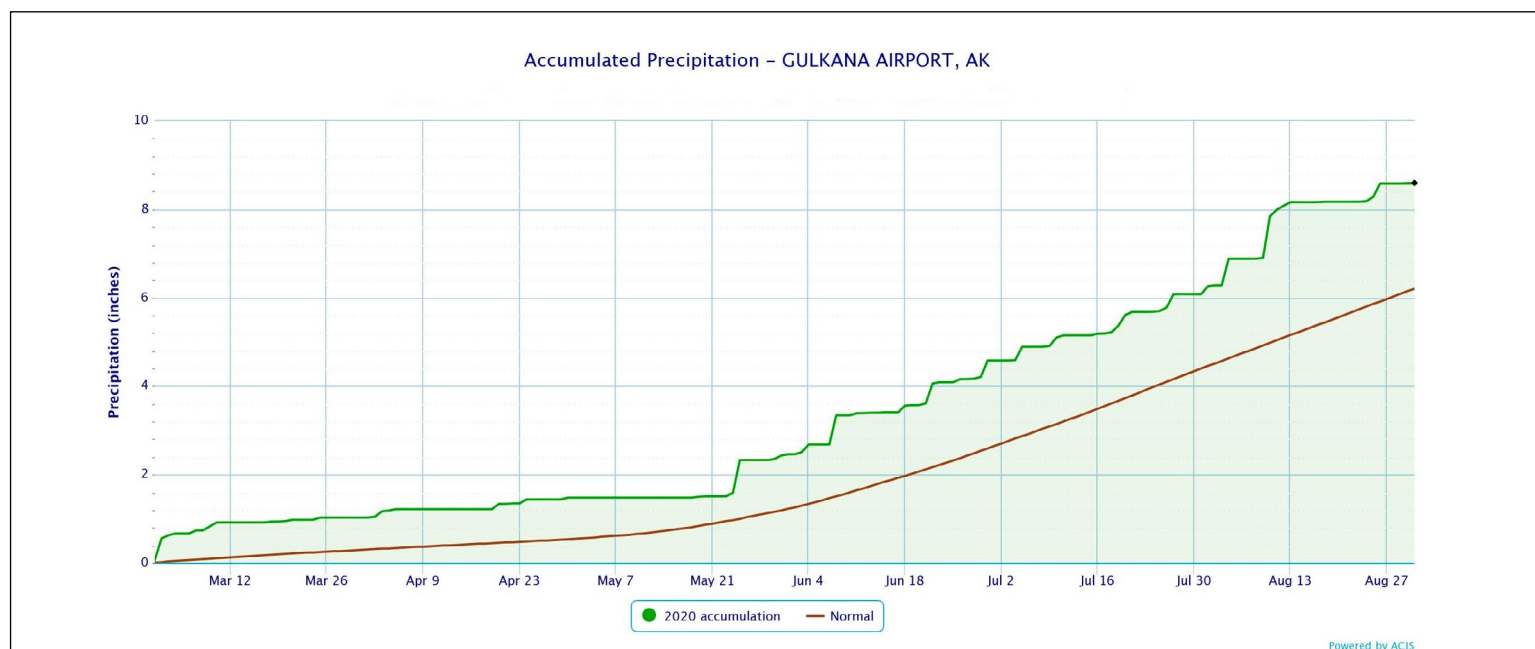


Figure 2. Spring/Summer 2020 accumulated precipitation at Gulkana (green) compared to normal (brown line).



Coast and Ocean in Wrangell-St. Elias National Park and Preserve. NPS Photo.

Yakutat Spring/Summer Weather 2020

Spring

Overall, spring was slightly warmer and much drier than normal. The average temperature was 38.7°F, which is 0.5°F above the 1981-2010 normal. It was the 6th driest spring season at Yakutat with a total of 12.50 inches of melted snow and rain, only 44% of normal. Yakutat has 97 years of daily weather data.

March was cool and dry. The average monthly temperature was -1.4°F colder than normal. There were a few chilly days mid-month with a low of 7°F recorded on March 13th, the normal low is 24°F. A total of 3.57 inches of melted snow and/or rain was recorded, only 32% of normal. April temperatures started out cooler than normal but hit a record high of 60°F on April 18. Overall, the average temperature for the month was just about normal. It was relatively dry in April with the monthly precipitation total about 60% of the 1981-2010 normal. May was 3.1°F warmer than normal with two new daily record highs of 75°F on May 9 and 73°F on May 10. It ranked as the 6th warmest May with 97 years of record (Mays with <5 days missing data). The dry trend continued in May with total precipitation 41% of normal.

Summer

Summer was warmer than normal with near normal rainfall.

The average summer temperature was just above normal at 53.8°F and the summer rainfall total of 26.74 inches was 94% of normal.

June temperatures averaged right at normal at 50.8°F. There were a few days in early June where the daily temperature range was >25 degrees (warm days and cold nights). The historical range of temperatures, between the daily minimum and daily maximum, is closer to 14 degrees. June is usually the driest month in Yakutat and this June was no exception and came in on the dry side with a total of 4.35 inches of rain, ~ 70% of normal. July was warmer and slightly wetter than normal. The average July temperature was 1.7°F warmer than normal with four new daily record highs on July 1 (69°F), July 2 (77°F), July 30 (76°F) and July 31 (80°F). These high temperatures are ~ 20 degrees warmer than the average daily max temperatures! August was warmer than normal with the warmest anomalies occurring during the third week of the month. The average temperature for August was 0.8°F above the 1981-2010 normal. August marks the start of the rainy season. The average rainfall goes from just over six inches in June to just over 14 inches in August. This August the rainfall total was just below normal. See Table 3 and 4; Figure 3 and 4.

Table 3. Spring/Summer 2020 average monthly temperatures compared to the 1981-2010 normal.

Spring/ Summer 2020	Average Monthly Temp (°F)	1981-2010 Normal (°F)	Departure from Normal (°F)
March	30.6	32	-1.4
April	37.7	37.8	-0.1
May	47.8	44.7	+3.1
June	50.8	50.8	0.0
July	56.0	54.3	+1.7
August	54.6	53.8	+0.8

Spring Temperature Departure from normal: +0.5°F

Summer Temperature Departure from normal: +0.8°F

Table 4. Spring/Summer 2020 monthly precipitation totals compared to normal.

Spring/ Summer 2020	Total Monthly Precip. (in.)	1981-2010 Normal (in.)	Departure from Normal (in.)
March	3.57	11.04	-7.47
April	5.53	9.19	-3.66
May	3.40	8.21	-4.81
June	4.35	6.39	-2.04
July	8.71	7.88	+0.83
August	13.68	14.07	-0.39

Spring Precipitation Departure from normal: -15.94 in. (44%)

Summer Precipitation Departure from normal: -1.60 in. (94%)



Summer flowers cover a hillside above the Kennicott Glacier near McCarthy. NPS Photo.

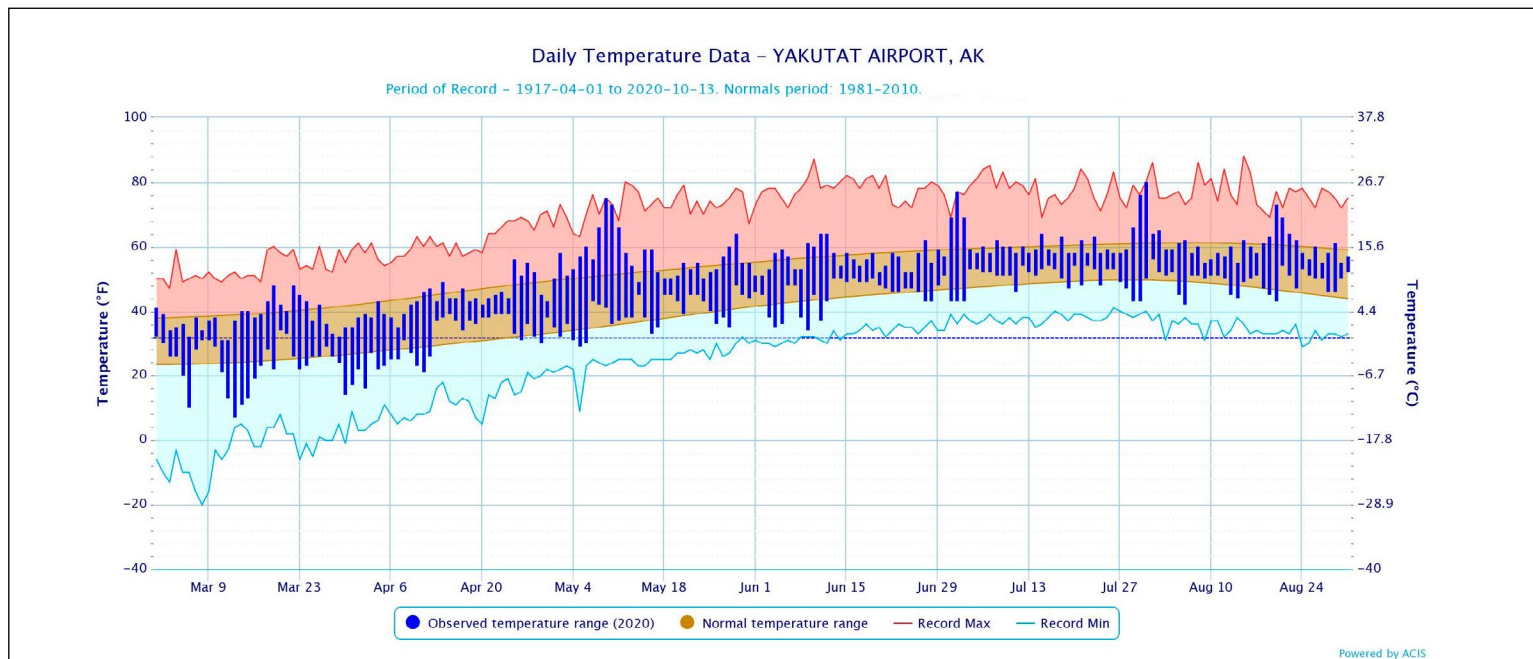


Figure 3. Spring/Summer 2020 daily temperatures at Yakutat showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

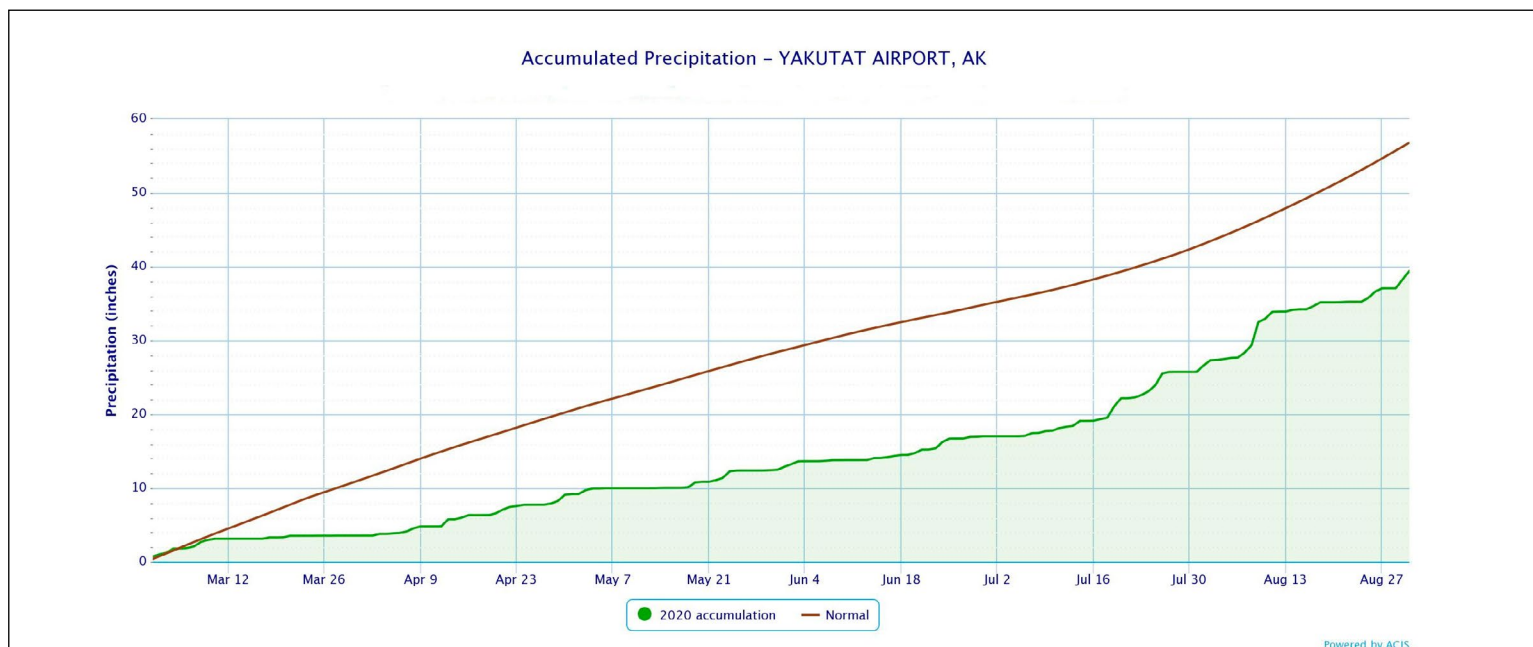


Figure 4. Spring/Summer 2020 accumulated precipitation at Yakutat (green) compared to normal (brown line).



Disenchantment Bay. NPS Photo.

Mountain & Valley Snow

The snow telemetry or ‘Snotel’ site at May Creek, about 10 miles southeast of McCarthy, measures snow, melted snow, and rain 24/7 for 365 days a year. The eastern portions of the Copper River Valley had below normal snowpack early in the 2019-2020 season, but late winter and spring snow brought snow depths at May Creek to near normal. The peak snow depth for the season arrived in mid-April and soon after that the snowpack started melting quickly. On April 1 there was 24 inches of snow on the ground and by April 29 the site was snow free. The average melt-out date for May Creek is May 3.

While lower elevation sites on the valley floor melted out in late April, the snowpack continued to increase in the surrounding mountains. Snow depth at the Tana Knob climate station in the Chugach Mountains about 30 miles south of May Creek has, on average, ~34 more inches of snow during the winter season. Tana Knob is just over 3,700’ in elevation, while May Creek is about 1,600’. Peak snow at Tana Knob was in late January with snow persisting through April. The melt-out date was May 25th, almost a month later than May Creek (Figure 5).



Figure 5. Snow depth at May Creek (blue line) and Tana Knob (green line) in Wrangell – St. Elias National Park and Preserve, 2019 -2020 season.

The Great Spring Precipitation Divide

The map below (Figure 6) shows the stark difference in spring precipitation between the coastal areas of the park and the interior. The bluish-green shading indicates the climate regions

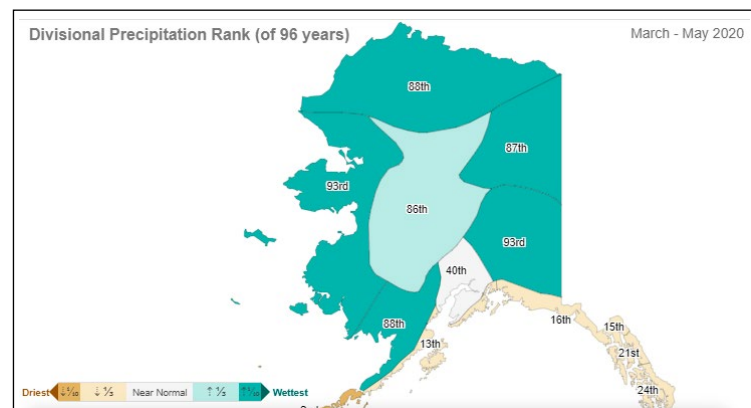


Figure 6. Spring 2020 precipitation ranks by climate division for Alaska. <https://www.ncdc.noaa.gov/cag/>.

(The Great Spring Precipitation Divide, continued) that had a wetter than normal spring, while the tan colors indicate a drier than normal spring. Overall, the southeast interior climate division, which includes most of Wrangell-St. Elias NP&P ranked as third wettest in 96 years, while the Northeast Gulf ranked as 16th driest overall and the community of Yakutat (within that region) ranked as 6th driest.

Cooler Summer Temperatures in 2020

The average summer temperature at the Chicken Creek climate site in the Nutzotin Mountains near Chisana was 44.2°F, almost two degrees cooler than the 16-year average (2005-2020) and the coolest it has been since 2014. Average summer temperatures ranged from 42°F to 49°F over the past 16 years. This summer was cool in comparison to the previous four summers at this site; last summer was >4°F warmer (Figure 7).

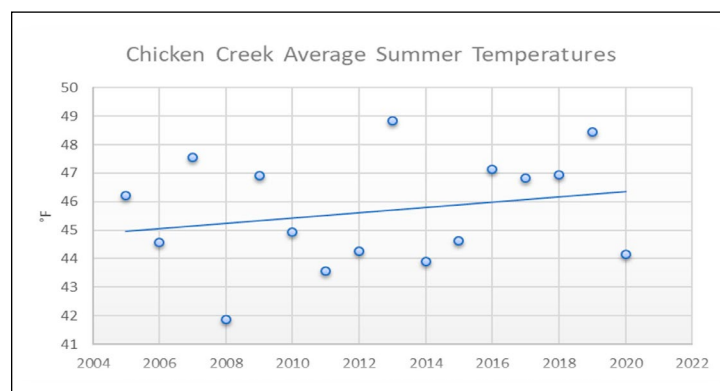


Figure 7. Average summer temperatures for Chicken Creek climate station WRST 2005-2020.



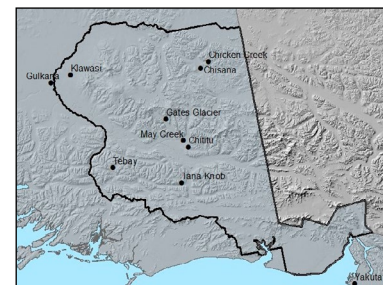
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[Current Weather in
Wrangell-St. Elias](#)

<https://www.nps.gov/im/cakn/climate.htm>



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](#)