

Arctic Network

National Park Service
U.S. Department of the Interior

Alaska Region
Inventory & Monitoring Program



Bering Land Bridge N Pres. • Cape Krusenstern NM
Gates of the Arctic NP & Pres. • Kobuk Valley NP • Noatak N Pres.

Spring/Summer 2020

Weather & Climate Summary Gates of the Arctic National Park & Preserve Spring/Summer 2020

Killik Pass, Gates of the Arctic National Park and Preserve. NPS Photo.

Bettles Spring/Summer Weather 2020

Spring

Overall, spring was a bit warmer and snowier than normal. The average temperature was 24.7°F, which is 0.7°F above the 1981-2010 normal. There was abundant snow and rain in April and the spring season precipitation total was 3.38 inches, 164% of normal. A total of 24.5 inches of spring snow was recorded, ~8 inches more than normal. The cumulative snowfall for the 2019-2020 season, (July 1 through June 30) was 118.9 inches, 130% of normal. Melt-out date in Bettles was on May 12, just a few days later than the long-term average.

March was 4.1°F colder than normal with 11.7 inches of snow, 2.4 inches more than normal. Temperatures for the first few weeks of March were much colder than normal, and there was very little snow. The last few weeks were warmer and snowier, with most of the snowfall occurring around spring equinox. April was warmer than normal and quite wet. The average monthly temperature was 1.7°F warmer than normal, while the precipitation total was 2.24 inches, 373% of normal! Between April 14 and 19, a total of 1.34 inches of rain was recorded, an impressive early season rain event. May was warmer than normal and dry. May was 4.4°F warmer than the 1981-2010 normal and ranked as 6th warmest (with 70 years of data). May precipitation was only 30% of normal.

Summer

It was 1.3°F warmer than normal this past summer, mostly due to a very warm August. The summer rainfall total was 73% of normal with a total of 4.69 inches.

June was warm and dry. The average temperature was +0.9°F warmer than the 1981-2010 normal. June rains totaled 0.83 inches, only 60% of normal. July was ~2°F cooler than normal and slightly drier. It was a warm, dry August. The

monthly average temperature was 4.8°F warmer than normal and ranked as 4th warmest on record. A total of 1.61 inches of rain was recorded for the month, which is 61% of normal. See Table 1 and 2; Figure 1 and 2.

Table 1. Bettles 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	0.3	4.4	-4.1
April	25	23.3	+1.7
May	48.8	44.4	+4.4
June	59.4	58.5	+0.9
July	57.9	59.7	-1.8
August	57.3	52.5	+4.8

Spring Temperature Departure from normal: +0.7°F

Summer Temperature Departure from normal: +1.3°F

Table 2. Bettles 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	0.88	0.58	+0.30
April	2.24	0.60	+1.64
May	0.26	0.88	-0.62
June	0.83	1.40	-0.57
July	2.25	2.36	-0.11
August	1.61	2.64	-1.03

Spring Precipitation Departure from normal: +1.32 in. (164% of normal)

Summer Precipitation Departure from normal: -1.71 in. (73% of normal)

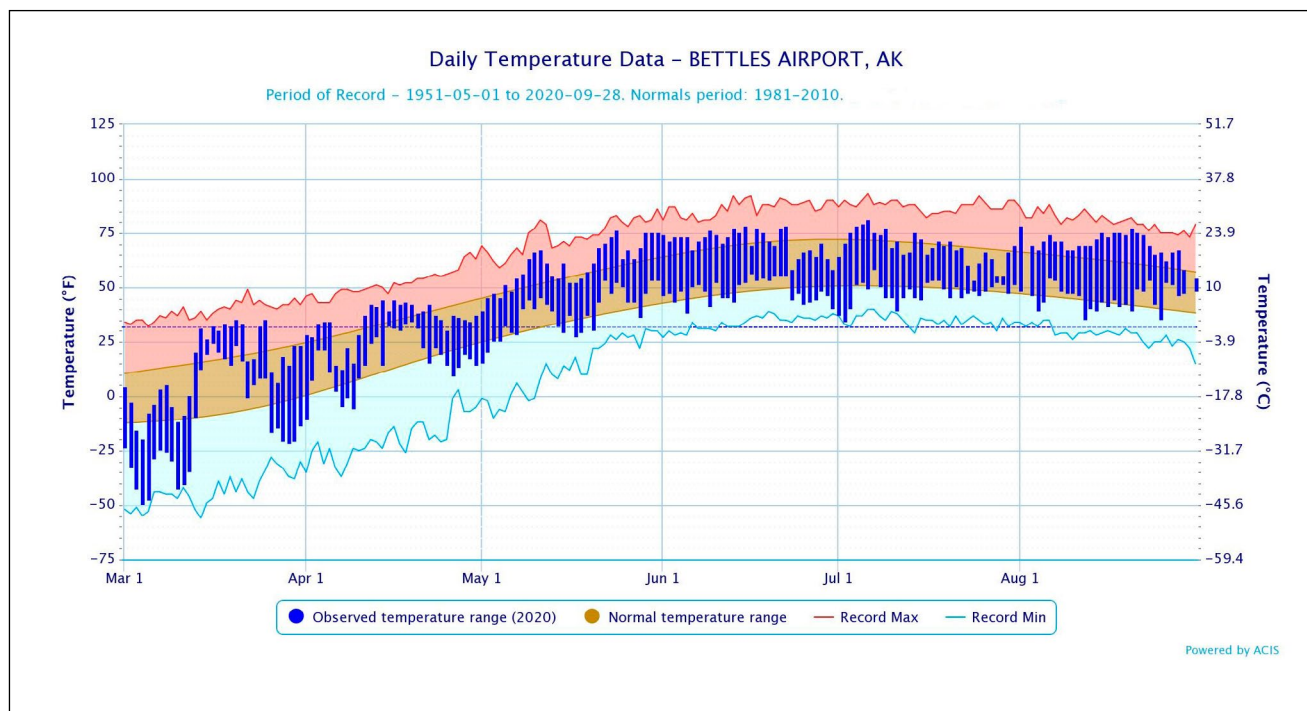


Figure 1. Spring/Summer 2020 daily temperatures showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars). Data from: <http://xmacis.rcc-acis.org/>.

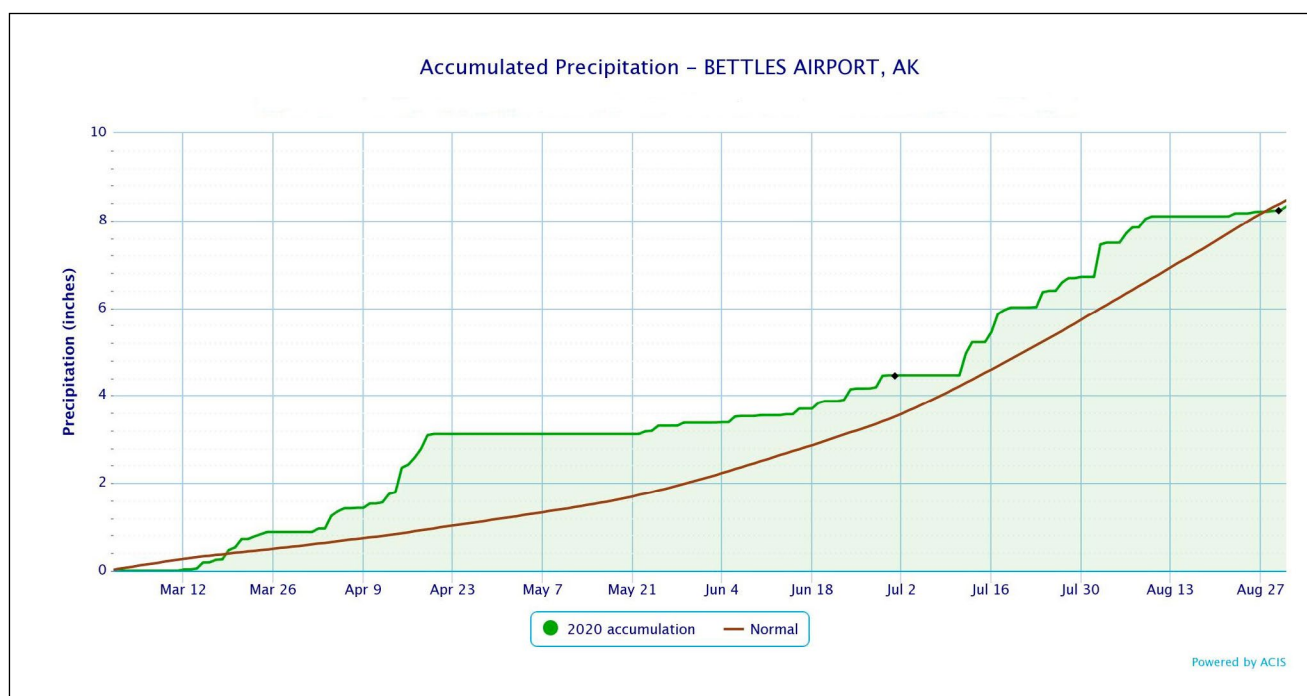


Figure 2. Spring/Summer 2020 accumulated precipitation (green) compared to normal (brown line). Data from: <http://xmacis.rcc-acis.org/>.



Walker Lake, Gates of the Arctic National Park and Preserve. NPS Photo.

Spring Snow

It was another snowy year in Bettles with 118.9 inches of snow falling for the season (July 1- June 30). It was the 7th snowiest season on record (1952-2020). Last year the snowfall total was 162 inches and ranked as second snowiest behind the 1992-1993 season with 171 inches. Although the season was a bit slow to start, it came in with a bang in late November and increased through the winter with some larger storms in late December and several in February. Warm spring temperatures and early rains in April accelerated the melt, but a cool spell stalled it for just a bit towards the end of April. May arrived with warmer temperatures and the snow melted quickly. On May 1 there was still 20 inches of snow on the ground in Bettles and by May 12 it had completely melted out (Figure 3).

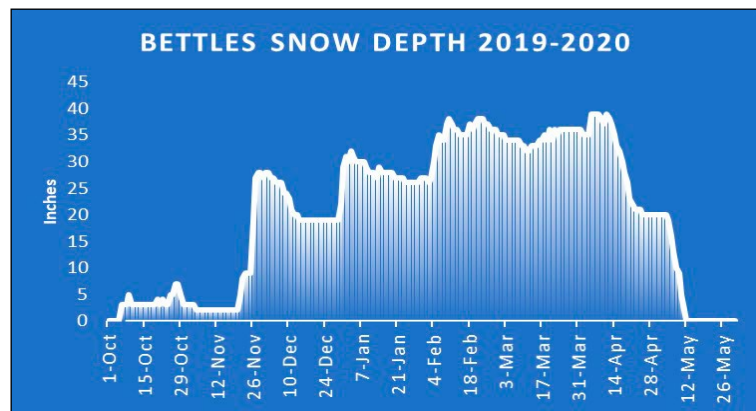


Figure 3. Snow depth at Bettles, Alaska near Gates of the Arctic National Park and Preserve, 2019 -2020 season.

Warm May Statewide

Temperatures were above normal across all of Alaska in May with the warmest temperature departures along the west coast and central Interior (Figure 4). Sea ice extent in the Chukchi Sea was below average at the end of May but not as low as it has been in recent years.

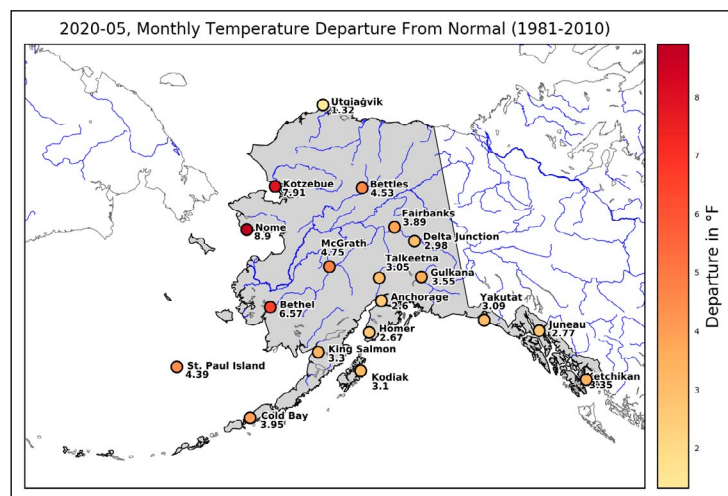


Figure 4. Alaska temperature departures for May 2020. Graphic from: <http://akclimate.org/1766>.

The average temperature at the Ram Creek climate station in Gates of the Arctic NP&P was 36.4°F in May 2020, which

is ~ 3°F warmer than the eight-year average and the third warmest May of the relatively short record. May temperature variability at the Ram Creek site tracks well with the Bettles site, with May temperatures averaging about ~ 12.5°F cooler at Ram Creek (Figure 5).

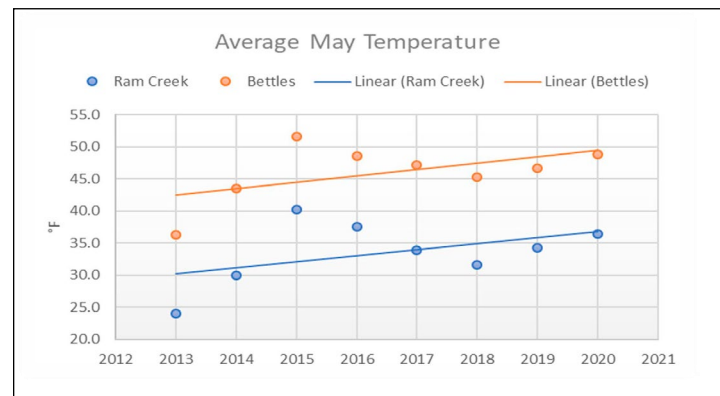


Figure 5. Average May temperatures at the Ram Creek climate station (blue dots) in Gates of the Arctic National Park and Preserve and at Bettles, Alaska (orange dots) 2012-2020.

Wet Spring – Dry Summer

Figure 6 shows the summer (June through August) total precipitation percent of 1981-2010 normal across Alaska, the orange and red dots indicate drier locations. Most of northwest Alaska was much drier than normal this summer, including Gates of the Arctic (Figure 6).

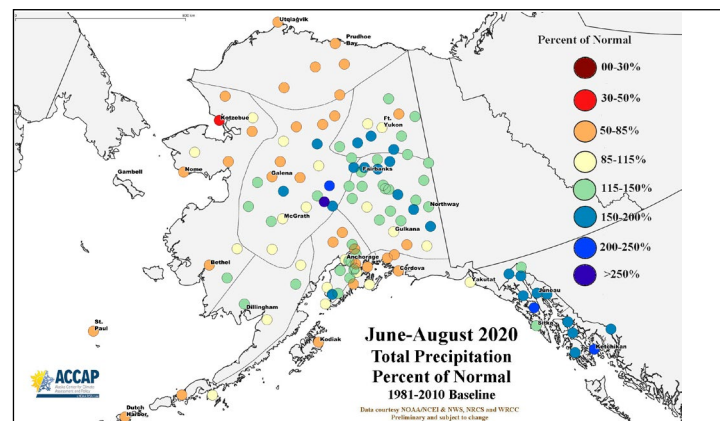


Figure 6. Summer 2020 precipitation across Alaska. Graph courtesy of ACCAP <https://uaf-accap.org/>.

More Information

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[Current Weather in GAAR](https://www.nps.gov/im/arcn/climate.htm)
<https://www.nps.gov/im/arcn/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 ARCN climate stations are available at [NPS Data Store](https://www.nps.gov/im/arcn/climate.htm)