

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 Western Arctic Parklands Spring/Summer 2020

Salmon River, Kobuk Valley National Park. NPS Photo.

Kotzebue Spring/Summer Weather 2020

Spring

Overall, spring was warm and much snowier than normal. The average temperature was 21.7°F, which is 6.3°F above the 1981-2010 normal. Based on the National Weather Service data at the Kotzebue airport (**with >80 years of data**), it was the 7th warmest spring. It was also the 2nd wettest spring season with a total of 2.80 inches of rain and melted snow.

It was a warm and snowy March. The average monthly temperature ended up ~4°F warmer than normal. The precipitation total (melted snow) was 1.14 inches, normal is 0.44 inches. The warm and wet trend continued into April. April temperatures were 6.8°F warmer than normal, with only 5 days out of the month in the below normal category. April was another wet month with 1.34 inches of precipitation, about 2.5 times more than normal. The warm temperatures continued into May, with a monthly average temperature ~8°F warmer than the 1981-2010 normal. May was a bit drier than normal with 78% normal precipitation for the month.

Summer

It was a bit warmer than normal and much drier than normal. The average summer temperature was just above normal at 51.3°F. The summer rainfall total was only 50% of normal with a total of 2.09 inches between June 1 and August 31.

June was warm and slightly wetter than normal. The average temperature was 1.2°F warmer than the 1981-2010 normal. It was the wettest month of the summer with 0.88 inches of rain. July was 1.4°F cooler than normal and dry. August temperatures warmed back up and the month ended up 2.2°F warmer than normal. August was dry. Only 0.35 inches

of rain was recorded for the month, which is 16% of normal, the driest August since 1991, and the 5th driest August on record. See Table 1 and 2; Figure 1 and 2.

Table 1. Kotzebue 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	5.2	1.1	+4.1
April	20.1	13.3	+6.8
May	39.8	31.9	+7.9
June	46.9	45.7	+1.2
July	53.2	54.6	-1.4
August	53.9	51.7	+2.2

Spring Temperature Departure from normal: +6.3°F

Summer Temperature Departure from normal: +0.7°F

Table 2. Kotzebue 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	1.14	0.44	+0.70
April	1.34	0.54	+0.80
May	0.32	0.41	-0.09
June	0.88	0.58	+0.30
July	0.86	1.45	-0.59
August	0.35	2.18	-1.83

Spring Precipitation Departure from normal: +1.41 in. (201% of normal)

Summer Precipitation Departure from normal: -2.12 in. (50% of normal)

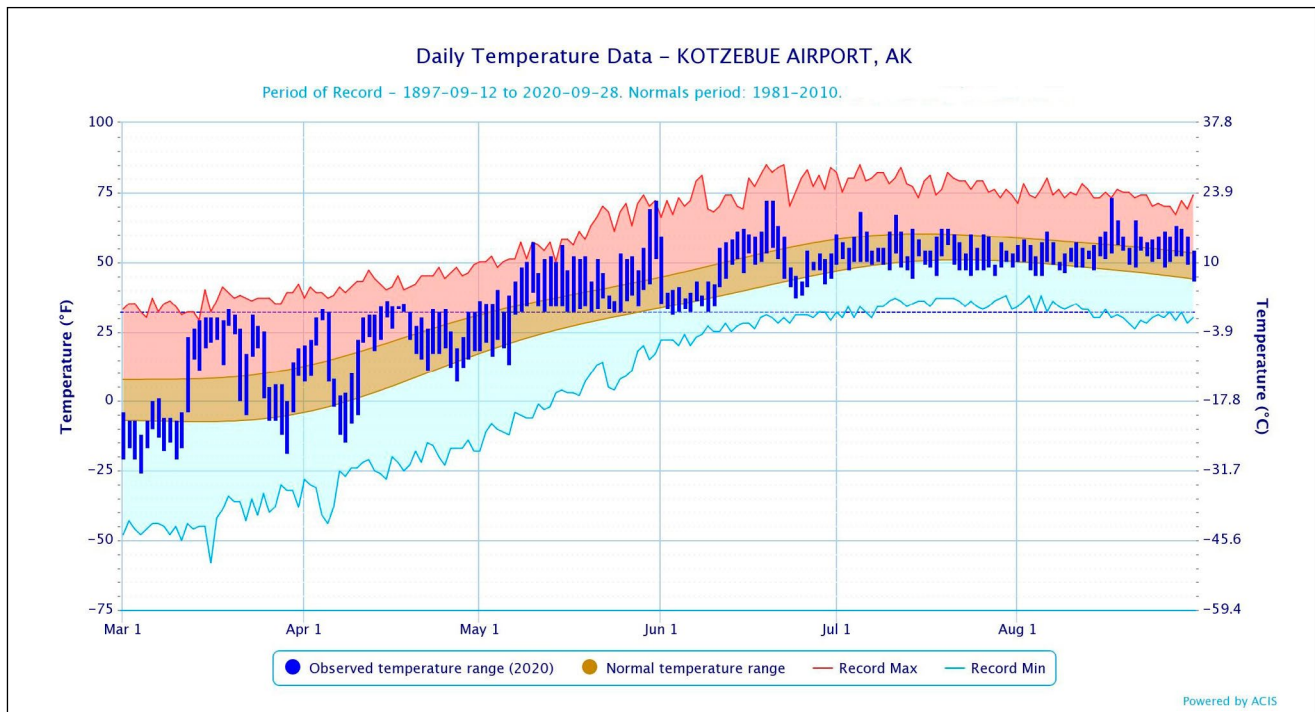


Figure 1. Spring/Summer daily temperatures showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars). Data from: <http://xmacis.rcc-acis.org/>.

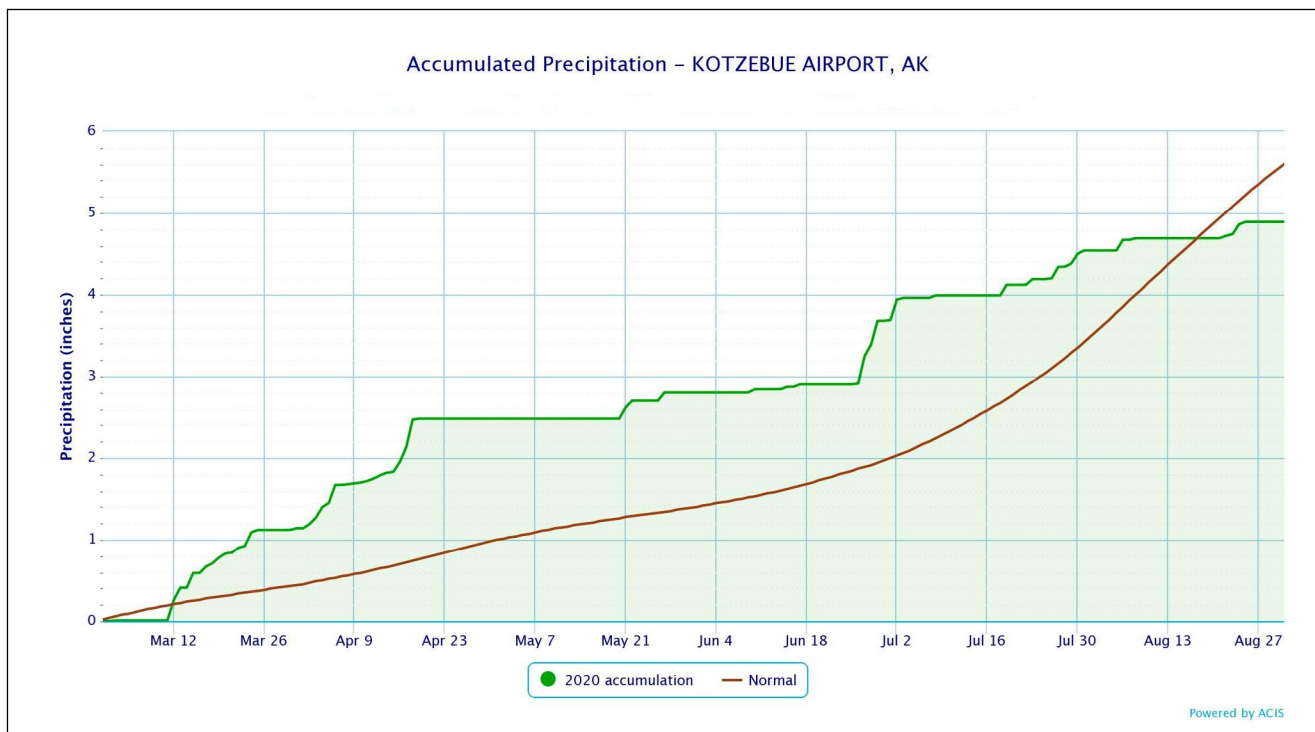
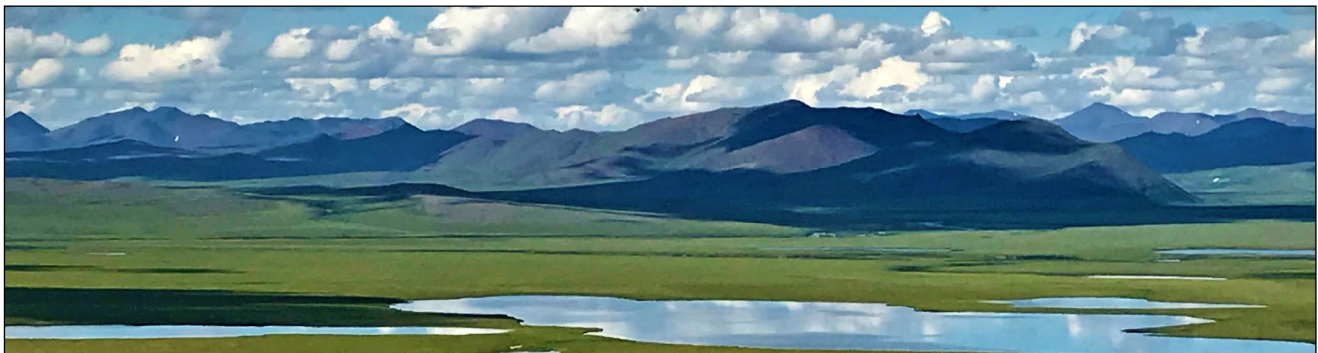


Figure 2. Spring/Summer 2020 accumulated precipitation (green) compared to normal (brown line). Data from: <http://xmacis.rcc-acis.org/>.



Howard Pass, Noatak National Preserve. NPS Photo.

Spring Snow at the Kelly Ranger Station

The snow telemetry or 'Snotel' site at the Kelly Ranger Station in Noatak NP measures snow, melted snow, and rain 24/7 for 365 days a year. With eight years of data we are now starting to gain perspective about the timing and amount of snow cover, summer rainfall, and annual precipitation amounts for this site. The 2019-2020 snow season was slow to start with <10 inches of snow on the ground through mid-January. That all changed ~March 10th when the spring snow began to fall. By the end of the month there was >30 inches on the ground and the accumulated precipitation for the season nearly doubled. The snow melted quickly in May. On May 1 there was still 19 inches on the ground and by May 14 the site was snow free (Figure 3).

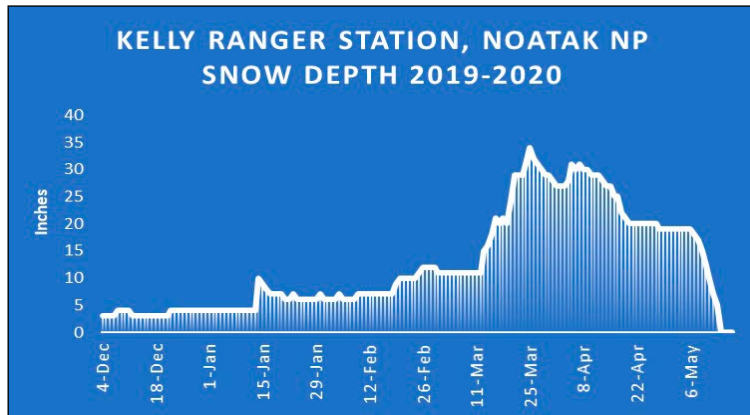


Figure 3. Snow depth at the Kelly Ranger Station Snotel site in Noatak National Preserve, 2019-2020 season.

Warm May Statewide

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

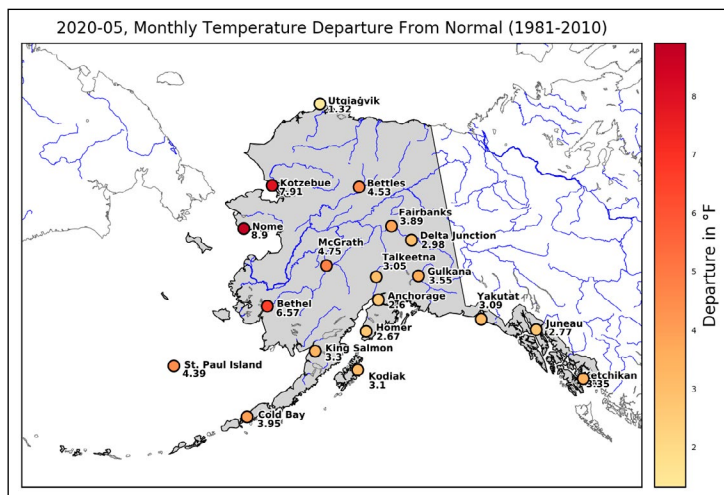


Figure 4. Alaska temperature departures for May 2020. Graphic from: <http://akclimate.org/1766>.

The average temperature at the Mt. Noak climate station in Cape Krusenstern was 44.2°F, the warmest May so far and almost seven degrees warmer than the 9-year average

(2012-2020). Notice on the graph how much warmer the average May temperature has been since 2015 (Figure 5). Other sites in the Arctic parks show the same pattern of warming for May over the past nine years.

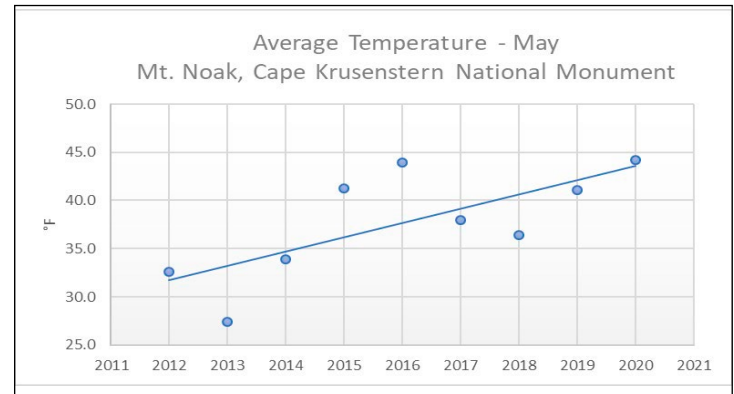


Figure 5. Average May temperatures at the Mt. Noak climate station in Cape Krusenstern National Monument 2012-2020.

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. After a wet spring, most of west coast Alaska was much drier than normal for summer 2020. Kotzebue had half as much rain as normal this summer and ranked as the 6th driest on record (83 years on record) (Figure 6).

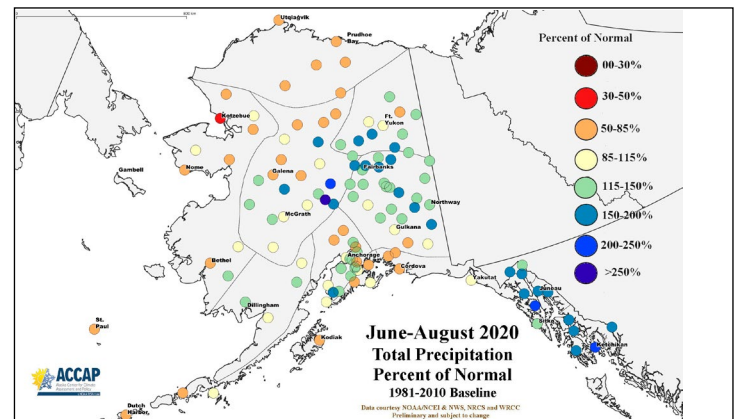


Figure 6. Summer 2020 precipitation across Alaska. Graph courtesy of ACCAP <https://uaf-accap.org/>.

More Information

Pam.Sousanes@nps.gov;
ph 907-455-0677

Kenneth.Hill@nps.gov;
ph 907-455-0678

Current Weather in the Western Arctic Parklands

<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)

