



Weather & Climate Summary Gates of the Arctic National Park & Preserve Summer 2017

Arrigetch skyline in Gates of the Arctic, photo by Ken Hill.

Bettles Summer Weather

The summer was warmer than normal in Bettles, mostly driven by warm temperatures in July. The average temperature for the summer season was 58.7°F, which is 1.8°F above normal. It was the 7th warmest summer on record (1951-2017). Total summer precipitation was 6.73 inches, 105% of normal. June and July were drier than normal and August was much wetter than normal (Figures 1 and 2; Tables 1 and 2).

June was warmer and much drier than normal. The average monthly temperature was 59.9°F, compared to a normal of 58.5°F. Daily temperatures were above normal the first week of June and then moderated to near normal for the rest of the month. The high temperatures were near normal, while the daily low temperatures dropped below the normal minimums on several occasions. The high temperature for the month was 81°F on June 29. Only 0.43 inches of rain was recorded during June, which is 31% of normal. It was the driest June since 1983.

It was the warmest July on record for Bettles. The average temperature for July was 64.4°F, which is an incredible 4.7°F warmer than normal! The high temperature of 86°F on July 8 was the warmest of the summer and a record for the day. Temperatures were above average and nearing record highs on multiple days in mid-July. Total precipitation for July was 1.81 inches, 77% of normal. Over half of the monthly rain fell on July 31 with a total of 1.03 inches, a new daily record.

In August, temperatures cooled off and it started to rain (or continued from what started the last day of July). There were 23 days with measureable precipitation in August totaling 4.49 inches, 170% of normal. Over an inch of the total rainfall

for the month was recorded during the first three days of the month. It was the 6th wettest August on record. The average temperature for August was 51.7°F. Normal is 52.5°F.

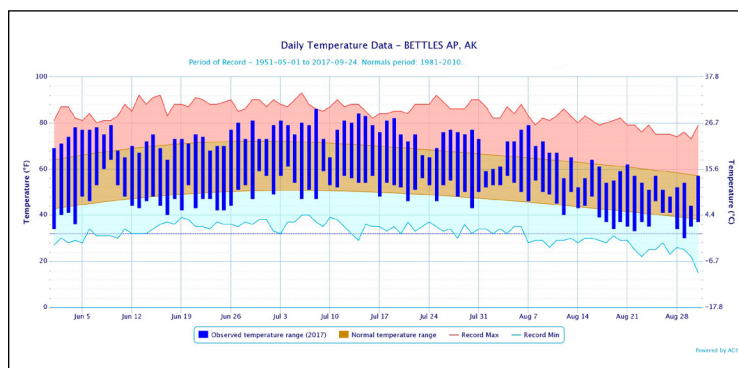


Figure 1. Summer 2017 daily temperatures at Bettles showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

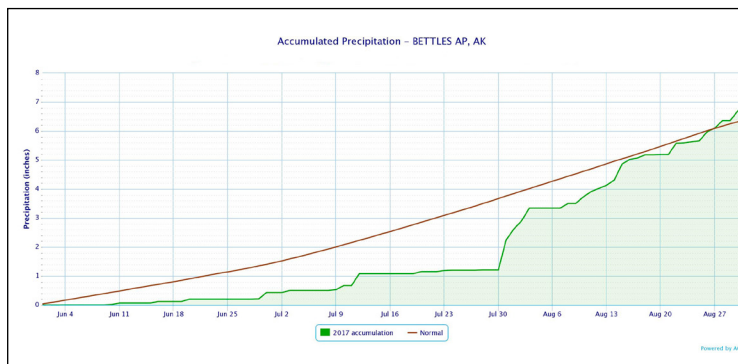


Figure 2. Summer 2017 accumulated precipitation at Bettles (green) compared to normal (brown line).

Table 1. Temperature: Summer 2017 average monthly temperatures compared to the 1981-2010 normal.

Summer 2017	Average Monthly Temp °F	1981-2010 Normal °F	Departure from Normal °F	Monthly High °F / Date	Monthly Low °F / Date
June	59.9	58.5	+1.4	81 / Jun 29	34 / Jun 1
July	64.4*	59.7	+4.7	86** / Jul 8	43 / Jul 30
August	51.7	52.5	-0.8	79 / Aug 7	30 / Aug-29

Summer Season Temperature Departure from Normal: +1.8°F. *Record warm July; **Record daily high.

Table 2. Precipitation: Summer 2017 monthly precipitation totals compared to normal.

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	0.43	1.4	-0.97	0.22 / Jun 30	6
July	1.81	2.36	-0.55	1.03* / Jul 31	9
August	4.49	2.64	+1.85	0.55 / Aug 15	23

Summer Season Precipitation Departure from Normal: +0.33 inches (105% of normal); *Record daily rainfall.

Climate Monitoring in Gates of the Arctic NP&P

NPS climate stations in Gates of the Arctic complement the long-term record from the National Weather Service station in Bettles. NPS stations are located near Chimney Lake, Pamichtuk Lake, Ram Creek, and Killik Pass (Figure 3).

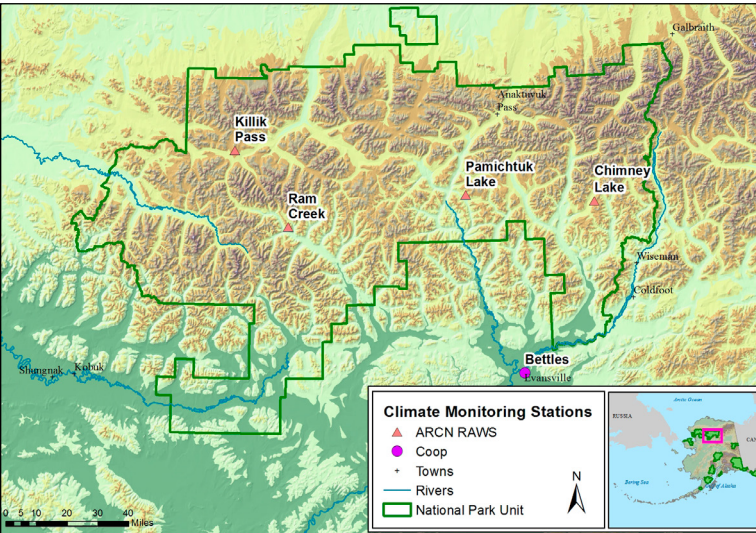


Figure 3. NPS climate stations in Gates of the Arctic National Park and Preserve.

Summer temperatures in Gates of the Arctic

Figure 4 shows the monthly summer temperatures for 2017 at the four NPS stations in the park. The Killik Pass site is up high in the northeast area of the park at 4,355’; the summer temperatures are coolest at this site. Ram Creek, which is downstream on the Alatna River from Killik and about 200’ lower in elevation, was the second coolest site for the summer. Pamichtuk Lake and Chimney Lake have similar average summer temperatures, with Pamichtuk having slightly warmer temperatures for every month (Figure 5). The summer season temperatures at the park sites in the Brooks Range, are on average ~ 11°F cooler than the summer temperature at Bettles.

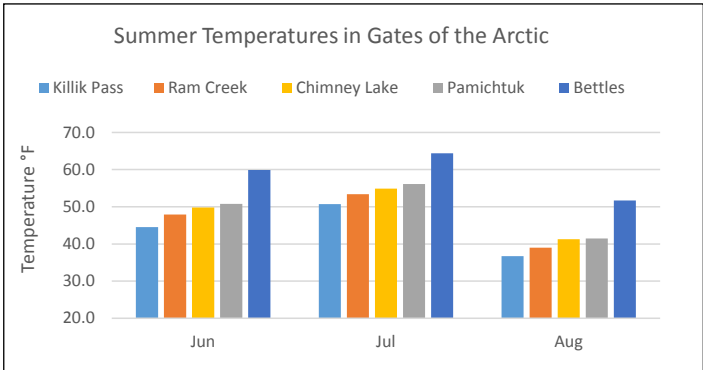


Figure 4. 2017 monthly summer temperatures in GAAR

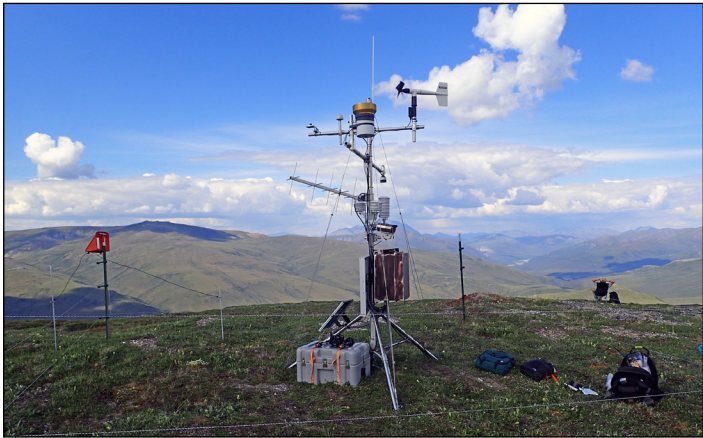


Figure 5. Pamichtuk Lake station in GAAR

More Information

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[Current weather in GAAR](#)