



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

Bettles Spring Weather

Spring was cooler and drier than normal in Bettles. The average temperature was 22.7°F for the March-May period, -1.3°F cooler than normal, mostly due to a very cold March (April and May were both warmer than normal). It was relatively dry with a total of 6.4 inches of total snowfall for the entire spring season, normal is 16.9 inches. May rainfall was just below normal, so overall the total precipitation (rain and snow water equivalent) for the spring was only 55% of normal (Figures 1 and 2; Tables 1, 2, and 3).

March was much colder than normal. The average temperature was -6.8°F for the month, compared to a normal of 4.4°F. It was the 6th coldest March on record (1952-2017). A record low temperature of -44°F was observed on March 7th. Daily temperatures were well below normal for most of March. It eventually warmed up for the last four days of the month. A total of 4.8 inches of snow fell in March, which is 51% of normal. The snow depth at the end of the month was 27 inches.

April was warmer and drier than normal. The average monthly temperature was 27.4°F, which is 4.1°F warmer than the 1981-2010 normal. The monthly snowfall total was only 1.5 inches; normal is 6.3 inches. The water content of the snow was 17% of normal. There were only 2 days in April with any measurable precipitation.

May was also warmer and a bit drier than normal. The mean monthly temperature was 47.4°F, 3.0°F warmer than normal. The monthly high temperature was 71°F recorded on May 17. Precipitation was 88% of normal with 0.77 inches of rain for

the month. There was only a trace of snow recorded in May and that occurred on the 9th. The total snowfall for the season was 83.1 inches; normal is 91.4. The melt-out date for Bettles was on May 7 (normal is May 10).

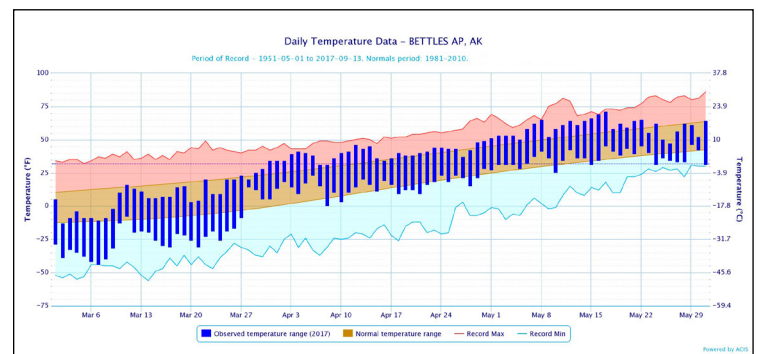


Figure 1. Spring 2017 daily temperatures at Bettles showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

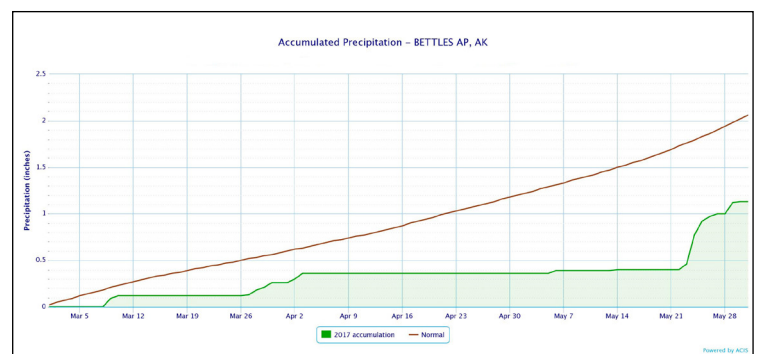


Figure 2. Spring 2017 accumulated precipitation at Bettles (green) compared to normal (brown line).

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

Spring 2017	Average Monthly Temp °F	1981-2010 Normal °F	Departure from Normal °F	Monthly High °F / Date	Monthly Low °F / Date
March	-6.8	4.4	-11.2	34 / Mar 31	-44* / Mar 7
April	27.4	23.3	+4.1	49 / Apr 30	0 / Apr 8
May	47.4	44.4	+3.0	71 / May 17	25 / May 10

Spring Season Temperature Departure from Normal: -1.3°F; * Record daily low

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

Spring 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
March	0.26	0.58	-0.32	0.09 / Mar 9	6
April	0.10	0.60	-0.50	0.06 / Apr 3	2
May	0.77	0.88	-0.11	0.31 / May 24	9

Spring Season Precipitation Departure from Normal: -0.93 inches (55% of normal)

Table 3. Snowfall: Spring 2017 monthly snowfall totals compared to normal.

Spring 2017	Total Monthly Snowfall in.	1981-2010 Normal in.	Departure from Normal in.	Greatest 24 -hr. snowfall total in. / Date	Cumulative snowfall since 1-July in.
March	4.8	9.3	-4.5	2	81.5
April	1.5	6.3	-4.8	0.9 / Apr 3	83.0
May	T	1.3	-1.3	–	83.1

NPS Climate Monitoring Stations

National Park Service (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).

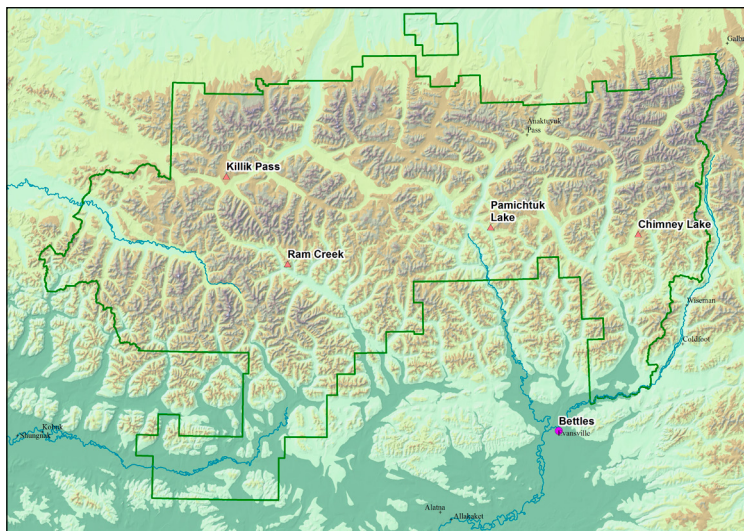


Figure 3. NPS climate stations in Gates of the Arctic NP & Pres.

Spring Season Temperatures in Gates of the Arctic

The air temperatures at the four NPS sites at higher elevations in the Brooks Range were on average ~4°F cooler than Bettles for the spring season (Figure 4). They were warmer in March by about 6°F, but then the persistent winter inversion began to

break down as the sun returned to the northern latitudes. April temperatures at the mountain sites were on average ~8°F cooler and May temperatures were on average ~13°F cooler than Bettles.

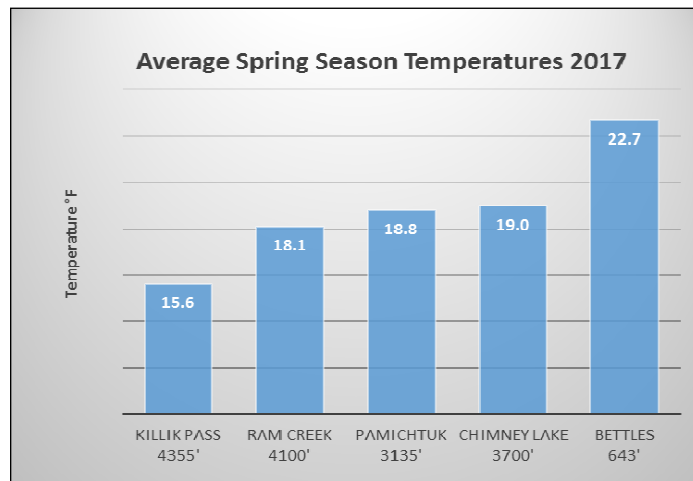


Figure 4. 2017 spring season temperatures in Gates of the Arctic

More Information

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