



Weather & Climate Summary Gates of the Arctic National Park & Preserve Winter 2016-2017

Bettles Winter Weather 2016-2017

The winter of 2016-2017 was cooler and wetter than normal in Bettles.

December was cooler than normal with a monthly average temperature of -6.8°F , normal is -5.7°F . The low temperature for the month was -40°F on December 3 while the warmest temperature ($+32^{\circ}\text{F}$) occurred on December 31. The snowfall total for the month was 25 inches, more than 9 inches above normal. All of the snow fell during the second half of the month. Overall, 1.48 inches of precipitation was recorded in December which is 161% of normal.

January remained on the cool side. The average temperature for the month was -11.4°F compared to a normal monthly mean of -10.0°F . Daily minimums were below -50°F on January 18, 19, and 22. On January 19 the low temperature was -56°F . Snowfall totals were just above normal with 15.6 inches falling during the month. The water equivalent of that snow totaled 0.98 inches; normal precipitation for January is 0.81 inches.

February had near normal temperatures for the month and it was snowier than normal. The average monthly temperature was -4.3°F , normal is -5.0°F . There was a total of 21.3 inches of snow for the month, which is ~ 7 inches more than normal. Precipitation was 145% of normal with 1.23 inches for the month.

The average winter temperature at Bettles was -7.5°F which is -0.6°F cooler than the 1981-2010 normal. The total winter precipitation was 13.69 inches, 143% of normal. The winter

or 2016-2017 ranked as the 12th wettest winter on record. (Figures 1 and 2; Table 1, 2, and 3).

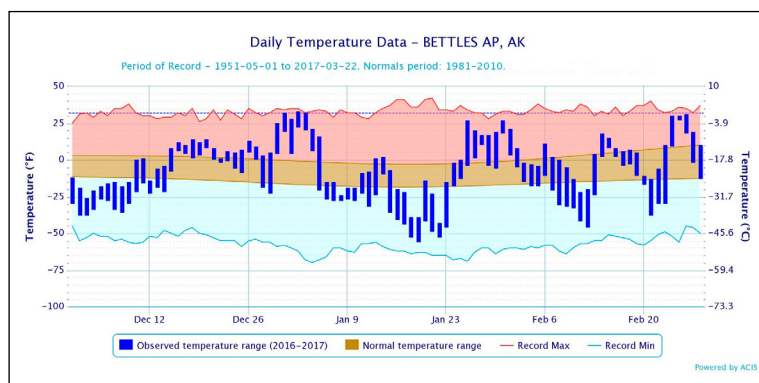


Figure 1. Winter 2016-2017 daily temperatures at Bettles showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

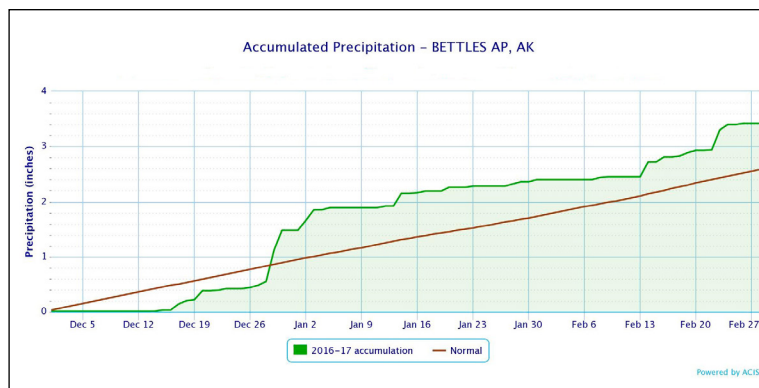


Figure 2. Winter 2016-2017 accumulated precipitation at Bettles (green) compared to normal (brown line).

Table 1. Temperature: Winter 2016-2017 average monthly temperatures compared to the 1981-2010 normal.

Winter 2016-2017	Average Monthly Temp °F	1981-2010 Normal °F	Departure from Normal °F	Monthly High °F / Date	Monthly Low °F / Date
December	-6.8	-5.7	-1.1	32 / Dec 31	-40 / Dec 3
January	-11.4	-10.0	-1.4	33 / Jan 2	-56 / Jan 19
February	-4.3	-5.0	+0.7	31 / Feb 26	-46 / Feb 12

Winter Season Temperature Departure from Normal: -0.6°F.

Table 2. Precipitation: Winter 2016-2017 monthly precipitation totals compared to normal.

Winter 2016-2017	Total Monthly Precip. in.	1981-2010 Normal in.	Departure from Normal in.	Greatest 24 -hr. total in. / Date	# Days with >=0.01 in. water
December	1.48	0.92	+0.56	0.57 / Dec 29	13
January	0.98	0.81	+0.17	0.23 / Jan 14	13
February	1.23	0.85	+0.38	0.36 / Feb 23	13

Winter Season Precipitation Departure from Normal: +1.11 inches (143% of normal).

Table 3. Snowfall: Winter 2016-2017 monthly snowfall totals compared to normal.

Winter 2016-2017	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.
December	25.0	15.6	+9.4	7.5 / Dec. 29	39.8
January	15.6	13.9	-1.7	3.1 / Jan. 14	55.4
February	21.3	14.0	+7.3	4.4 / Feb. 23	76.7

Climate Monitoring in Gates of the Arctic

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 Killik Pass, Ram Creek, Pamichtuk Lake, and Chimney Lake (Figure 3). Near real-time observations are available through the National Weather service at this [hyperlink](#).

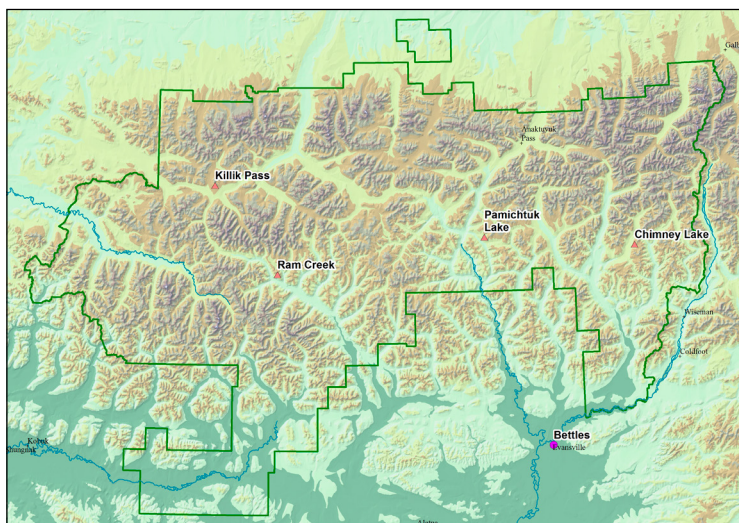


Figure 3. NPS Climate stations in Gates of the Arctic.

Air Temperatures: Brooks Range/Gates of the Arctic

Four new mid-elevation sites were installed in the park in 2012 to help understand the mountain environments and quantify temperature differences at elevation. Figure 4 clearly shows

that the mountain sites are cooler during the peak summer months and warmer during the winter months. The spring and fall seasons are also cooler at the mountain sites.

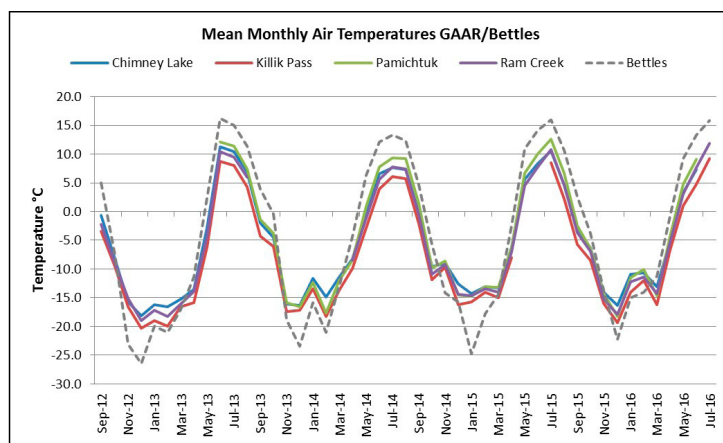


Figure 4. Monthly air temperatures in Gates of the Arctic 2012-2016.

More Information

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[Current weather in GAAR](#)