



Weather & Climate Summary Gates of the Arctic National Park & Preserve Winter 2019

Anaktuvuk River, Gates of the Arctic National Park & Preserve. Photo: NPS, Ken Hill.

Bettles Winter Weather 2019

Winter Highlights: **Snowiest winter (Dec-Feb) on record** with a total of 108.6 inches.

Overall, winter 2019 was warmer than normal with the strongest positive departures in February. The average winter temperature was +5.2°F warmer than normal at -1.7°F. 2019 ranks as the ninth warmest winter with records going back to 1951. Total precipitation (melted snow) was 6.61 inches, 256% of normal! Both December and February had snowfall totals well above normal, while January was 70% of normal. (Figures 1 and 2; Tables 1, 2, and 3).

December was warm and snowy. The average monthly temperature was 4.8°F warmer than normal at -0.9°F. The high temperature reached 30°F on December 1 and it snowed 11.1 inches, both daily records. A total of 62.4 inches of snow fell during December! Normal is ~16 inches. The water equivalent of that snow was 3.50 inches, 380% of normal. It was the snowiest and wettest December on record.

Temperatures moderated in January and were closer to normal at -9.1°F, which is 0.9°F warmer than the 1981-2010 normal. Snowfall tapered off in January as well with a monthly total of 9.7 inches, about 4 inches shy of normal.

Like December, February was warm and snowy. The average monthly temperature was 9.8°F warmer than normal at 4.8°F and ranked as the 6th warmest February since 1952. February was another impressive month for snow, with a total of 36.5

inches. Normal for February is 14 inches. The water equivalent of the snow was 2.56 inches, 301% of normal!

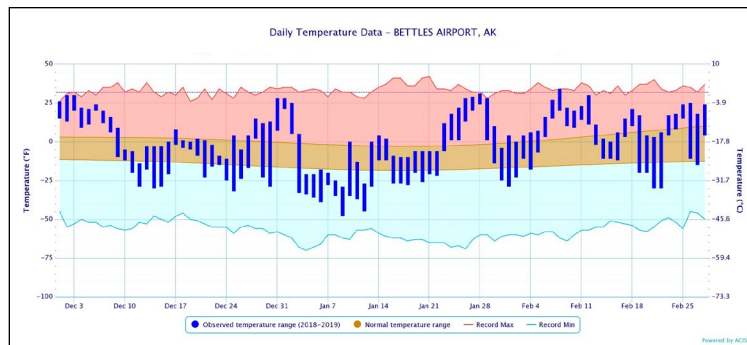


Figure 1. Winter 2019 daily temperatures at Bettles showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars). <http://xmacis.rcc-acis.org/>



Figure 2. Winter 2019 snowfall accumulation (green) at Bettles compared to normal (brown line). <http://xmacis.rcc-acis.org/>

Table 1. Temperature: Winter 2019 average monthly temperatures compared to the 1981-2010 normal.

Winter 2019	Average Monthly Temp (°F)	1981-2010 Normal (°F)	Departure from Normal (°F)	Monthly High (°F / Date)	Monthly Low (°F / Date)
December	-0.9	-5.7	+4.8	30* / Dec 1, 2	-32 / Dec 25
January	-9.1	-10.0	+0.9	31 / Jan 28	-48 / Jan 9
February	4.8	-5.0	+9.8	34* / Feb 8	-30 / Feb 21, 22

Winter Season Temperature Departure from Normal: +5.2°F; *Record daily high.

Table 2. Precipitation: Winter 2019 monthly precipitation totals compared to normal.

Winter 2019	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*	3.50	0.92	+2.58	1.01** / Dec 1	17
January	0.55	0.81	-0.26	0.10 / Jan 2	8
February	2.56	0.85	+1.71	0.96** / Feb 7	11

Winter Season Precipitation Departure from Normal: +4.03 inches (256% of normal); *Wettest December on record; **Record daily precipitation (melted snow).

Table 3. Snowfall: Winter 2019 monthly snowfall totals compared to normal.

Winter 2019	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*	62.4	15.6	+46.8	11.1** / Dec 1	84.4
January	9.7	13.9	-4.2	2.1 / Jan 2	94.1
February	36.5	14.0	+22.5	9.2** / Feb 7	130.6

*Snowiest December on record; **Record daily snowfall.

February Warmth in Gates of the Arctic

February 2019 was 10°F warmer than normal in Bettles and the average monthly temperature at each of the four climate stations in Gates of the Arctic were all warmer than Bettles. Chimney Lake, with an average February temperature of 10.0°F, was the warmest mountain site and Killik Pass at 7.0°F was the coolest (Figure 3). Over the past seven years the February monthly temperatures for the park sites were, on average, between 4°F and 8°F warmer than Bettles.

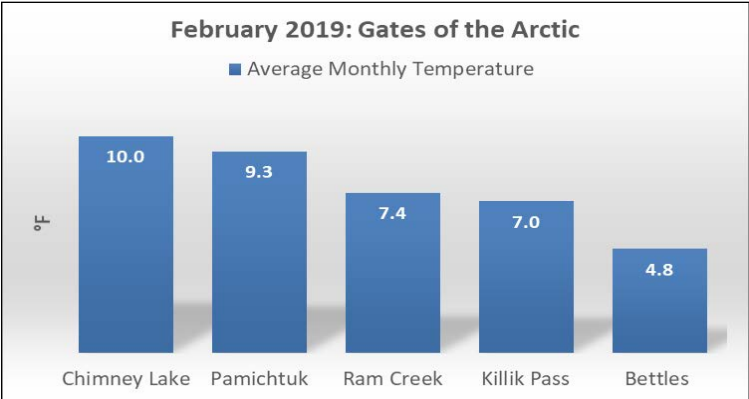


Figure 3. February 2019 average temperatures at climate stations in Gates of the Arctic National Park and Preserve.

Snowy Winter in Bettles

The 108.6 inches of snow that fell between December 1, 2018 and February 28, 2019 was more than 2.5 times the long-term average (1952-2019). It was the snowiest winter on record (Figure 4). The winter of 1992-1993 was the runner-up with 88 inches of snow (again winter being December 1 through February 28).

(Snowy Winter in Bettles, continued...)

The total snowfall for the 1992-1993 season (July 1 – June 30) was 170.6 inches, still the snowiest on record. The 2018-2019 season (as of May 31) has a total of 145.3 inches, the second snowiest season to date.

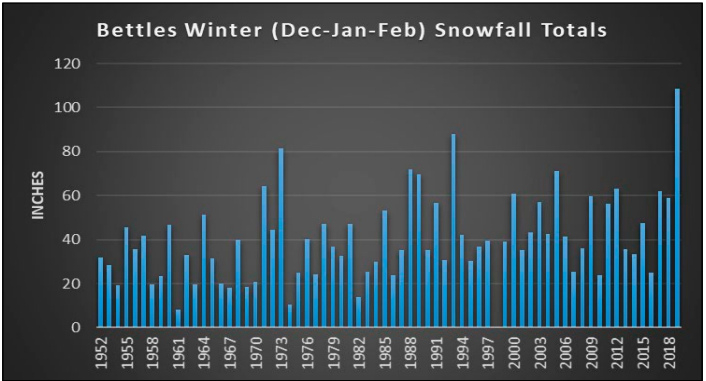


Figure 4. Winter (Dec-Jan-Feb) snowfall totals in Bettles 1952-2019.

More Information

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[Current Weather in Gates of the Arctic NP & Pres.](#)

<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 CAKN climate stations are available at [NPS Data Store](#)