



Weather & Climate Summary Gates of the Arctic National Park & Preserve Winter 2017-2018

Bettles Winter Weather 2017-2018

December 2017 was the warmest on record with a monthly average temperature of 10.7°F, normal is only -5.7°F. Exceptional warmth the 11th through the 14th broke daily high records each day, and temperatures reached as high as 38°F on the 13th. This is a tie for the highest temperature ever recorded in the month of December. The first three weeks of December were also exceptionally snowy, with a trace or more of snow recorded on all but two days. With 30.8 inches of snow for the month, it was the 7th snowiest December on record. The snow contained 1.95 inches of water in total, ranking as the 4th wettest December.

Temperatures stayed near normal or above average for the first three weeks of January. The first legitimately cold temperatures of the winter finally arrived the last week of the month. The low temperature in January was -46°F on the 22nd. Total snowfall for the month was 16 inches (115% of normal) containing 1.03 inches of water (127% of normal).

Overall, February was warmer and drier than normal. The average monthly temperature was -2.2°F, normal is -5.0°F. There was a total of 9.6 inches of snow for the month, which is 4.4 inches less than normal. Precipitation was 60% of normal with 0.51 inches of liquid water equivalent.

Winter 2017-2018 ended up as the 6th warmest and 15th wettest winter on record since 1951 (Figures 1 and 2; Table 1, 2, and 3).

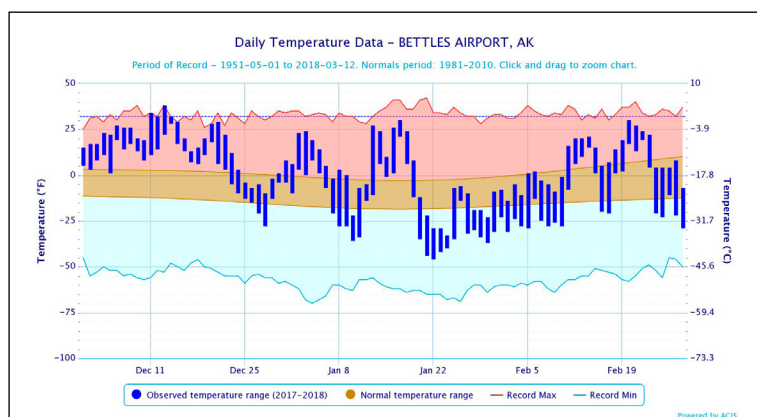


Figure 1. Winter 2017-2018 daily temperatures at Bettles showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

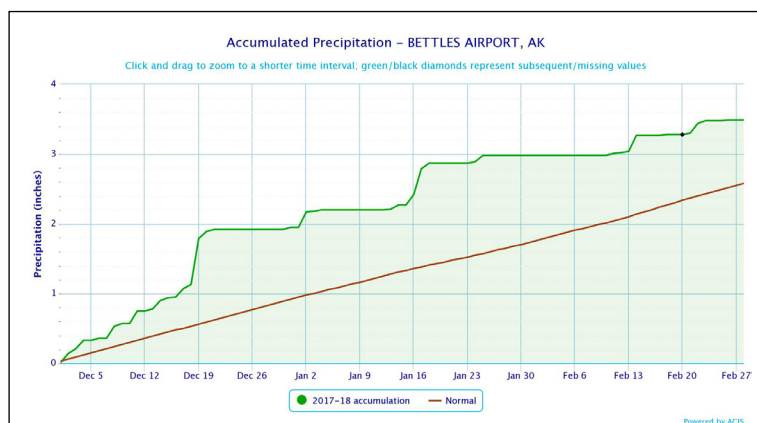


Figure 2. Winter 2017-2018 accumulated precipitation at Bettles (green) compared to normal (brown line).

Table 1. Temperature: Winter 2017-2018 average monthly temperatures compared to the 1981-2010 normal.

Winter 2017-2018	Average Monthly Temp °F	1981-2010 Normal °F	Departure from Normal °F	Monthly High °F / Date	Monthly Low °F / Date
December	10.7**	-5.7	+16.4	38* / Dec. 13	-28 / Dec. 28
January	-9.5	-10.0	+0.5	30 / Jan. 17	-46 / Jan. 22
February	-2.2	-5.0	+2.8	30 / Feb. 20	-31 / Feb. 2

Winter Season Temperature Departure from Normal: : +6.6°F. *Tie for highest temperature ever recorded in December; **Warmest on record.

Table 2. Precipitation: Winter 2017-2018 monthly precipitation totals compared to normal.

Winter 2017-2018	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	1.95	0.92	+1.03	0.66 / Dec. 19	18
January	1.03	0.81	+0.22	0.37 / Jan. 17	10
February	0.51	0.85	-0.34	0.23 / Feb. 14	9

Winter Season Precipitation Departure from Normal: +0.91 inches (135% of normal).

Table 3. Snowfall: Winter 2017-2018 monthly snowfall totals compared to normal.

Winter 2017-2018	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	30.8	15.6	+15.2	8.7 / Dec. 19	74.2
January	16.0	13.9	+2.1	5.3 / Jan. 17	90.2
February	9.6	14.0	-4.4	4.2 / Feb. 14	99.8

NPS Climate Monitoring Stations

NPS climate stations in Gates of the Arctic (GAAR) 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).

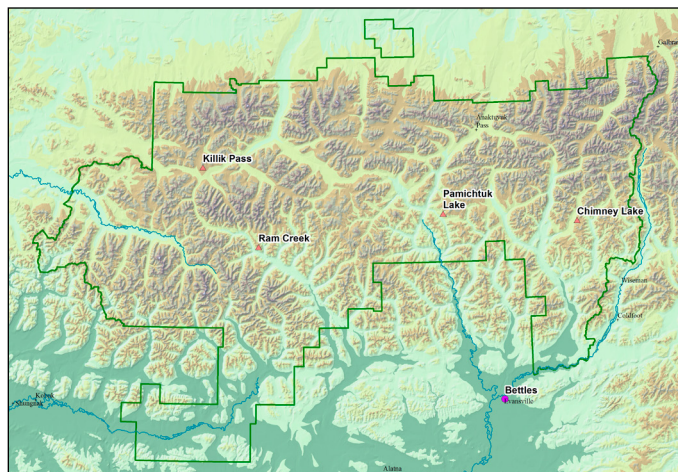


Figure 3. NPS Climate stations in Gates of the Arctic National Park and Preserve.

Record Low Arctic Sea Ice

Arctic sea ice extent was at a record low for most of the winter (Figure 4). Both Pacific and Atlantic sides of the Arctic recorded more open water and lower concentrations of sea ice than usual. The Bering Sea was exceptionally low on ice due to huge areas of expanding open water in the

second half of February. Overall, arctic sea ice extent at the end of February 2018 was 521,000 square miles below the 1981-2010 normal, an area equal in size to 80% of Alaska's land mass.

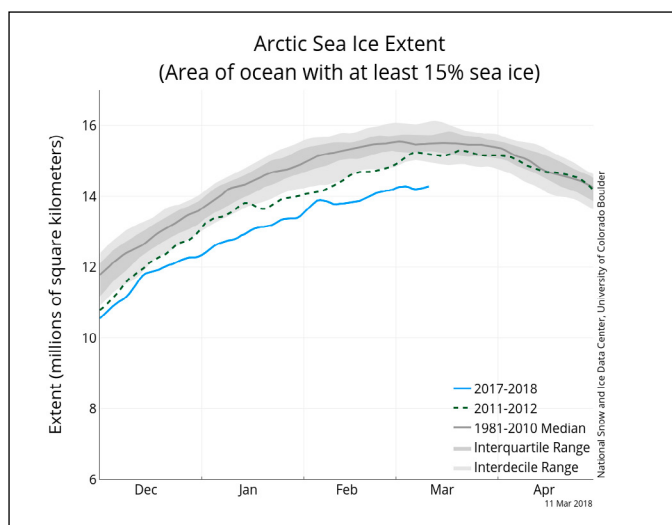


Figure 4. Arctic Sea Ice Extent.

More Information

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[Current weather in GAAR](#)