

Arctic Network

National Park Service
U.S. Department of the Interior

Alaska Region
Inventory & Monitoring Program



Bering Land Bridge N Pres. • Cape Krusenstern NM
Gates of the Arctic NP & Pres. • Kobuk Valley NP • Noatak N Pres.

1st Quarter 2016

Weather & Climate Summary Gates of the Arctic National Park & Preserve Winter 2015-2016

Bettles Winter Weather

Overall, December was near-normal for both temperature and precipitation in Bettles. The average temperature for December was -8.0°F compared to a normal of -5.7°F . The low temperature for the month was -40°F on December 24. A warm, wet storm came through Bettles December 28-31 with a record breaking high temperature of 35°F on December 30 with over 10 inches of snow falling during the storm. Overall, 0.83 inches of precipitation was recorded in December which is 90% of normal.

Persistently warm temperatures were the story for January with all but three days above average. The average temperature for the month was 4.9°F compared to a normal monthly mean of -10.0°F . It was the fifth warmest January since records began in 1952. Daily high records were broken on January 3, 4, 27, and 28 with temperatures at or above the freezing threshold each day. Monthly precipitation totaled only 0.34 inches; normal is 0.81 inches.

It was the warmest February on record in Bettles. All but one day of the month was warmer than normal. The last week of the month was particularly warm, averaging more than 20°F above normal. The monthly mean was an impressive 6.7°F compared to an expected normal of -5.0°F . Precipitation was recorded on only 2 days in February totaling 0.24 inches of water and 4.5 inches of snowfall.

The average winter temperature at Bettles was 1.2°F which is 8.1°F warmer than the 1981-2010 normal. Since 1952, only the winter of 2001-2002 was warmer. The total winter precipitation was 1.40 inches, 54% of normal. The winter or 2015-2016 ranked as the 13th driest winter on record. (Figures 1 and 2; Table 1, 2, and 3).

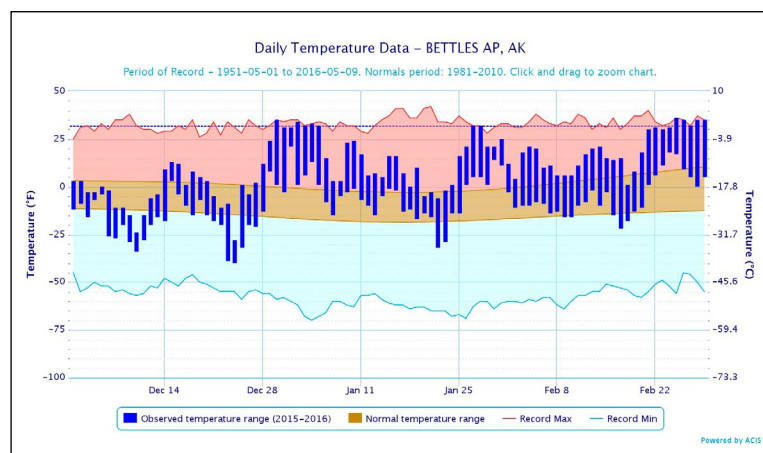


Figure 1. Winter 2016 daily temperatures at Bettles showing **record maximum** (red), **record minimum** (blue), **normal** (brown) and **2016 observed** range (blue bars).

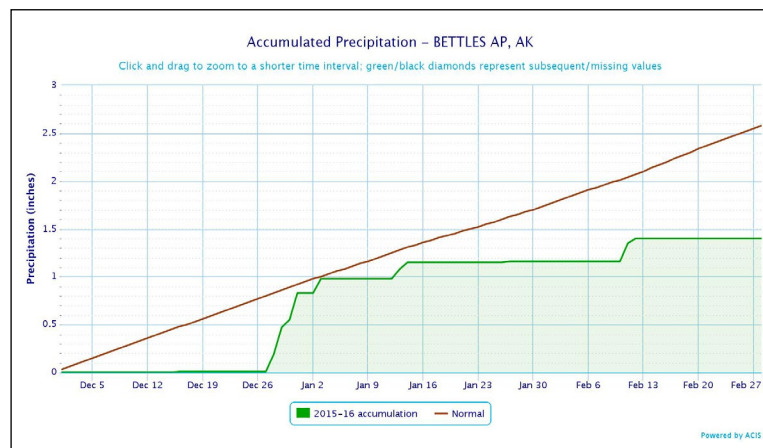


Figure 2. Winter **2016** accumulated precipitation at Bettles (green) compared to **normal** (brown line).

Table 1. Temperature: Winter 2015-2016 average monthly temperatures compared to the 1981-2010 normal.

Winter 2015-2016	Average Monthly Temp °F	1981-2010 Normal °F	Departure from Normal °F	Monthly High °F / Date	Monthly Low °F / Date
December	-8.0	-5.7	-2.4	35 / Dec. 30	-40 / Dec. 24
January	4.9	-10.0	+14.9	34 / Jan. 2	-32 / Jan. 22
February	6.7	-5.0	+11.7	36 / Feb. 25	-22 / Feb. 17

Winter Season Temperature Departure from Normal: +8.1°F

Table 2. Precipitation: Winter 2015-2016 monthly precipitation totals compared to normal.

Winter 2015-2016	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	0.83	0.92	-0.09	0.28 / Dec. 29 & 31	5
January	0.34	0.81	-0.47	0.15 / Jan. 3	4
February	0.24	0.85	-0.61	0.19 / Feb. 11	2

Winter Season Precipitation Departure from Normal: -1.17 inches (55% of normal)

Table 3. Snowfall: Winter 2015-2016 monthly snowfall totals compared to normal.

Winter 2015-2016	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	12.1	15.6	-3.5	4.0 / Dec. 29	83.8
January	8.3	13.9	-5.6	3.3 / Jan. 14	92
February	4.5	14.0	-9.5	3.3 / Feb. 11	96.5

NPS Climate Monitoring Stations

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](#).

Featured Station: Killik Pass

Killik Pass is located in the NW corner of GAAR at an elevation of 4360 feet. The station overlooks the west-flowing Nigu River, the north-flowing Killik River, and the south-flowing Alatna River. The station is located in a transition area above low, wet tussock tundra and drier upland ridges. Although minimum winter temperatures are not as cold as low elevation locations, the average annual temperature is cool, making Killik Pass the coldest site in the NPS arctic network of weather stations.



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

More Information

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[Current weather in GAAR](#)