

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.

Winter 2019

Weather & Climate Summary Western Arctic Parklands Winter 2019

Hugo Creek, Noatak National Preserve, NPS photo.

Kotzebue Winter Weather 2019

Highlights: February 2019 was the warmest on record (tied with 1989) and the 2nd wettest on record. It was the 5th warmest winter (December-February) on record for Kotzebue and among the wettest (ranked 5th).

The average winter temperature was 8.1°F warmer than normal at 7.7°F. Five of the past six winter seasons have been in the top ten warmest since 1943. The precipitation total for the winter (melted snow) was well above normal with a total of 3.70 inches, normal is 2.04 inches (Figures 1 and 2; Tables 1 and 2).

December temperatures started out well above normal with record warm temperatures of 32°F on both December 2nd and 3rd. After the first week the temperatures cooled off and were actually below normal for a stretch during mid-month. The average monthly temperature ended up close to normal at 2.5°F, just 0.2°F above the 1981-2010 normal. The total precipitation (melted snow) was near normal as well with 0.68 inches, 90% of normal.

January temperatures were quite variable ranging from -32° to +36°F. The first few days of the month were warm and then the temperatures steadily decreased through January 12. Temperatures warmed again mid-month and were normal to above normal for the remainder of the month. The average temperature was 5.7°F warmer than normal at 2.9°F. The water content of the melted snow was equal to 0.38 inches, which is 61% of normal.

February was very warm and very wet! It was the warmest February on record. The daily high temperature was above freezing on, an unprecedented, 10 out of 28 days in February,

with new record daily highs on the 9th, 27th, and 28th. The monthly precipitation total (melted snow/rain) was 2.64 inches, which makes February 2019 the 2nd wettest February on record.

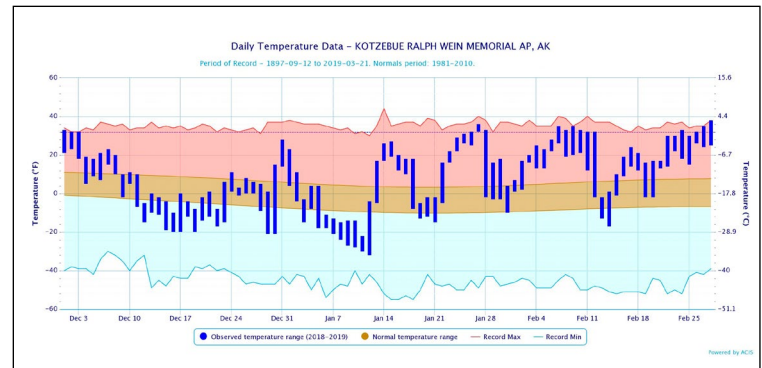


Figure 1. Winter 2019 daily temperatures at Kotzebue showing record maximum (red), record minimum (blue), normal (brown) and 2019 observed range (blue bars). <http://xmacis.rcc-acis.org/>

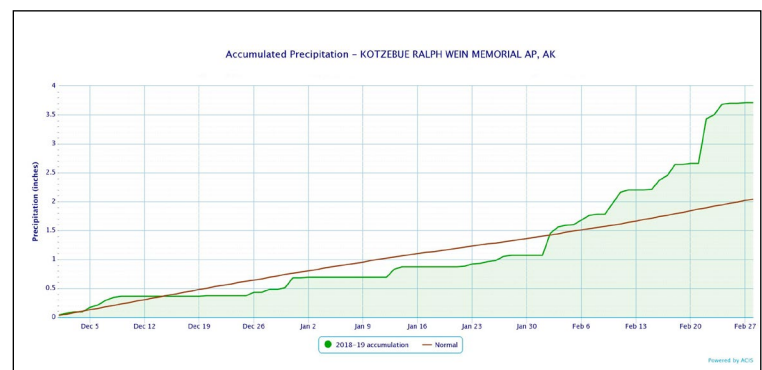


Figure 2. Winter 2019 accumulated precipitation (green) at Kotzebue compared to normal (brown line). <http://xmacis.rcc-acis.org/>

Table 1. Kotzebue 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	2.5	2.3	+0.2	33 / Dec 1	-21 / Dec 29, 30
January	2.9	-2.8	+5.7	36 / Jan 27	-32 / Jan 12
February*	17.7	-0.8	+18.5	38** / Feb 28	-17 / Feb 14

Winter Season Temperature Departure from Normal: +8.1°F; *Warmest on Record; **Record daily high

Table 2. Kotzebue 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	0.68	0.76	-0.08	0.17 / Dec 31	13
January	0.38	0.62	-0.24	0.14 / Jan 13	10
February	2.64	0.66	+1.98	0.77 / Feb 22	20

Winter Season Precipitation Departure from Normal: +1.66 inches (181% of normal).

Snowy Winter at Kelly Ranger Station

We have been measuring snow depth and snow water equivalent near the Kelly Ranger Station in Noatak National Preserve since 2012. It's only been seven years, but the past few years have had more snow than the first few years of measurements (Figure 3).

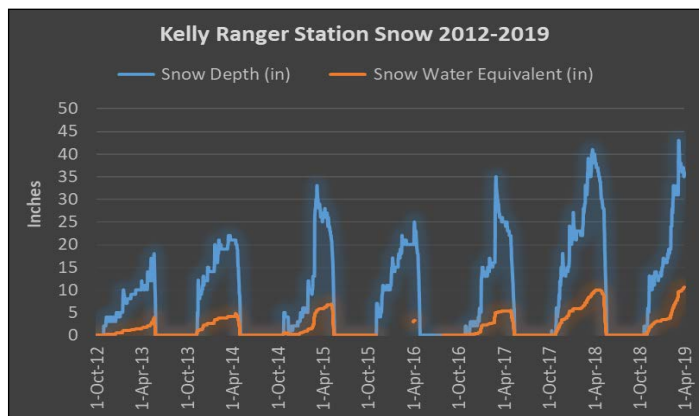


Figure 3. Snow depth (blue line) and snow water equivalent (orange line) at Kelly Ranger Station, Noatak National Preserve.

Cape Krusenstern Winter Warmth

The Tahinichok climate station sits on a ridge north of Rabbit Creek between the town of Noatak and the Chukchi Sea in Cape Krusenstern National Monument. The winter of 2019 was cooler than last year; however the trend shows a rise in winter temperatures over the past eight years (Figure 4).

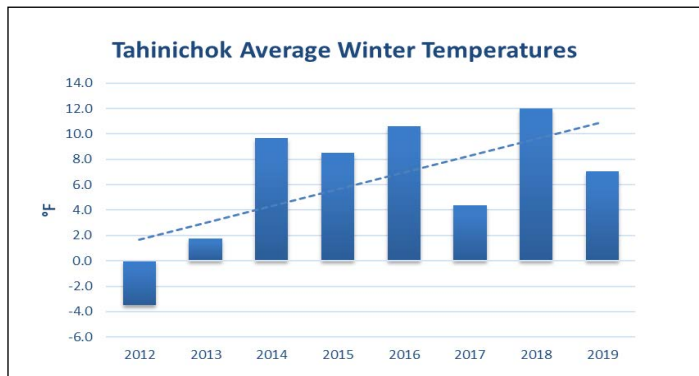


Figure 4. Winter temperatures at Tahinichok climate station in Cape Krusenstern National Monument 2012-2019.

Warm Winter for Most of Alaska

The warmth continued for another season for most of Alaska. Temperatures along Alaska's west and north coast continued to have the largest positive deviations from normal (Figure 5). The warm ocean temperatures in the North Pacific and the decline in sea ice over the past several years continues to be a major factor in the recent statewide warming trend.

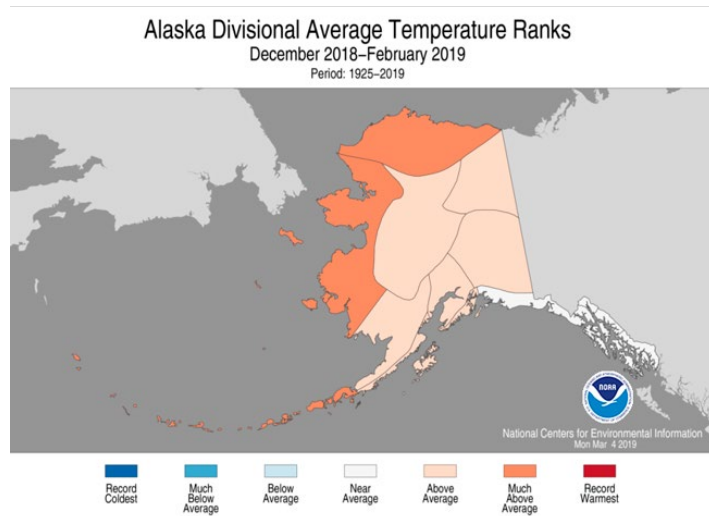


Figure 5. Winter 2019 temperatures above average along Alaska's north and west coast. Graph: NCEI (<https://www.ncdc.noaa.gov/cag>).

More Information

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[Current Weather in the Western Arctic Parklands](#)

<http://science.nature.nps.gov/im/units/arcn>

