



Weather & Climate Summary Western Arctic Parklands Winter 2016-2017

Kotzebue Winter Weather 2016-2017

Overall, December was 4.3°F warmer than normal for the month. The warmest temperatures occurred during the last week of the month, including a record breaking daily high temperature of 37°F on December 31. Most precipitation came during a warm storm event with ~ 8 inches of snow on December 29-30. The total precipitation for the month was 0.75 inches, about normal.

January continued on the warmer than normal track with the average monthly temperature at 1.1°F, which is 3.9°F warmer than normal. A record high daily temperature of +38°F was recorded on January 1. Monthly precipitation totaled 0.55 inches; normal is 0.62 inches. Total snowfall for the month was 11.3 inches. Most of the snow (9.1 inches) fell during a storm on January 24-25. Monthly snowfall was 124% of normal.

February temperatures remained above normal, but there were a few chilly days mid-month. Overall it was 1.9°F warmer than normal at 1.1°F (same as January). It was a snowy February with a total of 19.2 inches, twice as much snowfall as normal. The bulk of the snow fell during a warm and wet storm that dropped 17.6 inches of snow between February 23-26. The water equivalent of the monthly snowfall was 1.04 inches; normal is 0.66 inches.

The average winter temperature at Kotzebue was 2.9° F which is 3.4° F warmer than the 1981-2010 normal. The 2016-2017 winter ranks as the 12th warmest winter on record. The total winter precipitation was 2.34 inches, 115% of normal. The

winter or 2016-2017 ranked as the 13th wettest winter on record. (Figures 1 and 2; Table 1, 2, and 3).

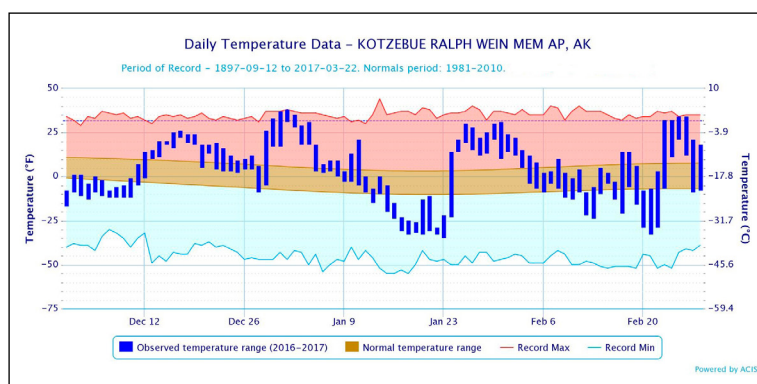


Figure 1. Winter 2016-2017 daily temperatures at Kotzebue showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

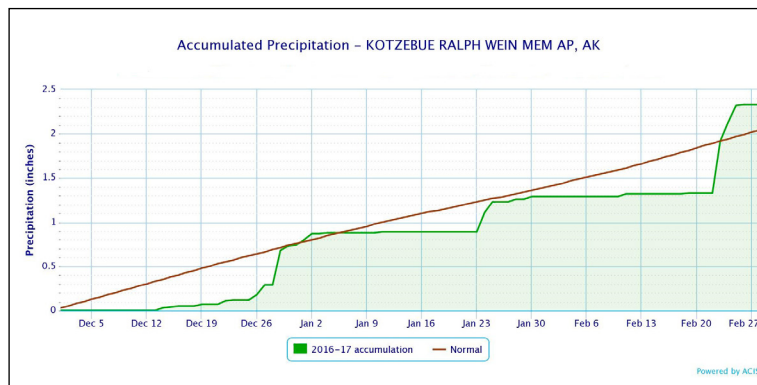


Figure 2. Winter 2016-2017 accumulated precipitation at Kotzebue (green) compared to normal (brown line).

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	6.6	2.3	+4.3	37* / Dec 31	-17 / Dec 1
January	1.1	-2.8	+3.9	38* / Jan 1	-35 / Jan 23
February	1.1	-0.8	+1.9	34* Feb 25*, 26	-33 / Feb 21

Winter Season Temperature Departure from Normal: +3.4°F; *Record daily highs.

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	0.75	0.76	-0.01	0.39 / Dec 29	11
January	0.55	0.62	-0.07	0.22 / Jan 24	8
February	1.04	0.66	+0.38	0.59 / Feb 23	6

Winter Season Precipitation Departure from Normal: +0.3 inches (115% 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	15.1	11.5	+3.6	7.5 / Dec 29	20.7
January	11.3	9.1	+2.2	6.0 / Jan 24	32
February	19.2	9.6	+9.6	10.9 / Feb 23	51.2

Climate Monitoring in Western Arctic Parklands

NPS climate stations in the Western Arctic (WEAR) Parklands complement the long-term record from the National Weather Service station in Kotzebue. Twelve NPS stations from Cape Krusenstern to Kobuk Valley to Howard Pass record hourly measurements of air temperature, relative humidity, wind speed/direction, solar radiation, snow depth, and soil temperature.



Figure 3. NPS Climate stations in Western Arctic Parklands.

Noatak Weather Stations

We now have a few years of temperature data from the new weather stations in Noatak National Preserve. We clearly see that temperatures are much more variable during the winter months. Winters are colder in the interior valleys than along the

coast. Howard Pass is consistently the coldest instrumented site in Noatak National Preserve in winter, followed by Kaluich and Sisiak. The warmest sites in winter are Asik and Imelyak. Asik is the site closest to the coast in Noatak and Imelyak is the highest instrumented site on the southeast boundary of the Preserve.

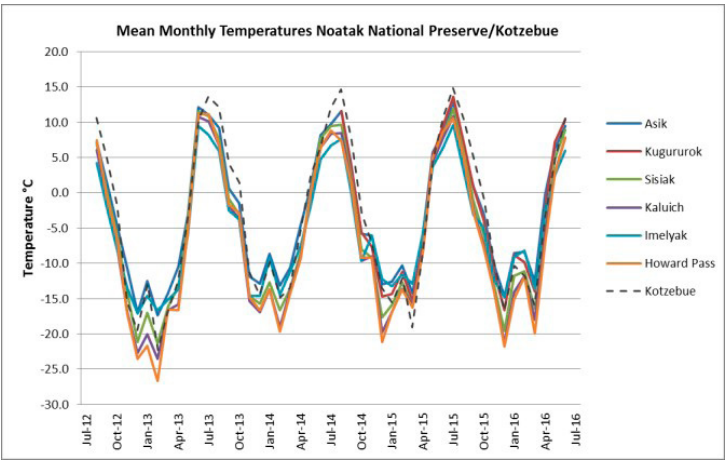


Figure 4. Monthly air temperatures at the Noatak weather stations.

More Information

Pam Sousanes; pam_sousanes@nps.gov; ph 907-455-0677

Ken Hill; kenneth_hill@nps.gov; ph 907-455-0678

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

[Current weather in WEAR](#)