



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

Summer 2023

Weather & Climate Summary Western Arctic Parklands Summer 2023

Kotzebue. NPS/Ken Hill

Kotzebue Summer Weather 2023

It was a wet summer in Kotzebue and temperatures were warmer than normal. Weather highlights for the season include a cool June, a very wet period in early July, warm temperatures mid-July through mid-August, and cool/damp conditions at the end of August. The average temperature for the 2023 summer season was 51.8°F, which is 0.2°F above the 1991-2020 normal. Summer rainfall totaled 6.75 inches; +2.42 inches above normal. It was the 9th wettest summer on record (Table 1 and 2, Figures 1 and 2).

June

The first few days of “summer” were cold with lows in the mid 20s and snow! Temperatures averaged about 11 degrees colder than normal June 1st through 3rd. After that, things warmed up for a few days. A monthly high temperature of 65°F was recorded on June 6. The warmth did not last and most of mid-June was cool and rainy. The average temperature for the month was 3.0°F cooler than normal at 44.5°F. June is usually the driest month of the summer, but this June had rain, snow, or a trace of precipitation on most days of the month. The wettest few days were June 10-12 with a total of 0.64 inches of precipitation. The monthly total of 1.07 inches was 178% of normal.

July

The first half of July was cool and wet. Over two inches of rain were recorded the first half of the month and high temperatures were usually in the 50s. The second half of July was warmer than normal with highs in the 60s and 70s. Precipitation was light during the latter half of the month, except for July 28 when 0.80 inches of rain was recorded. Overall, July was 2.0°F warmer than normal and total precipitation was 3.10 inches. It was the 6th wettest July on record.

August

Temperatures stayed warm through the first half of August. The monthly high of 70°F occurred on August 11. The daily minimum temperatures during this period were much warmer than normal. Things cooled off after the 15th and the second half of the month was cooler and wet. With an average monthly temperature of 53.5°F, August was 1.4°F warmer than normal. August precipitation was 121% of normal with a monthly total of 2.58 inches.

Table 1. Kotzebue summer 2023 average monthly temperatures compared to the 1991-2020 normal.

Summer 2023	Average Monthly Temp (°F)	1991-2020 Normal (°F)	Departure from Normal (°F)
June	44.5	47.5	-3.0
July	57.3	55.3	+2.0
August	53.5	52.1	+1.4

Summer Temperature Departure from normal: +0.2°F

Table 2. Kotzebue summer 2023 monthly precipitation totals compared to normal

Summer 2023	Total Monthly Precip. (in.)	1991-2020 Normal (in.)	Departure from Normal (in.)
June	1.07	0.60	+0.47
July	3.10	1.60	+1.50
August	2.58	2.13	+0.45

Summer Precipitation Departure from normal: +2.42 in. (156% of normal).

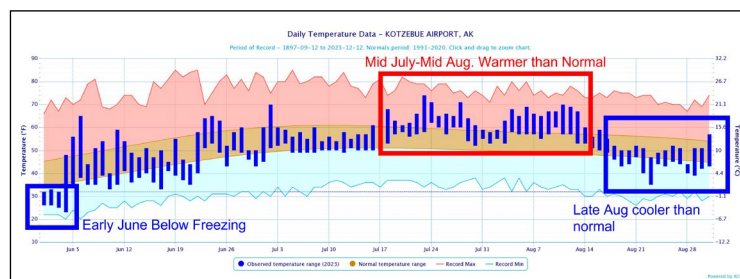


Figure 1. Summer 2023 daily temperatures at Kotzebue showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars). Data from: <http://xmacis.rcc-acis.org/>.

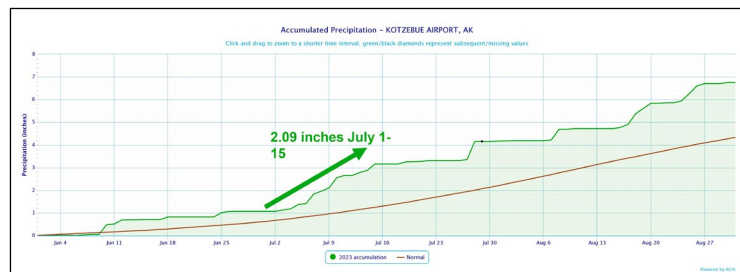


Figure 2. Summer 2023 accumulated precipitation at Kotzebue (green) compared to normal (brown line). Data from: <http://xmacis.rcc-acis.org/>

Summer in the Western Arctic Parklands

Summer weather in WEAR varies depending on latitude, distance from the coast, topography, and storm tracks. June temperatures at Mt. Noak (Cape Krusenstern), Salmon River (Kobuk Valley), and Howard Pass (Noatak) were colder than average (See locations in Figure 3). July and August monthly



Figure 3. Arctic Inventory and Monitoring Network climate stations in WEAR.

temperatures at these sites were warmer than average with the warmest anomaly at Howard Pass. For the summer overall, temperatures were near average at Mt. Noak and Salmon River, but well-above average at Howard Pass (Figure 4).

Summer rainfall was more variable; the sites to the east had more rain than the sites near the coast. Imelyak had the most

rain with over 17 inches for the summer, about 4 inches more than average. Mt. Noak, Tahinichok, and Asik each had between 8.0 and 9.0 inches and were within one inch of average. June was the driest month at each of these sites.

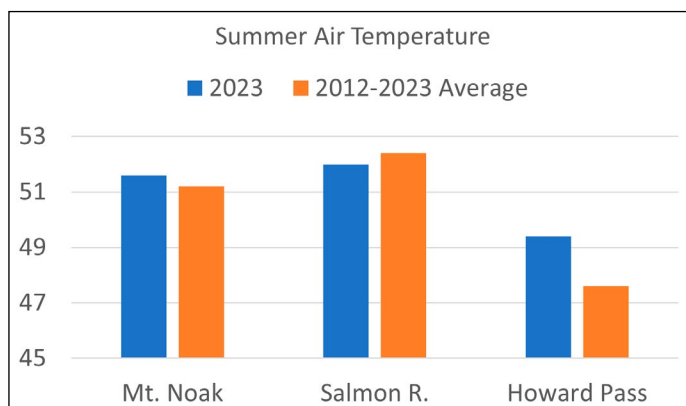


Figure 4. Average summer air temperatures in °F (June-August) at Mt. Noak (CAKR), Salmon River (KOVA), and Howard Pass weather stations.

We had the first full season of rainfall measurements from the Dahl Creek Snotel site, near the community of Kobuk and it happened to be the wettest summer on record for this region of the state (Figure 5). A total of 21.6 inches of rain fell between June 1 and Aug 31, three times more rain than Bettles. August was the wettest month of the summer with a total of 9.9 inches recorded at Dahl Creek.

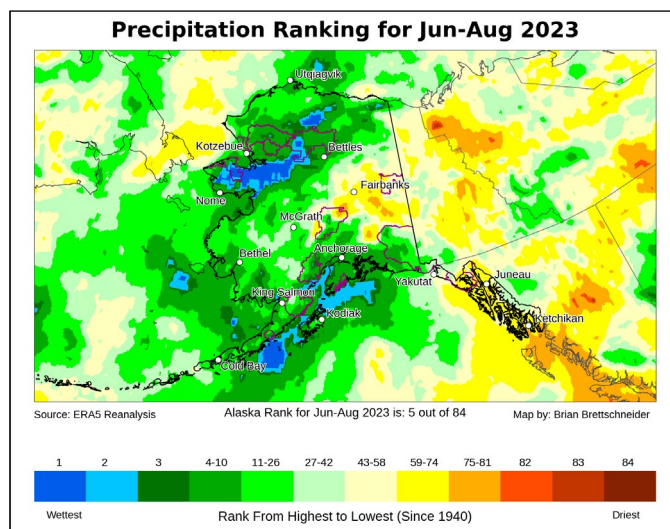


Figure 5. Statewide precipitation ranking map courtesy of Brian Brettschneider. Areas in dark blue indicate the wettest summer of record (back to 1940).

More Information

[Pam Sousanes@nps.gov](mailto:Pam_Sousanes@nps.gov); ph 907-455-0677

[Kenneth Hill@nps.gov](mailto:Kenneth_Hill@nps.gov); ph 907-455-0678

<https://www.nps.gov/im/arcn/climate.htm>
Latest weather conditions in WEAR

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 ARCN climate stations are available at [NPS Data Store](https://www.nps.gov/im/arcn/climate.htm)