



Weather & Climate Summary Yukon-Charley Rivers National Preserve Winter 2023-2024

Yukon-Charley Rivers National Preserve in winter. NPS Photo/ Pam Sousanes.

Eagle Winter 2023-2024 Weather Summary

Overall, winter was cooler and snowier than normal. The average temperature for the winter season was 5.6°F, which is -0.7°F below the 1991-2020 normal. The winter precipitation total of 2.03 inches was 119% of normal. The winter snowfall total for December through February was 40 inches, normal is 28 inches (Table 1 and 2, Figures 1 and 2).

December

December was warmer than normal with above normal snowfall. The average monthly temperature was 4.6°F warmer than normal. There were three days during the month with high temperatures above freezing: December 12 (36°F), December 24 (38°F), and December 25 (39°F). The December snowfall total was 22.2 inches, the sixth snowiest December on record for Eagle with records back to 1901. Normal snowfall for December is 11.2 inches. The water content of the snow was 1.05 inches, 157% of normal.

January

January was cooler than normal and snowier than normal. The average temperature for January was -17.9°F which is 8.8°F colder than normal. The third week of the month was the coldest, with temperatures averaging about 24 degrees F colder than normal. The low temperature for the month was -48°F on January 23. Total snowfall was 16.5 inches, normal is 9.4 inches. Most of the snow fell during the last five days of the month.

February

February was warmer than normal with little additional snow accumulation. The average monthly temperature was 2.0°F

warmer than normal at 0.5°F. It was cold in the beginning of the month and at the end of the month, with warmer than normal temperatures mid-month. The warmest days were February 21-23 with daily highs that were ≥32°F. The snowfall total was less than one inch, normal is 7.2 inches. The water content was recorded as a trace; only four other years on record had <1 inch of precipitation for February.

Table 1. Eagle average monthly temperatures compared to the 1991-2020 normal.

Winter 2023-2024	Average Monthly Temp (°F)	1991-2020 Normal (°F)	Departure from Normal (°F)
December	0.5	-4.1	+4.6
January	-17.9	-9.1	-8.8
February	0.5	-1.5	+2.0

Winter temperature departure from normal: -0.7°F

Table 2. Eagle monthly precipitation totals compared to normal.

Winter 2023-2024	Total Monthly Precip. (in.)	1991-2020 Normal (in.)	Departure from Normal (in.)
December	1.05	0.67	+0.38
January	0.98	0.60	+0.38
February	Trace	0.44	-0.44

Winter precipitation departure from normal: +0.32 in. (119% of normal)

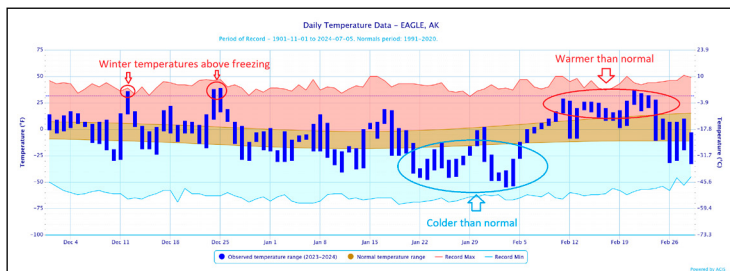


Figure 1. Winter 2023-2024 daily temperatures at Eagle showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars). Data from: <http://xmacis.rcc-acis.org/>.

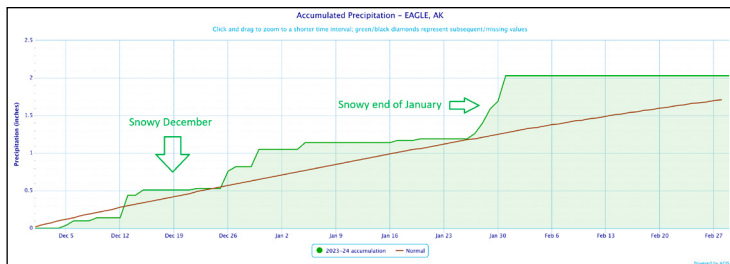


Figure 2. Winter 2023-2024 accumulated precipitation at Eagle (green) compared to normal (brown line). Data from: <http://xmacis.rcc-acis.org/>.

Central Alaska Inventory and Monitoring Network Climate Stations

We have been monitoring weather at additional sites in Yukon-Charley Rivers to help understand daily, monthly, and seasonal weather patterns and shifting climate averages in the park (Figure 3). [Click here](#) to view the current weather in Yukon-Charley Rivers.

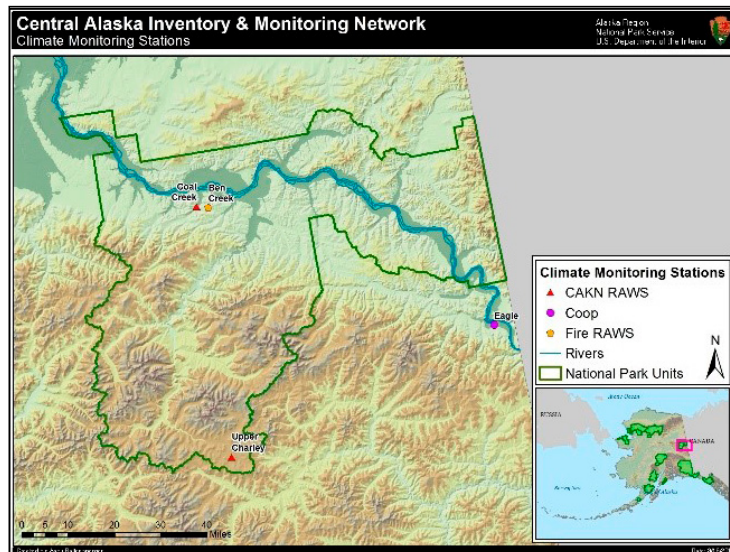


Figure 3. Central Alaska Inventory and Monitoring Network climate stations in Yukon-Charley Rivers National Preserve.

Coal Creek Snow

We measure snow depth continuously throughout the cold season at the remote climate sites with an acoustic distance sensor. At Coal Creek, the peak snow depth for the winter season, through the end of February, was 20 inches (Figure 4). The snowpack reached the peak at the end of January. February's lack of snow put an end to the typical increase in

snow accumulation. The past two seasons have had deeper snowpacks in mid-winter. This winter's snowpack was near average with 19 years on record.

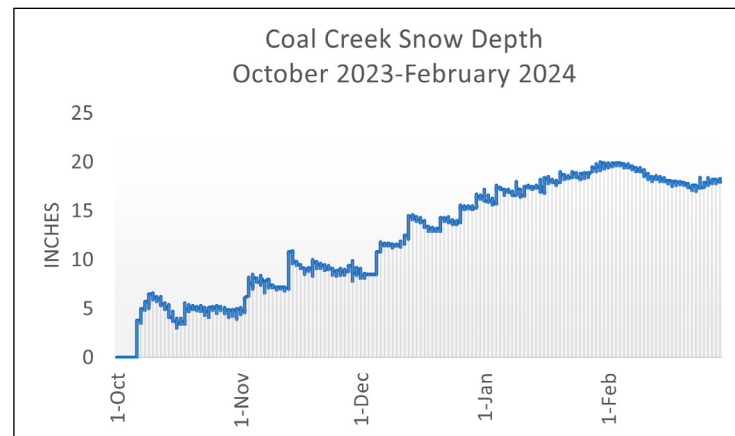


Figure 4. Seasonal snow depth at Coal Creek in Yukon-Charley Rivers National Preserve October 2023-February 2024.

Cool Winter Temps During a Strong El Niño

This was not a typical El Niño winter. For most areas of the central and eastern Interior including Yukon-Charley Rivers NP, it was the first El Niño winter with below normal average winter temperatures since the late 1960s. The average winter temperature at Coal Creek was -10.4°F, which is about 2°F cooler than the 20 year average.

Almost all El Niño winters between 1976-77 and 2022-23 (16 total) were warmer than normal (Figure 5). Read more about the [“underachieving El Niño”](#) [here](#).

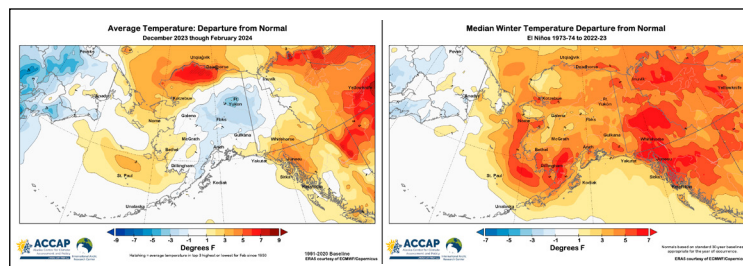


Figure 5. Temperature departure from normal for the 2023-2024 winter (left), median temperature departure during all El Niños between 1974-2023 (right). Graphic courtesy of Rick Thoman, Alaska Center for Climate Assessment and Policy.



More Information

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<https://www.nps.gov/im/cakn/climate.htm>

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 CAKN climate stations are available at [NPS Data Store](#)