



Weather & Climate Summary Yukon-Charley Rivers National Preserve Summer 2023

Calico Bluff, Yukon-Charley Rivers National Preserve. NPS Photo

Eagle Summer 2023 Weather Summary

It was the warmest summer on record in Eagle! Climate observations date back to 1906 with 84 complete summer seasons. Other weather highlights for the season include a wet June and a very warm July and August. The average temperature for the 2023 summer season was 61.4°F, which is 3.6°F above the 1991-2020 normal. The summer precipitation total of 7.66 inches was 119% of normal (Table 1 and 2, Figures 1 and 2).

June

June was wet with slightly cooler than normal temperatures. The average monthly temperature was -0.4°F cooler than normal. A late-season freeze on June 15 set a new daily record. A trace or more of precipitation was recorded every day between June 9-30 and total rainfall for the month was 2.94 inches. This put the month at 170% of normal and the 8th wettest June on record.

July

It was the warmest July on record in Eagle. The average temperature for the month was 65.5°F which is 4.9°F warmer than normal. The high temperature for the month was 91°F on July 8, a new daily record. The last ten days of the month were particularly toasty with highs in the 80s each day. Total precipitation was just about normal with 2.49 inches for the month. Measurable rainfall was recorded on 18 days in July.

August

August was another scorcher. The average monthly temperature of 60.5°F was 6.4° warmer than normal. The only warmer August on record was in 1905. With overnight

lows persistently in the mid-40s to lower 50s, the last two weeks of August brought particularly warm nights. Rainfall in August totaled 2.23 inches compared to a normal of 2.18 inches.

Looking ahead: September 30th marked the end of the 2023 water year (October 2022-September 2023). It was the second wettest year on record for Eagle with an annual total of 17.16 inches. The 1991-2020 normal is 12.87 inches. Only 2018 was wetter with 18.74 inches.

Table 1. 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	58.1	58.5	-0.4
July	65.5	60.6	+4.9
August	60.5	54.1	+6.4

Summer Temperature Departure from normal: +3.6°F

Table 2. Summer 2023 monthly precipitation totals compared to normal.

Summer 2023	Total Monthly Precip. (in.)	1991-2020 Normal (in.)	Departure from Normal (in.)
June	2.94	1.73	+1.21
July	2.49	2.55	-0.06
August	2.23	2.18	+0.05

Summer Precipitation Departure from normal: +1.20 inches (119%)

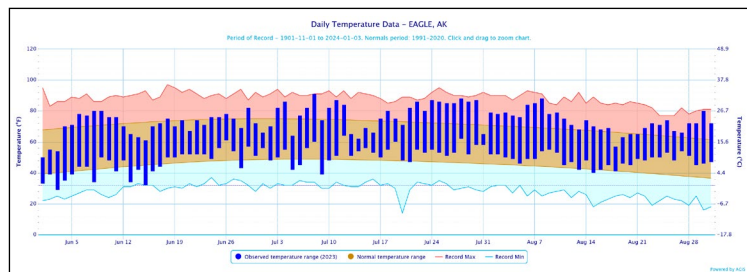


Figure 1. Summer 2023 daily temperatures at Eagle showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars). <http://xmacis.rcc-acis.org/>

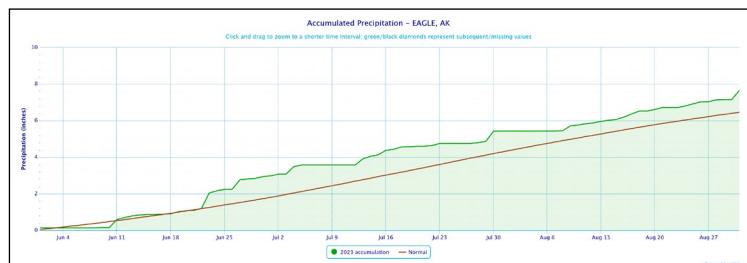


Figure 2. Summer 2023 accumulated precipitation at Eagle (green) compared to normal (brown line). <http://xmacis.rcc-acis.org/>

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).

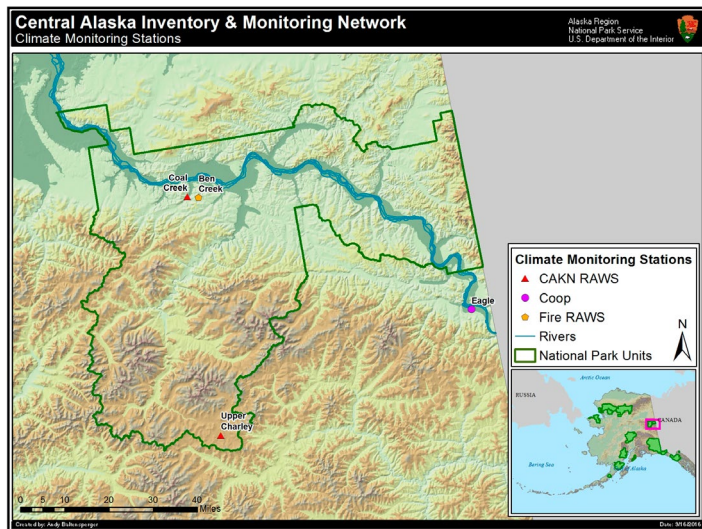


Figure 3. Central Alaska Inventory and Monitoring Network climate stations in Yukon-Charley Rivers National Preserve.

Alaska's Late Fire Season

The 2023 fire season was unusually late, and the total number of acres burned statewide was less than half of average. Almost all fire activity occurred after mid-July, which is late in the season. Thunderstorm activity was light in June and most of July, but that changed abruptly with more than 20,000 lightning strikes in a 24-hour period July 24-25, the highest one-day total since 2010 (Figure 4). The Biederman fire in Yukon-Charley

Rivers started during this late-season lightning event. Only 4 fires burned in the preserve in 2023 totaling 136 acres.

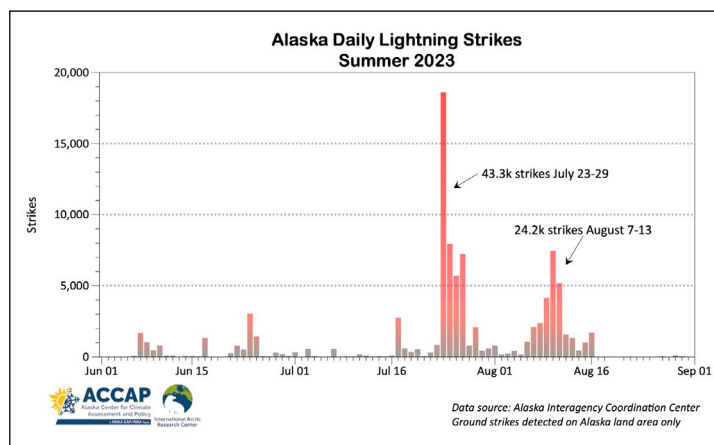


Figure 4. Number of lightning strikes per day for June, July, and August 2023. Graph courtesy of Rick Thoman / [Alaska and Arctic Climate Newsletter](#).

Warm Summer

This was the warmest summer on record (2005-2023) for the NPS climate stations at Coal Creek and Upper Charley (Figure 5). Like the pattern at Eagle, June temperatures were near the 19-year average at both sites whereas July-August were much warmer. At an elevation of 958 feet, summer temperatures at Coal Creek average 7°F warmer than the Upper Charley station at 3,655 feet. Other warm summers include 2017, 2013, and 2007.

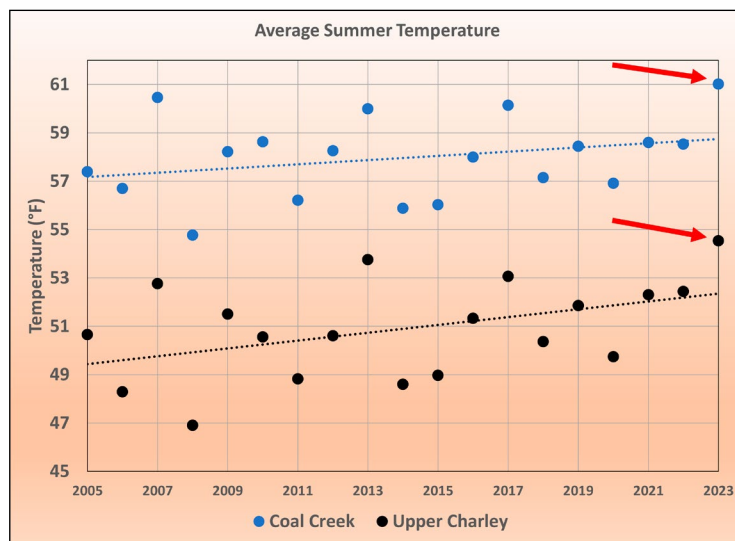


Figure 5. Average summer temperatures at Coal Creek (blue) and Upper Charley (black). Summer 2023 (red arrows) was the warmest for the 2005-2023 period of record.

More Information

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[Current weather in Yukon-Charley Rivers](#)

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](#)