

Central Alaska Network

National Park Service
U.S. Department of the Interior

Alaska Region
Inventory & Monitoring Program



Denali NP & PRES • Wrangell-St. Elias NP & PRES • Yukon-Charley Rivers N PRES

Summer 2019

Weather & Climate Summary Yukon-Charley Rivers National Preserve Summer 2019

View from the Upper Charley Climate station in YUCH. NPS Photo.

Eagle Summer Weather 2019

The average summer temperature was close to normal in Eagle with a warm June and July and a cool August. Total summer rainfall was 6.53 inches, which is just above normal at 109% (see Figures 1 and 2; Table 1, and 2).

June was warmer than normal with a monthly average temperature of 59.3°F, which is 1.4°F warmer than normal. The high temperature for the month was 90°F recorded on June 30. June was drier than normal overall, with 1.22 inches (74% of normal). Most of the rain fell between June 12 and 18. The first new lightning caused wildfire was discovered in Yukon-Charley Rivers on June 10, the start of the wildfire season in the preserve.

July was warm – the third warmest on record at 64.0°F. It was warmer in 1905 and 2007. There were six consecutive days with temperatures above 80°F between July 5 and 10; this is not that uncommon for mid-summer. Precipitation was just above normal with a total of 2.64 inches, the 1981-2010 average is 2.43 inches.

August was quite cool. The average temperature was 3.3°F cooler than normal at 50.3°F. It cooled off dramatically after August 18 when the average daily temperatures went from the mid-50s to the low 40s, with overnight lows in the upper 20s and low 30s. August was wetter than normal, with a total of 2.67 inches of rain for the month.

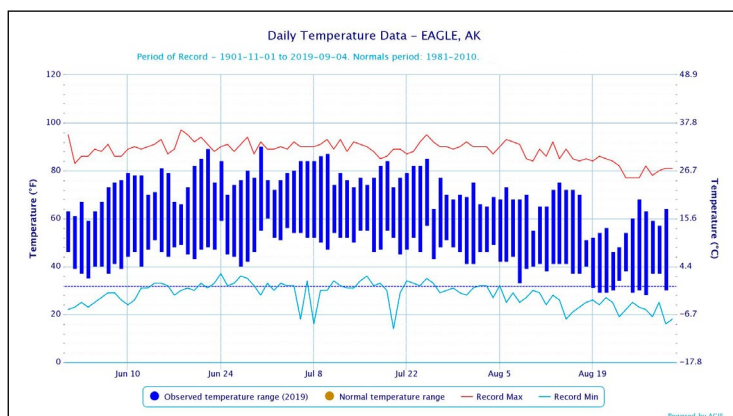


Figure 1. Summer 2019 daily temperatures at Eagle showing record maximum (red), record minimum (blue) and 2019 observed range (blue bars).

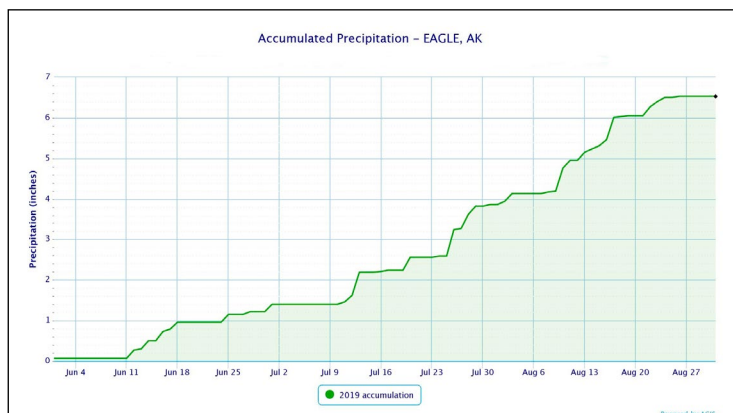


Figure 2. Summer 2019 accumulated precipitation at Eagle (green).

Table 1. Temperature: Summer 2019 average monthly temperatures compared to the 1981-2010 normal.

Summer 2019	Average Monthly Temp (°F)	1981-2010 Normal (°F)	Departure from Normal (°F)	Monthly High (°F / Date)	Monthly Low (°F / Date)
June	59.3	57.9	+1.4	90 / Jun 30	35 / Jun 4
July	64.0	60.4	+3.6	87 / Jul 10	41 / Jul 31
August	50.3	53.6	-3.3	75 / Aug 14	28 / Aug 27

Summer Season Temperature Departure from Normal: +0.6°F.

Table 2. Precipitation: Summer 2019 monthly precipitation totals compared to normal.

Summer 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
June	1.22	1.64	-0.42	0.23 / Jun 16	9
July	2.64	2.43	+0.21	0.65 / Jul 26	13
August	2.67	1.92	+0.75	0.57 / Aug 10	17

Summer Season Precipitation Departure from Normal: +0.54 inches (109% of normal).

Fire and Ice – Integrated Fire Research in Yukon-Charley National Preserve

Last summer the Andrew Creek fire burned 7,800 acres in Yukon-Charley Rivers National Preserve. Fire is part of this landscape and plays an important role in maintaining the diversity of vegetation communities in the boreal forest. The Andrew Creek fire presented a unique opportunity to dig in a little deeper to investigate the effects of a large fire on a permafrost rich ecosystem. The fire occurred in an area that had previously been monitored, which provided the perfect baseline to look at change. A group of NPS scientists developed an integrated research study to look at the short and long term impacts of fire and climate on ice rich permafrost soils, water resources, vegetation and wildlife habitat (Figure 3).



Figure 3. NPS fire ecologists and botanists study the Andrew Creek Fire July 2019. Photo credit: Seth Adams.

The climate team established a weather station in the middle of the burned area that will measure air and soil temperatures continuously for the next three to five years (Figure 4). The data from Andrew Creek data will be compared with data from the Coal Creek climate station nearby that is measuring the same suite of variables in an unburned area. Two cameras

mounted on the station will also capture changes in vegetation post-burn and record other useful phenology data including, the date of the first persistent snowfall, melt-out date in the spring, and the timing of green-up.



Figure 4. Aerial view of Andrew Creek Fire weather station installed May 15, 2019.

More Information

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Current Weather in YUCH

<https://www.nps.gov/im/cakn/index.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](#)

