



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

Fall 2024

Weather & Climate Summary Gates of the Arctic National Park & Preserve Fall 2024

Anaktuvuk Sunset, Gates of the Arctic National Park and Preserve. NPS Photo/Ken Hill

Bettles Fall Weather 2024

Overall, the fall was warmer and drier than normal. Weather highlights for the season include a warm, dry September followed by a snowy October. November was dry with only 5.5 inches of total snowfall. The average temperature for the 2024 fall season was 21.4°F, which is 0.5°F warmer than the 1991-2020 normal. Fall precipitation, which includes rain and melted snow totaled 2.98* inches, 67% of normal (Table 1 and 2, Figures 1 and 2). The snowfall total was 25 inches, normal for the season is 34 inches. Overall, it was the 10th driest fall on record going back to 1951.

September

September was warm and dry. The average temperature for the month was 1.5°F warmer than normal at 42.7°F. There was nothing remarkable about September temperatures, but they were consistently slightly warmer than normal for the month. The total precipitation for September was 1.09 inches, about half as much as normal. There was only 0.1 inches of snow measured in September, but there were three additional days when a trace of snow was noted as part of the daily observations. The 1991-2020 normal is 3.2 inches of snow for September.

October

October temperatures were just a tenth of a degree under normal, but the month was snowier (wetter) than normal. The average monthly temperature was 21.2°F. The first two weeks of the month were warm with several days approaching record highs. A cold spell moved in the third week with cooler than normal temperatures between October 15-19. A large disruptive storm, that brought record floods to Kotzebue and record rain and snowfall to Fairbanks, rolled through Bettles October 20-22 bringing warm temperatures and over 10 inches of snow. October was the only snowy month of the

season with 19.2 inches of snow, normal is 12 inches. Half of the monthly snowfall total fell during the warm, wet storm.

November

The average monthly temperature was near normal in November, but it was much drier than normal. The last five days of the month were cooler than normal. The low temperature on Thanksgiving Day (28th) was -37°F, this was also the lowest temperature of the month. November had a total of 5.5 inches of snow. The total precipitation for November (melted snow) was 0.5 inches (as recorded at the nearby Bettles Field Snotel site).

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

Fall 2024	Average Monthly Temp (°F)	1991-2020 Normal (°F)	Departure from Normal (°F)
September	42.7	41.2	+1.5
October	21.2	21.3	-0.1
November	0.4	0.3	0.1

Fall temperature departure from normal: +0.5°F

Table 2. Bettles monthly precipitation totals compared to normal

Fall 2024	Total Monthly Precip. (in.)	1991-2020 Normal (in.)	Departure from Normal (in.)
September	1.09	2.13	-1.04
October	1.39	1.17	0.22
November	0.50*	1.15	-0.65

Fall precipitation departure from normal: -1.47* in. (67%* of normal).
*Used November precipitation values from the Bettles Field Snotel site on the north side of the airstrip.

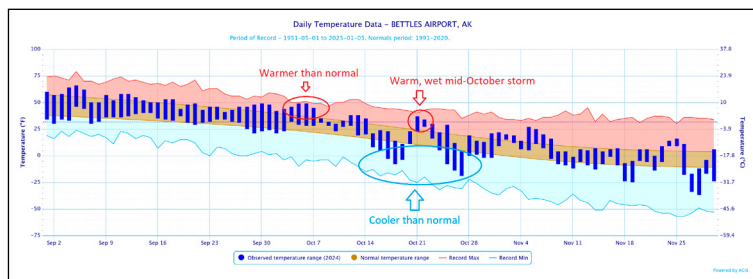


Figure 1. Fall 2024 daily temperatures at Bettles showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars). Data from: <http://xmacis.rcc-acis.org/>

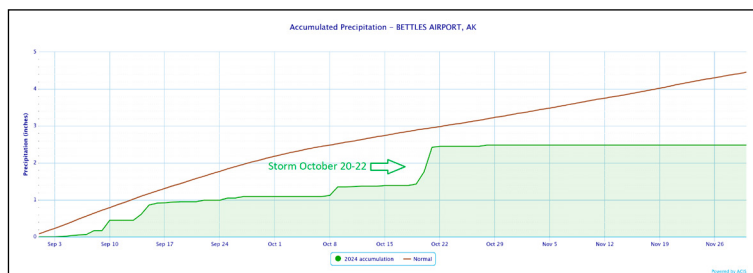


Figure 2. Fall 2024 accumulated precipitation at Bettles (green) compared to normal (brown line). Data from: <http://xmacis.rcc-acis.org/>

Water Year Precipitation Wrap Up

The last seven years have all been among the wettest fifteen years in Bettles with records back to 1951. This was the 12th wettest year in Bettles with an annual total of 18.76 inches, 117% of normal. The three wettest months were July (204% of normal), August (190% of normal), and November 2023 (127% of normal). Most of Alaska was wetter than normal for the 2024 water year (Figure 3 – green shading indicates a wetter year compared to the 1991-2020 normal period).

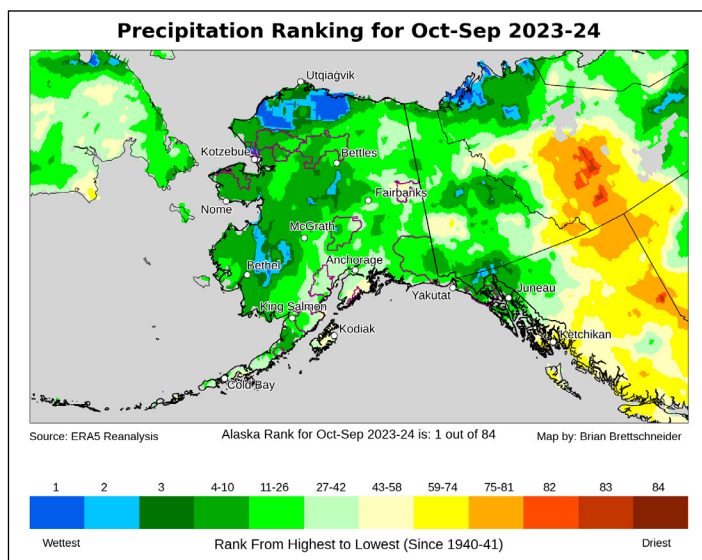


Figure 3. Statewide precipitation departure from normal for the 2024 water year (back to 1940). Map courtesy of Brian Brettschneider using ERA5 reanalysis data. Green shading indicates wetter than normal.

The Dahl Creek SNOTEL station had 35.0 inches of precipitation for the 2024 water year, almost twice as much as Bettles. This is the second full year of measurements at this site. In 2023 Dahl Creek had 42.6 inches of precipitation between October 1 and September 30.

Seasonal Snow Depth

At the end of November Dahl Creek had 19 inches of snow on the ground and Bettles had 11 inches. Figure 4 shows the snow depth at Bettles since October 1. It was right at the median value at the end of the fall season, but as of early January, with little accumulation in early winter, the snow depth was below the median.

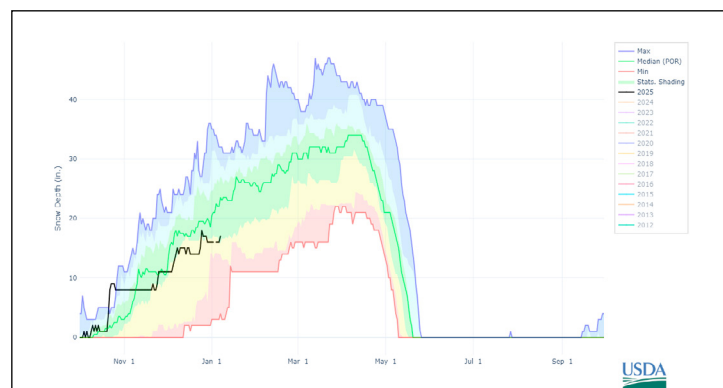


Figure 4. Bettles snow depth 2024-2025 since October 1 (black line). The green line is the median snow depth based on the period of record 2012-2025.

Cooler Fall at Chimney Lake

Overall, the fall season was 2°F cooler than average at the Chimney Lake site located in the eastern part of Gates of the Arctic (Figure 5). September was warmer than normal, but October and November were cooler than average. [Click here](#) to get the current weather conditions for Gates of the Arctic National Park and Preserve.

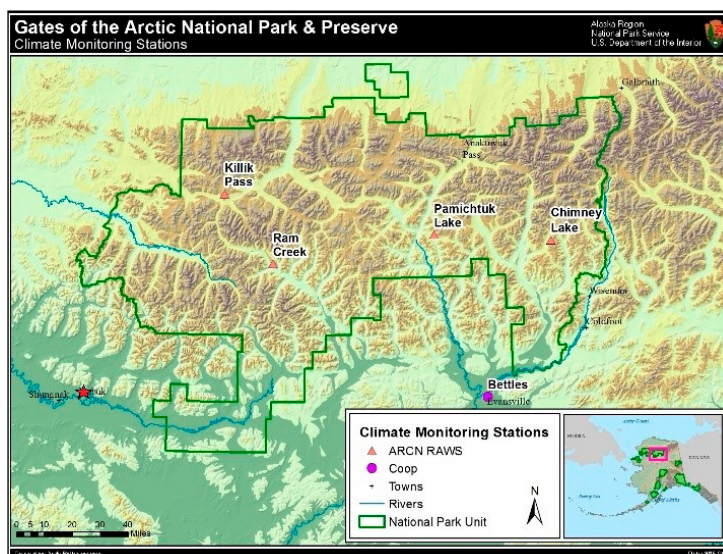


Figure 5. Arctic Inventory and Monitoring Network climate stations in Gates of the Arctic National Park and Preserve.

More Information

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