Alaska Climate Research Center
The Alaska State Climate Center

STATEWIDE CLIMATE SUMMARY APRIL 2025

Ski tracks and sunshine on Thompson Pass. Photo: Carl Schmitt.

IN THIS ISSUE

GEOPHYSICAL INSTITUTE
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Alaska's Statewide Climate Summary for April 2025 provides an overview of weather for the month based on data from selected weather stations throughout the state. "Departure from normal" refers to the climatological average over the 1991-2020 normal period. Here, we report on temperature, precipitation and drought conditions in the state, as well as the condition of the Arctic sea ice.

HIGHLIGHTS

Very wet month in Southcentral Alaska

Over 300% of normal precipitation in Anchorage and King Salmon

Cooler than normal on the west coast, above average temperatures in the Interior

River break up has started

Significant Weather Events and Synoptics

Spring well and truly got underway in April and it feels like summer is just around the corner. The seasonal snow pack has melted in many parts of the state; only the North and higher elevations still have substantial snow cover. River break up has begun and "green up" is approaching.

Synoptically, the month started out with the familiar pattern of troughing over western Alaska and a high pressure ridge over the Panhandle and eastern Interior (Fig. 1, upper panel). This brought unsettled conditions in the west and above average temperatures and mostly sunny weather in the east and southeast. A strong storm system developed in the southern Bering Sea and brought some very wintery weather for southwest and southcentral Alaska. A blizzard warning was issued for the Kuskokwim Delta, followed by winter storm and avalanche warnings on the Aleutians and on the Kenai (respectively) as the system moved into the Gulf around April 5.

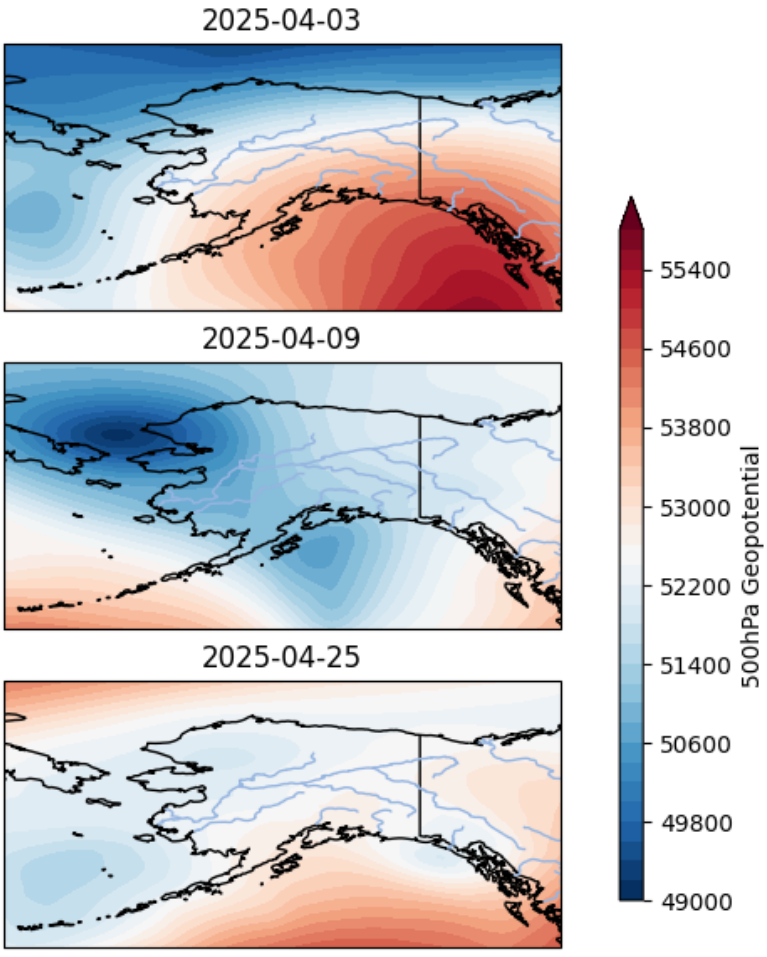

Figure 1. *Geopotential height at 500hPa on April 3, 9, and 25. Data: ERA5 reanalysis*

In the following days, upper level low pressure spread further east and the ridge over the Interior was eroded (Fig. 1, middle panel). Cold, Arctic air moved south and temperatures began trending downward, dipping to below normal values in much of western Alaska and the Interior. In most of the state, cool, windy weather with repeated snow

showers persisted through the second week of April and brought some quite impressive amounts of snow accumulation for this late in the season. The above average amounts of precipitation during April put an end to the abnormal dry conditions seen last month in southern Alaska and it seems safe to assume that April showers will indeed bring May flowers.

Upper level troughing over the Bering Sea remained the dominant synoptic feature until around mid-month, when high pressure began building over the Gulf of Alaska and soon pushed north into Southcentral and the Interior. With low pressure over the Aleutians and a change in upper level flow direction, temperatures climbed back to around normal in western AK, although the weather remained unsettled. High pressure built up over the Arctic late in the month (Fig. 1, lower panel), but storms lingered in western Alaska and a series of frontal systems moved across the state throughout the second half of the month. Intermittent spells of calmer weather brought a few sunny days here and there. Overall, April weather remained changeable until the end.

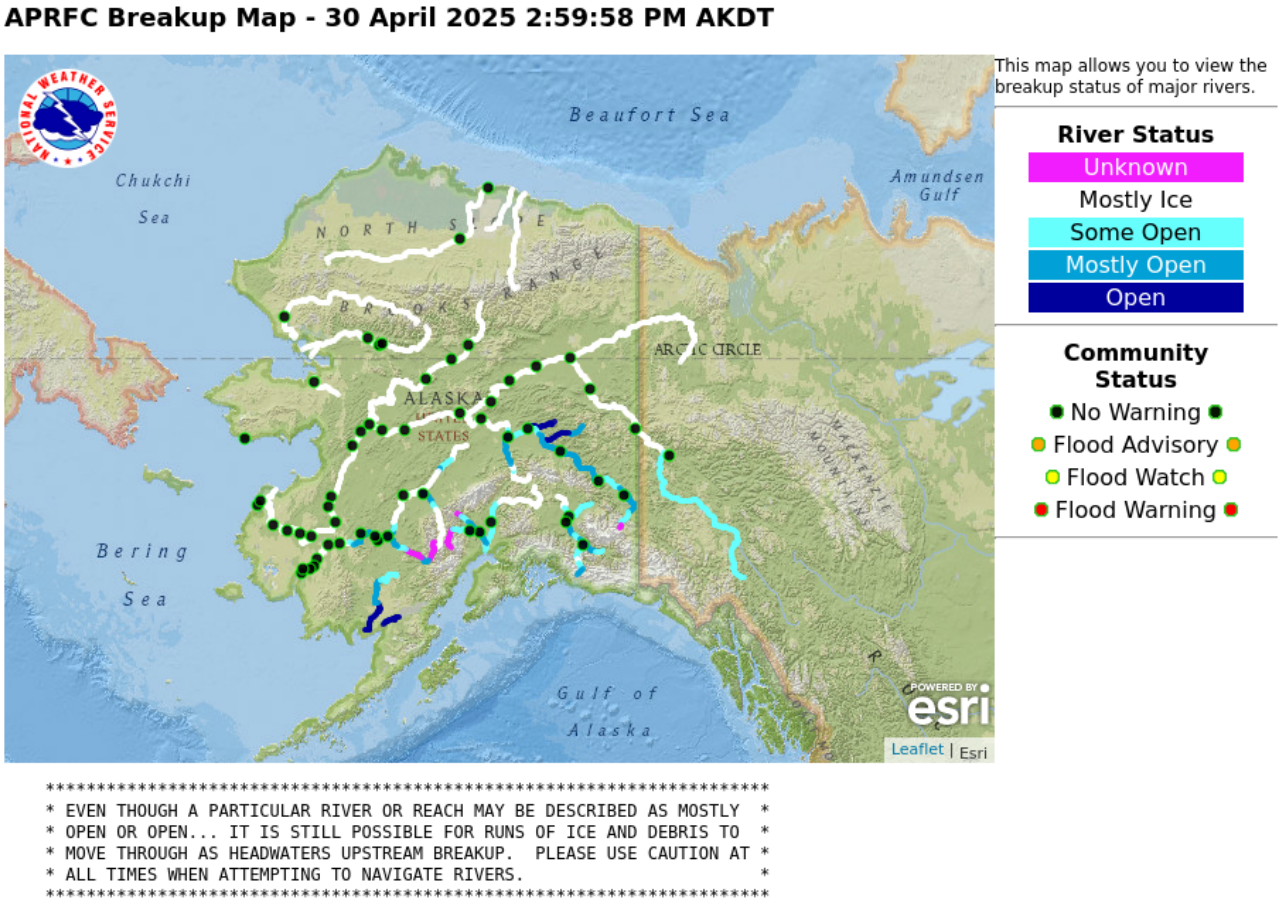

Figure 2. *Alaska-Pacific River Forecast Center break up map, April 30, 2025. https://www.weather.gov/aprfc/*

Break up has begun on Alaska's waterways. The map in Fig. 2 shows river conditions as of April 30, with blue colours indicating some or mostly open water. Depending on the river and specific location, break up generally occurs between around mid-April and late May, with considerable year-to-year variability. There have been no consequential ice jams so far this season but, like every year, break up flooding is something to watch out for in the coming weeks.

Temperature

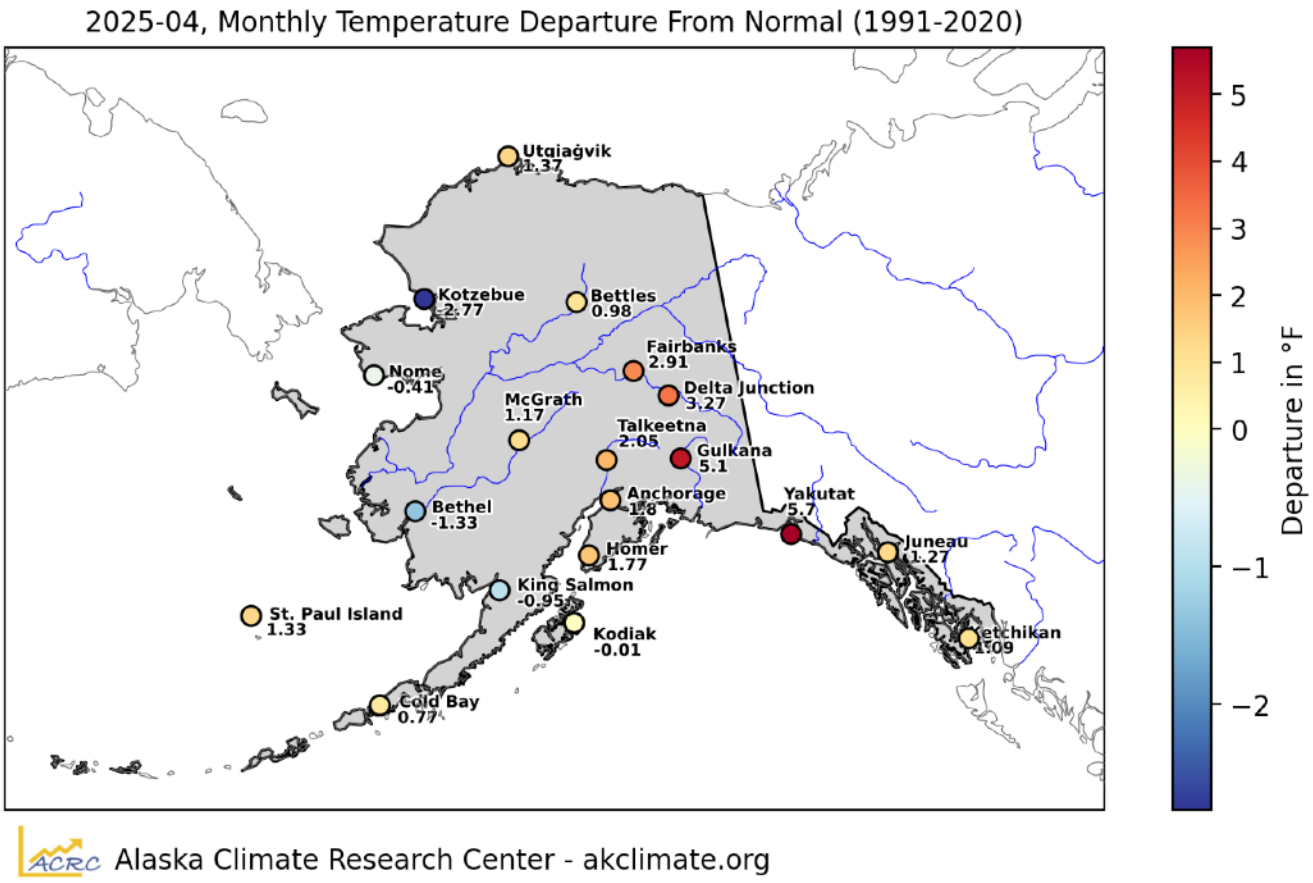

Figure 3. *Monthly mean temperature departure from normal (ºF), April 2025, at the selected First Order stations in Alaska.*

Temperatures in April were once more characterised by a west-east gradient, with moderately cooler than normal monthly means in the west and above average temperatures in the Interior (Fig. 3, Table 1). This is a similar general pattern as we saw in March, but the gradient and the magnitude of the positive and negative deviations were

lower this month. Most of the selected First Order stations were within about ±2 °F of the 1991-2020 climate normal.

The largest positive deviations were recorded in the Interior and Southcentral. Yakutat and Gulkana stand out with +5.7 and +5.1°F above normal, respectively. For both stations, April 2025 was the second warmest April on record. Fairbanks and Delta Junction were next-warmest in relative terms with deviations around +3°F. Kotzebue had the greatest negative deviation from normal with -2.8°F, followed by Bethel with -1.3°F.

The daily temperature anomalies (Fig. 4) started out above average for about the first week of April at most stations. Temperatures then dropped with the change in the upper level pattern (Fig. 1, middle panel; see previous section) and the west and Interior had about a week of below average temperatures, with daily deviations of around -15 to -20°F in Kotzebue and Nome between April 9 and 11. For the rest of the month, deviations hovered at slightly above normal values at most stations. In Yakutat, all days of the month were above normal.

The tables in the Appendix list all daily temperature records set in April at the selected stations. New records were set mostly in the first week of the month. Yakutat in particular had numerous records during this period, including 5 consecutive days of record daily mean temperatures from April 3 to 7.

Station	Observed (ºF)	Normal (ºF)	Departure (ºF)
Anchorage	39.3	37.5	1.8
Bethel	27.7	29.1	-1.3
Bettles	25.5	24.6	1.0
Cold Bay	35.8	35.0	0.8
Delta Junction	37.1	33.8	3.3
Fairbanks	36.6	33.7	2.9
Gulkana	37.7	32.6	5.1
Homer	40.5	38.7	1.8
Juneau	42.1	40.8	1.3

Station	Observed (ºF)	Normal (ºF)	Departure (ºF)
Ketchikan	44.6	43.5	1.1
King Salmon	35.1	36.1	-1.0
Kodiak	39.1	39.1	0.0
Kotzebue	13.5	16.3	-2.8
McGrath	33.4	32.2	1.2
Nome	22.2	22.6	-0.4
St. Paul Island	31.4	30.1	1.3
Talkeetna	38.2	36.2	2.0
Utqiaġvik	5.4	4.1	1.4
Yakutat	44.3	38.6	5.7

Table 1. *Mean monthly air temperature, normal (1991-2020) and departure for selected stations throughout the state, April 2025. Color-coded to match Figure 3.*

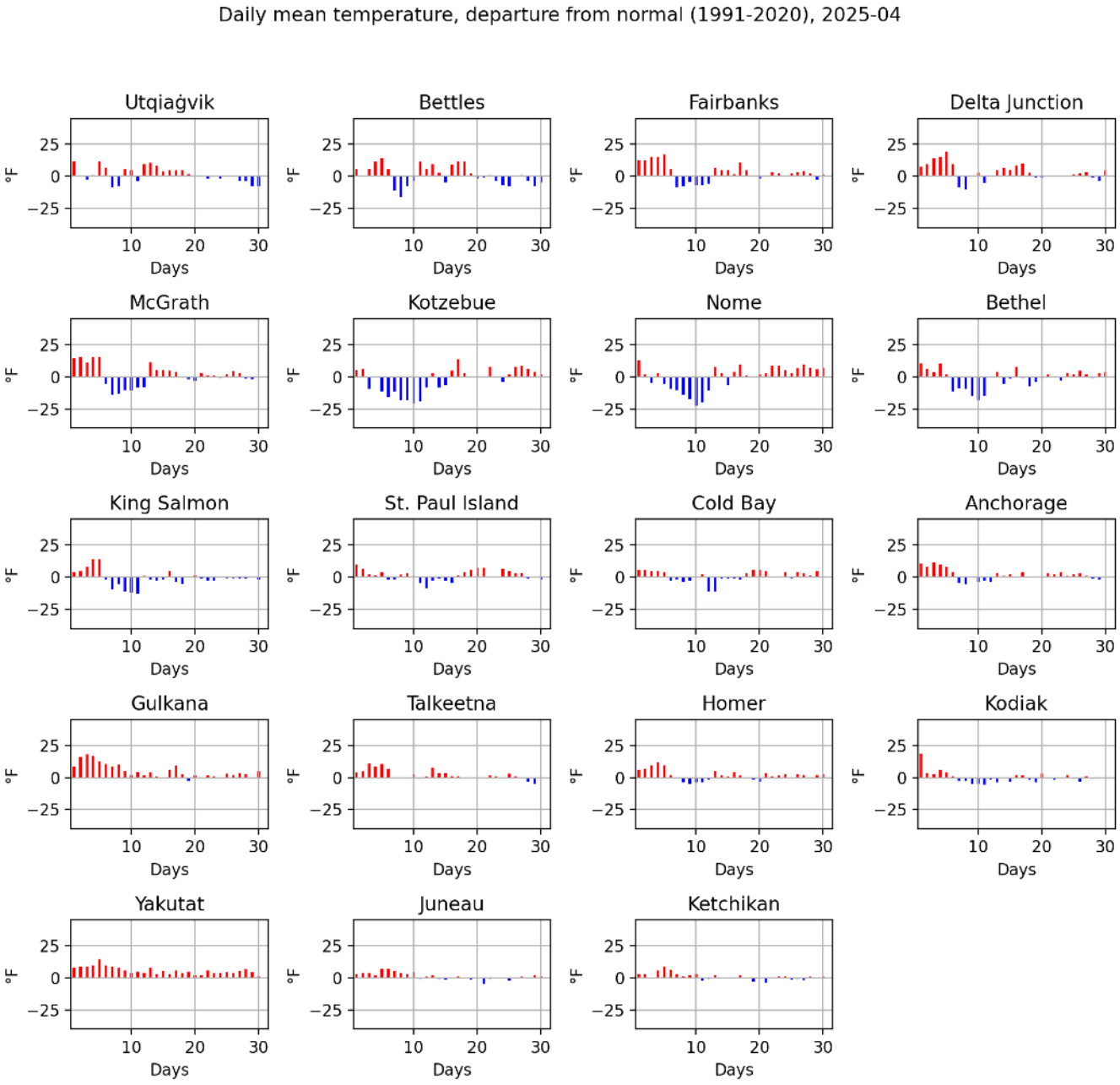

Figure 4. *Daily mean temperature departures for each day in April 2025 at the selected stations.*

Precipitation and snow

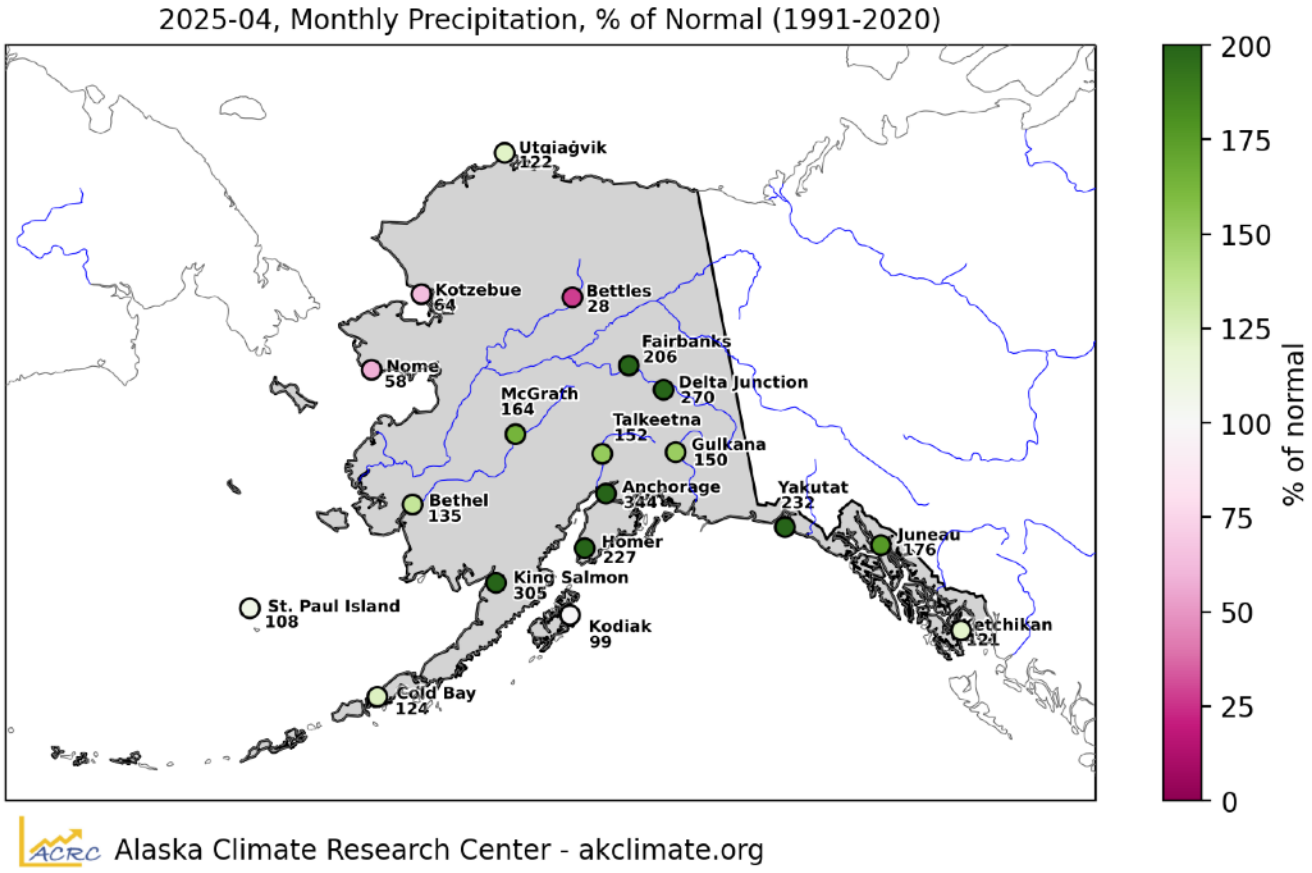

Figure 5. *Monthly precipitation in percentage of normal (ºF, 1991-2020 reference period), April 2025, at the selected First Order stations in Alaska.*

April brought lots of precipitation for most of Alaska (Fig. 5, 6, Tab. 2). Southcentral and the Interior had a particularly wet month. Anchorage tops the list with a total of 1.5 inches of monthly precipitation, or 344% of normal. King Salmon and Delta Junction were next wettest, relatively speaking, with 305% and 270% of normal, respectively. Juneau, King Salmon, Yakutat, Anchorage, Homer, and Delta Junction all had top 10 values for April precipitation. The very wet weather presents a notable contrast to last month's unusually dry conditions, particularly in Southcentral.

The northwestern stations (Nome, Kotzebue) had a comparatively dry April with 58% and 64% of normal, respectively. Utqiaġvik was slightly above normal with 122%. The very low

value in Bettles may be related to instrument outages and/or undercatch of solid precipitation.

The abundant April precipitation has ended the "abnormally dry" conditions that were present in the southwest and parts of Southcentral during March as per the Alaska drought monitor. Parts of the southern Panhandle still remain under abnormally dry conditions following the relatively dry winter in this region.

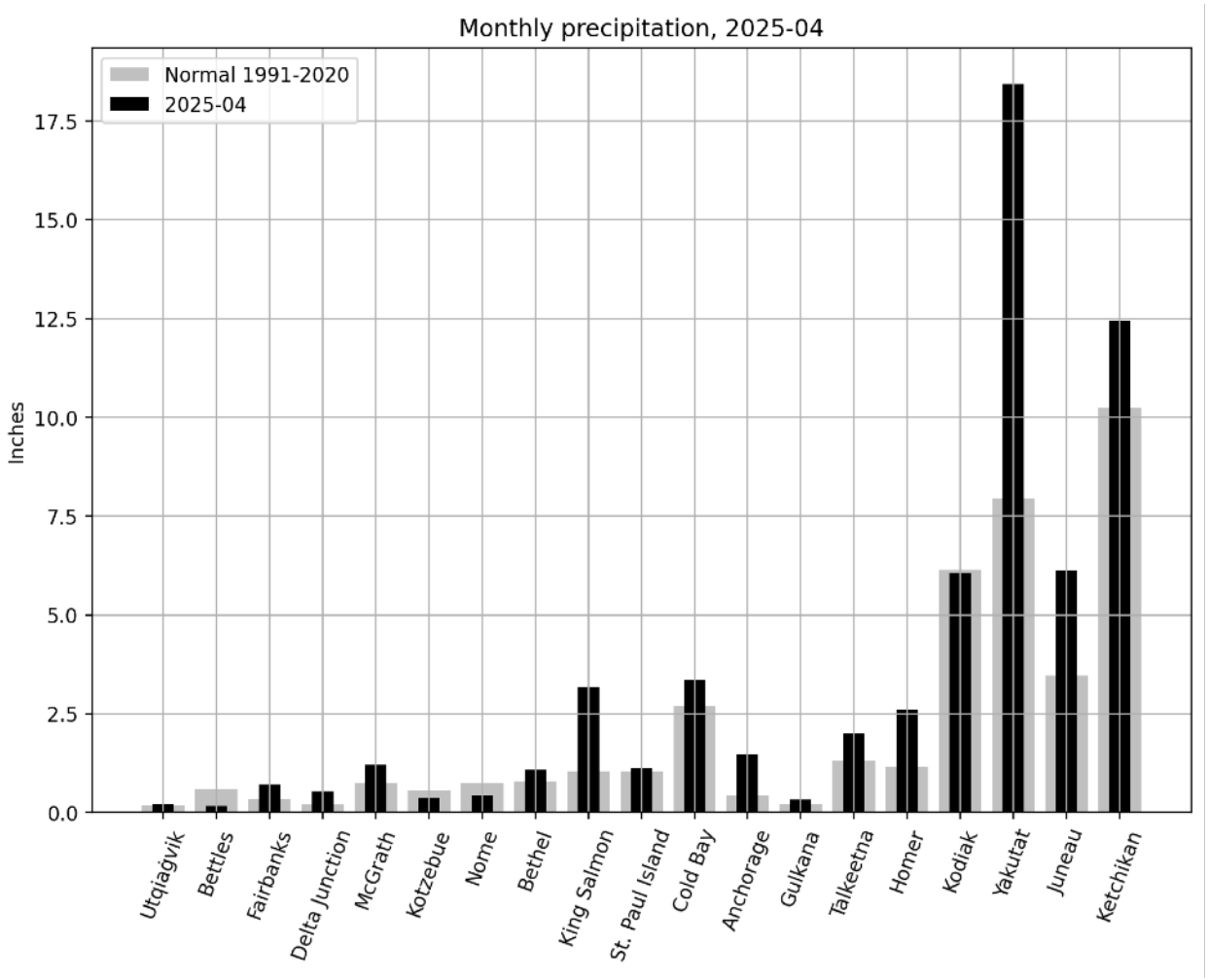

Figure 6. *Monthly precipitation sum (black bars) compared to the 1991-2020 normal (grey bars) at the First Order stations.*

Anchorage not only had a very wet April, it was also a very snowy April with over 13 inches of total snowfall; or 332% of the 1991-2020 climatological mean. Fairbanks also had a snowy month with 9.2 inches (264% of normal). Juneau and Bettles got very little snow fall this month.

Snow depth at the Anchorage airport station reached over 6 inches during the cool, snowy phase mid month but the late season snow pack quickly melted again. Fairbanks lost their above average snow pack during April, with a sharp decline from over 25 inches in early April to "trace" amounts of snow (too little snow depth to be accurately measured) by April 23 and bare ground by April 25.

Station	Precipitation (in)	Normal (in)	% of Normal
Anchorage	1.5	0.4	344.2
Bethel	1.1	0.8	135.4
Bettles	0.2	0.6	28.3
Cold Bay	3.4	2.7	124.1
Delta Junction	0.5	0.2	270.0
Fairbanks	0.7	0.3	205.9
Gulkana	0.3	0.2	150.0
Homer	2.6	1.2	227.0
Juneau	6.1	3.5	176.4
Ketchikan	12.4	10.3	121.4
King Salmon	3.2	1.0	304.8
Kodiak	6.0	6.1	98.5
Kotzebue	0.4	0.6	64.3
McGrath	1.2	0.7	163.5
Nome	0.4	0.7	58.1
St. Paul Island	1.1	1.0	107.7
Talkeetna	2.0	1.3	151.5
Utqiaġvik	0.2	0.2	122.2

Station	Precipitation (in)	Normal (in)	% of Normal
Yakutat	18.4	7.9	232.1

Table 2. *Monthly precipitation sum, normal (1991-2020) and departure expressed as a percentage of the normal (1991-2020) for selected stations throughout the state, April 2025. Colors match the color scale in Figure 4.*

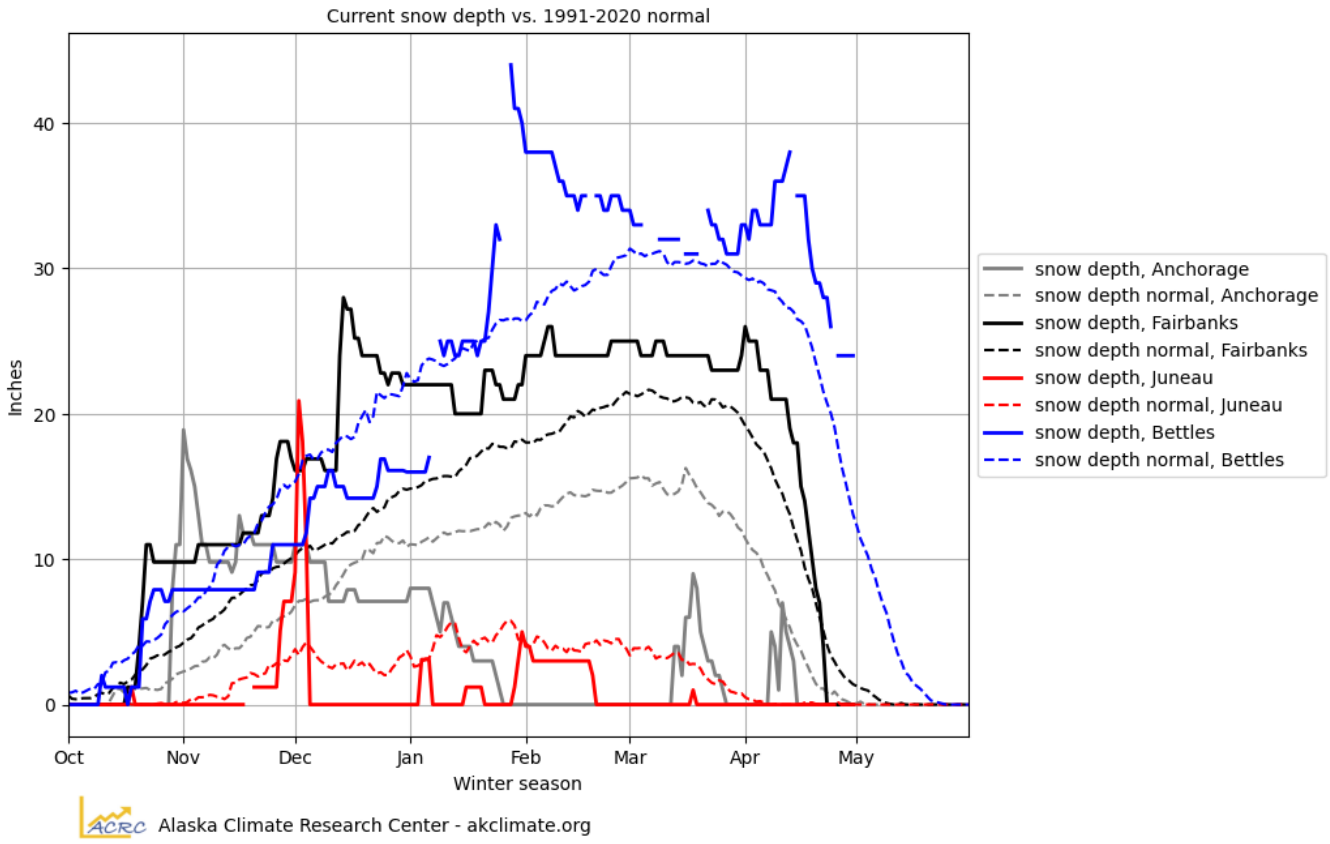

Figure 7. *Current snow depth at the four first order stations with long term records compared to the climatological normal.*

Arctic Sea Ice

Arctic sea ice reached its seasonal maximum in late March (NSIDC) at 14.33 M km^2 This was the lowest value in the satellite record. Sea ice is now in seasonal decline, but anomalies have recovered somewhat from the very low values we saw during much of February and March. Weekly change rates of sea ice extent in April were generally low, ranging from minimal decreases below -0.1% up to around -0.4%. The decrease rate increased to 3.5% during the last week of April. With changing weather and wave patterns, sea ice can shift around and even minor increases are not unusual early in the melt season. Total sea ice extent as of May 1 was 13.409 M km^2 compared to 13.979 M km^2 on April 3rd.

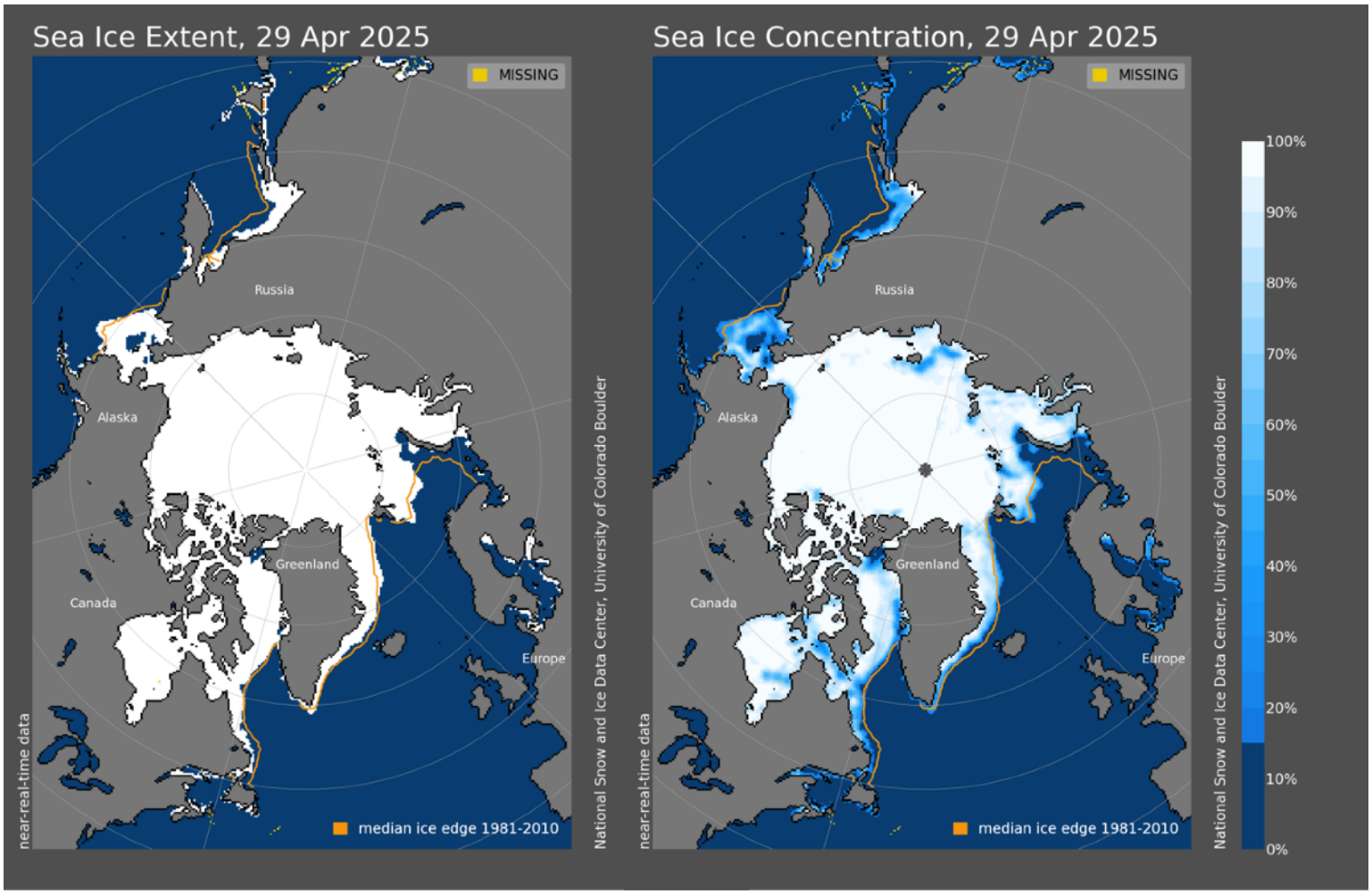

Figure 8. *A (left) Arctic sea ice extent and B (right concentrations as of April 29, 2025 compared to the average from 1981-2010 (Data and images: NSIDC)*

Figures 8 A and B show Arctic sea ice extent and concentration on April 29, respectively. Fig. 9 shows the current Arctic sea ice extent compared to climatology and previous notable years.

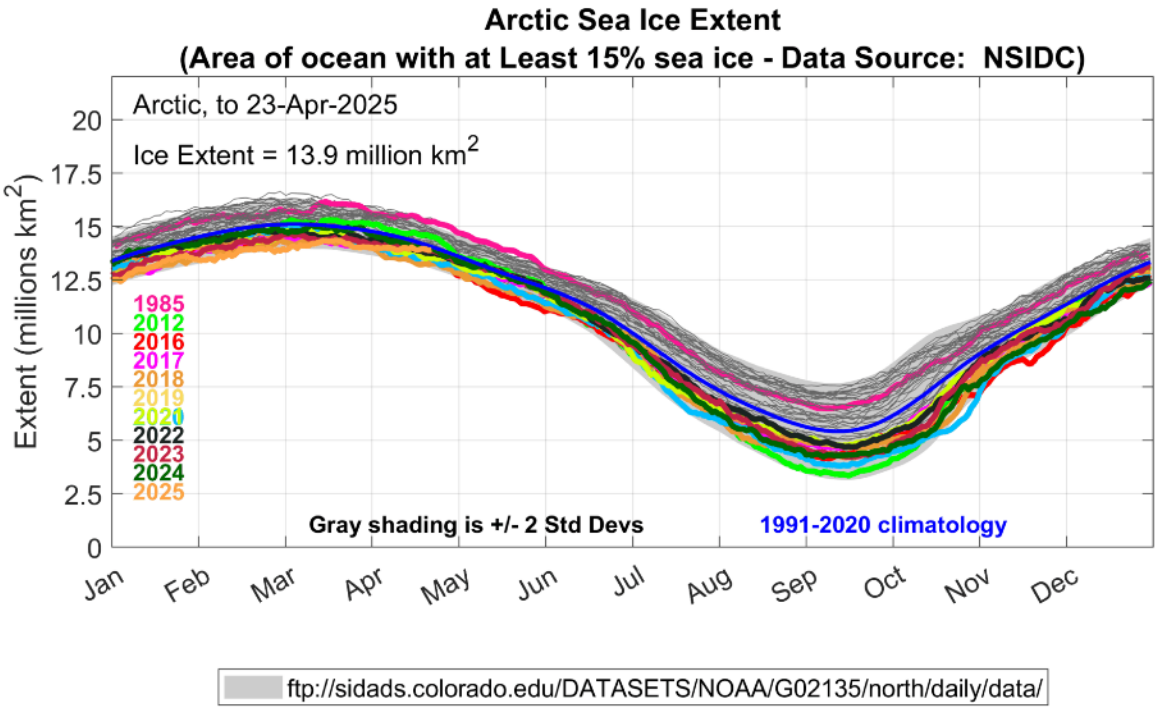

Figure 9. *Time series of daily Arctic sea ice extent. This year's data (dark red) are updated until April 23, 2025. The median sea ice extent for the 1991-2020 reference period is depicted in blue. Specific years are highlighted in colors. Plot Compiled by: Howard J. Diamond, PhD; Climate Science Program Manager at NOAA's Air Resources Laboratory Data Source: National Snow & Ice Data Center (nsidc.org/)*

Newsworthy Information

Nenana Ice Classic

Break up is officially underway on the Tanana River at Nenana. The tripod of the Nenana Ice Classic tipped over on April 27th, adding another data point to one of Alaska's most unique climate time series. The tradition of betting on the date of break up in Nenana has produced a more than 100 year long time series of break up dates that shows both interannual variability and longer term trends. This year's April 27th break up date is about 2 days earlier than the 1991-2020 normal (Fig. 10) and a week ahead of the 1961-1990 normal. [See our blog post for more information.]

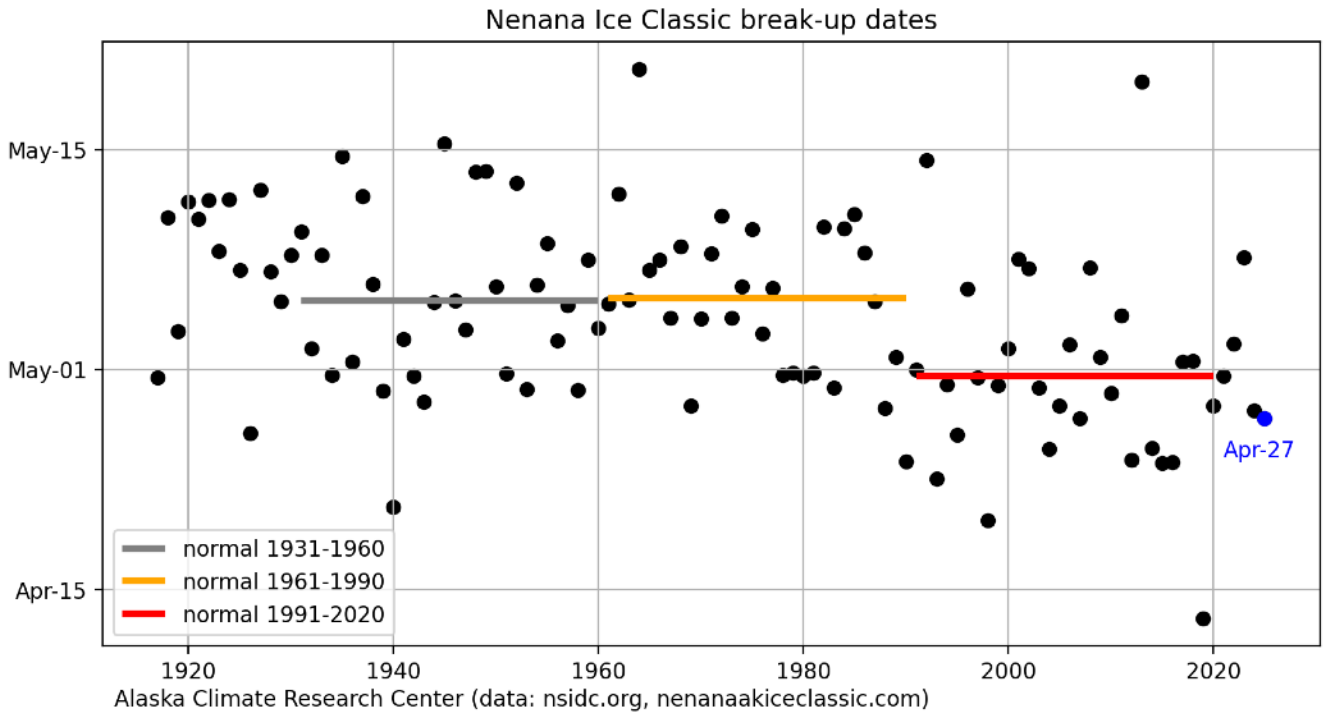

Figure 10. *Time series of break up dates on the Tanana River at Nenana since 1917. 2025 is highlighted in blue. 30-year normals are shown as coloured lines. The dates are plotted in decimal days of year for comparability of leap years and non-leap years. The labels on the y-axis are for non-leap years.*

Magnitude 4.7 earthquake near Anchorage

On April 29, a magnitude 4.7 earthquake was felt around Anchorage and on the Kenai peninsula. The epicentre was located 18 miles SW of Hope (earthquake.alaska.edu). This was the largest in a series of recent earthquakes registered in the region. Some national

and international media covered the quake, suggesting possible links to the volcano advisory that remains in place for Mount Spurr (e.g., Daily Mail)

Meteor captured on dashcams

A meteor streaked above Southcentral Alaska on April 24. The fireball briefly lit up the sky and was captured in multiple dashcams. The footage was shared on regional news (e.g., Alaska's news source)

Appendix

Highest Average Daily Temperature Record				
Station	**Date**	**New Record (°F)**	**Year of Old Record**	**Old Record (°F)**
Anchorage	2025-04-03	43.0	1962	40.5
Anchorage	2025-04-04	42.0	1958	41.5
Delta Junction	2025-04-05	45.5	1997	40.5
Fairbanks	2025-04-05	42.0	2016	41.0
Gulkana	2025-04-03	42.5	1980	41.0
Gulkana	2025-04-04	42.0	1977	39.5
Gulkana	2025-04-05	38.0	2012	37.5
Gulkana	2025-04-17	43.0	1951	41.0
Homer	2025-04-04	46.5	1995	44.0
Ketchikan	2025-04-05	50.0	1966	49.0
Kodiak	2025-04-01	54.0	1954	46.0
McGrath	2025-04-13	42.0	2014	41.0
Yakutat	2025-04-03	44.0	1958	42.5
Yakutat	2025-04-04	45.0	2017	43.5
Yakutat	2025-04-05	50.0	2005	44.5
Yakutat	2025-04-06	46.0	2019	45.5
Yakutat	2025-04-07	45.0	1938	44.0
Yakutat	2025-04-13	46.0	2017	44.5

Table A1: April 2025 daily records of average daily temperature, i.e. highest/lowest values of average daily temperature ever recorded on specific days. Records are computed since the beginning of the respective time series. 18 new highest daily temperature records and no new low lowest records were set.

Highest Maximum Daily Temperature Record				
Station	**Date**	**New Record (°F)**	**Year of Old Record**	**Old Record (°F)**
Anchorage	2025-04-01	52.0	1995	51.0
Anchorage	2025-04-03	52.0	1958	51.0
Delta Junction	2025-04-03	53.0	1980	51.0
Kodiak	2025-04-01	64.0	1954	53.0

Table A2: April 2025 daily records of maximum daily temperature, i.e. highest/lowest values of maximum daily temperature ever recorded on specific days. Records are computed since the beginning of the respective time series. Four new highest and no new lowest maximum daily temperature records were set.

Highest Minimum Daily Temperature Record				
Station	**Date**	**New Record (°F)**	**Year of Old Record**	**Old Record (°F)**
Anchorage	2025-04-04	38.0	1977	36.0
Anchorage	2025-04-26	40.0	1978	39.0
Delta Junction	2025-04-05	41.0	2004	34.0
Fairbanks	2025-04-01	32.0	1980	31.0
Fairbanks	2025-04-03	31.0	1984	30.0
Fairbanks	2025-04-05	33.0	1967	32.0
Gulkana	2025-04-17	35.0	1975	34.0
Homer	2025-04-04	43.0	1995	37.0
Homer	2025-04-16	40.0	1951	38.0
Ketchikan	2025-04-05	47.0	1983	43.0
King Salmon	2025-04-04	40.0	2024	39.0
Kodiak	2025-04-01	44.0	1954	39.0

Kodiak	2025-04-04	40.0	1940	38.0
McGrath	2025-04-13	35.0	1970	34.0
Nome	2025-04-27	37.0	2005	36.0
St. Paul Island	2025-04-20	36.0	2020	35.0
Yakutat	2025-04-05	47.0	2016	40.0
Yakutat	2025-04-06	43.0	1931	39.0
Yakutat	2025-04-07	43.0	1931	39.0
Yakutat	2025-04-13	42.0	1926	40.0
Lowest Minimum Daily Temperature Record				
Cold Bay	2025-04-13	13.0	1985	14.0

Table A3: April 2025 daily records of minimum daily temperature, i.e. highest/lowest values of minimum daily temperature ever recorded on specific days. Records are computed since the beginning of the respective time series. 20 new highest and one new lowest minimum daily temperature records were set.

This information consists of climatological data compiled by the Alaska Climate Research Center, Geophysical Institute, University of Alaska Fairbanks. For more information on weather and climatology, visit the center website at http://akclimate.org. Please report any comments, ideas or errors to uaf-climate@alaska.edu.