

Alaska Statewide Climate Summary

February 2015

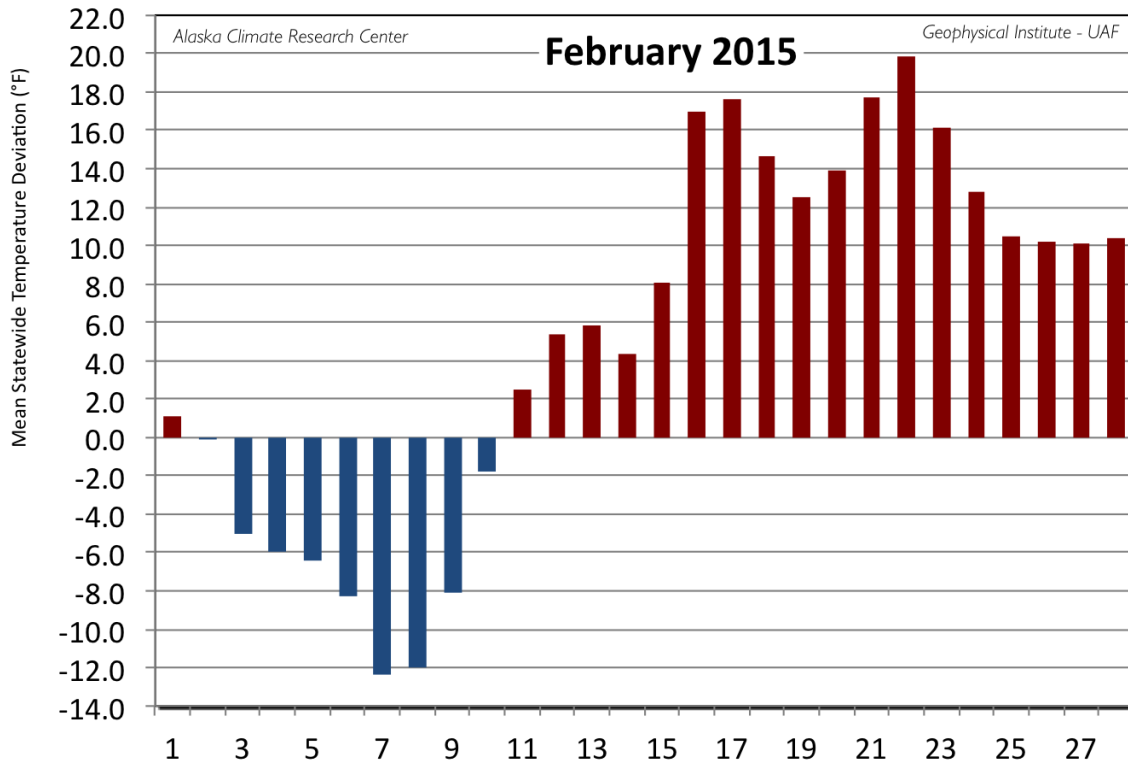
Temperature

The warm trend for the winter continued into February 2015 with temperatures that were above normal across the state, with 18 of the 19 First Order Stations reporting positive deviations. Calculating the mean daily temperatures of the First Order Stations (see Figure), 19 days of the month were above the 30-year normal. The only span of colder than normal temperatures occurred from the 2nd to 10th. The peak warm deviation, an extreme 19.9°F, occurred on the 22nd of the month, while the coldest deviation was -12.4°F on the 7th. The monthly mean temperature of all First Order Stations was 19.5°F, 5.1°F above the normal of 14.4°F. This is 5.4°F above the February 2014 mean of 14.1°F. Kotzebue held the greatest positive deviation from normal for February at a significant 11.0°F above its long-term mean of -0.8°F. Stations following Kotzebue with positive deviations equal to or exceeding 6°F were: Nome (8.3°F), King Salmon (8.0°F), Barrow (7.6°F), McGrath (7.0°F), Homer (6.4°F), and Bethel (6.0°F). Gulkana (-0.2°F) was the only station with a less than normal monthly mean temperature.

The warmest temperature for the First Order Stations was 53°F reported at Annette on the 17th, and Homer and King Salmon on the 21st. Annette also reported the highest mean temperature for the month at 41.2°F. The coldest temperature was -47°F at Bettles on the 7th. Barrow reported the lowest February mean temperature at -6.6°F.

Station	Temperature		
	Observed (°F)	Normal (°F)	Delta (°F)
Anchorage	24.1	20.2	3.9
Annette	41.2	37.7	3.5
Barrow	-6.6	-14.2	7.6
Bethel	17.1	11.1	6.0
Bettles	0.1	-5.0	5.1
Cold Bay	34.5	29.0	5.5

Delta Junction	7.1	4.9	2.2
Fairbanks	1.0	-1.3	2.3
Gulkana	5.3	5.5	-0.2
Homer	32.6	26.2	6.4
Juneau	31.9	30.1	1.8
King Salmon	26.8	18.8	8.0
Kodiak	35.5	30.8	4.7
Kotzebue	10.2	-0.8	11.0
McGrath	8.4	1.4	7.0
Nome	15.7	7.4	8.3
St. Paul Island	28.4	24.4	4.0
Talkeetna	22.9	18.1	4.8
Yakutat	33.5	29.7	3.8



Daily mean temperature deviation from the normal temperature for the mean of the first order stations for February 2015.

As has been the case through this winter, a large number of daily record temperature events were reported for February, and similar to the previous three months, all were new record highs, with no new lows noted. Most were reported during the warm spell in the second half of the month that set off a string of new highs across the state. Cold Bay had five new and tied record events. Kotzebue had six high events, and broke an old record high on the 22nd by 6°F that had been in place since 1903.

Date	Temperature Records				
	Station	Element	New Record	Old Record	Year of old Record
02/01/15	Cold Bay	High Temperature	46	45	1985
02/12/15	Cold Bay	High Temperature	42	42	2003
02/12/15	Craig	High Temperature	51	50	1992

02/12/15	Sitka	High Temperature	53	52	1963
02/13/15	Cold Bay	High Temperature	41	41	2005
02/13/15	Craig	High Temperature	54	48	1992
02/16/15	Cold Bay	High Temperature	41	41	1993
02/16/15	Delta Junction	High Temperature	47	47	1942
02/16/15	Haines Airport	High Temperature	43	43	1977
02/16/15	Homer	High Temperature	50	46	1944
02/16/15	Sitka	High Temperature	56	51	1959
02/16/15	Yakutat	High Temperature	47	44	1977
02/17/15	Annette	High Temperature	53	52	2010
02/17/15	Bettles	High Temperature	28	26	1993
02/17/15	Craig	High Temperature	54	51	1943
02/17/15	Kotzebue	High Temperature	32	30	2006
02/17/15	Sitka	High Temperature	54	52	1998
02/19/15	Cold Bay	High Temperature	43	43	2011
02/20/15	Bethel	High Temperature	44	44	1934
02/20/15	King Salmon	High Temperature	45	45	2005
02/21/15	Bethel	High Temperature	44	44	1928
02/21/15	Homer	High Temperature	53	49	1944
02/21/15	King Salmon	High Temperature	53	46	1944
02/21/15	Kotzebue	High Temperature	34	34	2010
02/21/15	McGrath	High Temperature	41	41	1942

02/21/15	Nome	High Temperature	40	36	1957
02/22/15	Bethel	High Temperature	44	43	1939
02/22/15	Bettles	High Temperature	33	25	1977
02/22/15	Homer	High Temperature	52	50	1944
02/22/15	King Salmon	High Temperature	49	46	1997
02/22/15	Kodiak	High Temperature	45	45	1987
02/22/15	Kotzebue	High Temperature	37	31	1903
02/22/15	McGrath	High Temperature	44	44	1944
02/22/15	Nome	High Temperature	35	35	1940
02/23/15	Bettles	High Temperature	32	26	1987
02/23/15	Kotzebue	High Temperature	36	33	2011
02/24/15	Kotzebue	High Temperature	35	31	2014
02/25/15	Yakutat	High Temperature	46	45	2004
02/26/15	Kotzebue	High Temperature	35	35	1947
02/26/15	St. Paul	High Temperature	38	38	2004
02/27/15	Barrow	High Temperature	30	30	1962
02/27/15	St. Paul	High Temperature	38	38	1981

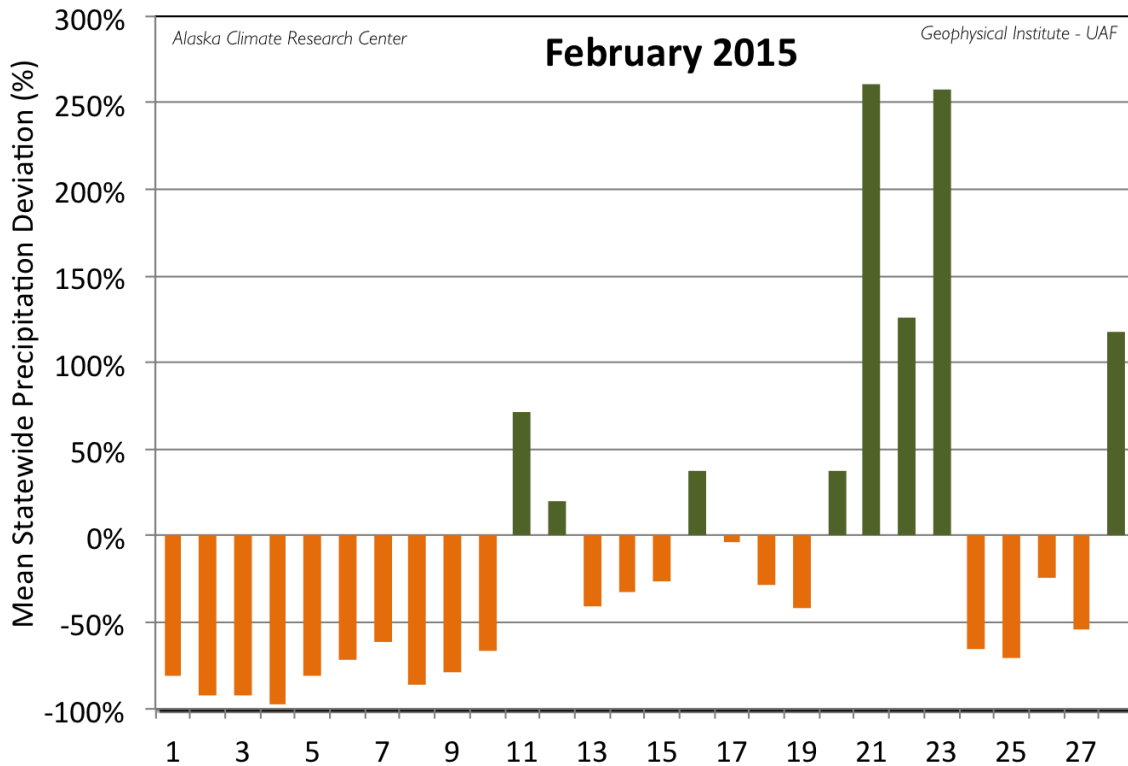
Precipitation

Like January, February was a little drier than normal, with the overall precipitation calculated as 8% below normal; this calculation was based on the mean of the deviations in percentage of the First Order Stations. Fourteen of the First Order Stations and 20 days of the month reported below normal values. Nome hit its normal for the month. This is relatively wetter than February in 2014 that had just 62% of

normal precipitation. The greatest daily deviation of 261% occurred on the 21st, when a storm passed over much of state. On a monthly basis, and like the previous month, Gulkana had the greatest positive deviation from normal, with a total of 1.30", or 155% above the expected amount of 0.51". Other stations with precipitation greater than normal were: Barrow (121%), Kodiak (43%) and Fairbanks (14%). Also, like January, the leading station with lower than normal precipitation total was McGrath with just 18% of normal. Other stations with less than a 50% of their normal precipitation were: King Salmon (36%), Cold Bay (37%), Bettles (38%), and Homer (48%).

Station	Precipitation				
	Observed (in)	Normal (in)	Delta (in)	Delta (%)	(%)
Anchorage	0.71	0.72	-0.01	-1%	99%
Annette	6.35	7.31	-0.96	-13%	87%
Barrow	0.31	0.14	0.17	121%	221%
Bethel	0.54	0.72	-0.18	-25%	75%
Bettles	0.32	0.85	-0.53	-62%	38%
Cold Bay	1.10	2.98	-1.88	-63%	37%
Delta Junction	0.19	0.28	-0.09	-32%	68%
Fairbanks	0.48	0.42	0.06	14%	114%
Gulkana	1.30	0.51	0.79	155%	255%
Homer	0.82	1.71	-0.89	-52%	48%
Juneau	3.62	4.13	-0.51	-12%	88%
King Salmon	0.27	0.76	-0.49	-64%	36%
Kodiak	8.79	6.14	2.65	43%	143%
Kotzebue	0.49	0.66	-0.17	-26%	74%
McGrath	0.17	0.94	-0.77	-82%	18%
Nome	0.93	0.93	0.00	0%	100%

St. Paul Island	1.12	1.30	-0.18	-14%	86%
Talkeetna	1.01	1.45	-0.44	-30%	70%
Yakutat	10.35	10.86	-0.51	-5%	95%



Daily mean precipitation deviation from the normal for the first order stations for February 2015.

The maximum monthly precipitation total reported for the First Order Stations was 10.35" at Yakutat; Kodiak reported the highest daily total of 2.32" on the 20th, a new daily record. The highest one-day snowfall occurred at Kodiak on the 8th with 4.5". St Paul reported the highest monthly snowfall of 10.5". Bettles reported the highest snow depth of 20" at the end of the month.

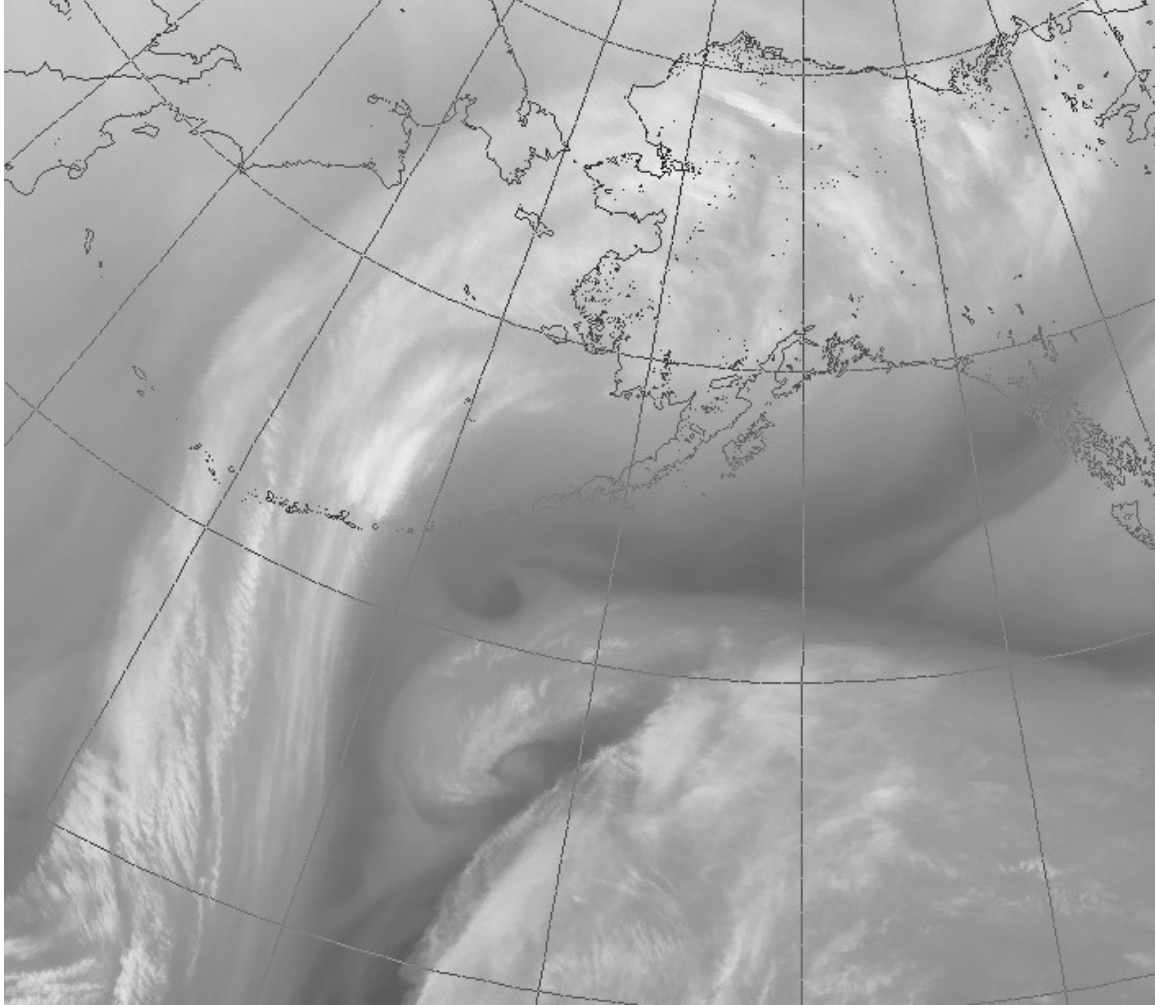
Given the general slightly lower than normal precipitation record in February, it's not surprising there were a very limited number of precipitation record events during the month, and half were set during the storm of the 20th to 22nd.

Date	Precipitation Records				
	Station	Element	New Record	Old Record	Year of old Record
02/16/15	Yakutat	Precipitation	1.40	1.36	1973
02/17/15	St. Paul	Snowfall	2.7	2.5	1967
02/20/15	Kodiak	Precipitation	2.32	2.00	1977
02/21/15	Anchorage	Precipitation	0.14	0.11	1968
02/22/15	Sitka	Precipitation	2.16	2.04	1963
02/26/15	Barrow	Precipitation	0.08	0.08	1951

Snowfall was unsurprisingly light again in February, with 13 of the First Order Stations that measure snowfall reporting below normal amounts. Based on the mean of the deviations from all 15 stations, the overall deviation from the normals was just 54% of the expected amount. Anchorage reported the lowest amount at 1.1", just 10% of its normal. Barrow again this month had the highest deviation at 165% of its expected amount with a total of 4.3". Mean snow depth was about 30% under the normal. The near normal amount of precipitation, but deficiency in snowfall and resulting snow cover is, of course, due to the warmer weather, resulting in a higher percentage of the precipitation falling as rain instead of snow.

Station	Snowfall				
	Observed (in)	Normal (in)	Delta (in)	Delta (%)	(%)
Anchorage	1.1	10.9	-9.8	-90%	10%
Annette	2.3	7.2	-4.9	-68%	32%
Barrow	4.3	2.6	1.7	65%	165%
Bethel	5.7	6.9	-1.2	-17%	83%

Bettles	7.3	14.0	-6.7	-48%	52%
Cold Bay	1.0	12.9	-11.9	-92%	8%
Fairbanks	4.0	8.1	-4.1	-51%	49%
Juneau	10.3	16.8	-6.5	-39%	61%
King Salmon	2.0	6.0	-4.0	-67%	33%
Kodiak	10.2	15.1	-4.9	-32%	68%
Kotzebue	3.3	9.6	-6.3	-66%	34%
McGrath	1.8	13.1	-11.3	-86%	14%
Nome	10.2	12.2	-2.0	-16%	84%
St. Paul Island	10.5	10.0	0.5	5%	105%
Yakutat	4.0	28.6	-24.6	-86%	14%



This water vapor satellite image from the National Weather Service shows a storm pushing into Interior and Northern Alaska on February 26th. The storm brought high winds and snow to the region.

Newsworthy Events

February started off with high wind warnings for the Southcentral on the 5th. Gusts up to 96 mph were measured in Thompson Pass and 75 mph at the Palmer Airport. Multiple power outages were reported to Matanuska Electric Association and some property damage was reported in Valdez. The same day, hurricane force wind warnings were issued in the Southeast, perhaps for the first time ever for the Upper Lyn Canal, and gusts up to 140 mph were measured at Sheep Mountain. The next day, winds were topped out at 114 mph at Eldred Rock near Juneau. Some power outages were reported and the ferry Aurora canceled some trips. High winds were followed by snow, and Juneau received 7.6" over the 7th and 8th. Petersburg received a total of 14.5" of snow on the 6th, while Hyder reported 21". All the new snow allowed

the Eaglecrest ski area to reopen on the 14th. On the 8th the Klondike Highway was closed due to high winds and blowing snow.

The Nenana Ice Classic officials noted that the Tanana River at Nenana had not completely frozen over until mid-January, very late compared to normal, and is currently at its second lowest thickness on record for beginning of February. The Denali Park Road was expected to be open to mile 12 by the 14th. The Tustumena 200 sled dog race, originally rescheduled for February 21st, was canceled due to lack of snow. By the 19th, the Eaglecrest Ski Area had only been open 30 days for the season. The wind and rain during mid-month has increased the avalanche danger around Turnagain Pass area considerably. In Fairbanks, the Open North American Championship sled dog race officials decided to move the March race start from downtown out the Musher's Hall due to concerns about the river ice. The Official restart of the Iditarod Sled Dog Race, also in March, was moved from Anchorage to Fairbanks for the second time in the race's history.

Another ice storm on the 21st made traveling conditions hazardous on the Southcentral and Interior roads, and travel advisories were issued. Snow and light rain was forecast for the Interior while Denali Park had a winter warning for up to an inch of freezing rain. Blizzard and storm warnings were issued for much of the northern and western portions of the State. The Fairbanks Airport canceled several flights on the night of the 21st, with others diverted to Anchorage. The resulting icy roads created very hazardous driving conditions on the 22nd, and the Fairbanks North Star Borough closed several facilities and more travel advisories were issued. The weather delayed the start of the Ice Art Championships. The poor road conditions led to the closure of schools in the Fairbanks area on the 23rd, including the University. More freezing rain fell on, but mostly to the east of Fairbanks, and the winter weather advisory was continued for this area.

The morning of the 24th witnessed two lightning strikes within Nome that accompanied a snow shower. This 'Thundersnow' is a rare occurrence.

Another storm warning for high winds and snow was issued for the Interior on the 26th, with arrival on the afternoon of the 28th. Backcountry travel was not advised. Warnings were also issued for Western and Northern Alaska. Travel advisories were issued on the 28th for the Dalton Highway with blizzard conditions and gusts up to 60 mph. The Steese Highway was closed to high winds and drifting snow. The highest gust at the Fairbanks Airport was 50 mph and the storm left 2.6" of new snow. Point Thompson topped out at 76 mph; 56 mph was reported at Kuparuk and 43 mph at Barrow. Kaktovik, on Barter Island just off the North Slope, was hard hit, but the wind instrument failed during the storm. Residents reported it was dangerous to go outside during the storm. Power was knocked out and many residents sheltered in the village school. Snowdrifts abounded in the town after the storm. Some residents had to dig their way out of their houses.

The unusual weather has a silver lining in that the Municipality of Anchorage noted it had saved roughly \$1 million on snow removal for the winter to date.

This information consists of preliminary climatological data compiled by the Alaska Climate Research Center, Geophysical Institute, University of Alaska Fairbanks. For more information on weather and climatology, contact the center at 907-474-7885 or visit the center web site at <http://akclimate.org>. Please report any errors to webmaster@akclimate.org. This summary is based on the 19 first order stations in Alaska operated by the National Weather Service. Extreme events of other stations are also mentioned.