

# *Alaska Statewide Climate Summary*

January 2016

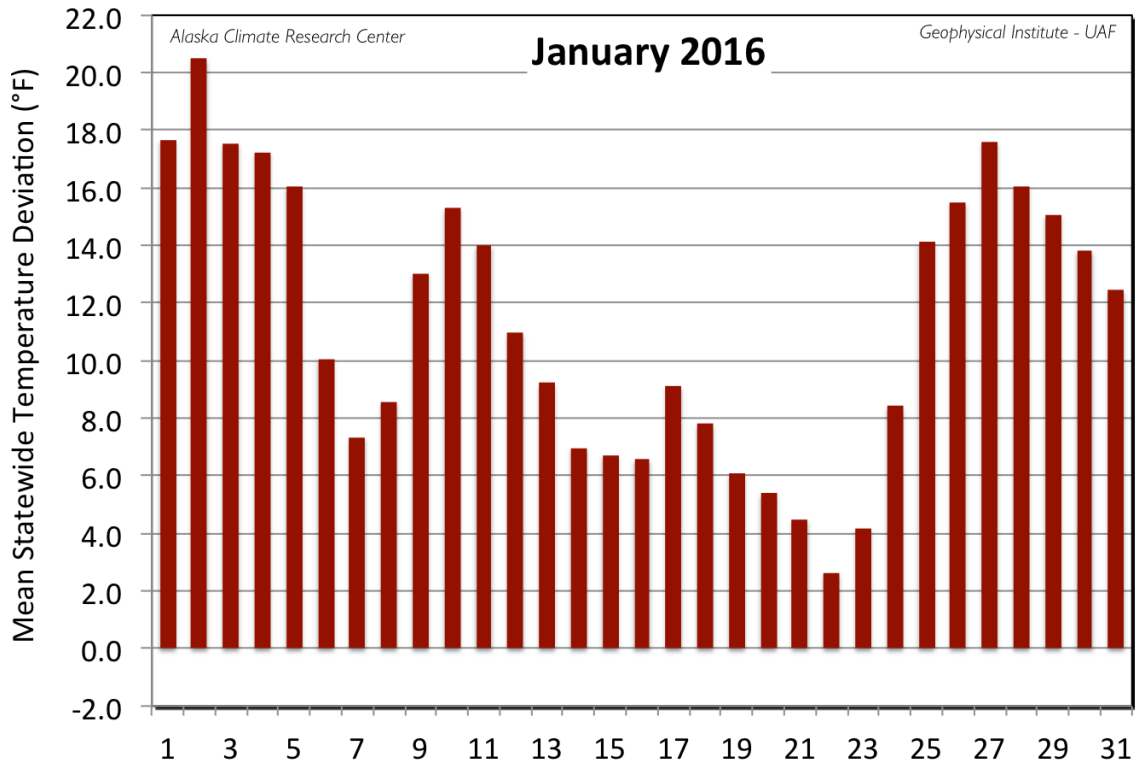
## Temperature

January 2016 is the fourth month in a row where temperatures were above normal. The monthly mean temperature of all First Order Stations was 22.3°F, 10.9°F above the normal of 11.4°F. This is 7.3°F above the January 2015 mean of 15.0°F. Monthly mean temperatures were above normal for all 19 First Order Stations. Calculating the mean daily temperatures of the First Order Stations (see Figure), all 31 days of the month were above the 30-year normal. The peak positive deviation for the month, an extreme 20.5°F, occurred on the 2<sup>nd</sup>. On a monthly basis, Delta Junction held the greatest positive deviation from normal with a significant value of 16.7°F above its long-term mean of -1.0°F. Stations following Delta Junction with deviations equal to or exceeding 15.0°F were Kotzebue (16.6°F), King Salmon (16.2°F), Bettles (15.0°F), McGrath (15.0°F), and Nome (15.0°F).

Station	Temperature		
	Observed (°F)	Normal (°F)	Delta (°F)
Anchorage	27.0	17.1	9.9
Annette	40.9	37.0	3.9
Barrow	-0.3	-13.4	13.1
Bethel	21.5	6.6	14.9
Bettles	5.0	-10.0	15.0
Cold Bay	32.8	28.2	4.6
Delta Junction	15.7	-1.0	16.7
Fairbanks	3.5	-7.9	11.4
Gulkana	6.1	-2.9	9.0
Homer	33.9	24.8	9.1

Juneau	<b>34.9</b>	<b>28.3</b>	<b>6.6</b>
King Salmon	<b>32.4</b>	<b>16.2</b>	<b>16.2</b>
Kodiak	<b>36.4</b>	<b>30.5</b>	<b>5.9</b>
Kotzebue	<b>13.8</b>	<b>-2.8</b>	<b>16.6</b>
McGrath	<b>8.5</b>	<b>-6.5</b>	<b>15.0</b>
Nome	<b>20.2</b>	<b>5.2</b>	<b>15.0</b>
St. Paul Island	<b>30.8</b>	<b>25.1</b>	<b>5.7</b>
Talkeetna	<b>25.1</b>	<b>14.2</b>	<b>10.9</b>
Yakutat	<b>35.9</b>	<b>28.1</b>	<b>7.8</b>

The highest temperature of the First Order Stations was 52°F reported at Annette on both the 10<sup>th</sup> and 11<sup>th</sup> of the month. Annette also held the spot for the highest mean temperature for the month at 40.9°F. The lowest temperature was -32°F at Bettles on the 22<sup>nd</sup>, while Barrow reported the lowest January mean temperature at -0.3°F.



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

There were a fair number of temperature record events in January, and like December, all were high events. It was the second warmest January on record in Barrow after the record of 5.6°F set in 1930. It was the fourth warmest January for Kotzebue, Delta Junction and Northway. It was the fifth warmest for King Salmon and Bettles.

By January 31<sup>st</sup>, it had been 1457 days since the low temperature at Barrow had reached -40°F. The previous longest run had been the 761 days ending February 15<sup>th</sup>, 1982.

Date	Temperature Records				
	Station	Element	New Record	Old Record	Year of old Record
01/02/16	King Salmon	High Temperature	42	42	1995

01/02/16	McGrath	High Temperature	43	42	1988
01/03/16	Bettles	High Temperature	32	31	1988
01/03/16	Delta Junction	High Temperature	39	36	2013
01/03/16	McGrath	High Temperature	40	34	2011
01/04/16	Bettles	High Temperature	32	30	1974
01/04/16	King Salmon	High Temperature	45	43	1995
01/04/16	Kotzebue	High Temperature	30	29	1942
01/05/16	McGrath	High Temperature	42	38	1993
01/06/16	McGrath	High Temperature	38	38	1993
01/10/16	Annette	High Temperature	52	50	2010
01/17/16	St. Paul	High Temperature	39	39	1979
01/25/16	Annette	High Temperature	50	50	2005
01/25/16	Ketchikan	High Temperature	51	50	1998
01/25/16	Sitka	High Temperature	50	48	1983
01/26/16	Auke Bay	High Temperature	44	44	1998
01/26/16	Hollis	High Temperature	48	48	1962
01/26/16	Juneau	High Temperature	45	43	2011
01/26/16	Sitka	High Temperature	50	48	1998
01/27/16	Annette	High Temperature	51	51	2014
01/27/16	Bettles	High Temperature	32	27	1957
01/27/16	Juneau	High Temperature	47	46	1961
01/27/16	Ketchikan	High Temperature	50	49	1958

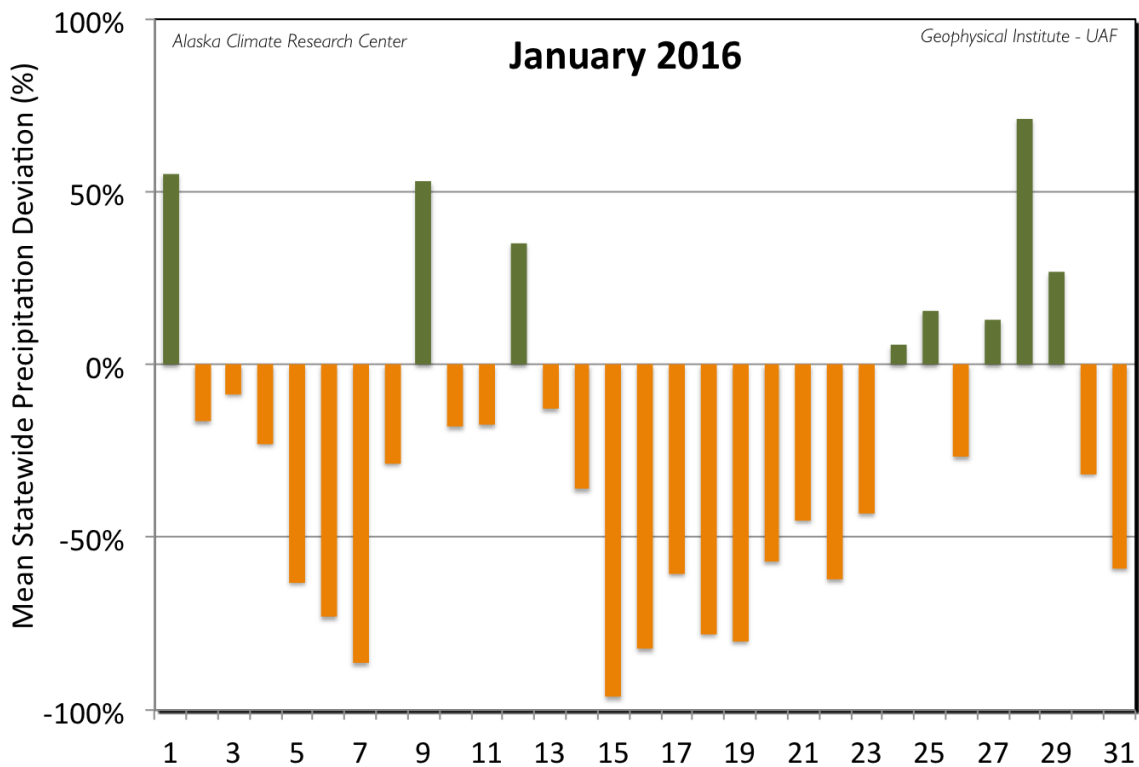
01/28/16	Bettles	High Temperature	32	29	1972
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## Precipitation

January precipitation was notably lower than expected, with the overall precipitation calculated as 23% below normal; this calculation was based on the mean of the deviations in percentage of the First Order Stations. Twelve of the First Order Stations and 23 days of the month reported below normal values. There were no days during the month without any measureable precipitation at all of the 19 First Order Stations. It was also considerably drier than January 2015, which had a heavy precipitation total of 66% above normal. The greatest daily deviation of 71% occurred on the 28<sup>th</sup>. Like December, on a monthly basis, Fairbanks had the greatest negative deviation from normal, with a total of 0.01", or just 2% of the expected amount of 0.58". The other stations with precipitation totals less than 30% of normal were McGrath (7%), Delta Junction (16%), Talkeetna (26%), and Bethel (29%). The leading station with a greater than normal precipitation amount was Barrow with 131% above normal.

Station	Precipitation				
	Observed (in)	Normal (in)	Delta (in)	Delta (%)	(%)
Anchorage	0.28	0.73	-0.45	-62%	38%
Annette	9.50	10.73	-1.23	-11%	89%
Barrow	0.30	0.13	0.17	131%	231%
Bethel	0.23	0.78	-0.55	-71%	29%
Bettles	0.33	0.81	-0.48	-59%	41%
Cold Bay	4.49	3.16	1.33	42%	142%
Delta Junction	0.05	0.31	-0.26	-84%	16%
Fairbanks	0.01	0.58	-0.57	-98%	2%
Gulkana	0.24	0.46	-0.22	-48%	52%
Homer	4.50	2.63	1.87	71%	171%
Juneau	6.53	5.35	1.18	22%	122%

King Salmon	0.48	1.02	-0.54	-53%	47%
Kodiak	10.41	8.29	2.12	26%	126%
Kotzebue	0.38	0.62	-0.24	-39%	61%
McGrath	0.08	1.09	-1.01	-93%	7%
Nome	0.53	0.94	-0.41	-44%	56%
St. Paul Island	1.61	1.58	0.03	2%	102%
Talkeetna	0.35	1.36	-1.01	-74%	26%
Yakutat	14.42	13.66	0.76	6%	106%



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

The maximum monthly precipitation total reported for a First Order Station was 14.42" at Yakutat, while Annette reported the highest daily total of 2.07" on the 25<sup>th</sup>, a new record for that specific day.

There were a limited number of daily precipitation records this January, and all were located in the Southeast towards the end of the month.

For January, McGrath received a total of 0.08" of precipitation, the lowest on record. The previous record low total was 0.10 from January 1961. Fairbanks tied the record low precipitation of 0.01, originally set in 1966. The total precipitation in Fairbanks from December 1<sup>st</sup>, 2015 to January 31<sup>st</sup>, 2016 was 0.08". This is the lowest amount for this time frame after the 0.10" from 1969-70.

Date	Precipitation Records				
	Station	Element	New Record	Old Record	Year of old Record
01/25/16	Haines Airport	Precipitation	1.26	1.00	1979
01/25/16	Ketchikan	Precipitation	3.84	1.85	2011
01/25/16	Skagway Airport	Precipitation	0.65	0.40	1910
01/26/16	Annex Creek	Precipitation	1.74	1.47	1944
01/26/16	Auke Bay	Precipitation	1.22	0.64	1992
01/26/16	Juneau	Precipitation	0.87	0.66	2009
01/26/16	Skagway Airport	Precipitation	0.53	0.45	1944
01/30/16	Cold Bay	Precipitation	0.61	0.57	1988

## Snowfall

Snowfall was unsurprisingly light, with thirteen of the 15 First Order Stations that measure snowfall reporting below normal amounts, with St. Paul matching its normal of 12.6" and Barrow reporting 73%

above normal. Based on the mean of the deviations from all 15 stations, the overall deviation from the normals was 60% below the expected amount. Yakutat reported the greatest snowfall negative deviation amount at -31.9" with an actual total of 0.0". Juneau and Annette also reported a total of 0.0". Snowpack averaged about 70% of normal.

Station	Snowfall				
	Observed (in)	Normal (in)	Delta (in)	Delta (%)	(%)
Anchorage	3.5	11.3	-7.8	-69%	31%
Annette	0.0	7.6	-7.6	-100%	0%
Barrow	4.5	2.6	1.9	73%	173%
Bethel	2.4	9.6	-7.2	-75%	25%
Bettles	8.1	13.9	-5.8	-42%	58%
Cold Bay	9.0	14.1	-5.1	-36%	64%
Fairbanks	0.8	10.3	-9.5	-92%	8%
Juneau	0.0	27.7	-27.7	-100%	0%
King Salmon	0.6	10.2	-9.6	-94%	6%
Kodiak	0.1	13.0	-12.9	-99%	1%
Kotzebue	5.9	9.1	-3.2	-35%	65%
McGrath	1.3	15.7	-14.4	-92%	8%
Nome	8.2	12.7	-4.5	-35%	65%
St. Paul Island	12.6	12.6	0.0	0%	100%
Yakutat	0.0	31.9	-31.9	-100%	0%



St. Paul reported the highest total snowfall at 12.8". Cold Bay reported the highest one-day snowfall at 3.5" on the 8<sup>th</sup>. Bettles reported the highest snow depth at 29". It was the fourth least snowiest January for both Anchorage and Fairbanks. On the 29<sup>th</sup>, a total of 2.5" of snow fell in Nome, breaking the daily record of 1.6" set in 2008.

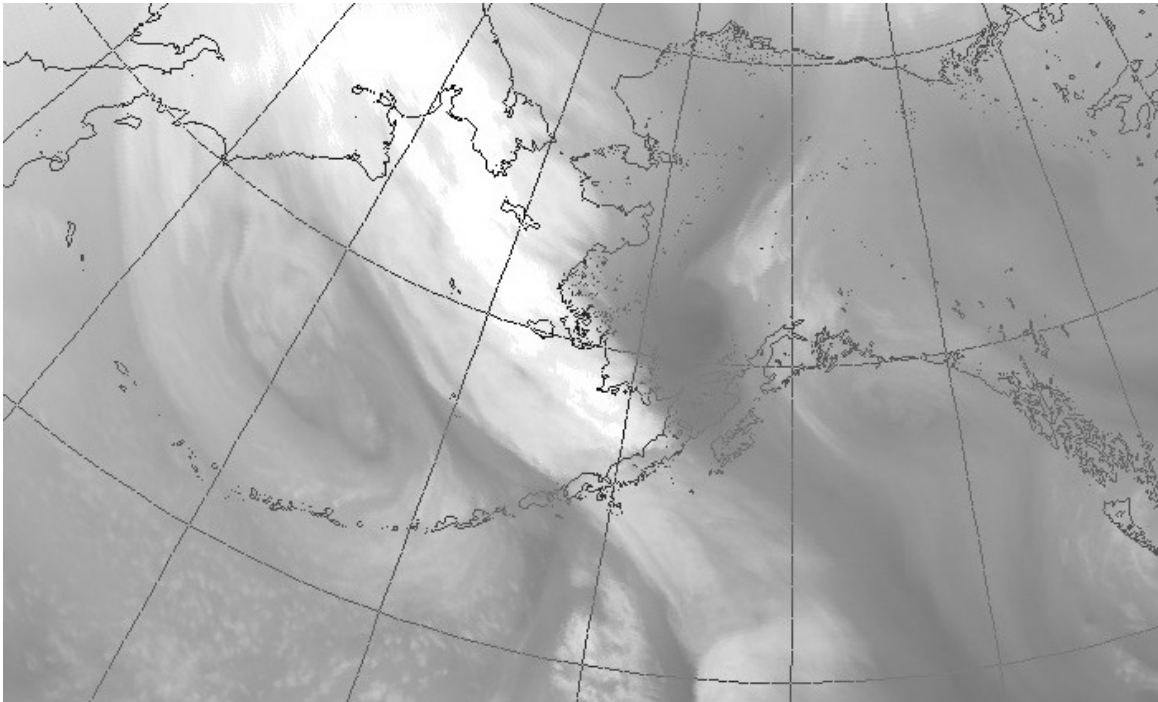
Yakutat tied for a low monthly snowfall record for January with a total of 0.0". This record low was previously set in 1942 and 1926. Similarly, Annette tied the old 1942 record of 0.0". Juneau tied the 1942 record low monthly snowfall with a trace amount. It was the second least snowiest January for Fairbanks after the 0.7" from 1966. It was the third lowest snowfall January for King Salmon and McGrath, and the fourth for Kodiak. The total snowfall in Fairbanks from December 1<sup>st</sup>, 2015 to January 31<sup>st</sup>, 2016 was 1.9". This is the lowest snowfall amount for this time frame, beating the 2.1" from 1952-53.

Date	Snowfall Records				
	Station	Element	New Record	Old Record	Year of old Record
12/07/15	Cold Bay	Snowfall	4.2	2.5	1971
12/10/15	King Salmon	Snowfall	6.0	6.0	1999
12/16/15	Cold Bay	Snowfall	2.3	2.2	1997
12/17/15	Barrow	Snowfall	1.3	1.1	1923
12/18/15	Bethel	Snowfall	4.8	4.0	1928
12/26/15	Juneau	Snowfall	6.6	6.4	2008
12/30/15	Cold Bay	Snowfall	3.3	2.6	1972

### Newsworthy Events

January started out with the Dalton Highway closed due to an avalanche between mileposts 242 and 249 while the Klondike Highway closed due to avalanche danger as road crews worked to reduce the hazard. The Dalton Highway was cleared by the next day, and then the Thane Road near Juneau was closed intermittently for avalanche danger reduction. A small stream flooding advisory was issued on the 2<sup>nd</sup> for ice jams on the Anchor River that extended into the next day, with flooding reported on the 7<sup>th</sup>. Fort Greely reported a high wind speed of 51 mph on the 2<sup>nd</sup>. Icy roads caused a number of automobile accidents and ice-skating in the streets in Anchorage on the 2<sup>nd</sup>.

A travel advisory was issued for the Dalton Highway on the 5<sup>th</sup> due to blowing snow and reduced visibility between miles 242 and 247. Avalanche danger was listed as high. Avalanche control was planned for the area. The Aleutians braced for another El Niño directed storm headed for the area, and wind gusts up to 76 mph were measured on the 6<sup>th</sup> at Adak, and 94 mph at Dutch Harbor.



*This water vapor satellite image from the National Weather Service for the 6<sup>th</sup> of January shows the well-developed low-pressure weather pattern of the Bering Sea storm that brought high winds to the area.*

The Dalton Highway was closed due to an avalanche between miles 239 and 247 on the 7<sup>th</sup>, while wind advisories were issued for the area the next day. Freezing rain again plagued driving in the Anchorage area on the 8<sup>th</sup>. A total of 8.0" of snow was reported at the Haines Customs on the 12<sup>th</sup>. Dense fog was reported in the Mat-Su areas on the 13<sup>th</sup>, and icy roads were prevalent again in the Anchorage area the next day.

High winds warnings were issued from Ketchikan to the Brooks Range on the 16<sup>th</sup>. More freezing rain was reported along the Seward Highway on the 20<sup>th</sup>. High winds were recorded in the Juneau area on the 20<sup>th</sup>, with gusts up to 40 mph in downtown Juneau. Winds up to 40 mph were recorded on the Prince of Wales Island on the 21<sup>st</sup>. An overflow was reported along the Dalton highway on the 21<sup>st</sup>, and the 26<sup>th</sup> the State moved to protect the highway from damage from the overflow. A total of 14.0" of snow was reported at Haines Custom station on the 22<sup>nd</sup> as heavy snow fell across the areas. By the end of the month, this station had measured a total of 71.3"; the greatest for any station in Alaska, and more than 20" above normal. The highest snow depth at Haines Custom station was 67" on the 23<sup>rd</sup>. The 23<sup>rd</sup> saw witness to the first sunrise in Barrow since November 18<sup>th</sup>.

High winds were again reported in the Southeast on the 26<sup>th</sup>. Wrangell had gusts up to 70 mph, and damage was reported. Seventy mph gusts were recorded in downtown Juneau and some trees and utilities poles were knocked down. Gusts up to 129 mph hit Sheep Mountain. Eaglecrest measured gusts up to 89 mph. Skagway topped out at 39 mph. Waves up to 32 feet were reported in the southeastern Gulf of Alaska. Heavy rain accompanied the storm, and 2.94" was measured at Snettisham Power Plant. Near Haines the total was over 2", while the Juneau Airport received 1.67", a new daily record. A number of other precipitation records were broken in the Northern Panhandle area. The Eaglecrest ski area was closed the next day as staff repaired the slopes after the storm. More freezing rain hit Anchorage in the 28<sup>th</sup>.

The month ended where it started with an avalanche closing the Klondike Highway on the 27, and it remained closed till the 29<sup>th</sup>.

*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](mailto: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.*