

# Alaska Statewide Climate Summary

January 2015

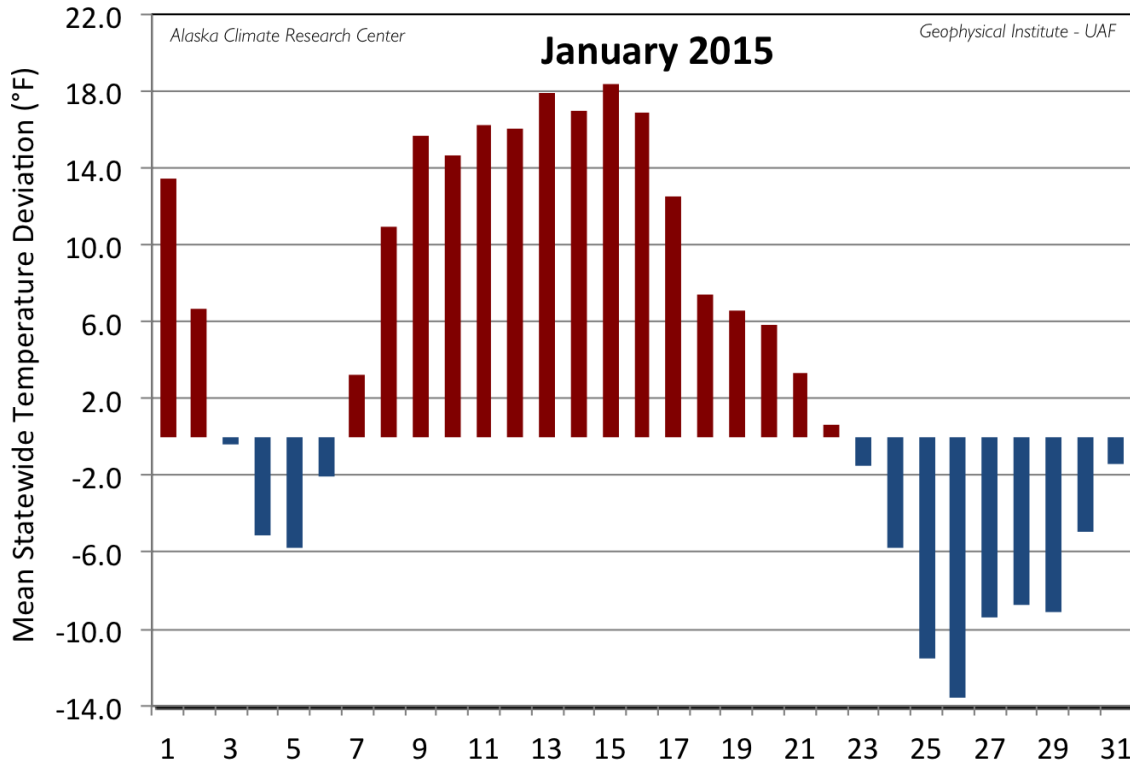
## Temperature

The warm trend from December continued into January 2015 with temperatures that were above normal across the state, with 18 of the 19 of the First Order Stations reporting positive deviations. Calculating the mean daily temperatures of the First Order Stations (see Figure), 18 days of the month were above the 30-year normal. The peak warm deviation, an extreme 18.4°F, occurred on the 15<sup>th</sup> of the month, while the coldest deviation was -13.6°F on the 26<sup>th</sup>. The monthly mean temperature of all First Order Stations was 15.0°F, 3.6°F above the normal of 11.4°F. This is 9.6°F below the January 2014 mean of 24.6°F. Juneau held the greatest positive deviation from normal for January at a significant 6.8°F above its long-term mean of 28.3°F. Stations following Juneau with positive deviations equal to or exceeding 5°F were: Kotzebue (6.7°F), Homer (5.9°F), Kodiak (5.8°F), Annette (5.1°F), and St Paul (5.0°F). Bettles (-2.5°F) was the only station with a less than normal monthly mean temperature.

The warmest temperature for the First Order Stations was 52°F reported at Annette on the 18<sup>th</sup>. Annette also reported the highest mean temperature for the month at 42.7°F. The coldest temperature was -56°F at Bettles on the 26<sup>th</sup> and 27<sup>th</sup>. Bettles also reported the lowest January mean temperature at -12.5°F.

Station	Temperature		
	Observed (°F)	Normal (°F)	Delta (°F)
Anchorage	19.4	17.1	2.3
Annette	42.1	37.0	5.1
Barrow	-10.3	-13.4	3.1
Bethel	8.1	6.6	1.5
Bettles	-12.5	-10.0	-2.5
Cold Bay	31.0	28.2	2.8
Delta Junction	1.7	-1.0	2.7

Fairbanks	<b>-6.5</b>	<b>-7.9</b>	<b>1.4</b>
Gulkana	<b>-0.5</b>	<b>-2.9</b>	<b>2.4</b>
Homer	<b>30.7</b>	<b>24.8</b>	<b>5.9</b>
Juneau	<b>35.1</b>	<b>28.3</b>	<b>6.8</b>
King Salmon	<b>21.1</b>	<b>16.2</b>	<b>4.9</b>
Kodiak	<b>36.3</b>	<b>30.5</b>	<b>5.8</b>
Kotzebue	<b>3.9</b>	<b>-2.8</b>	<b>6.7</b>
McGrath	<b>-5.4</b>	<b>-6.5</b>	<b>1.1</b>
Nome	<b>9.2</b>	<b>5.2</b>	<b>4.0</b>
St. Paul Island	<b>30.1</b>	<b>25.1</b>	<b>5.0</b>
Talkeetna	<b>16.3</b>	<b>14.2</b>	<b>2.1</b>
Yakutat	<b>35.3</b>	<b>28.1</b>	<b>7.2</b>



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

As in December and November, a fair number of daily record temperature events were reported for January, and also like December and November, all were new record highs, with no new lows noted. Most were reported in the Southeast during the second half of the month. Hollis (located in the Southeast on Prince of Wales Island) had five new and tied record events.

Date	Temperature Records				
	Station	Element	New Record	Old Record	Year of old Record
01/08/15	Homer	High Temperature	51	45	1942
01/08/15	King Salmon	High Temperature	48	44	1955
01/09/15	King Salmon	High Temperature	45	44	1955

01/09/15	Nome	High Temperature	35	34	1937
01/12/15	Cold Bay	High Temperature	43	43	1985
01/12/15	St. Paul	High Temperature	40	40	2005
01/12/15	Yakutat	High Temperature	45	44	1986
01/13/15	Craig	High Temperature	50	48	2010
01/13/15	Hollis	High Temperature	44	43	2010
01/13/15	Yakutat	High Temperature	47	47	1981
01/14/15	Craig	High Temperature	51	50	2014
01/14/15	Hollis	High Temperature	47	47	2014
01/21/15	Hollis	High Temperature	47	46	2005
01/22/15	Haines Airport	High Temperature	48	46	2014
01/22/15	Hollis	High Temperature	49	47	2014
01/22/15	Juneau	High Temperature	48	47	2014
01/22/15	Skagway Airport	High Temperature	49	49	2014
01/24/15	Annette	High Temperature	51	50	2006
01/24/15	Annex Creek	High Temperature	45	42	1977
01/24/15	Auke Bay	High Temperature	44	43	1978
01/24/15	Haines Airport	High Temperature	44	43	1989
01/24/15	Hollis	High Temperature	47	45	1992
01/24/15	Ketchikan	High Temperature	52	52	1943
01/24/15	Petersburg	High Temperature	49	46	2013
01/24/15	Port Alexander	High Temperature	47	46	2014

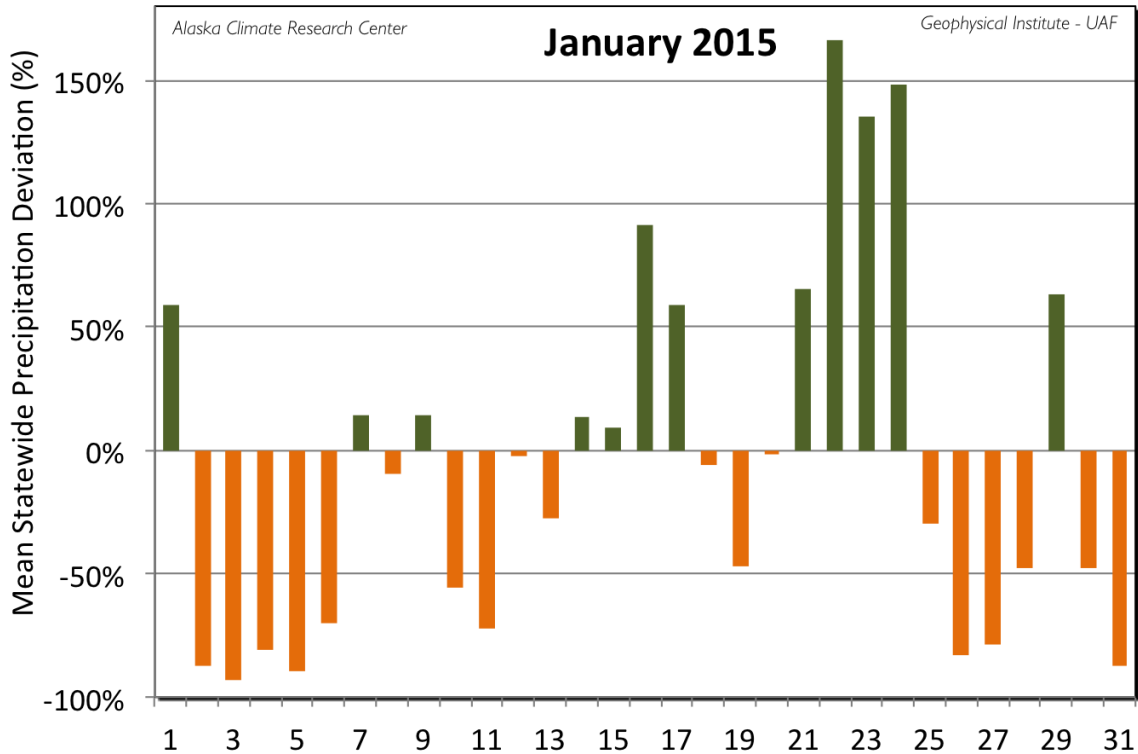
01/24/15	Skagway Airport	High Temperature	46	45	1926
01/25/15	Haines Airport	High Temperature	44	43	1989
01/25/15	Juneau	High Temperature	44	44	1983
01/25/15	Ketchikan	High Temperature	49	49	1961
01/25/15	Petersburg	High Temperature	49	46	2013
01/25/15	Skagway Airport	High Temperature	46	45	1926

## Precipitation

January 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. Thirteen of the First Order Stations and 19 days of the month reported below normal values. This is in contrast to the wet January in 2014 that had 66% more precipitation than normal. The greatest daily deviation of 167% occurred on the 22<sup>nd</sup>, when a storm passed over much of Southeast. On a monthly basis, Gulkana had the greatest positive deviation from normal, with a total of 1.12", or 143% above the expected amount of 0.46". Other stations with precipitation greater than 100% of normal were: Juneau (224%), Barrow (200%), Annette (137%) and Kodiak (122%). Leading the stations with lower than normal precipitation totals was McGrath with just 25% of normal. Other stations with less than a 50% of their normal precipitation were: Fairbanks (26%), Bettles (40%), and Cold Bay (45%).

Station	Precipitation				
	Observed (in)	Normal (in)	Delta (in)	Delta (%)	(%)
Anchorage	<b>0.37</b>	<b>0.73</b>	<b>-0.36</b>	<b>-49%</b>	<b>51%</b>
Annette	<b>14.71</b>	<b>10.73</b>	<b>3.98</b>	<b>37%</b>	<b>137%</b>
Barrow	<b>0.26</b>	<b>0.13</b>	<b>0.13</b>	<b>100%</b>	<b>200%</b>
Bethel	<b>0.51</b>	<b>0.78</b>	<b>-0.27</b>	<b>-35%</b>	<b>65%</b>

Bettles	<b>0.32</b>	<b>0.81</b>	<b>-0.49</b>	<b>-60%</b>	<b>40%</b>
Cold Bay	<b>1.41</b>	<b>3.16</b>	<b>-1.75</b>	<b>-55%</b>	<b>45%</b>
Delta Junction	<b>0.18</b>	<b>0.31</b>	<b>-0.13</b>	<b>-42%</b>	<b>58%</b>
Fairbanks	<b>0.15</b>	<b>0.58</b>	<b>-0.43</b>	<b>-74%</b>	<b>26%</b>
Gulkana	<b>1.12</b>	<b>0.46</b>	<b>0.66</b>	<b>143%</b>	<b>243%</b>
Homer	<b>1.85</b>	<b>2.63</b>	<b>-0.78</b>	<b>-30%</b>	<b>70%</b>
Juneau	<b>11.98</b>	<b>5.35</b>	<b>6.63</b>	<b>124%</b>	<b>224%</b>
King Salmon	<b>0.52</b>	<b>1.02</b>	<b>-0.50</b>	<b>-49%</b>	<b>51%</b>
Kodiak	<b>10.13</b>	<b>8.29</b>	<b>1.84</b>	<b>22%</b>	<b>122%</b>
Kotzebue	<b>0.36</b>	<b>0.62</b>	<b>-0.26</b>	<b>-42%</b>	<b>58%</b>
McGrath	<b>0.27</b>	<b>1.09</b>	<b>-0.82</b>	<b>-75%</b>	<b>25%</b>
Nome	<b>0.71</b>	<b>0.94</b>	<b>-0.23</b>	<b>-24%</b>	<b>76%</b>
St. Paul Island	<b>1.20</b>	<b>1.58</b>	<b>-0.38</b>	<b>-24%</b>	<b>76%</b>
Talkeetna	<b>1.10</b>	<b>1.36</b>	<b>-0.26</b>	<b>-19%</b>	<b>81%</b>
Yakutat	<b>14.02</b>	<b>13.66</b>	<b>0.36</b>	<b>3%</b>	<b>103%</b>



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

The maximum monthly precipitation total reported for the First Order Stations was 14.71" at Annette, and Annette also reported the highest daily total of 2.25" on the 20<sup>th</sup>. The highest one-day snowfall occurred at Juneau on the 28<sup>th</sup> with 6.0". Juneau also reported the highest monthly snowfall of 15.1". Bettles reported the highest snow depth at 19" on the 22<sup>nd</sup>.

Given the general slightly lower than normal precipitation record in January, it's not surprising there were a very limited number of precipitation record events during the month, and most were set in the Southeast during the storm of the 21<sup>st</sup> to 22<sup>nd</sup>. Ketchikan, not a First Order Station, received a total of 5.56" on the 20<sup>th</sup>, a new daily record, and another 4.68" on the 21<sup>st</sup>, also a new record. For the month, Ketchikan totaled 31.01", more than twice the normal amount.

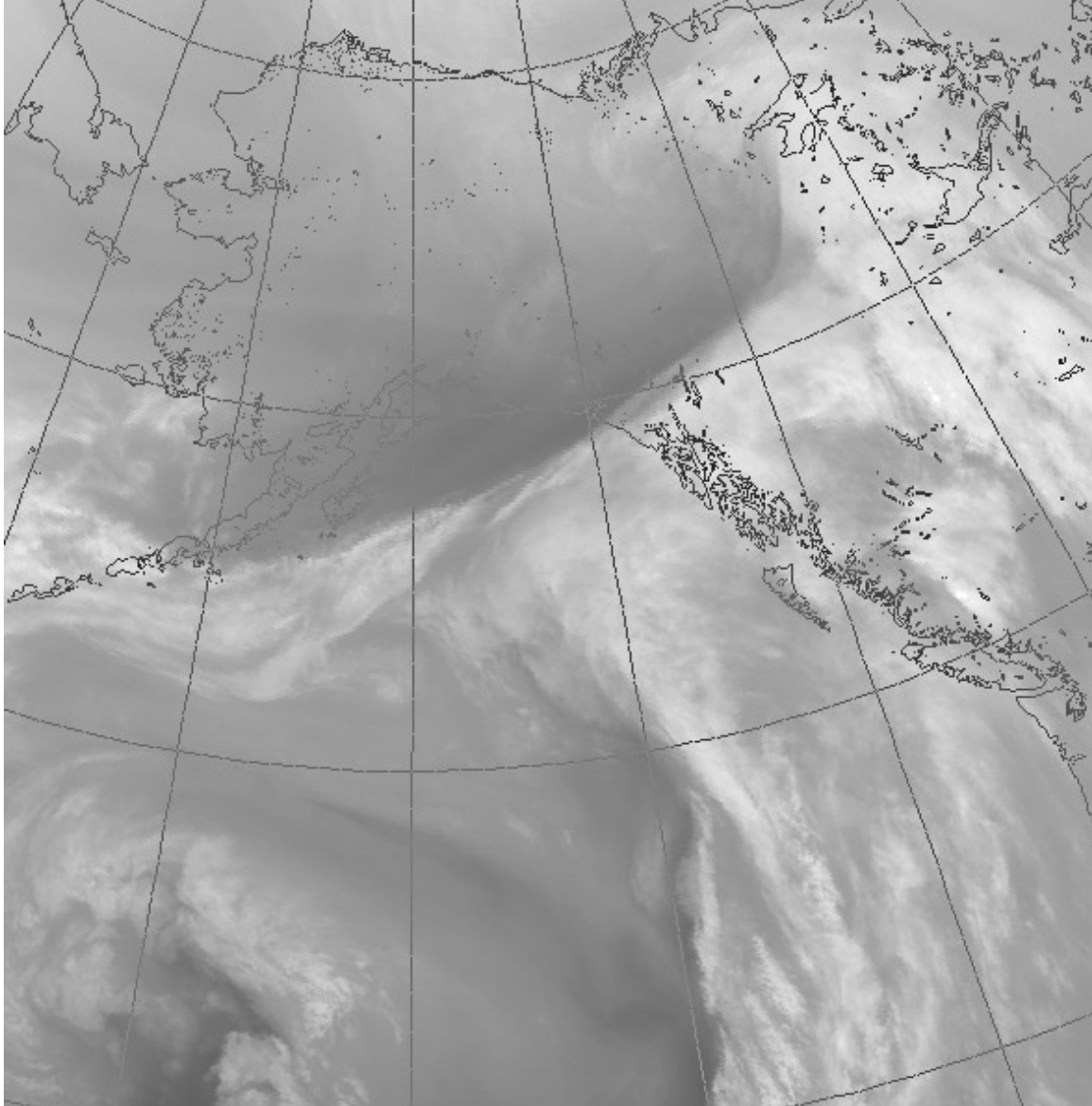
### Precipitation Records

Date	Station	Element	New Record	Old Record	Year of old Record
01/01/15	Auke Bay	Precipitation	1.02	1.00	1989
01/01/15	Juneau	Precipitation	1.38	0.73	1985
01/09/15	Bethel	Precipitation	0.31	0.31	1955
01/15/15	Haines Airport	Precipitation	1.26	1.04	2007
01/16/15	Nome	Snowfall	4.0	3.90	1995
01/20/15	Juneau	Precipitation	1.23	1.20	1948
01/20/15	Ketchikan	Precipitation	5.56	4.14	1948
01/21/15	Annette	Precipitation	2.07	1.86	1955
01/21/15	Barrow	Snowfall	2.0	1.10	1991
01/21/15	Barrow	Precipitation	0.07	0.05	1991
01/21/15	Craig	Precipitation	3.25	0.89	1953
01/21/15	Hollis	Precipitation	3.05	0.75	2005
01/21/15	Juneau	Precipitation	1.98	1.33	1988
01/21/15	Ketchikan	Precipitation	4.68	3.47	1926
01/27/15	St. Paul	Snowfall	5.9	2.00	2007

Snowfall was unsurprisingly light, 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 50% of the expected amount. King Salmon reported the lowest amount at 0.7", just 7% of its normal. Barrow had the highest deviation at 177% of its expected amount with a total of 2.6". Mean snow depth was about 60% 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	5.9	11.3	-5.4	-48%	52%
Annette	3.3	7.6	-4.3	-57%	43%
Barrow	4.6	2.6	2.0	77%	177%
Bethel	1.2	9.6	-8.4	-88%	13%
Bettles	6.1	13.9	-7.8	-56%	44%
Cold Bay	1.5	14.1	-12.6	-89%	11%
Fairbanks	4.6	10.3	-5.7	-55%	45%
Juneau	15.1	27.7	-12.6	-45%	55%
King Salmon	0.7	10.2	-9.5	-93%	7%
Kodiak	4.2	13.0	-8.8	-68%	32%
Kotzebue	3.4	9.1	-5.7	-63%	37%
McGrath	5.9	15.7	-9.8	-62%	38%
Nome	10.4	12.7	-2.3	-18%	82%
St. Paul Island	14.2	12.6	1.6	13%	113%
Yakutat	1.7	31.9	-30.2	-95%	5%



*This water vapor satellite image from the National Weather Service shows a storm pushing into Southeast Alaska on January 21<sup>st</sup>.*

### **Newsworthy Events**

January started off with high Taku winds, with gusts up to 78 mph in Douglas Harbor, creating minor property damage in the Juneau area on the 4<sup>th</sup>. Minor power outages were also reported. North Pole reported its worst air quality on the 5<sup>th</sup> with a strong inversion in place trapping cold air. The 8<sup>th</sup> and

9<sup>th</sup> saw freezing rain forecast for the Southcentral and Southwest areas of the State. High wind warnings were issued for areas of the Interior and Northern Alaska on the 8<sup>th</sup>. Freezing rain hit Alaska Range roads on the 13<sup>th</sup>, cancelling school busses in the Healy area. The Parks Highway was also blocked in the Healy area due to stranded semi-trucks. Stretches of the Parks Highway through the Alaska Range were described as "very difficult" while similar portions of the Richardson Highway were described as "difficult" to travel. Areas of the Interior to the north received snowfall.

By mid-month the continuing warm winter forced the delay of the Tustumena 200 sled dog race by two weeks to the end of February. A bulldozer was needed to clear ice jams from the Kuskokwim River created during winter thaws from late last year to clear a trail needed for the Kuskokwim 300 sled dog race. Anchorage residents were warned of slick road conditions on the 15<sup>th</sup>. The Eaglecrest ski area in Juneau was closed due to warm weather and rain on the 15<sup>th</sup> and 16<sup>th</sup>, then closed again on the 19<sup>th</sup> until more snow was on the ground. Treacherous road conditions had developed in the Fairbanks area on the 19<sup>th</sup>.

The National Weather Service issued winter storm warning across the Southeast on the 19<sup>th</sup> and widespread landslide warnings on the 20<sup>th</sup> due to the heavy rain from the storm. Heavy snow was reported in the passes in the region; White Pass totaled more than 14". On the 21<sup>st</sup> flood advisories were issued for small streams to rise to minor flood stage. Ketchikan received more than 10" of rain in just 40 hours during the storm, and the Ketchikan Dam was monitored for signs of failure as water topped the dam. The record setting rain turned the Ketchikan Creek into a raging torrent and minor flooding prompted some residents to be evacuated from the area. The heavy rains prompted the Juneau Harbor to advise boat owners to check their vessels for safety and a small mudslide dumped onto the Glacier Highway. The Klondike Highway was closed on the 22<sup>nd</sup> due to rockslides.

The Southcentral region was forecast to get its heaviest snowfall of the winter on the 22<sup>nd</sup> and 23<sup>rd</sup>. Talkeetna had over a foot of new snow from the event. The snow continued into that weekend. Winter Storm warnings were then issued for the Interior as the storm pushed north. After that last storm, the Interior got its first true cold snap of the winter over the last week of the month, with temperatures dropping to -48°F at the Fort Wainwright Airport, while Granite Creek near Delta Junction bottomed out at -55°F. The cold snap was not limited to the Interior and crept down to the Southcentral region. Anchorage officially dropped to -1°F on the 25<sup>th</sup>, for a total of 394 days above 0°F. This was the second longest streak in Anchorage's history, far short of the 683 days from Jan 18<sup>th</sup>, 2000 and Nov 20<sup>th</sup>, 2001. The cold spell in much of the state at this time was balanced by record warm temperatures in the Southeast. Temperatures again turned cool in the Southeast during the last part of the month, and heavy snowfall forced the Juneau busses to switch to winter routes.

*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.*