

# *Alaska Statewide Climate Summary*

April 2014

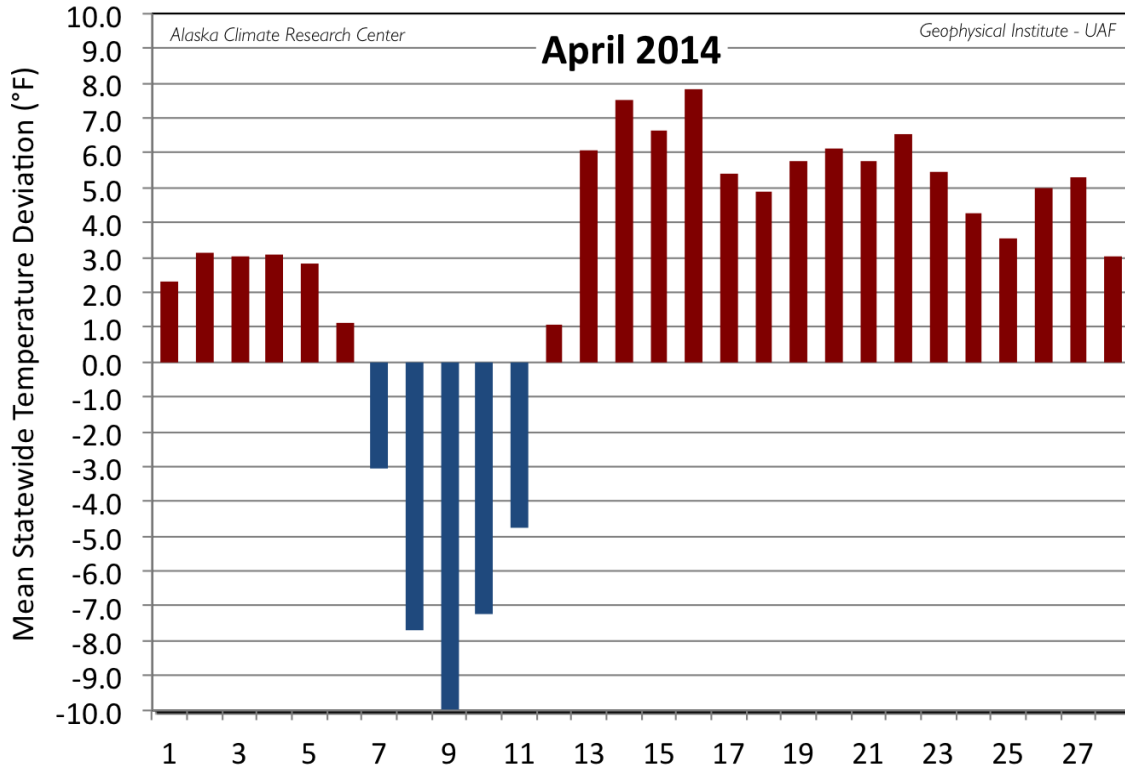
## Temperature

April 2014 temperatures were generally warm across the state, and during the month, with 25 days and 15 of the 20 First Order Stations reporting positive deviations, just four stations recording negative deviations and Valdez absent from this month's summary due to equipment changeover. The month started out continuing the warmer than normal temperatures from March. After the 6<sup>th</sup> temperatures turned to below normal for five days, then stayed above normal for the remainder of the month. The peak deviation (-10°F) occurred on the 9<sup>th</sup>. The monthly mean temperature of all First Order Stations was 33.1°F, 2.6°F above the normal of 30.5°F. This is 9.1°F above the April of 2013 mean of 24.0°F, demonstrating how unusually cold April 2013 was. Kotzebue held the greatest positive deviation from normal for April at a significant 8.7°F above its long-term mean of 13.3°F. Stations following Kotzebue with positive deviations equal to or exceeding 5°F: Nome (7.9°F), Bethel (6.9°F), and Cold Bay (5.0°F). It is worth noting that these stations were located in the Western and Bering Sea portions of Alaska. Stations with negative deviations from normal: Annette (-0.8°), Gulkana (-0.8°F), Yakutat (-0.6°F), and Talkeetna (-0.3°F).

The warmest temperature reported for the 20 First Order Stations was 62°F at McGrath on the 27<sup>th</sup> and 28<sup>th</sup>. The coldest temperature was -28°F at Barrow on the 9<sup>th</sup>, occurring during the short cold snap. Annette reported the highest mean temperature for the month at 43.4°F, while Barrow reported the coldest at 3.8°F.

Station	Temperature		
	Observed (°F)	Normal (°F)	Delta (°F)
Anchorage	38.1	36.8	1.3
Annette	43.4	44.2	-0.8
Barrow	3.8	1.8	2.0
Bethel	33.8	26.9	6.9
Bettles	24.1	23.3	0.8

Cold Bay	39.0	34.0	5.0
Delta Junction	33.4	32.2	1.2
Fairbanks	33.9	32.5	1.4
Gulkana	31.0	31.8	-0.8
Homer	39.9	37.0	2.9
Juneau	41.0	40.8	0.2
King Salmon	38.1	33.7	4.4
Kodiak	39.2	37.6	1.6
Kotzebue	22.0	13.3	8.7
McGrath	32.2	29.7	2.5
Nome	28.4	20.5	7.9
St. Paul Island	34.0	29.2	4.8
Talkeetna	35.6	35.9	-0.3
Yakutat	37.2	37.8	-0.6



Daily mean temperature deviation from the normal temperature for the mean of the first order stations for April 2014.

A fairly large number of record temperature events were reported for April, and unsurprisingly, all were new record highs, with no new lows noted. Almost all were set during the second half of the month during the extended warm spell. Bethel had a total of six new records set or tied. Homer had five record high events. St Paul tied the record high mean daily temperature on the 22<sup>nd</sup> of 39.0°F set in 1979, then broke the highest mean daily temperature on the 30<sup>th</sup> with 40.0°F that topped the 1981 record of 38.5°F.

Date	Temperature Records				
	Station	Element	New Record	Old Record	Year of old Record
04/02/14	Cold Bay	High Temperature	47	46	1981
04/06/14	Homer	High Temperature	48	48	1987
04/12/14	Cold Bay	High Temperature	50	50	1997

04/14/14	Cold Bay	High Temperature	46	46	1979
04/14/14	Homer	High Temperature	52	52	1990
04/15/14	Bethel	High Temperature	47	45	2004
04/15/14	Bettles	High Temperature	47	47	1970
04/15/14	Cold Bay	High Temperature	37	37	1990
04/16/14	Bethel	High Temperature	47	46	1998
04/16/14	St. Paul	High Temperature	41	41	1979
04/17/14	Bethel	High Temperature	48	47	1998
04/17/14	St. Paul	High Temperature	40	40	1991
04/18/14	Bethel	High Temperature	49	49	2010
04/18/14	Nome	High Temperature	43	43	2010
04/20/14	Homer	High Temperature	54	52	1990
04/20/14	King Salmon	High Temperature	59	57	1979
04/20/14	Nome	High Temperature	47	45	1996
04/21/14	Anchorage	High Temperature	56	55	2007
04/21/14	King Salmon	High Temperature	57	54	1979
04/21/14	McGrath	High Temperature	57	57	2008
04/22/14	Anchorage	High Temperature	58	55	1996
04/22/14	Bethel	High Temperature	55	55	1996
04/22/14	Bettles	High Temperature	55	55	1996
04/22/14	Cold Bay	High Temperature	49	49	1964
04/22/14	Homer	High Temperature	52	52	2001

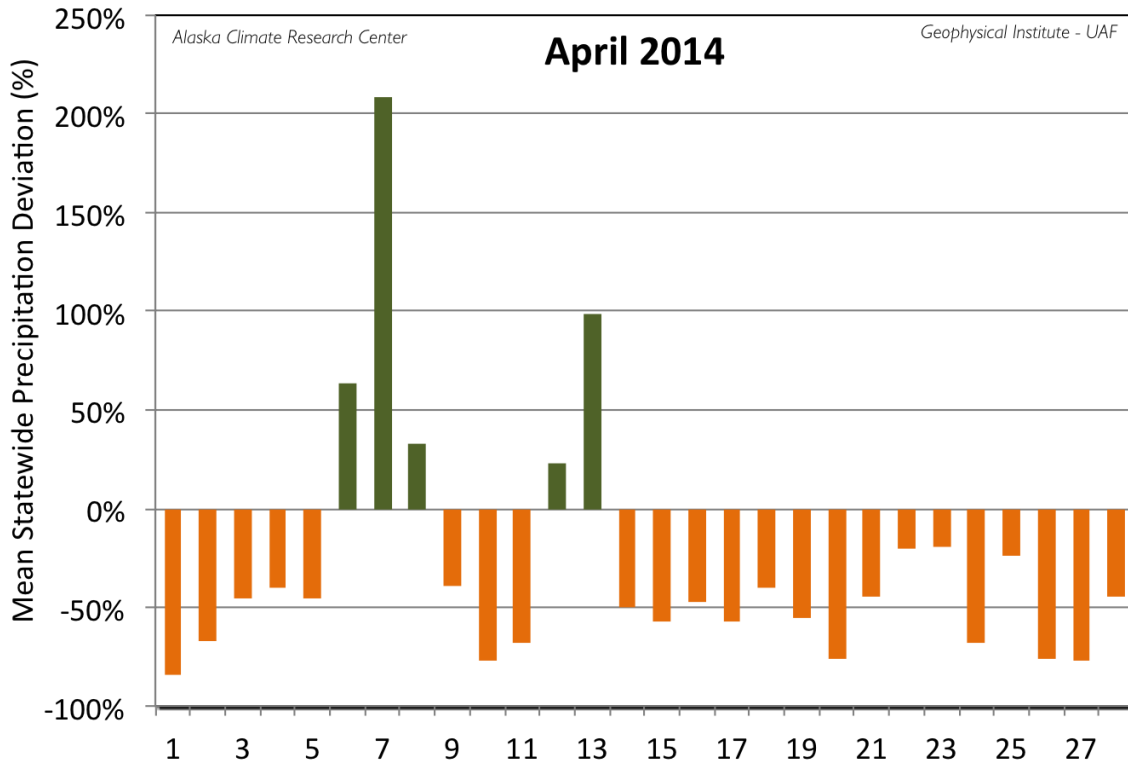
04/22/14	Kotzebue	High Temperature	45	45	1931
04/23/14	King Salmon	High Temperature	56	56	2003
04/26/14	Kotzebue	High Temperature	45	42	1929
04/27/14	Bethel	High Temperature	59	57	1958
04/28/14	Kotzebue	High Temperature	45	41	1988

## Precipitation

Precipitation for April was low at just 75% of normal, with only four of the First Order Stations, and five days of the month, reporting above normal values. The greatest daily deviation of 209% occurred on the 7<sup>th</sup>, during a strong storm impacting the Southcentral region. On a monthly basis, Annette had the greatest positive deviation from normal, with a total of 15.60", or 230% of the expected amount of 6.77" (the third highest April total on record). Following Annette with values at or above 100% of normal were: Barrow (188%), Gulkana (138%), and Kodiak (123%). Leading the stations with lower than normal precipitation totals were Delta Junction and Anchorage with just 9%, and McGrath with 11% of normal, while Homer reported 25% of normal.

Station	Precipitation				
	Observed (in)	Normal (in)	Delta (in)	Delta (%)	(%)
Anchorage	<b>0.04</b>	<b>0.47</b>	<b>-0.43</b>	<b>-91%</b>	<b>9%</b>
Annette	<b>15.60</b>	<b>6.77</b>	<b>8.83</b>	<b>130%</b>	<b>230%</b>
Barrow	<b>0.30</b>	<b>0.16</b>	<b>0.14</b>	<b>88%</b>	<b>188%</b>
Bethel	<b>0.34</b>	<b>0.74</b>	<b>-0.40</b>	<b>-54%</b>	<b>46%</b>
Bettles	<b>0.38</b>	<b>0.60</b>	<b>-0.22</b>	<b>-37%</b>	<b>63%</b>
Cold Bay	<b>1.87</b>	<b>2.42</b>	<b>-0.55</b>	<b>-23%</b>	<b>77%</b>

Delta Junction	<b>0.02</b>	<b>0.23</b>	<b>-0.21</b>	<b>-91%</b>	<b>9%</b>
Fairbanks	<b>0.20</b>	<b>0.31</b>	<b>-0.11</b>	<b>-35%</b>	<b>65%</b>
Gulkana	<b>0.33</b>	<b>0.24</b>	<b>0.09</b>	<b>38%</b>	<b>138%</b>
Homer	<b>0.27</b>	<b>1.07</b>	<b>-0.80</b>	<b>-75%</b>	<b>25%</b>
Juneau	<b>2.67</b>	<b>2.94</b>	<b>-0.27</b>	<b>-9%</b>	<b>91%</b>
King Salmon	<b>0.52</b>	<b>0.97</b>	<b>-0.45</b>	<b>-46%</b>	<b>54%</b>
Kodiak	<b>7.13</b>	<b>5.81</b>	<b>1.32</b>	<b>23%</b>	<b>123%</b>
Kotzebue	<b>0.21</b>	<b>0.54</b>	<b>-0.33</b>	<b>-61%</b>	<b>39%</b>
McGrath	<b>0.08</b>	<b>0.74</b>	<b>-0.66</b>	<b>-89%</b>	<b>11%</b>
Nome	<b>0.45</b>	<b>0.76</b>	<b>-0.31</b>	<b>-41%</b>	<b>59%</b>
St. Paul Island	<b>0.90</b>	<b>1.08</b>	<b>-0.18</b>	<b>-17%</b>	<b>83%</b>
Talkeetna	<b>1.01</b>	<b>1.29</b>	<b>-0.28</b>	<b>-22%</b>	<b>78%</b>
Yakutat	<b>3.87</b>	<b>9.19</b>	<b>-5.32</b>	<b>-58%</b>	<b>42%</b>



Daily mean precipitation deviation from the normal for the first order stations for April 2014.

Snowfall was quite low at just 32% of normal for the 15 stations that reported snowfall. Thirteen of these stations reported below normal values with Annette reporting the relatively lowest value at 0%. Barrow was the only station with a positive deviation of 19% above normal. Fairbanks hit its normal of 2.9".

Station	Snowfall				
	Observed (in)	Normal (in)	Delta (in)	Delta (%)	(%)
Anchorage	0.4	4.0	-3.6	-90%	10%
Annette	0.0	1.4	-1.4	-100%	0%
Barrow	3.8	3.2	0.6	19%	119%
Bethel	1.0	5.7	-4.7	-82%	18%

Bettles	1.5	6.3	-4.8	-76%	24%
Cold Bay	1.4	6.6	-5.2	-79%	21%
Fairbanks	2.9	2.9	0.0	0%	100%
Juneau	0.3	1.1	-0.8	-73%	27%
King Salmon	0.5	3.9	-3.4	-87%	13%
Kodiak	0.9	8.0	-7.1	-89%	11%
Kotzebue	0.4	5.1	-4.7	-92%	8%
McGrath	0.7	5.1	-4.4	-86%	14%
Nome	3.1	7.5	-4.4	-59%	41%
St. Paul Island	1.0	5.7	-4.7	-82%	18%
Yakutat	5.8	10.2	-4.4	-43%	57%

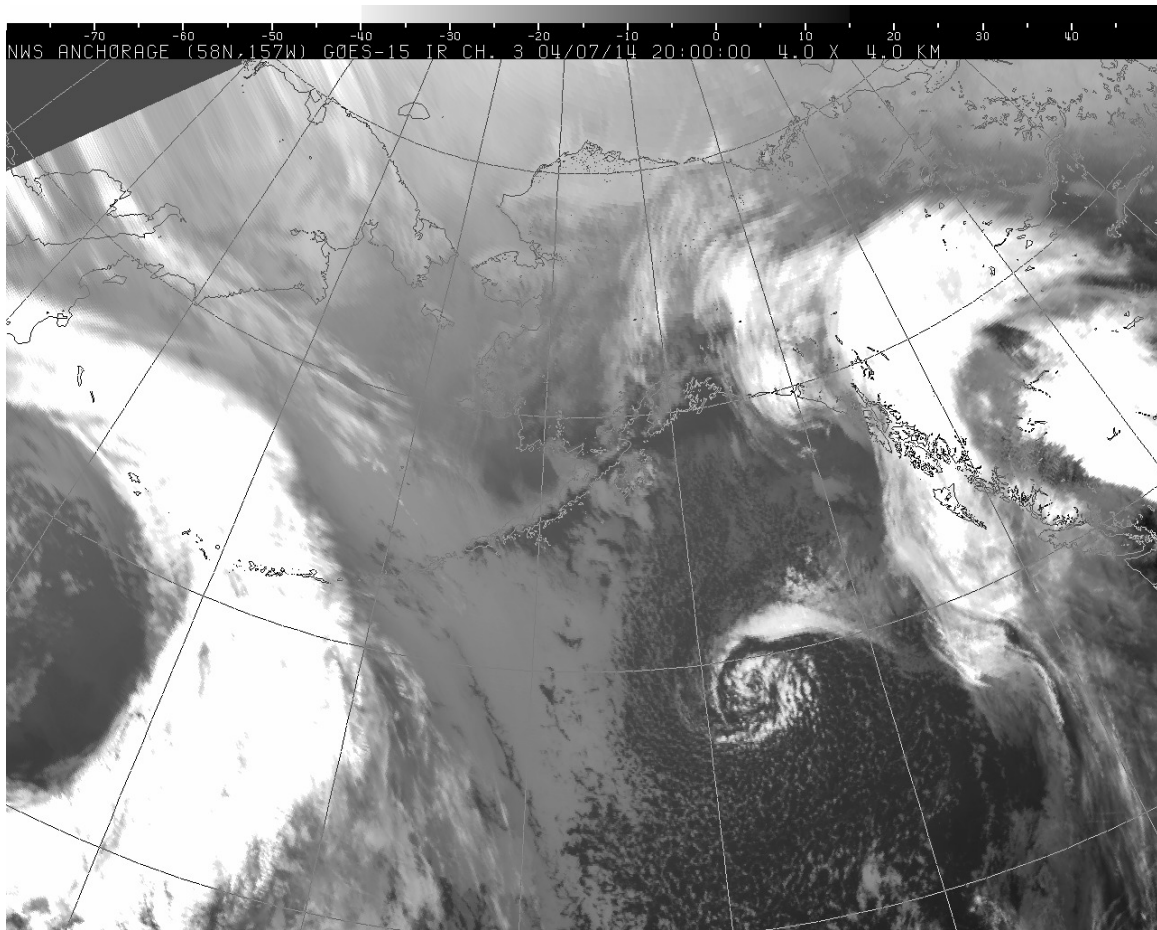
The maximum monthly precipitation total reported for the First Order Stations was 15.60" at Annette, which also reported the highest daily total of 3.00" on the 7<sup>th</sup>. The highest one-day snowfall occurred at Yakutat on the 9<sup>th</sup> with 5.70", and Yakutat also reported the highest monthly snowfall of 5.8". Bettles topped the stations for the deepest snowpack of 29" on the 13<sup>th</sup>.

Due to the overall low precipitation and snowfall for April, there were limited numbers of daily precipitation records, and most were set on the 7<sup>th</sup>, in the Southeast during a strong storm. Only one snowfall record was reported in Yakutat.

Date	Precipitation Records				
	Station	Element	New Record	Old Record	Year of old Record
04/07/14	Haines Airport	Precipitation	0.95	0.55	1986



04/07/14	Juneau	Precipitation	0.80	0.75	2000
04/07/14	Ketchikan	Precipitation	4.67	3.81	2006
04/07/14	Petersburg	Precipitation	3.04	1.41	1978
04/07/14	Sitka	Precipitation	1.18	0.81	2000
04/09/14	Yakutat	Snowfall	5.70	5.40	1975
04/12/14	Kodiak	Precipitation	2.24	1.56	1943
04/13/14	Cold Bay	Precipitation	0.80	0.62	2000
04/23/14	Barrow	Precipitation	0.12	0.10	1904
04/30/14	Annette	Precipitation	2.97	1.77	1982



*This infrared satellite image from the National Weather Service shows weather pattern affecting the Southeastern portions of Alaska on April 7<sup>th</sup>, 2014. The storm brought heavy rainfall across the region.*

## **Newsworthy Events**

Fields were cleared at Creamers Field on April 2<sup>nd</sup> in Fairbanks in anticipation of the arrival of the migrating geese. The first two geese were spotted just two days later on the 4<sup>th</sup>. Later a winter snowstorm on the 7<sup>th</sup> generated terrible driving conditions in the Fairbanks area. By the 15<sup>th</sup>, the river ice in the Bethel area was unsafe for driving on. The first 30 miles of the Denali Park Road was open to the public by the 17<sup>th</sup>, then to mile 92 by the end of the month. This was the quickest snow removal for Denali Park on record. The snowpack at the Fairbanks Airport dropped below an inch on the 23<sup>rd</sup>, for a total of 168 days of greater than one inch of snowpack for the winter. The average is 186 days. The shorter span for this winter was due to the onset of the permanent ice pack being 19 days later than normal (November 5<sup>th</sup>, 2013). The Nenana Ice Classic Tripod fell on the 25<sup>th</sup>. A late winter storm with winds up to 40 mph struck the Dalton highway on the 28<sup>th</sup>, stranding vehicles due to low visibility and snowdrifts. Early breakup of the icepack on the 29<sup>th</sup> in the Nome area caused problems for people trying to get gold mining or fishing equipment off the ice before breakup (see figure 4). Denali Park was closed to snow machines by the 30<sup>th</sup>. Finally, the warm, dry April resulted in increased fire concerns in the Anchorage area by the end of the month.



*This figure shows the sea ice concentration around Alaska on April 29<sup>th</sup>, 2014. For reference, the ice edge for April 29, 2013 is also included. Data courtesy of the National Ice Center (<http://www.natice.noaa.gov>)*

*This information consists of preliminary climatological data compiled by the Alaska Climate Research Center, Geophysical Institute, University of Alaska Fairbanks. This summary is based on the 20 first order stations in Alaska operated by the National Weather Service. Extreme events of other stations are also mentioned. It should be noted that the new climate normals for the time period of 1981-2010 are applied for the calculations of the deviations, and they can be slightly different from the old normals (1971-2000), which were in use up until end of August 2011.*