

# *Alaska Statewide Climate Summary*

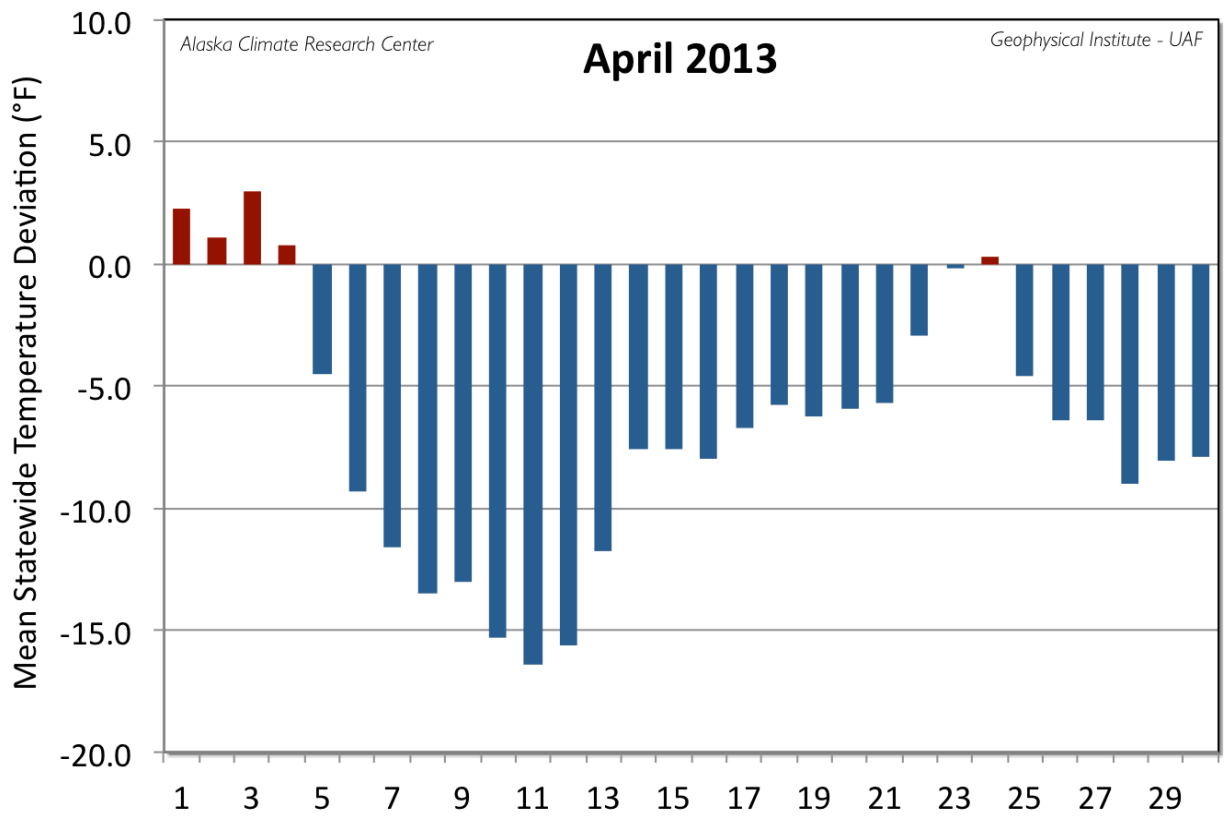
April 2013

## Temperature

Winter lingered across Alaska in April with seasonably colder than normal temperatures reported at all 20 first order stations. The mean temperature of all first order stations for April was 24.0°F, -6.9°F below the long-term mean of 30.9°F. Interior stations reported the most extreme deviations from their expected temperatures with Delta Junction topping the list with a astonishing negative deviation of -15.2°F. Following Delta Junction were: Fairbanks (-14.6°F), Bettles (-11.7°F), Gulkana (-11.4°F), McGrath (-10.6°F) and Talkeetna (-10.2). Cold Bay was the station reporting the smallest deviation of just -0.2°F. Four record high events experienced by Cold Bay during the month kept the monthly mean temperature near to normal. Temperatures started out above normal for the first four days stayed (with the exception of 24<sup>th</sup>), mostly, significantly, below normal after that. Fairbanks had the third coldest April on record, Anchorage the sixth. Details for each station can be reviewed in the table below.

Station	Temperature		
	Observed (°F)	Normal (°F)	Delta (°F)
Anchorage	29.6	36.8	-7.2
Annette	43.1	44.2	-1.1
Barrow	0.6	1.8	-1.2
Bethel	17.3	26.9	-9.6
Bettles	11.7	23.3	-11.7
Cold Bay	33.8	34.0	-0.2
Delta Junction	17.1	32.2	-15.2
Fairbanks	18.0	32.5	-14.6
Gulkana	20.4	31.8	-11.4
Homer	31.7	37.0	-5.3

Juneau	36.1	40.8	-4.7
King Salmon	28.4	33.7	-5.3
Kodiak	33.8	37.6	-3.8
Kotzebue	9.4	13.3	-3.9
McGrath	19.1	29.7	-10.6
Nome	16.3	20.5	-4.2
St. Paul Island	23.9	29.2	-5.4
Talkeetna	25.7	35.9	-10.2
Valdez	31.5	38.1	-6.6
Yakutat	32.5	37.8	-5.3



*Daily mean temperature deviation from the normal temperature for the mean of the 20 first order stations for April 2013.*

April generated a large number of record temperature events. As noted above, Cold Bay had four record high events, and was the only station to experience a high event in April. This is also unusual in that one station had four events of the same kind occurring in one month. Having stated that, Delta Junction went two better with six record low events in April. They transpired in two groups; first around the 10<sup>th</sup> and the other around the 27<sup>th</sup>. The cold in Fairbanks on the 28<sup>th</sup> broke the record set way back in 1922. The rest of cold events were scattered across the state and throughout the month.

Date	Temperature Records				
	Station	Element	New Record	Old Record	Year of old Record
04/05/13	Cold Bay	High Temperature	46	46	2001
04/10/13	Delta Junction	Low Temperature	-8	-8	1946
04/10/13	Kodiak	Low Temperature	15	16	1968
04/11/13	Delta Junction	Low Temperature	-12	-12	1985
04/11/13	Fairbanks	Low Temperature	-21	-17	1955
04/11/13	Valdez	Low Temperature	14	15	1986
04/12/13	Delta Junction	Low Temperature	-12	-10	2002
04/12/13	Fairbanks	Low Temperature	-15	-12	1936
04/12/13	St. Paul	Low Temperature	0	0	2009
04/12/13	Valdez	Low Temperature	13	20	1985
04/13/13	Bettles	Low Temperature	-21	-14	1994
04/13/13	St. Paul	Low Temperature	3	6	1985
04/15/13	Juneau	Low Temperature	24	24	2005

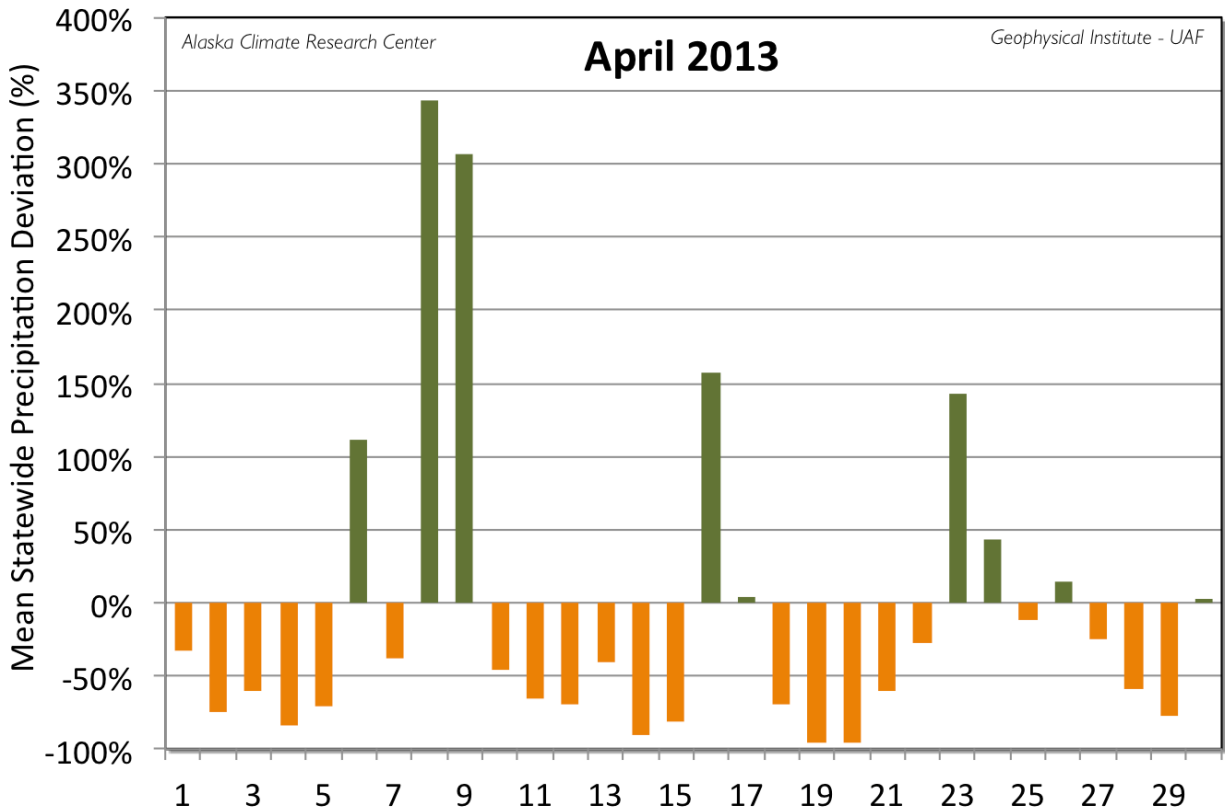
04/19/13	Cold Bay	High Temperature	47	47	2002
04/21/13	Annette	Low Temperature	30	30	1975
04/23/13	Cold Bay	High Temperature	54	52	1979
04/24/13	Cold Bay	High Temperature	54	49	2003
04/26/13	Delta Junction	Low Temperature	9	11	1955
04/27/13	Delta Junction	Low Temperature	11	17	1984
04/28/13	Delta Junction	Low Temperature	3	15	1972
04/28/13	Fairbanks	Low Temperature	2	8	1924
04/29/13	Kodiak	Low Temperature	26	26	1985
04/29/13	Yakutat	Low Temperature	20	22	1967
04/30/13	Annette	Low Temperature	30	30	1954
04/30/13	Cold Bay	Low Temperature	21	28	1982

### Precipitation

April precipitation was slightly lighter than normal with just six of the 20 stations reporting above average totals. The mean value of all 20 stations was calculate to just 4% below normal. Bethel reported the greatest negative deviation with just 4% of the expected value. Rounding out the stations with less than a third of normal totals were: McGrath (18%), King Salmon (21%), and St Paul (23%). Topping the stations with heavier than normal precipitation was Gulkana with 208% above normal. Next came: Anchorage (119%), Juneau (117%) and Fairbanks (113%). It was the second wettest April in Juneau on record. Details are presented in the following table.

Station	Precipitation				
	Observed (in)	Normal (in)	Delta (in)	Delta (%)	(%)

Anchorage	<b>1.03</b>	<b>0.47</b>	<b>0.56</b>	<b>119%</b>	<b>219%</b>
Annette	<b>6.56</b>	<b>6.77</b>	<b>-0.21</b>	<b>-3%</b>	<b>97%</b>
Barrow	<b>0.19</b>	<b>0.16</b>	<b>0.03</b>	<b>19%</b>	<b>119%</b>
Bethel	<b>0.03</b>	<b>0.74</b>	<b>-0.71</b>	<b>-96%</b>	<b>4%</b>
Bettles	<b>0.26</b>	<b>0.60</b>	<b>-0.34</b>	<b>-57%</b>	<b>43%</b>
Cold Bay	<b>2.03</b>	<b>2.42</b>	<b>-0.39</b>	<b>-16%</b>	<b>84%</b>
Delta Junction	<b>0.36</b>	<b>0.23</b>	<b>0.13</b>	<b>57%</b>	<b>157%</b>
Fairbanks	<b>0.66</b>	<b>0.31</b>	<b>0.35</b>	<b>113%</b>	<b>213%</b>
Gulkana	<b>0.74</b>	<b>0.24</b>	<b>0.50</b>	<b>208%</b>	<b>308%</b>
Homer	<b>0.52</b>	<b>1.07</b>	<b>-0.55</b>	<b>-51%</b>	<b>49%</b>
Juneau	<b>6.37</b>	<b>2.94</b>	<b>3.43</b>	<b>117%</b>	<b>217%</b>
King Salmon	<b>0.20</b>	<b>0.97</b>	<b>-0.77</b>	<b>-79%</b>	<b>21%</b>
Kodiak	<b>2.57</b>	<b>5.81</b>	<b>-3.24</b>	<b>-56%</b>	<b>44%</b>
Kotzebue	<b>0.31</b>	<b>0.54</b>	<b>-0.23</b>	<b>-43%</b>	<b>57%</b>
McGrath	<b>0.13</b>	<b>0.74</b>	<b>-0.61</b>	<b>-82%</b>	<b>18%</b>
Nome	<b>0.30</b>	<b>0.76</b>	<b>-0.46</b>	<b>-61%</b>	<b>39%</b>
St. Paul Island	<b>0.25</b>	<b>1.08</b>	<b>-0.83</b>	<b>-77%</b>	<b>23%</b>
Talkeetna	<b>0.47</b>	<b>1.29</b>	<b>-0.82</b>	<b>-64%</b>	<b>36%</b>
Valdez	<b>2.90</b>	<b>3.42</b>	<b>-0.52</b>	<b>-15%</b>	<b>85%</b>
Yakutat	<b>8.36</b>	<b>9.19</b>	<b>-0.83</b>	<b>-9%</b>	<b>91%</b>



Daily mean precipitation deviation from the normal for the 20 first order stations for April 2013.

Snowfall for April was mixed with seven of the sixteen stations reporting heavier than normal snowfall, resulting in an overall mean of 87% above normal. However, much of this positive deviation was from Juneau where more than ten times the normal snow fell during the month. Anchorage (300% above normal) and Fairbanks (241%) topped the elevated snowfall stations. Annette came in at the lowest with 0% of the expected 1.4". Other low total stations were: Bethel (7%), King Salmon (21%) and McGrath (24%). Trace or more of snow was recorded for eight days of the month in Anchorage, twelve in Fairbanks, fourteen in Juneau and nineteen in Barrow. April was the sixth snowiest on record in Juneau, and eighth in Fairbanks.

Station	Snowfall				
	Observed (in)	Normal (in)	Delta (in)	Delta (%)	(%)
Anchorage	16.0	4.0	12.0	300%	400%
Annette	0.0	1.4	-1.4	-100%	0%

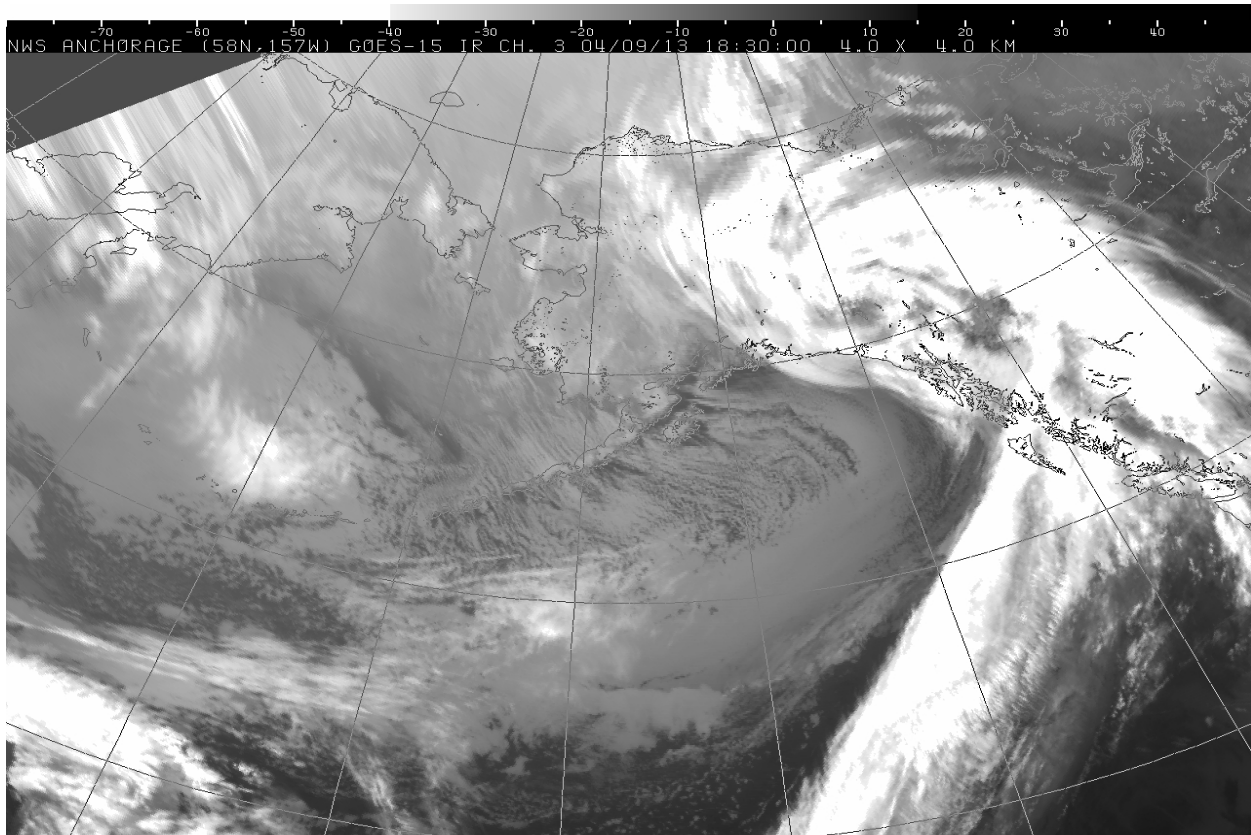
Barrow	5.2	3.2	2.0	63%	163%
Bethel	0.4	5.7	-5.3	-93%	7%
Bettles	10.0	6.3	3.7	59%	159%
Cold Bay	2.1	6.6	-4.5	-68%	32%
Fairbanks	9.9	2.9	7.0	241%	341%
Juneau	12.1	1.1	11.0	1000%	1100%
King Salmon	0.8	3.9	-3.1	-79%	21%
Kodiak	4.6	8.0	-3.4	-43%	58%
Kotzebue	3.1	5.1	-2.0	-39%	61%
McGrath	1.2	5.1	-3.9	-76%	24%
Nome	4.5	7.5	-3.0	-40%	60%
St. Paul Island	2.3	5.7	-3.4	-60%	40%
Valdez	51.1	21.0	30.1	143%	243%
Yakutat	28.3	10.2	18.1	177%	277%

A large number of precipitation and snowfall records were set in April; many of them pared together and centered on the storm events of the 8<sup>th</sup> and 26<sup>th</sup>. The snowfall on the 9<sup>th</sup> in Fairbanks broke a record for that day that had been in place since 1934. In Fairbanks there were 18" of snowpack on the 30<sup>th</sup>, third highest on record for this date, as well above the 1" that would be normal. This April was only the third time that measurable snow has been recorded at the Anchorage Airport at the end of the month. The cold temperatures and prior months heavy snowfall in St. Paul resulted in a mean snow depth for the month of more than nine times normal.

Date	Precipitation Records				
	Station	Element	New Record	Old Record	Year of old Record
04/01/13	Cold Bay	Precipitation	0.44	0.33	1976

04/06/13	Anchorage	Snowfall	6.20	3.30	2010
04/06/13	Anchorage	Precipitation	0.33	0.22	2012
04/06/13	Juneau	Snowfall	2.30	0.80	1972
04/08/13	Delta Junction	Precipitation	0.16	0.10	1962
04/08/13	Fairbanks	Snowfall	2.10	2.00	1929
04/08/13	Valdez	Snowfall	19.00	7.40	2001
04/08/13	Valdez	Precipitation	1.09	0.78	1973
04/09/13	Fairbanks	Snowfall	2.60	2.10	1982
04/09/13	Fairbanks	Precipitation	0.16	0.15	1934
04/09/13	Haines Airport	Precipitation	1.08	0.59	2004
04/09/13	Skagway Airport	Precipitation	1.02	0.40	1988
04/10/13	Gustavus	Snowfall	2.30	0.00	2011
04/16/13	Yakutat	Snowfall	10.60	8.70	1985
04/21/13	Kodiak	Snowfall	4.40	2.40	1972
04/23/13	Anchorage	Precipitation	0.28	0.16	1964
04/23/13	Homer	Precipitation	0.35	0.30	1974
04/25/13	Haines Airport	Precipitation	0.90	0.76	2004
04/25/13	Sitka	Precipitation	1.74	1.19	1922
04/26/13	Annex Creek	Precipitation	2.66	0.91	2004
04/26/13	Annex Creek	Snowfall	12.10	0.00	1982
04/26/13	Hollis	Precipitation	0.75	0.67	1957
04/26/13	Juneau	Precipitation	1.36	0.77	1972

04/26/13	Juneau	Snowfall	4.40	0.20	1964
04/26/13	Petersburg	Precipitation	2.94	1.45	1985
04/26/13	Port Alexander	Precipitation	2.41	1.40	1957
04/26/13	Sitka	Precipitation	1.48	0.60	2012
04/26/13	Sitka Observatory	Precipitation	1.61	1.05	1928
04/27/13	Barrow	Precipitation	0.07	0.07	1973
04/28/13	Annex Creek	Precipitation	0.83	0.80	1951
04/28/13	Annex Creek	Snowfall	3.80	0.00	2007
04/28/13	Juneau	Snowfall	1.70	0.90	1972
04/28/13	Petersburg	Precipitation	1.23	0.91	1963



*This infrared satellite image from the National Weather Service shows strong winter systems affecting the Southcentral and Interior portions of Alaska on Tuesday, April 9<sup>th</sup>, 2013. This late winter storm drove snow and rainfall records across the region.*

## **Newsworthy Events**

High winds and heavy snow impaired traffic on the Steese Highway on the 3<sup>rd</sup>, while the Taylor Highway opened to traffic for the first time of the year on the 4<sup>th</sup>, earlier than normal. The late winter storm of the 8<sup>th</sup> and 9<sup>th</sup> generated whiteout conditions along the Parks Highway and resulted in school closing in the Mat-Su School District. The Steese Highway was closed again on the 12<sup>th</sup> due to high winds and blowing snow. After being opened earlier than normal, the Taylor Highway was closed due to snow drifts on the 18<sup>th</sup>, and only reopened to two lanes on the 21<sup>st</sup>. The Denali Park road was finally cleared to 30 miles on the 22<sup>nd</sup> due to cold, snowy April. In Fairbanks three geese made their first arrival at Creamers Field on the 3<sup>rd</sup>, the second earliest on record (the average date is April 9<sup>th</sup>). After making an appearance, they left to return when weather conditions improved. At Nenana, the Tanana River ice was still at 51" thick on the 25<sup>th</sup> when measured by officials with the Nenana Ice Classic; the thickest the ice has been this late in the year in decades.

*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 July 2011.*