

# *Alaska Statewide Climate Summary*

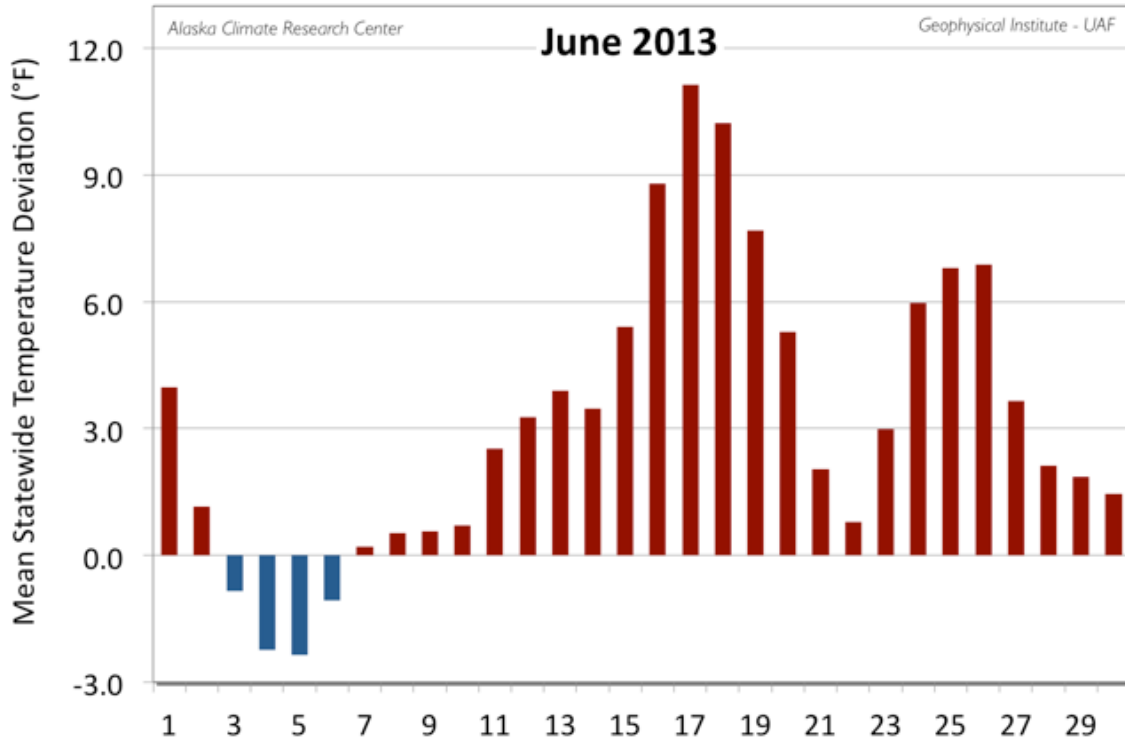
June 2013

## Temperature

Temperatures started off the month mixed for the first week, then stayed above normal, often significantly above normal, for the rest of the month. The mean temperature of all first order stations for June was 55.2°F, 3.3°F above the long-term mean of 51.8°F. Nineteen of the 20 First Order Stations reported positive deviations, with Interior stations reporting the most extreme deviations from their expected temperatures. Fairbanks topped the list with a significant positive deviation of 6.4°F. Following Fairbanks were Delta Junction (5.6°F), Kotzebue (5.1°F), and Gulkana (5.0°F). Saint Paul, with -1.2°F, was the only station with a negative deviation. Anchorage had seventeen days with a maximum temperature at or above 70°F, breaking the record of thirteen days from June of 1936. June was the fourth warmest on record for Anchorage. Fairbanks had the third warmest June on record, with sixteen days where the temperature hit 80°F or warmer, breaking the previous record of fifteen days from 1957. Juneau had the second warmest June since 1943. King Salmon also had the second warmest June on record. Details for each station can be reviewed in the table below.

Station	Temperature		
	Observed (°F)	Normal (°F)	Delta (°F)
Anchorage	58.8	55.2	3.6
Annette	57.6	55.1	2.5
Barrow	39.0	35.6	3.4
Bethel	55.4	52.5	2.9
Bettles	61.0	58.5	2.5
Cold Bay	47.8	46.3	1.5
Delta Junction	63.2	57.6	5.6
Fairbanks	66.8	60.4	6.4
Gulkana	59.4	54.4	5.0

Homer	<b>53.1</b>	<b>50.6</b>	<b>2.5</b>
Juneau	<b>57.9</b>	<b>54.6</b>	<b>3.3</b>
King Salmon	<b>55.3</b>	<b>51.5</b>	<b>3.8</b>
Kodiak	<b>53.8</b>	<b>49.7</b>	<b>4.1</b>
Kotzebue	<b>50.8</b>	<b>45.7</b>	<b>5.1</b>
McGrath	<b>62.0</b>	<b>57.4</b>	<b>4.6</b>
Nome	<b>49.1</b>	<b>47.8</b>	<b>1.3</b>
St. Paul Island	<b>41.2</b>	<b>42.4</b>	<b>-1.2</b>
Talkeetna	<b>60.6</b>	<b>57.0</b>	<b>3.6</b>
Valdez	<b>57.2</b>	<b>53.2</b>	<b>4.0</b>
Yakutat	<b>53.4</b>	<b>50.8</b>	<b>2.6</b>



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

June brought numerous new record temperature events that reflected the overall trend for the month, with no new record lows reported. McGrath was again on a tear in June, continuing the trend of four new record highs in May with five more in June. The record high of 94°F on the 17<sup>th</sup> was also a new all time high for McGrath, topping the old record of 90°F set on June 15<sup>th</sup>, 1969. McGrath also set seven new high minimum records in June (not shown). Valdez topped McGrath with a total of seven new record daily high temperatures, and six new high minimum records (also not shown). In addition, the record high of 90°F on the 17<sup>th</sup> was a new all time high for Valdez, breaking the old record of 87°F from June 25<sup>th</sup> 1953. The 17<sup>th</sup> also saw a number of other all time high records set: Talkeetna hit 96°F, topping the 91°F record set on June 14<sup>th</sup> 1969 and June 26<sup>th</sup> 1953. Cordova reached 90°F, breaking the 89°F record from June 16<sup>th</sup> 1995. Nome tied its all time high from July 31<sup>st</sup> 1977 on the 19<sup>th</sup> with a high of 86°F. That same 86°F is a new June high for Nome. The minimum temperature at Fairbanks of 70°F on the 25<sup>th</sup> was the warmest minimum daily temperature on record.

	Temperature Records	
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Date	Station	Element	New Record	Old Record	Year of old Record
06/01/13	McGrath	High Temperature	83	82	1958
06/08/13	Kodiak	High Temperature	73	67	1992
06/09/13	Valdez	High Temperature	69	69	1992
06/12/13	Valdez	High Temperature	74	72	1999
06/13/13	Cold Bay	High Temperature	59	59	1964
06/13/13	Kotzebue	High Temperature	74	72	1986
06/15/13	Haines Airport	High Temperature	86	85	1936
06/15/13	Juneau	High Temperature	83	83	1969
06/15/13	King Salmon	High Temperature	79	72	2007
06/15/13	Yakutat	High Temperature	74	69	1999
06/16/13	Annette	High Temperature	85	85	1969
06/16/13	Delta Junction	High Temperature	84	84	1969
06/16/13	Gustavus	High Temperature	85	67	2007
06/16/13	Haines Airport	High Temperature	86	80	2002
06/16/13	Juneau	High Temperature	85	82	1948
06/16/13	Ketchikan	High Temperature	85	85	1950
06/16/13	Kodiak	High Temperature	73	73	2007
06/16/13	McGrath	High Temperature	90	85	1986
06/16/13	Northway	High Temperature	85	84	1969
06/16/13	Port Alexander	High Temperature	80	72	1950

06/16/13	Tanana Airport	High Temperature	89	84	1986
06/16/13	Valdez	High Temperature	83	77	1969
06/16/13	Yakutat	High Temperature	85	82	1948
06/17/13	Cordova	High Temperature	90	73	1944
06/17/13	Galena	High Temperature	87	86	1948
06/17/13	Kodiak	High Temperature	79	78	1958
06/17/13	McGrath	High Temperature	94	84	1948
06/17/13	Nome	High Temperature	84	77	2005
06/17/13	Skagway Airport	High Temperature	86	83	1948
06/17/13	Skagway Power	High Temperature	85	82	2002
06/17/13	Talkeetna	High Temperature	96	85	1962
06/17/13	Tanana Airport	High Temperature	85	85	1948
06/17/13	Valdez	High Temperature	90	75	1997
06/17/13	Yakutat	High Temperature	74	73	1967
06/18/13	Anchorage	High Temperature	81	77	1959
06/18/13	Bethel	High Temperature	88	78	1976
06/18/13	King Salmon	High Temperature	81	80	1962
06/18/13	Kodiak	High Temperature	73	72	1989
06/18/13	McGrath	High Temperature	91	84	1984
06/18/13	Tanana Airport	High Temperature	87	86	1967
06/18/13	Valdez	High Temperature	82	76	1959
06/19/13	Kotzebue	High Temperature	85	72	1991

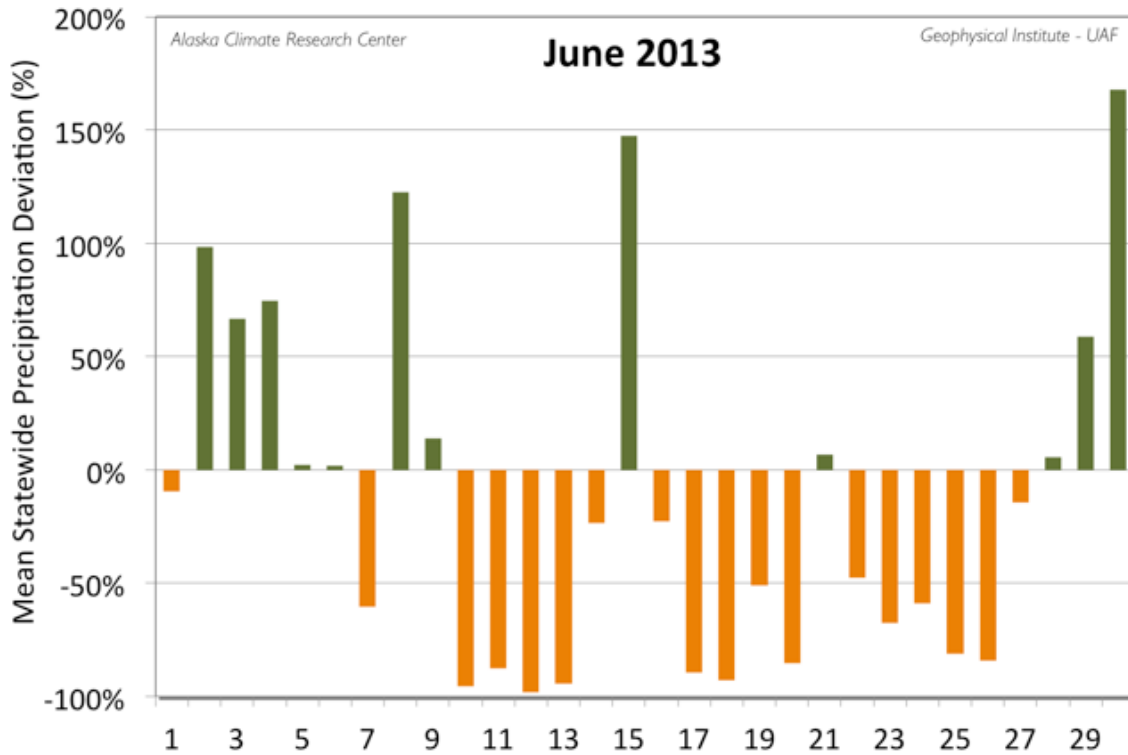
06/19/13	Nome	High Temperature	86	75	1982
06/19/13	Tanana Airport	High Temperature	86	83	2004
06/19/13	Valdez	High Temperature	71	71	2004
06/20/13	Barrow	High Temperature	62	60	1991
06/24/13	Haines Airport	High Temperature	85	79	2004
06/24/13	Sitka	High Temperature	73	68	1983
06/24/13	Yakutat	High Temperature	74	67	1983
06/25/13	Delta Junction	High Temperature	90	86	1983
06/25/13	Fairbanks	High Temperature	92	91	1983
06/25/13	Valdez	High Temperature	79	75	2004
06/26/13	Delta Junction	High Temperature	90	86	1983
06/26/13	Kodiak	High Temperature	81	78	1953
06/26/13	McGrath	High Temperature	83	83	1951
06/26/13	Tanana Airport	High Temperature	89	86	1971

### Precipitation

Unsurprisingly, June precipitation was lighter than normal with fifteen of the 20 stations reporting below average totals. The mean value of all 20 stations was calculated to 14% below normal. Gulkana reported the greatest negative deviation with just 19% of the expected value. Rounding out the stations with less than half of normal totals were: Bettles (30%), Fairbanks (31%), Talkeetna (35%) and Anchorage (47%). Topping the stations with heavier than normal precipitation was Nome with 158% above normal. Next came: Barrow (141%) and Kotzebue (57%). Only two stations experienced snowfall in June: Barrow with 0.3", only 43% of normal, and Nome with 0.1", 33% of normal. Precipitation details are presented in the following table.

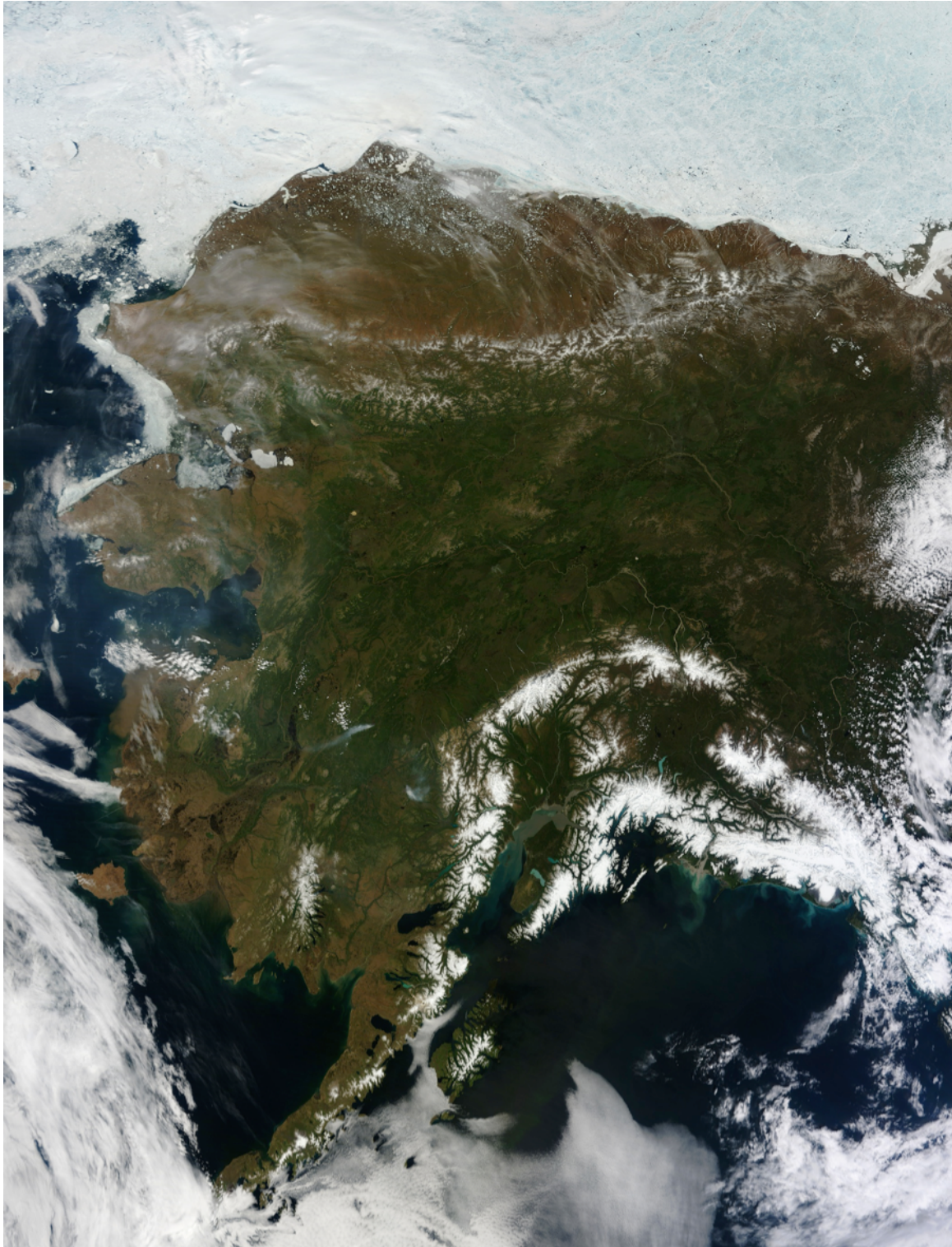
Station	Precipitation
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	Observed (in)	Normal (in)	Delta (in)	Delta (%)	(%)
Anchorage	0.46	0.97	-0.51	-53%	47%
Annette	3.98	4.88	-0.90	-18%	82%
Barrow	0.77	0.32	0.45	141%	241%
Bethel	1.61	1.72	-0.11	-6%	94%
Bettles	0.42	1.40	-0.98	-70%	30%
Cold Bay	2.82	2.72	0.10	4%	104%
Delta Junction	1.28	2.31	-1.03	-45%	55%
Fairbanks	0.43	1.37	-0.94	-69%	31%
Gulkana	0.26	1.40	-1.14	-81%	19%
Homer	0.49	0.82	-0.33	-40%	60%
Juneau	3.19	3.24	-0.05	-2%	98%
King Salmon	1.05	1.65	-0.60	-36%	64%
Kodiak	4.11	5.91	-1.80	-30%	70%
Kotzebue	0.91	0.58	0.33	57%	157%
McGrath	0.86	1.52	-0.66	-43%	57%
Nome	2.53	0.98	1.55	158%	258%
St. Paul Island	1.55	1.35	0.20	15%	115%
Talkeetna	0.68	1.92	-1.24	-65%	35%
Valdez	1.55	2.75	-1.20	-44%	56%
Yakutat	3.38	6.39	-3.01	-47%	53%



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

The low number of precipitation records in June correlated with the generally sunny weather. Juneau started the month with 0.85" of rain on the 5<sup>th</sup>, topping the 1993 record of 0.78". On the 15<sup>th</sup> Nome received 0.68", just breaking the 1994 record of 0.60". Cold Bay's total of 0.73" on the 21<sup>st</sup> broke the old record of 0.46" that had been in place since 1951. Valdez's new precipitation record of 1.16" on the 28<sup>th</sup>, more than doubled the 1991 record of 0.56". Finally, on the 30<sup>th</sup>, King Salmon received a total of 0.75", also more than doubled the old record of 0.35" from 1982.



*This satellite image from NASA's Terra satellite shows rare, nearly cloud-free view of large portions of the state on Wednesday, June 17<sup>th</sup>, 2013. This image demonstrates the extent of the high-pressure system that dominated the weather in June, and drove a number of high temperature records on the 17<sup>th</sup>.*

## **Newsworthy Events**

The short transition from spring to summer was evident in Tok as the spring run off resulted in flooding of local roads and low lying areas at the start of the month. The water affected about a dozen homes before receding. At the same time, lightning started what was at that time the state's largest wildfire, named Bitter Creek, 60 miles from Tok. Fighting efforts continued until the 11<sup>th</sup> when most staff left, and total area burned was estimated at 2,200 acres and came within a mile and half of the Alaska Highway. Smaller fires also started in Delta Junction, and Healy. Seasonal run off affected the Richardson Highway all the way to the middle of the month. Rabbit Creek in Anchorage saw a surge of water on the 14<sup>th</sup> from a suspected ice dam break. After substantial rain fell in the Salcha river basin on the 4<sup>th</sup> and 5<sup>th</sup>, flood warnings were issued. The rain helped dampen Interior fires. The heat wave that hit the state about mid month created ideal conditions for wildfires, especially in the Interior. Fires started near Harding Lake and North Pole on the 17<sup>th</sup>. A large fire near Lime Village threatened the town and fire crews were working hard protecting structures, and it would eventually make it to within a half mile of the village. The Kaouti fire started near Two Rivers community on the Chena Hot Springs Road also started on the 17<sup>th</sup>, and was fought vigorously, so while no evacuations were issued, and no structures were lost, the road was temporarily closed from mile thirteen to sixteen. The fire topped out at 120 acres, and ended up being battled for two weeks. The Skinny Road fire at about mile 324 of the Parks Highway popped up on the 25<sup>th</sup>, resulting in the closing of the highway on the 26<sup>th</sup>, and frequent delays after that time. About 120 fires were burning across the state at the end of the month.

The Denali Highway was finally opened to through traffic on the 5<sup>th</sup>, several weeks later than normal. The longer than normal winter was blamed for a substantial die off of fish in Quartz Lake. In a reversal, warm water and lack of oxygen was blamed for the death of hundreds of fish at Ballaine Lake near Fairbanks at the end of the month. A mosquito boom across the Interior resulted in a shortage of repellent in Fairbanks, while the hot weather drained the stores of any type of fan or air conditioners. The dry conditions resulted in the City of North Pole banning firework sales, and local Interior officials pleaded with the public to refrain from their use. Woodcutting was curtailed across the Interior as well. The dry conditions had the City of Anchorage pulling a fire truck out of retirement as well as instituting a burn ban. Thunderstorms were noted at Barrow in 13<sup>th</sup>.

*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.*