

# *Alaska Statewide Climate Summary*

August 2016

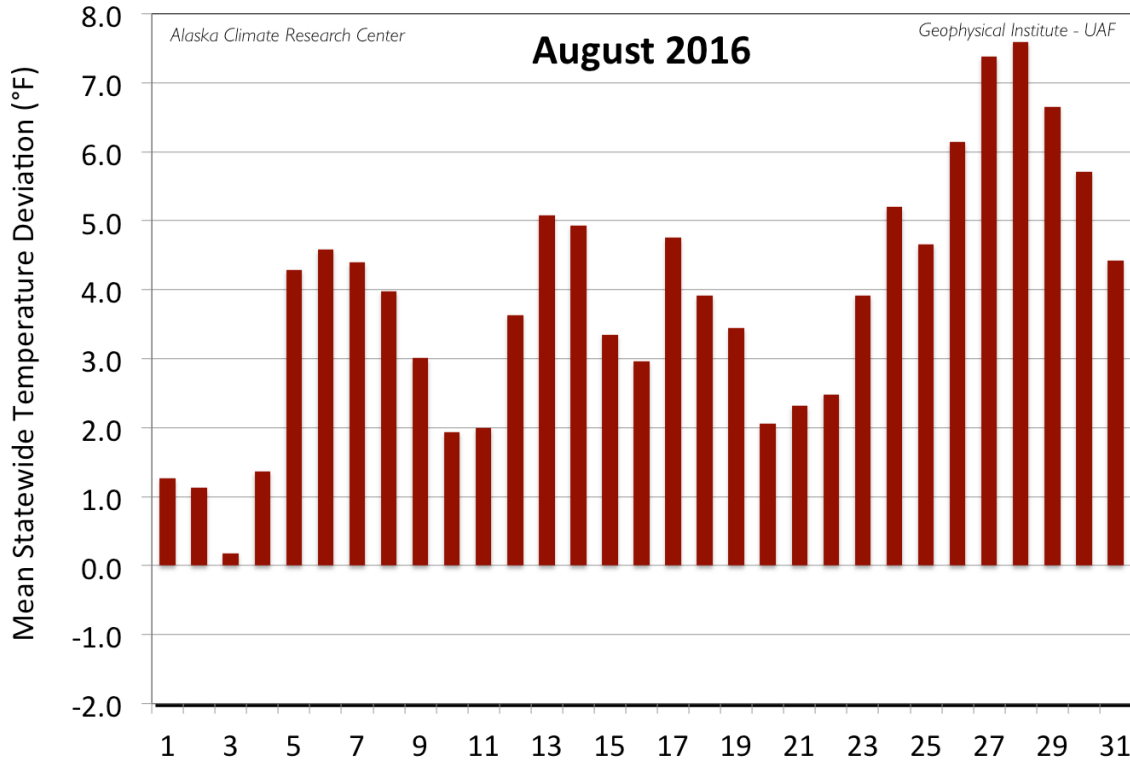
## Temperature

August 2016 marks the eleventh month in a row with temperatures above normal. The monthly mean temperature of all First Order Stations was 57.2°F, a significant 3.9°F above the normal of 53.3°F. This is 0.1°F below the August 2015 mean of 53.4°F. Monthly mean temperatures (see table) were above normal for all 19 of the First Order Stations. Calculating the mean daily temperatures of the First Order Stations, all 31 days of the month were above the 30-year normal (see Figure). The peak positive deviation for the month occurred on the 28<sup>th</sup> at 7.6°F. Kotzebue had the greatest positive deviation of 5.3°F above its normal of 51.7°F. The only other station with a deviation greater than or equal to 5.0°F was Fairbanks with 5.0°F.

Station	Temperature		
	Observed (°F)	Normal (°F)	Delta (°F)
Anchorage	60.5	56.7	3.8
Annette	63.6	58.9	4.7
Barrow	39.7	39.0	0.7
Bethel	58.1	53.5	4.6
Bettles	56.0	52.5	3.5
Cold Bay	56.5	52.1	4.4
Delta Junction	59.0	54.8	4.2
Fairbanks	61.1	56.1	5.0
Gulkana	56.6	53.5	3.1
Homer	58.3	53.9	4.4

Juneau	<b>58.5</b>	<b>55.9</b>	<b>2.6</b>
King Salmon	<b>59.5</b>	<b>54.6</b>	<b>4.9</b>
Kodiak	<b>58.9</b>	<b>55.2</b>	<b>3.7</b>
Kotzebue	<b>57.0</b>	<b>51.7</b>	<b>5.3</b>
McGrath	<b>59.2</b>	<b>54.6</b>	<b>4.6</b>
Nome	<b>53.6</b>	<b>50.1</b>	<b>3.5</b>
St. Paul Island	<b>52.9</b>	<b>48.8</b>	<b>4.1</b>
Talkeetna	<b>59.5</b>	<b>56.7</b>	<b>2.8</b>
Yakutat	<b>57.7</b>	<b>53.8</b>	<b>3.9</b>

The highest daily maximum temperature of the First Order Stations for August was 81°F reported at Annette on the 6<sup>th</sup> and 7<sup>th</sup>. Annette also held the spot for the highest mean temperature for the month at 63.6°F. The lowest temperature of 25°F was observed at Gulkana on the 31<sup>st</sup>. Barrow reported the lowest August mean monthly temperature with a value of 39.7°F.



*Daily mean temperature deviation from the normal temperature for the mean of the First Order Stations for August 2016.*

There were a fair number of daily temperature record events and all were high events, except for a tied low at St. Paul on the 2<sup>nd</sup>. Most of the events occurred towards the end of the month during the very nice weather across much of the state. St. Paul had six high events, while Anchorage had five events in a row at the end of the month, and Kodiak had four events. At Anchorage, the high of 75°F on the 28<sup>th</sup> marked the latest day of the year this temperature has ever been reached. Then the low of 46°F at Anchorage on the 31<sup>st</sup> is the first time that temperature had dropped below 50°F in 79 days, a record length. The record high of 64°F at Barrow on the 27<sup>th</sup> was not only a daily high, but also a record for the warmest temperature so late in the summer.

Date	Temperature Records				
	Station	Element	New Record	Old Record	Year of old Record
08/02/16	St. Paul	Low Temperature	37	37	1971

08/05/16	St. Paul	High Temperature	57	57	2013
08/06/16	Annette	High Temperature	81	78	1942
08/07/16	St. Paul	High Temperature	60	60	1969
08/11/16	St. Paul	High Temperature	58	58	2011
08/12/16	St. Paul	High Temperature	58	58	2011
08/17/16	Cold Bay	High Temperature	66	65	2004
08/25/16	Annette	High Temperature	79	79	1987
08/27/16	Anchorage	High Temperature	73	69	1993
08/27/16	Barrow	High Temperature	64	63	1929
08/27/16	Juneau	High Temperature	76	75	1941
08/27/16	King Salmon	High Temperature	76	76	1987
08/27/16	Kodiak	High Temperature	73	72	1937
08/27/16	Yakutat	High Temperature	78	73	1985
08/28/16	Anchorage	High Temperature	77	70	1974
08/28/16	Cold Bay	High Temperature	64	63	1962
08/28/16	Kodiak	High Temperature	74	73	1942
08/28/16	Yakutat	High Temperature	77	73	1930
08/29/16	Anchorage	High Temperature	72	70	2007
08/29/16	Kodiak	High Temperature	78	70	2007
08/29/16	St. Paul	High Temperature	59	57	1993
08/30/16	Anchorage	High Temperature	74	73	1974
08/30/16	Bethel	High Temperature	72	68	1923

08/30/16	King Salmon	High Temperature	74	68	1942
08/30/16	Kotzebue	High Temperature	69	67	1941
08/30/16	Nome	High Temperature	67	64	1970
08/30/16	St. Paul	High Temperature	58	57	2014
08/30/16	Yakutat	High Temperature	72	71	1963
08/31/16	Anchorage	High Temperature	71	71	1963
08/31/16	Bethel	High Temperature	72	70	1926
08/31/16	King Salmon	High Temperature	77	74	1942
08/31/16	Kodiak	High Temperature	73	71	1990
08/31/16	McGrath	High Temperature	73	70	1978
08/31/16	Nome	High Temperature	72	66	1978

It was the warmest August on record for Homer with 58.3°F, 0.3°F above the old 2014 record. St. Paul topped its old August record from 2014 of 52.7°F with 52.9°F. The same applies to Cold Bay with 56.5°F breaking the 2014 record of 56.4°F. King Salmon also had its warmest August with 59.5°F, 0.7° above the old record from 2004. For all four of these stations, August 2016 was the warmest month, for any month of the year. It was also the warmest August on record for Kodiak with 58.9°F, just topping the 1944 record of 58.7°F. Yakutat also had its warmest August with 57.7°F, 0.7°F above the old record from 1997. Finally, Annette topped its old record for August of 62.8°F from 1977 with 63.6°F.

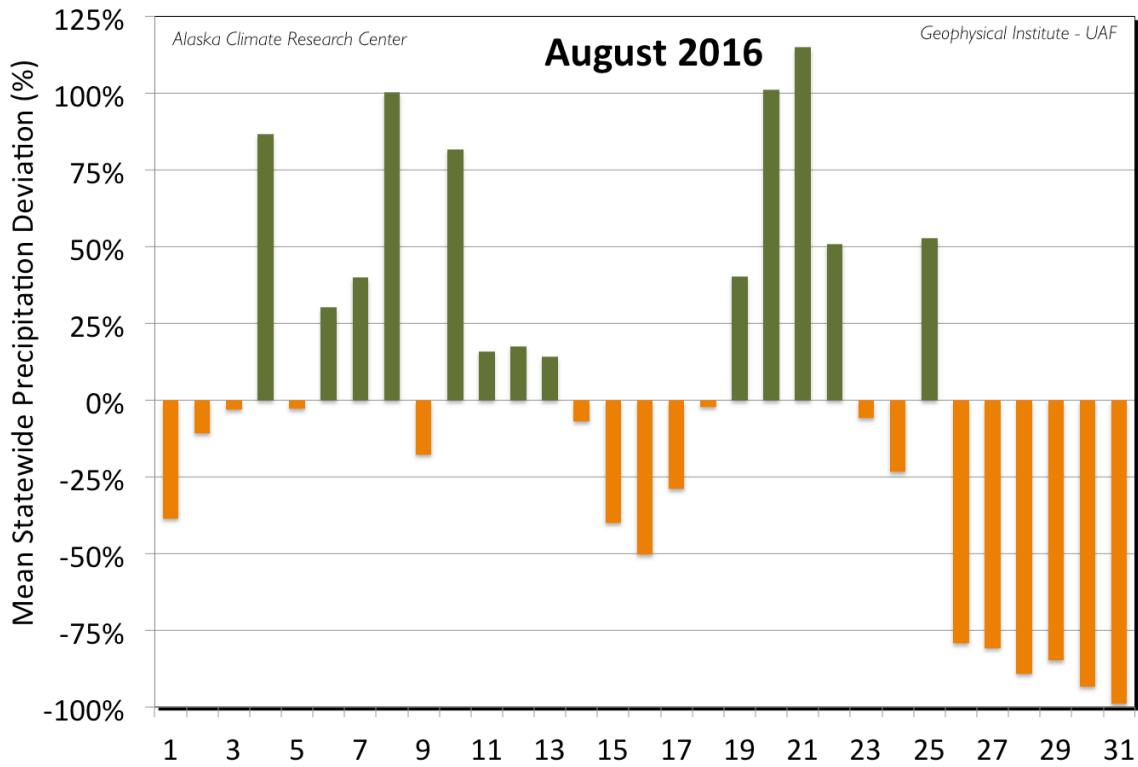
This August was the second warmest for Anchorage with 0.7°F below the 2004 record of 61.5°F. Kenai was just 0.1°F below the record set in 2004 with 57.9°F. It was the third warmest August on record for Fairbanks, McGrath, and Bethel, while it was the fourth warmest for Juneau, Ketchikan, and Talkeetna. It was the fifth warmest for Kotzebue.

## Precipitation

August's precipitation was close to normal, with the overall precipitation calculated as 1% below the average; this calculation was based on the mean of the deviations in percentage of the First Order Stations. Twelve of the First Order Stations and 18 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, although the 31<sup>st</sup> came close with just 0.05" reported at Annette. This is drier than August 2015, which reported a positive deviation of 7%. The greatest daily deviation of 115% occurred on the 21<sup>st</sup>. The leading station with a greater than normal monthly precipitation amount was Anchorage with 168% of normal. St. Paul Island was the relatively driest station at just 45% of normal precipitation observed. This is the fourth wettest August on record for Anchorage and Kenai.

Station	Precipitation				
	Observed (in)	Normal (in)	Delta (in)	Delta (%)	(%)
Anchorage	5.45	3.25	2.20	68%	168%
Annette	3.12	6.96	-3.84	-55%	45%
Barrow	0.84	1.05	-0.21	-20%	80%
Bethel	3.29	3.25	0.04	1%	101%
Bettles	2.86	2.64	0.22	8%	108%
Cold Bay	3.15	3.68	-0.53	-14%	86%
Delta Junction	1.07	1.89	-0.82	-43%	57%
Fairbanks	1.56	1.88	-0.32	-17%	83%
Gulkana	1.12	1.80	-0.68	-38%	62%
Homer	3.21	2.34	0.87	37%	137%
Juneau	5.97	5.73	0.24	4%	104%
King Salmon	4.84	2.95	1.89	64%	164%
Kodiak	3.28	4.56	-1.28	-28%	72%
Kotzebue	1.92	2.18	-0.26	-12%	88%
McGrath	3.77	2.80	0.97	35%	135%

Nome	<b>3.03</b>	<b>3.22</b>	<b>-0.19</b>	<b>-6%</b>	<b>94%</b>
St. Paul Island	<b>2.98</b>	<b>3.07</b>	<b>-0.09</b>	<b>-3%</b>	<b>97%</b>
Talkeetna	<b>5.02</b>	<b>5.11</b>	<b>-0.09</b>	<b>-2%</b>	<b>98%</b>
Yakutat	<b>13.31</b>	<b>14.07</b>	<b>-0.76</b>	<b>-5%</b>	<b>95%</b>



Daily mean precipitation deviation from the normal for the First Order Stations for August 2016.

August's highest monthly precipitation total reported for a First Order Station was 13.31" at Yakutat, and Yakutat also reported the highest daily total of 1.70" on the 25<sup>th</sup>.

The table below lists the limited number of daily precipitation records set in August. Barrow set a snowfall record on the 19<sup>th</sup>.

Date	Precipitation Records				
	Station	Element	New Record	Old Record	Year of old Record
08/08/16	Anchorage	Precipitation	1.06	0.79	1971
08/10/16	Bettles	Precipitation	0.89	0.36	1956
08/19/16	Barrow	Snowfall	1.6	1.4	1971
08/20/16	McGrath	Precipitation	0.65	0.63	1973
08/22/16	Anchorage	Precipitation	1.02	0.60	1953

### **Newsworthy Events**

The heavy rain generated a mudslide, which closed the Denali Park Road at mile 67 on July 30<sup>th</sup>. It was cleared enough to partially reopen on August 1<sup>st</sup>. The road did not fully re-open until the 9<sup>th</sup>. Barrow experienced its first sunset on August 1<sup>st</sup>. The localized flooding that has afflicted areas near Fairbanks continued into August, while flooding across the Chena Hot Springs Road was reported at mile 36 on the 1<sup>st</sup>. Flood advisories were issued for streams and rivers in the Fairbanks and White Mountains areas due to the heavy rain in the area on the 1<sup>st</sup>, and these advisories were extended until the 3<sup>rd</sup>. The Tanana River crested at Fairbanks on the 1<sup>st</sup>.

The Moose Creek Dam near Fairbanks, which had restarted operations on July 30<sup>th</sup>, ceased operations again on the 8<sup>th</sup>. Water levels receded slowly as the lake created behind the dam was drained into the Chena River. The river crested at Fairbanks on the 2<sup>nd</sup> at 10,200 cubic feet per second and 9.54 feet. For the summer, the dam conducted operations two different times for a total of 15 days. The closures created a lake three miles long and up 21 feet deep. This is the most days in a summer for dam operations after the record for operations set in 1992.

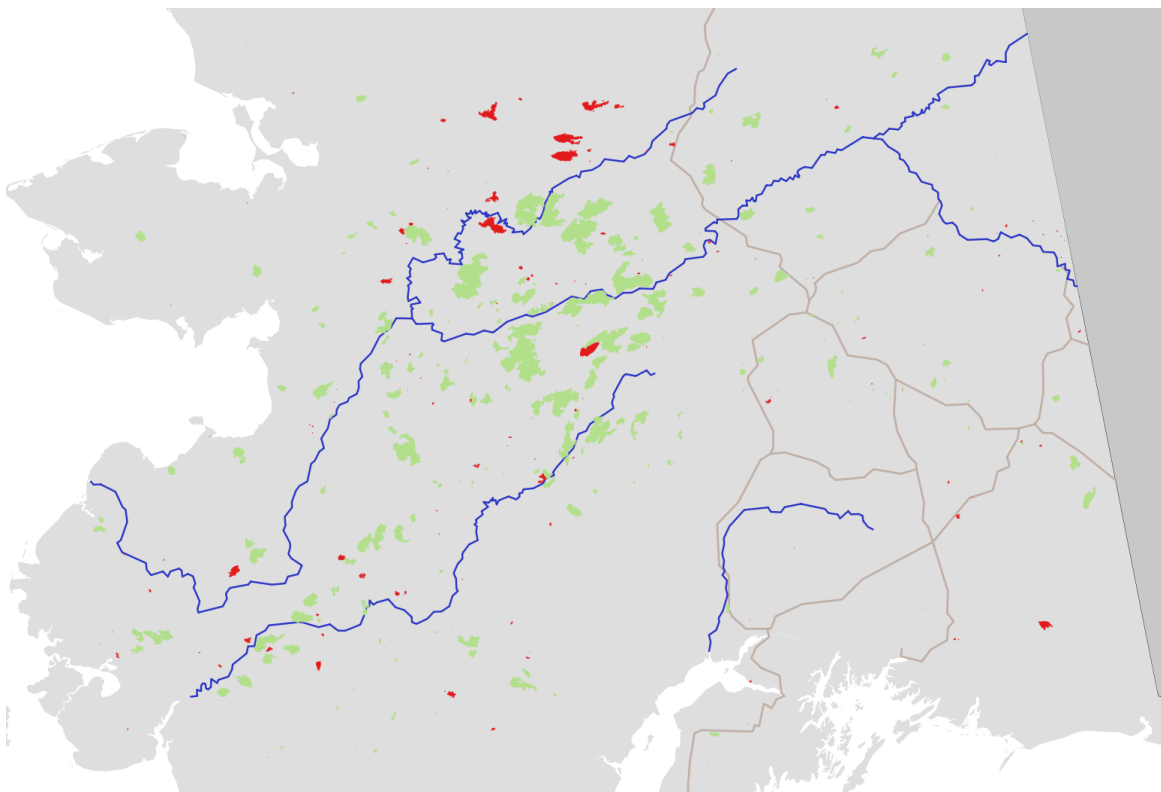
The Tanana River again approached bankfull at Fairbanks on the 9<sup>th</sup>. Warnings for possible flooding for low-lying areas were issued. Limited flooding along local roads was reported in Anchorage on the 9<sup>th</sup> due to record rainfall. The heavy rainfall in the Southcentral area resulted in minor flooding along the Yentna River also on the 9<sup>th</sup>, and continued for a couple days. The Taiya River crested at above flood stage on the 14<sup>th</sup>, but continued at above flood stage the next day. Flood watches were issued for areas north of the



western Brooks Range on the 19<sup>th</sup> until the 22<sup>nd</sup> after heavy rains impacted the area, flooding areas along the Kelly River and Aggie Creek.

The Fairbanks River Regatta, delayed since July due to high water on the Chena River, was held on the 12<sup>th</sup>. Similarly, the Rubber Ducky Race, also delayed from July, was finally held on the 21<sup>st</sup>. Flooding was again reported on Chena Hot Springs Road on the 21<sup>st</sup>. Flood advisories were issued for streams and rivers around Seward on the 22<sup>nd</sup> due to more than one inch of rainfall in the area, as well as for the Yentna River that again crested above flood stage.

Gale force winds forced the closure of some rides and blew away some tents at the Palmer State Fair on the 30<sup>th</sup>. The winds also knocked out power for 5,000 MEA customers. The weather with clear skies allowed frost to hit some areas on the Interior on the 31<sup>st</sup> with Salcha river reporting a low of 22°F. The same day some areas around Anchorage reported freezing,.



*Areas burned by wildfires in 2016 (red) along with areas from 2015 (green). 2015 had the second highest areas burned by wildfires in Alaska with 5.14 million acres.*

At the start of the August there had been one staffed wildfire, and about 520 total fires for an overall area burned of 486,000 acres. By the end of the month, those numbers had reached 500,000 acres and 543

fires. There were no staffed fires. With the low fire activity and wet weather, after mid-month Alaska firefighters were being sent out of state to help fight fires in areas such as Idaho and Oregon.

*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.*