

Alaska Statewide Climate Summary

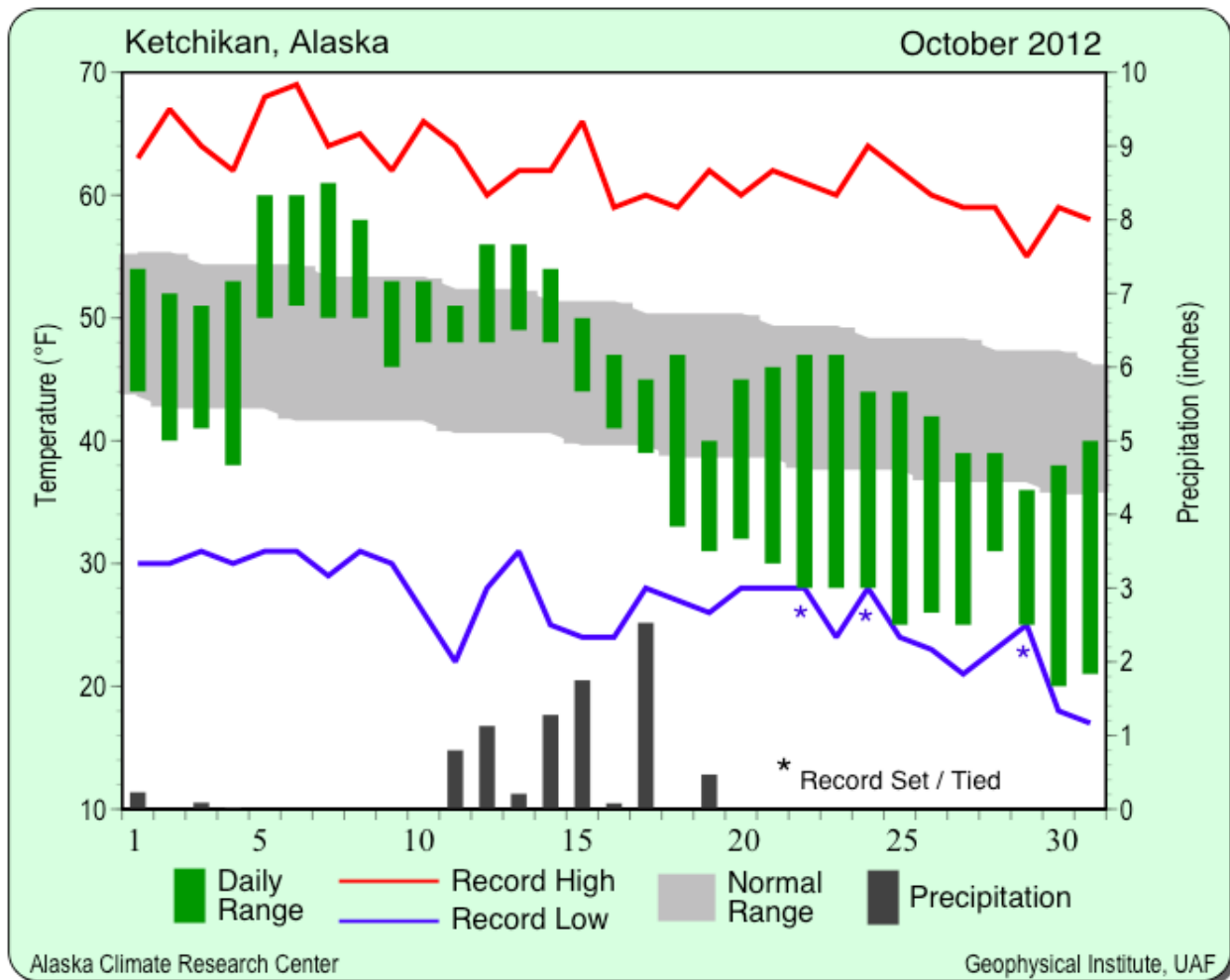
October 2012

Temperature

Colder than normal temperatures dominated much of the state this October; this was especially true in the latter half of the month. Gulkana had the largest negative deviation with -5.2°F . The next three stations with large negative deviations are located in the Southeast: Yakutat (-4.0°F), Juneau (-3.9°F) and Annette (-2.5°F). Stations with positive deviations were located in the northern and western part of the state with Barrow topping out the stations with a positive deviation of an astounding 10.3°F . Kotzebue also had a significant departure with 4.4°F . In general, there was a strong gradient from highly positive values in Northeast Alaska to negative values in the Southeast. A mean deviation of all twenty stations from the long-term mean could be calculated at -0.5°F (0.1°F higher deviation than August and September) and this is the sixth month in a row with a mean below normal. See the table below for more details.

Station	Temperature		
	Observed ($^{\circ}\text{F}$)	Normal ($^{\circ}\text{F}$)	Delta ($^{\circ}\text{F}$)
Anchorage	33.2	34.8	-1.6
Annette	44.2	46.7	-2.5
Barrow	27.5	17.2	10.3
Bethel	31.4	30.3	1.1
Bettles	18.6	18.9	-0.3
Big Delta	21.9	24.1	-2.2
Cold Bay	40.5	40.4	0.1
Fairbanks	22.5	24.2	-1.7
Gulkana	21.4	26.6	-5.2
Homer	36.8	38.1	-1.3
Juneau	38.5	42.4	-3.9

King Salmon	31.3	33.5	-2.2
Kodiak	39.5	40.5	-1.0
Kotzebue	28.7	24.3	4.4
McGrath	26.3	25.1	1.2
Nome	30.6	28.7	1.9
St. Paul Island	38.5	38.6	-0.1
Talkeetna	32.1	33.2	-1.1
Valdez	37.4	38.4	-1.0
Yakutat	37.0	41.0	-4.0



Daily temperature ranges and precipitation for Ketchikan for October 2012. Note the three record cold events during the protracted cold spell at the end of the month.

New temperature records started out the month with a number of high events, scattered across the state from Annette to St. Paul to Barrow, exemplifying the warm start to the month. However, after the 22nd all new temperature records were cold, and occurred in the Southeast as a strong offshore wind brought cold air in from the continent, and kept the relative warm air from the ocean away. Some of these records had stood for considerable amounts of time, as in the case on the 22nd in Ketchikan where the previous record had been in place since 1919.

Temperature Records

Date	Station	Element	New Record	Old Record	Year of old Record
10/02/16	Valdez	Low Temperature	27	28	1994
10/06/16	Big Delta	High Temperature	59	57	1952
10/06/16	Barrow	High Temperature	41	39	1925
10/07/16	Annette	High Temperature	68	66	1969
10/07/16	Barrow	High Temperature	38	38	1992
10/08/16	Annette	High Temperature	69	64	1964
10/08/16	King Salmon	High Temperature	61	59	1925
10/09/16	Annette	High Temperature	63	62	2003
10/10/16	Cold Bay	High Temperature	60	57	1986
10/11/16	Cold Bay	High Temperature	57	52	2002
10/12/16	King Salmon	High Temperature	56	56	2009
10/22/16	St. Paul	High Temperature	47	47	1989
10/22/16	Sitka	Low Temperature	30	31	1991
10/23/16	Ketchikan	Low Temperature	28	29	1919
10/23/16	Sitka	Low Temperature	29	29	1956
10/24/16	Annette	Low Temperature	32	32	2004
10/25/16	Ketchikan	Low Temperature	28	28	1991
10/25/16	Annette	Low Temperature	28	31	1991
10/26/16	Sitka Observatory	Low Temperature	26	28	1969
10/27/16	Annette	Low Temperature	26	27	1991

10/27/16	Haines Airport	Low Temperature	21	25	1984
10/27/16	Craig	Low Temperature	28	32	2004
10/28/16	Yakutat	Low Temperature	12	15	1982
10/28/16	Gustavus	Low Temperature	10	11	1990
10/28/16	Pelican	Low Temperature	22	24	1971
10/28/16	Annette	Low Temperature	25	25	1971
10/29/16	Yakutat	Low Temperature	14	18	1982
10/29/16	Gustavus	Low Temperature	9	11	1984
10/29/16	Pelican	Low Temperature	23	23	1984
10/29/16	Sitka	Low Temperature	24	26	1984
10/29/16	Annex Creek	Low Temperature	22	23	1984
10/29/16	Craig	Low Temperature	25	28	1991
10/30/16	Ketchikan	Low Temperature	25	25	1991
10/30/16	Ketchikan	Low Temperature	25	25	1991
10/30/16	Petersburg	Low Temperature	15	18	1984
10/30/16	Craig	Low Temperature	24	28	1950
10/31/16	Craig	Low Temperature	23	28	2003
10/31/16	Hollis	Low Temperature	21	26	2006
10/31/16	Skagway Power	Low Temperature	20	20	2002

The cold spell at the end of the month in the Southeast resulted in a number of new record low mean monthly temperatures. They are summarized in the table below.

Station	Monthly Low Temperature Records			
	New Record	Old Record	Difference	Year of old Record
Haines Airport	38.0	38.7	-0.7	1950
Gustavus	37.5	38.8	-1.3	1991
Hoonah	40.1	41.5	-1.4	2008
Craig	44.2	45.5	-1.3	2007
Klawock	42.3	44.6	-2.3	2004

Precipitation

For the state as a whole, precipitation was near normal and only seven of the stations reported heavier than normal totals. The station with the highest deviation was Barrow at 139% above normal. Fairbanks also saw notably high levels at 66% greater than expected. Stations reporting significantly less the normal precipitation were located in the Southeast: Yakutat with just 31% of the expected value, then: Annette (39%) and Juneau (41%). Exemplifying the dry cold trend at the end of October in the Southeast was Juneau with eleven days in a row at the end of the month without any precipitation. On only 12 days was there measurable precipitation; normally there are twenty-four days in October. Even with the preponderance of stations reporting less than normal precipitation, the mean precipitation deviation for all stations was merely a scant 1% below normal.

With the help of the cold spell experience in the Southeastern portion of the state, Yakutat was the first order station to register the most snowfall in October with a total of 18.1", 15.6" higher than the normal amount. King Salmon similarly had a snowy month with a total of 11.6", 8.8" higher than expected. Barrow also saw heavy snow with 12.8", 3.7" above normal. Overall, snow depth levels were at normal, or below normal where reported. As with the temperature, the precipitation deviations for the twenty first order stations are given in the table below:

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

Anchorage	2.70	2.03	0.67	133%	33%
Annette	5.44	13.92	-8.48	39%	-61%
Barrow	0.98	0.41	0.57	239%	139%
Bethel	2.19	1.65	0.54	133%	33%
Bettles	0.82	1.04	-0.22	79%	-21%
Big Delta	0.78	0.80	-0.02	98%	-3%
Cold Bay	4.72	4.76	-0.04	99%	-1%
Fairbanks	1.38	0.83	0.55	166%	66%
Gulkana	0.77	1.01	-0.24	76%	-24%
Homer	2.06	2.57	-0.51	80%	-20%
Juneau	3.50	8.63	-5.13	41%	-59%
King Salmon	1.86	2.08	-0.22	89%	-11%
Kodiak	4.71	8.26	-3.55	57%	-43%
Kotzebue	1.12	1.01	0.11	111%	11%
McGrath	1.80	1.44	0.36	125%	25%
Nome	1.36	1.61	-0.25	84%	-16%
St. Paul Island	3.85	3.11	0.74	124%	24%
Talkeetna	2.72	2.90	-0.18	94%	-6%
Valdez	7.33	8.24	-0.91	89%	-11%
Yakutat	6.85	21.98	-15.13	31%	-69%

With the exception of the 14th when heavy rain set new precipitation records for Juneau and Annex Creek, new daily record rainfall records were absent from the Southeast due to the cold dry offshore flow that dominated the last part of the month. The cold temperatures generated two tied trace snowfall records for Juneau on the 17th and 18th. While King Salmon did have a dryer than normal month overall, there was

one new precipitation record and two new snowfall records set. Valdez also set two new rainfall records as well as a new snowfall record.

Date	Precipitation Records				
	Station	Element	New Record	Old Record	Year of old Record
10/04/16	St. Paul	Precipitation	1.09	1.00	2001
10/05/16	Kotzebue	Precipitation	0.42	0.41	1956
10/06/16	Valdez	Precipitation	2.50	2.42	1979
10/07/16	Valdez	Precipitation	2.44	1.49	2000
10/08/16	Fairbanks	Precipitation	0.21	0.21	1989
10/08/16	Bethel	Precipitation	0.88	0.53	1970
10/08/16	King Salmon	Precipitation	0.86	0.71	1949
10/09/16	McGrath	Precipitation	0.66	0.66	1985
10/09/16	Fairbanks	Precipitation	0.55	0.28	1974
10/14/16	Valdez	Snowfall	1.60	1.00	2008
10/14/16	King Salmon	Snowfall	3.90	1.50	1966
10/14/16	Juneau	Precipitation	1.65	1.46	1945
10/14/16	Annex Creek	Precipitation	2.67	2.35	1961
10/15/16	King Salmon	Snowfall	7.20	3.00	1956
10/17/16	Juneau	Snowfall	0.00	0.00	1996
10/18/16	Juneau	Snowfall	0.00	0.00	1996

The clear, cold weather experienced at the end of the month in the Southeast generated a number of new record low mean monthly temperatures, as noted above. The cold and dry conditions also resulted in new record low monthly precipitation records being set across the region. These records are tabulated in the following table.

Station	Monthly Low Precipitation Records			
	New Record	Old Record	Difference	Year of old Record
Annette	5.44	7.03	-1.59	2002
Gustavus	3.41	5.53	-2.12	1999
Haines Airport	2.05	3.16	-1.11	1950
Hoonah	4.20	7.41	-3.21	2009
Klawock	5.82	8.19	-2.37	2002
Pelican	6.77	10.08	-3.31	1971
Petersburg	6.12	8.23	-2.11	1950
Sitka	5.92	6.30	-0.38	1950
Snettisham Power	10.28	15.53	-5.25	2003

Fairbanks saw the first ice float down the Chena River on October 12th, followed by the first measurable snowfall on the 14th, almost two weeks later than normal, as the average date of first measurable snowfall is October 1st. The snowing continued, and on the 14th a snowstorm made Atigun Pass treacherous to motor traffic and a travel advisories were instituted until the 19th. Travel advisories were also issued for parts of the Richardson Highway due to snow. Cold temperatures settled across most of the state for the second half of the month, and Fairbanks saw its first below zero temperature (-5°F) on the 22nd. The Dalton Highway received another winter travel advisory due to blowing and drifting snow on the 31st. Also on the 31st, Kodiak experienced some interesting smog-like haze. A lack of snow and strong winds (35 to 40 mph) had driven ash from the 1912 eruption of the Norarupta volcano on the Alaska Peninsula across the Shelikof Strait to settle across parts of the island.

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.