

Alaska Statewide Climate Summary

October 2013

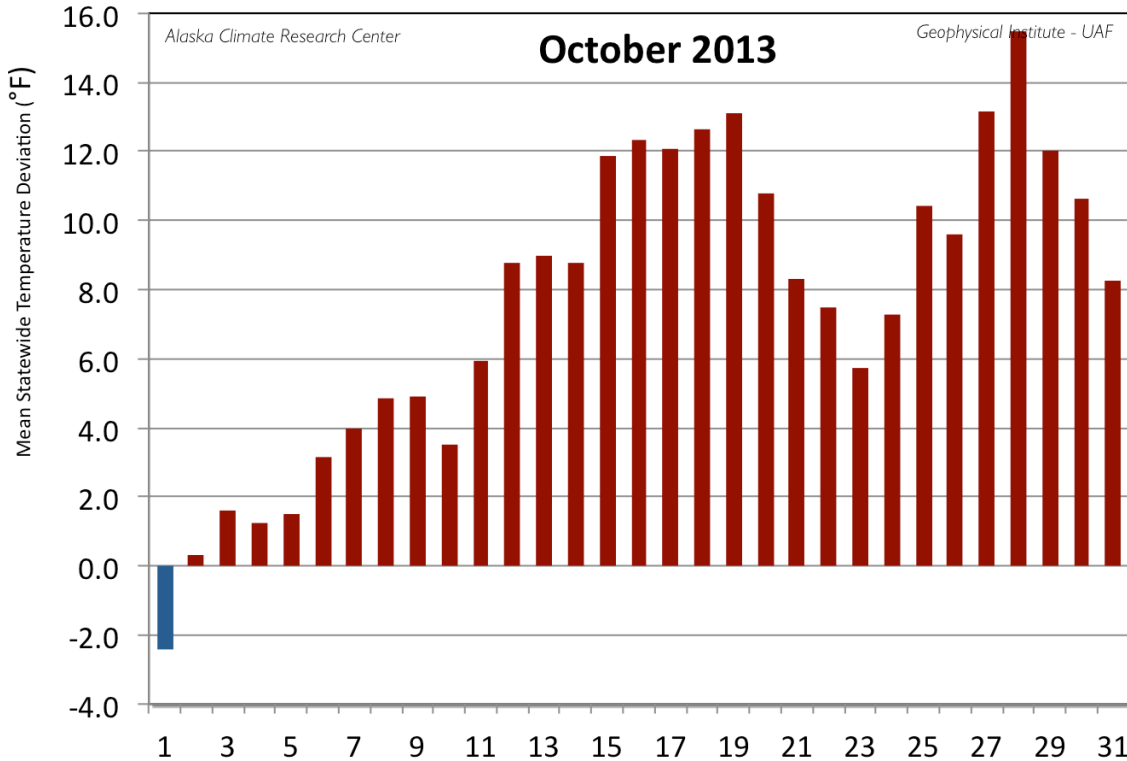
Temperature

October temperatures were decidedly above normal both across the state, and throughout the month with all 20 First Order Stations reporting positive deviations. The only day with a negative divergence occurred on the first. After that, temperatures stayed above normal, with the peak deviation (15.5°F) coinciding with the storm impacting the Southcentral and Interior regions on the 28th. This is an astounding departure for an area as large as the State of Alaska. The monthly mean temperature for all 20 First Order Stations was 39.8°F, a very significant 7.4°F above the normal of 32.4°F. McGrath held the highest positive deviation from normal at an amazing 13.6°F over its long-term mean of 25.1°F. Following McGrath with positive deviations exceeding 10°F were: Delta Junction (13.1°F), Bettles (12.4°F), Fairbanks (11.9°F), Gulkana (11.0°F), Kotzebue (10.2°F). It is worth noting that most of these stations were located in the Interior of Alaska.

The warmest temperature reported for the 20 First Order Stations was 62°F at Delta Junction on the 28th, a result of the [Chinook winds](#) from the storm impacting the Southcentral area. The coldest temperature was -2°F at Barrow on the 31st. Annette reported the highest mean temperature for the month at 48.2°F, while Barrow reported the coldest at 24.7°F.

Station	Temperature		
	Observed (°F)	Normal (°F)	Delta (°F)
Anchorage	43.0	34.8	8.2
Annette	48.2	46.7	1.5
Barrow	24.7	17.2	7.5
Bethel	38.2	30.3	7.9
Bettles	31.3	18.9	12.4

Cold Bay	46.0	40.4	5.6
Delta Junction	37.2	24.1	13.1
Fairbanks	36.1	24.2	11.9
Gulkana	37.6	26.6	11.0
Homer	46.2	38.1	8.1
Juneau	44.7	42.4	2.3
King Salmon	42.9	33.5	9.4
Kodiak	44.4	40.5	3.9
Kotzebue	34.5	24.3	10.2
McGrath	38.7	25.1	13.6
Nome	35.6	28.7	6.9
St. Paul Island	40.7	38.6	2.1
Talkeetna	39.1	33.2	5.9
Valdez	42.3	38.4	3.9
Yakutat	44.3	41.0	3.3



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

A very large number of record temperature events were reported for October, and unsurprisingly, all were new record highs, with no new lows noted. There were two timeframes where most were set: from the 15th to the 20th and the 25th to the 29th. Delta Junction had a total of five new records set, and one record tied. Both Homer and Bettles had five events each. Three of the records broken had been in place since 1936. Delta Junction's new record of 62°F on the 28th shattered the old record from 1962 by an amazing 19°F. This huge jump was the product of the Chinook Winds as previously noted.

It was the warmest October on record for Anchorage (43.0°F) breaking the 42.1°F mean from way back in 1936. Cold Bay also had the warmest October on record at 46.0°F, breaking the 2002 record of 44.0°F. Similar for McGrath with 38.7°, breaking the 2006 mean of 35.0°F. Also, there was a new record at Delta Junction, with 37.2°F, 2.1°F above the 1969 mean. It was the third warmest for Fairbanks in 109 years. The lowest temperature of the month for Fairbanks was 16°F, and this ties 2002 for the warmest low temperature for the month.

	Temperature Records	
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Date	Station	Element	New Record	Old Record	Year of old Record
10/07/13	Cold Bay	High Temperature	60	58	1985
10/15/13	Cold Bay	High Temperature	59	54	2003
10/15/13	Kodiak	High Temperature	56	55	1984
10/16/13	Delta Junction	High Temperature	58	55	1972
10/16/13	McGrath	High Temperature	52	52	1972
10/16/13	Northway	High Temperature	53	49	1948
10/16/13	Tanana Airport	High Temperature	49	47	1969
10/17/13	Bettles	High Temperature	44	40	1969
10/17/13	Delta Junction	High Temperature	60	60	1969
10/17/13	Homer	High Temperature	54	53	1957
10/17/13	Kotzebue	High Temperature	43	41	1969
10/17/13	Tanana Airport	High Temperature	48	40	1987
10/18/13	Barrow	High Temperature	35	35	1982
10/18/13	Bettles	High Temperature	44	38	1969
10/18/13	Delta Junction	High Temperature	53	51	1969
10/18/13	King Salmon	High Temperature	53	53	2004
10/18/13	Kotzebue	High Temperature	41	40	1982
10/18/13	Northway	High Temperature	44	44	1976
10/19/13	Bettles	High Temperature	43	39	1951
10/19/13	Delta Junction	High Temperature	56	50	1957

10/20/13	Bettles	High Temperature	42	38	1980
10/20/13	Delta Junction	High Temperature	50	49	2002
10/20/13	Northway	High Temperature	45	44	1957
10/25/13	Homer	High Temperature	50	49	1936
10/25/13	King Salmon	High Temperature	51	50	2002
10/26/13	Homer	High Temperature	52	51	2004
10/26/13	King Salmon	High Temperature	50	49	2004
10/27/13	Bettles	High Temperature	35	32	1951
10/27/13	Homer	High Temperature	57	51	1942
10/27/13	King Salmon	High Temperature	52	50	1957
10/27/13	Kodiak	High Temperature	55	54	1936
10/27/13	Kotzebue	High Temperature	39	37	1972
10/27/13	McGrath	High Temperature	43	43	1972
10/27/13	Valdez	High Temperature	50	47	1977
10/28/13	Anchorage	High Temperature	52	49	1959
10/28/13	Delta Junction	High Temperature	62	43	1962
10/28/13	Fairbanks	High Temperature	51	44	1959
10/28/13	Homer	High Temperature	57	51	1936
10/28/13	McGrath	High Temperature	44	40	1946
10/29/13	Valdez	High Temperature	47	47	2004

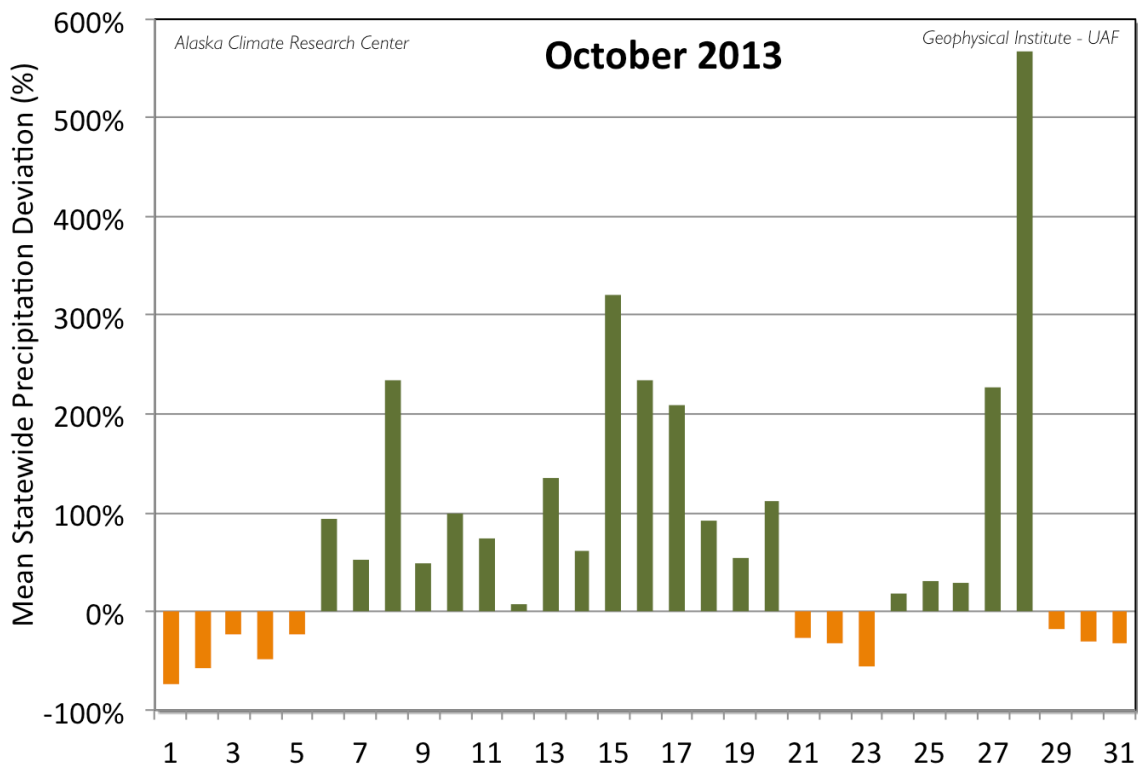
Precipitation

Precipitation for October was significantly above normal for the state, at 159% of normal. Sixteen of the 20 stations reported above normal values, while just four stations reported values below normal; mostly Interior stations. These are, in ascending order, Delta Junction with 38% of the expected value, Annette (63%), Gulkana (70%), and Fairbanks (71%).

McGrath had the greatest positive deviation from normal, with 4.64", or 222% above the expected amount of 1.44". Following McGrath was Talkeetna (196%), Bettles (191%), Bethel (156%), King Salmon (123%), Nome (120%) and Valdez (116%). Unsurprisingly, all of the 16 stations that report snowfall, reported below normal values for October. Fairbanks had the 4th least snowiest month on record. Despite this, Barrow recorded trace or more amounts of snow on 28 days of the month.

Station	Precipitation				
	Observed (in)	Normal (in)	Delta (in)	Delta (%)	(%)
Anchorage	3.22	2.03	1.19	59%	159%
Annette	8.70	13.92	-5.22	-38%	63%
Barrow	0.67	0.41	0.26	63%	163%
Bethel	4.22	1.65	2.57	156%	256%
Bettles	3.03	1.04	1.99	191%	291%
Cold Bay	5.79	4.76	1.03	22%	122%
Delta Junction	0.30	0.80	-0.50	-63%	38%
Fairbanks	0.59	0.83	-0.24	-29%	71%
Gulkana	0.71	1.01	-0.30	-30%	70%
Homer	4.29	2.57	1.72	67%	167%
Juneau	10.19	8.63	1.56	18%	118%
King Salmon	4.63	2.08	2.55	123%	223%

Kodiak	9.96	8.26	1.70	21%	121%
Kotzebue	1.61	1.01	0.60	59%	159%
McGrath	4.64	1.44	3.20	222%	322%
Nome	3.55	1.61	1.94	120%	220%
St. Paul Island	3.54	3.11	0.43	14%	114%
Talkeetna	8.57	2.90	5.67	196%	296%
Valdez	17.83	8.24	9.59	116%	216%
Yakutat	23.87	21.98	1.89	9%	109%

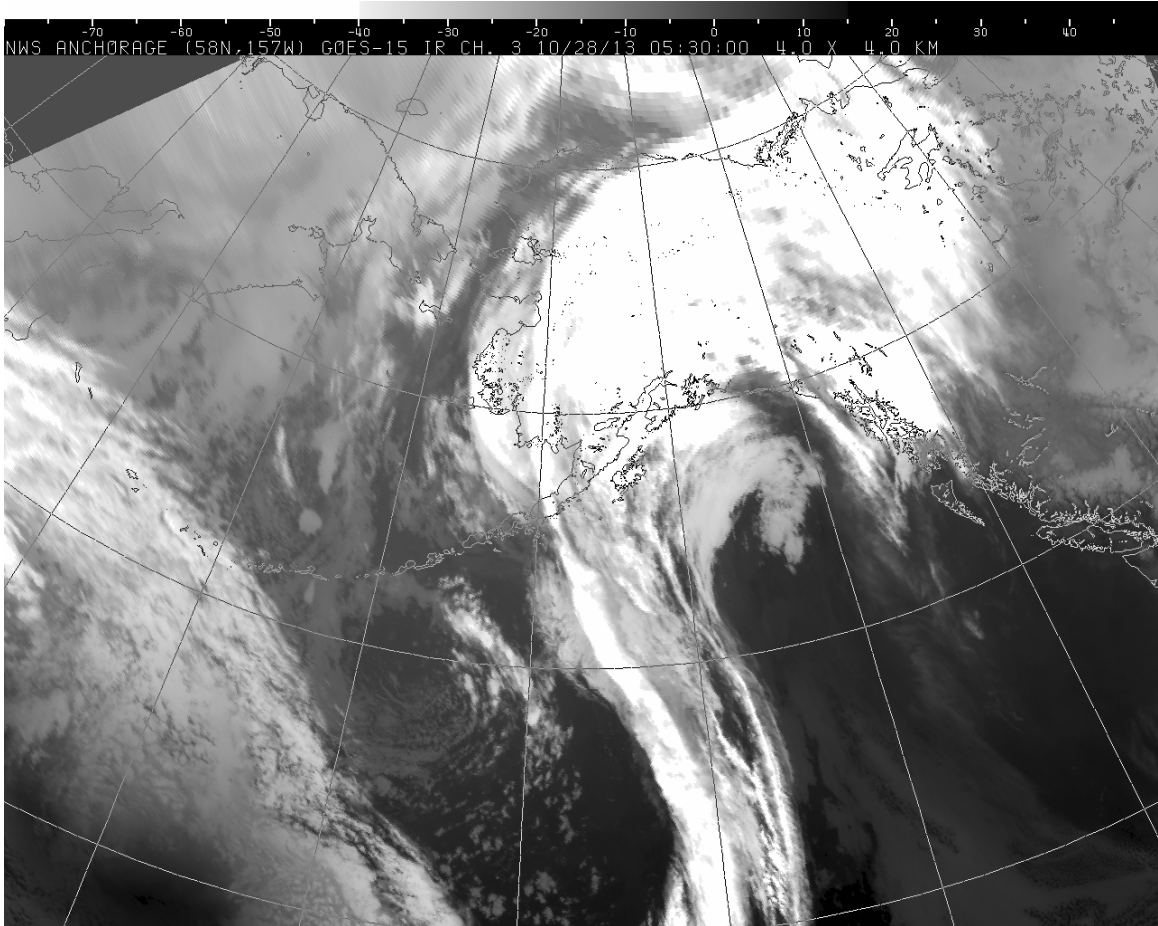


Daily mean precipitation deviation from the normal for the 20 first order stations for October 2013.

Numerous daily record precipitation events were set for October, occurring throughout the month, but most were set on the 27th-28th; a product of the storm slamming into the Southcentral region. It was the wettest October on record in Valdez with a total of 17.83", just topping the 2006 record of 17.31".

Date	Precipitation Records				
	Station	Element	New Record	Old Record	Year of old Record
10/08/13	Valdez	Precipitation	1.81	0.71	1979
10/11/13	Kotzebue	Precipitation	0.21	0.20	1996
10/15/13	Bethel	Precipitation	0.55	0.54	1971
10/16/13	McGrath	Precipitation	0.92	0.91	1971
10/17/13	Bettles	Precipitation	0.35	0.52	1973
10/17/13	King Salmon	Precipitation	0.72	0.59	1986
10/17/13	McGrath	Precipitation	1.02	0.32	2005
10/20/13	Barrow	Precipitation	0.23	0.11	2010
10/25/13	Yakutat	Precipitation	2.98	1.91	1992
10/27/13	Kenai	Precipitation	1.13	0.76	1962
10/28/13	Anchorage	Precipitation	0.94	0.69	1962
10/28/13	Bethel	Precipitation	0.43	0.35	1996
10/28/13	Bettles	Precipitation	0.56	0.52	1970
10/28/13	Kenai	Precipitation	1.44	0.68	1948
10/28/13	Nenana	Precipitation	0.19	0.18	1996
10/28/13	Talkeetna	Precipitation	1.90	0.98	1946

10/28/13	Valdez	Precipitation	1.92	1.05	1983
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This infrared satellite image from the National Weather Service shows storm system affecting the Southcentral and Interior portions of Alaska on October 28th, 2013. The storm drove record high temperatures, rainfall and localized flooding across the region.

Newsworthy Events

The month started out with high wind warnings for Southcentral and the Interior on the 6th. The winds caused power outages in parts of Anchorage and pushed into the Interior with winds up to 80 mph in the Alaska Range. The Denali Highway was closed do to heavy snow on the 9th, but minimal effort was put into clearing it as the highway was closed for the winter on the 13th. High winds were again warned for portions of the Interior close the Alaska Range on the 27th, while an unseasonably late rainfall made

driving in the Fairbanks area treacherous. In addition, storm warnings for high winds, and flood warnings/watches were issued for the Southcentral region on the 27th. In the storms aftermath Amber Lake totaled 3.04" on the 28th, while Bear Valley saw winds up to 106 mph and the Anchorage Airport measured 40 mph. Up to 60 mph gusts were measured at Tanacross in the Interior, and over 60 mph at Delta Junction. Disaster declarations were issued for the Seward and Central Peninsula areas due to localized flooding. For Fairbanks, the precipitation resulted in more hazardous driving conditions due to ice on the roads. The storm impacted driving on the Elliott, Dalton, and Alaska Highways.

The unseasonably warm weather and high winds, especially in the Interior, resulted in the reemergence of the Mississippi Fire near Delta Junction on the 30th. The fire had originally started in May had had been smoldering. Fire fighters were dispatched to the fire, and this is the latest date of the year that anyone at the Fire Service could remember actively fighting a wildfire. A last minute snowfall on the 31st made sure that it was a "white Halloween" in Fairbanks. Only in 1938 did Fairbanks have a "brown Halloween" with no snow on the ground. For Fairbanks, the late onset of winter was paired with a late start to spring back in May.

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.