Alaska Statewide Climate Summary

May 2012

Temperature

In contrast to April, a month that recorded above normal temperatures, May 2012 was seasonably too cold. 19 of the 20 first order meteorological stations in Alaska reported negative deviations. A mean deviation of all 20 stations from the long-term mean could be calculated as -2.7°F. Barrow, in Artic Alaska, was the only station with a positive deviation, but only slightly so with +0.5°F. Arctic Alaska has shown the greatest warming over the last decades; hence this trend appears to be continuing. The stations with the largest negative deviation were found in western Alaska; Kotzebue with -5.4°F and St. Paul Island with -5.2°F. This might be an effect of the lingering sea ice in the Bering Sea, which in March reached the greatest extent seen since 1979, the point when continuous satellite coverage in the microwave wavelength bands became available. Microwave instruments have the ability to look through clouds and darkness, necessary for collecting imagery in winter.

It is interesting to note that the monthly flip-flop in temperatures continued in May. November had temperatures far below the expected values, while December was much above normal, and for most stations substantially warmer than those of November. January was much colder and many new low temperature records were observed. Then in February the temperature for most of Alaska was above normal, with only the first and last days of the month being seasonably below normal. March was colder than normal again, and for most stations recording lower temperatures than in February. April was above normal, followed by a seasonable cold May. Further, May is the first month of this year when Anchorage's monthly temperature was lower than for Fairbanks. The more maritime climate of in the coastal areas has normally warmer temperatures in winter, but lower temperatures in summer when compared to the more continental climate of Interior Alaska.

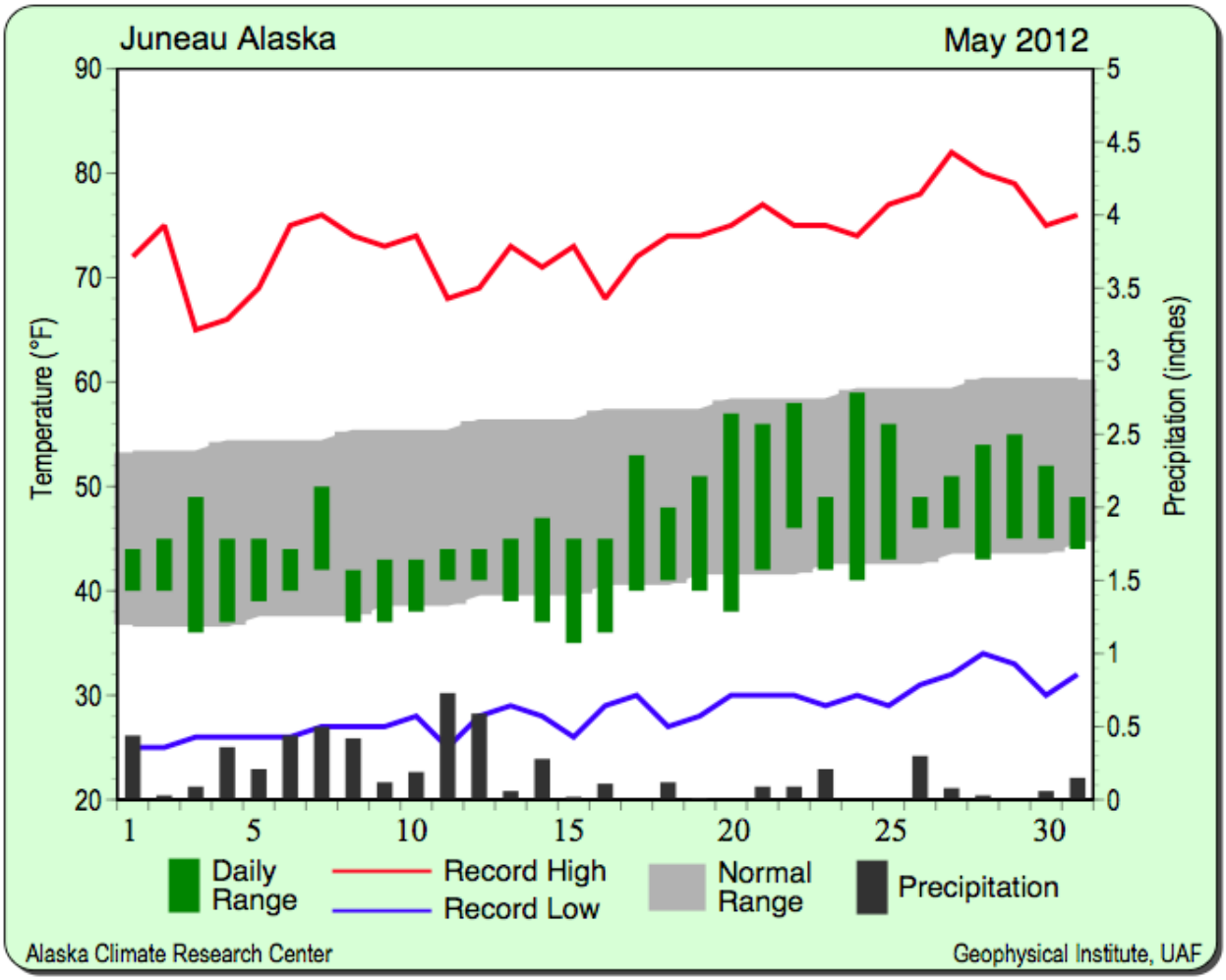
Station	Temperature		
	Observed (°F)	Normal (°F)	Delta (°F)
Anchorage	**45.5**	**47.8**	**-2.3**
Annette	**47.0**	**50.2**	**-3.2**
Barrow	**21.6**	**21.1**	**0.5**
Bethel	**39.1**	**41.9**	**-2.8**
Bettles	**43.1**	**44.4**	**-1.3**

Big Delta	**45.0**	**47.6**	**-2.6**
Cold Bay	**36.5**	**40.3**	**-3.8**
Fairbanks	**47.9**	**49.2**	**-1.3**
Gulkana	**42.6**	**45.2**	**-2.6**
Homer	**41.4**	**44.5**	**-3.1**
Juneau	**44.7**	**48.6**	**-3.9**
King Salmon	**41.1**	**44.2**	**-3.1**
Kodiak	**42.5**	**44.3**	**-1.8**
Kotzebue	**26.5**	**31.9**	**-5.4**
McGrath	**46.2**	**46.7**	**-0.5**
Nome	**33.1**	**36.8**	**-3.7**
St. Paul Island	**31.0**	**36.2**	**-5.2**
Talkeetna	**45.4**	**47.8**	**-2.4**
Valdez	**43.5**	**47.0**	**-3.5**
Yakutat	**42.0**	**44.7**	**-2.7**

Persistently cool daily maximum temperatures at the start of May allowed Juneau to set a new record cold month in terms of the average daily maximum temperature of just 48.9°F; 7.7°F below the previous record from 1955. Nevertheless, the extensive cloud cover meant the average daily low was near normal. The monthly mean temperature was 44.7°F, making this the 8th coldest May on record for Juneau for that statistic. On May 18th the temperature reached up to 63°F in Nome, a new daily record, topping the 1980 record of 62°F. All other daily extreme records for May were record low temperatures.

Date	Temperature Records				
	Station	Element	New Record	Old Record	Year of old Record

05/03/12	Valdez	Low Temperature	32	32	2001
05/12/12	Cold Bay	Low Temperature	24	25	1971
05/13/12	Cold Bay	Low Temperature	18	25	1971
05/13/12	King Salmon	Low Temperature	22	22	1965
05/13/12	Kodiak	Low Temperature	29	29	1965
05/14/12	Cold Bay	Low Temperature	20	27	2009
05/14/12	Valdez	Low Temperature	33	34	2008
05/15/12	Valdez	Low Temperature	32	33	2011
05/18/12	Nome	High Temperature	63	62	1980



Daily temperature ranges and precipitation for Juneau for May 2012. Note the persistently cool daily maximum temperatures and consistent rainfall at the start of May.

Precipitation

Precipitation was above normal for eleven of the 20 stations. The greatest positive deviations above normal were found for Barrow (178%), Annette (83%), Gulkana (82%) and Juneau (77%). On the other side of the spectrum were Talkeetna, with only 23% of the expected value, or 0.38" of the normal of 1.62" and Bethel with 42% or 0.48 0f the normal of 1.14". As the positive deviations were larger in magnitude, the mean of the 20 stations ended up positive with 15%, or differently expressed, about 1/7 more precipitation fell in Alaska in May than normal. As with the temperature, the precipitation deviations for the different station are given in the table below:

Station	Precipitation				
	Observed (in)	Normal (in)	Delta (in)	(%)	Delta (%)
Anchorage	**0.43**	**0.72**	**-0.29**	**60%**	**-40%**
Annette	**10.20**	**5.56**	**4.64**	**183%**	**83%**
Barrow	**0.50**	**0.18**	**0.32**	**278%**	**178%**
Bethel	**0.48**	**1.14**	**-0.66**	**42%**	**-58%**
Bettles	**0.70**	**0.88**	**-0.18**	**80%**	**-20%**
Big Delta	**1.30**	**0.90**	**0.40**	**144%**	**44%**
Cold Bay	**1.51**	**2.60**	**-1.09**	**58%**	**-42%**
Fairbanks	**0.73**	**0.60**	**0.13**	**122%**	**22%**
Gulkana	**1.18**	**0.65**	**0.53**	**182%**	**82%**
Homer	**0.81**	**0.82**	**-0.01**	**99%**	**-1%**
Juneau	**5.73**	**3.24**	**2.49**	**177%**	**77%**
King Salmon	**1.62**	**1.25**	**0.37**	**130%**	**30%**
Kodiak	**5.93**	**5.62**	**0.31**	**106%**	**6%**
Kotzebue	**0.37**	**0.41**	**-0.04**	**90%**	**-10%**
McGrath	**0.75**	**1.09**	**-0.34**	**69%**	**-31%**
Nome	**0.88**	**0.86**	**0.02**	**102%**	**2%**
St. Paul Island	**0.49**	**1.13**	**-0.64**	**43%**	**-57%**
Talkeetna	**0.38**	**1.62**	**-1.24**	**23%**	**-77%**
Valdez	**4.42**	**2.88**	**1.54**	**153%**	**53%**
Yakutat	**13.23**	**8.21**	**5.02**	**161%**	**61%**

On May 16th 0.84" of rain fell in Nome, more than double the 1990 record of 0.40" for this day. This was nearly the entire amount rain for the whole month of May that reported a total of 0.88". In addition, it was the wettest day ever record in May; the historical record is long dating back to 1907. The previous record was 0.76" from 1996.

Date	Precipitation Records				
	Station	Element	New Record	Old Record	Year of old Record
05/02/12	St. Paul	Snowfall	0.8	0.8	1975
05/04/12	King Salmon	Snowfall	1.8	1	1971
05/06/12	Ketchikan	Precipitation	4.73	2.4	1959
05/07/12	Ketchikan	Precipitation	4.26	2.6	1973
05/10/12	Cold Bay	Snowfall	1	0.8	1994
05/10/12	King Salmon	Precipitation	0.33	0.32	1991
05/10/12	Kotzebue	Snowfall	1	0.3	1967
05/12/12	Cold Bay	Snowfall	0.7	0.3	1976
05/12/12	Kodiak	Snowfall	0.8	0.7	1971
05/12/12	Petersburg	Precipitation	1.52	1.42	1952
05/13/12	Kodiak	Snowfall	2.4	0.2	1971
05/14/12	Juneau	Snowfall	T	0	1985
05/15/12	Juneau	Snowfall	T	0	
05/15/12	Petersburg	Snowfall	T	0	
05/16/12	Nome	Precipitation	0.84	0.4	1990
05/25/12	Fairbanks	Precipitation	0.52	0.5	1973

According to the National Weather Service, "Greenup' day for Fairbanks was May 10th. The average day is about May 8th. Low precipitation for the Interior for the first third of the month resulted in low humidity, and combined with high winds on the 11th resulted in red flag warnings being issued. A number of small wild fires erupted around Fairbanks and Delta Junction, but were generally contained quickly.

The 25th recorded a new precipitation record in Fairbanks at 0.52", just above the 1973 record of 0.50". This record rain combined with last season snowmelt generated rapidly rising river levels in the Interior and flood advisories were issued for Chena, Salcha and Goodpaster rivers. This heavy precipitation terminated the wild fire concerns from earlier in the month. A late winter storm with strong winds and drifting snow on May 27th resulted in a travel advisory being issued for the Chandalar region of the Dalton Highway.

It was an extreme winter for sea ice in the Bering Sea. As noted before a record extent was observed in March. On May 3rd, St. Paul Island was engulfed in ice, and had been for 103 days at that point and the ice had yet to retreat north of the island. The previous record was 100 days reached in 2010. St. George Island also set a record of 79 days, topping the old record of 60 days, also from 2010.

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.