

Alaska Statewide Climate Summary

February 2012

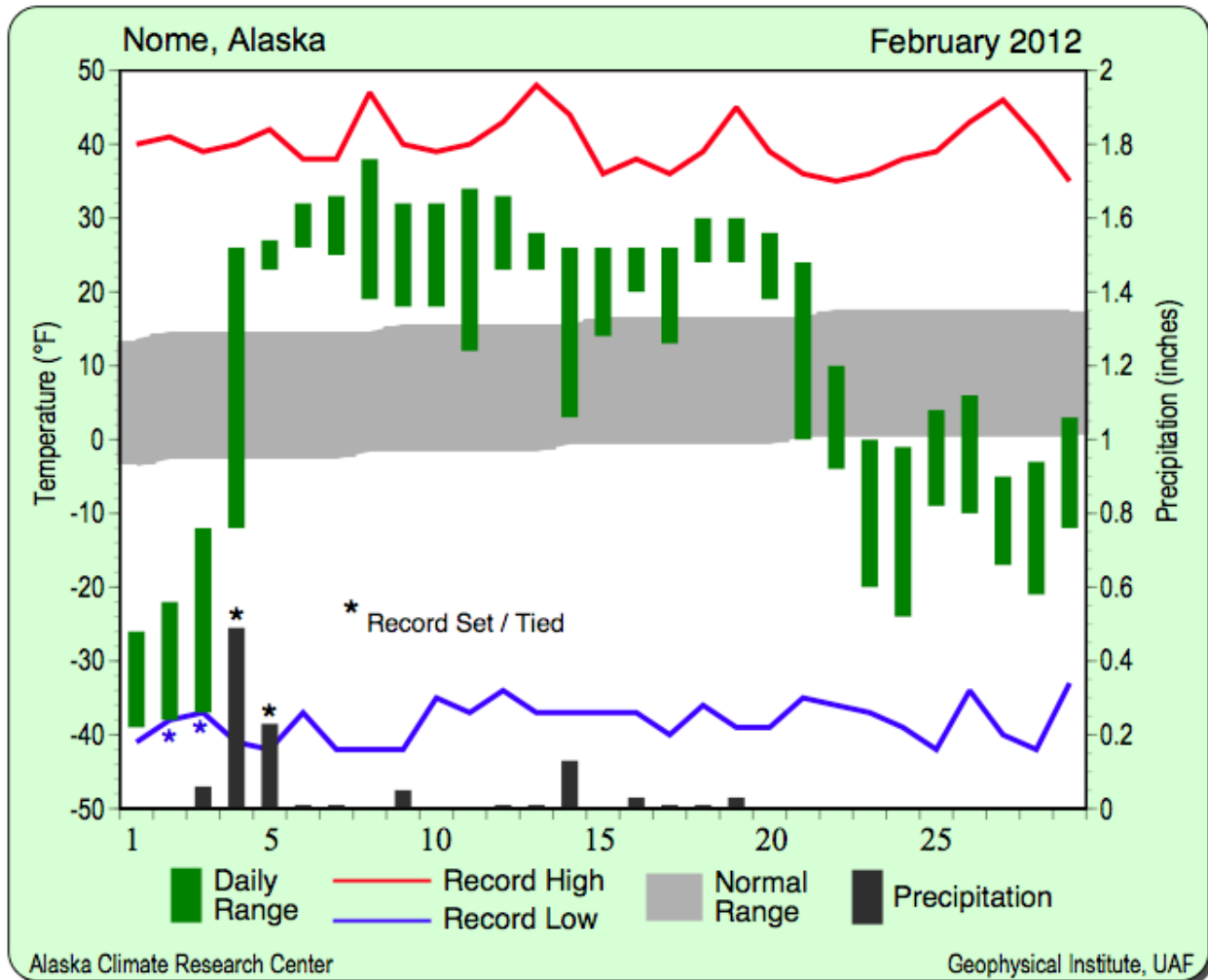
Temperature

February ushered in relief from the brutal cold of January, but brought with the warmer temperatures more winter storms. In contrast to January, which recorded far below normal temperatures, February 2012 was seasonably too warm. 18 of the 20 first order meteorological stations in Alaska reported positive deviations. A mean deviation of all 20 stations from the long-term mean could be calculated as +3.5°F. The only two stations with negative deviations were found in the Bering Sea region, St Paul Island with -6.4°F and Cold Bay with -1.0°F. The stations with positive deviation larger than 4°F are, in declining order, the following: Big Delta (12.8°F), Gulkana (8.7°F), Fairbanks (7.2°F), Bettles (6.2°F), King Salmon (5.4°F), Anchorage (5.0°F), McGrath (4.9°F) and Talkeetna (4.2°F). For more details of the different stations, see the table below. It is interesting to note, that November had temperatures far below the expected values, while December was much above normal, and for most stations substantially warmer than November. January was much colder than normal and a number of new record low temperatures were observed. For example, in January Bettles had three days with temperatures of -60°F or below and on 16 days the temperature in Fairbanks dropped to -40°F or lower. February reversed the January trend when the temperatures for most of Alaska were above normal, with only the first and last days of the month being seasonably below average.

| Station | Temperature | | |
|-----------|------------------|----------------|---------------|
| | Observed (°F) | Normal (°F) | Delta (°F) |
| Anchorage | 25.2 | 20.2 | 5.0 |
| Annette | 38.1 | 37.7 | 0.4 |
| Barrow | -12.2 | -14.2 | 2.0 |
| Bethel | 14.6 | 11.1 | 3.5 |
| Bettles | 1.2 | -5.0 | 6.2 |
| Big Delta | 17.7 | 4.9 | 12.8 |
| Cold Bay | 28.0 | 29.0 | -1.0 |
| Fairbanks | 5.9 | -1.3 | 7.2 |

| | | | |
|-----------------|------|------|------|
| Gulkana | 14.2 | 5.5 | 8.7 |
| Homer | 27.9 | 26.2 | 1.7 |
| Juneau | 33.7 | 30.1 | 3.6 |
| King Salmon | 24.2 | 18.8 | 5.4 |
| Kodiak | 31.7 | 30.8 | 0.9 |
| Kotzebue | 2.0 | -0.8 | 2.8 |
| McGrath | 6.3 | 1.4 | 4.9 |
| Nome | 9.4 | 7.4 | 2.0 |
| St. Paul Island | 18.0 | 24.4 | -6.4 |
| Talkeetna | 22.3 | 18.1 | 4.2 |
| Valdez | 28.5 | 26.0 | 2.5 |
| Yakutat | 32.9 | 29.7 | 3.2 |

Two major temperature related events were observed during the month. At the beginning of the month, a major cold spell occurred in the Bering Sea region, bringing record low temperatures from Nome to Cold Bay during the first 3 days of the month. Then, from the 3rd to the 9th of the month, record high temperatures were observed in Southeast Alaska.



Daily temperature ranges and precipitation for Nome for February 2012. Note the two low temperature record events followed by two record precipitation events in the first week of the month.

Overall, a number of new temperature records were set during the month, including thirteen different stations that reported new temperature maxima for individual days. Record events listed here include the twenty first order stations, as well as other stations with a history of sufficient length. More details can be seen in the table below:

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

| | | | | | |
|----------|-----------------|------------------|-----|-----|------|
| 02/01/12 | Kotzebue | Low Temperature | -46 | -43 | 2006 |
| 02/02/12 | Nome | Low Temperature | -38 | -37 | 1914 |
| 02/02/12 | St. Paul | Low Temperature | -12 | -10 | 1954 |
| 02/02/12 | Ketchikan | High Temperature | 50 | 50 | 1964 |
| 02/03/12 | Nome | Low Temperature | -37 | -37 | 1947 |
| 02/03/12 | Cold Bay | Low Temperature | 1 | 3 | 1980 |
| 02/03/12 | Klawock | High Temperature | 49 | 48 | 2009 |
| 02/03/12 | Juneau | High Temperature | 48 | 44 | 1984 |
| 02/03/12 | Skagway Airport | High Temperature | 47 | 45 | 1984 |
| 02/03/12 | Haines Airport | High Temperature | 48 | 43 | 1987 |
| 02/03/12 | Petersburg | High Temperature | 53 | 50 | 1977 |
| 02/07/12 | Klawock | High Temperature | 50 | 49 | 2010 |
| 02/09/12 | Kotzebue | High Temperature | 32 | 32 | 2011 |
| 02/09/12 | Juneau | High Temperature | 48 | 47 | 1968 |
| 02/09/12 | Gustavus | High Temperature | 50 | 50 | 1963 |
| 02/09/12 | Hoonah | High Temperature | 45 | 43 | 2004 |
| 02/09/12 | Wrangell | High Temperature | 52 | 44 | 1921 |
| 02/13/12 | Big Delta | High Temperature | 37 | 37 | 1969 |

Precipitation

Precipitation varied widely, but was in general above normal for February. Bettles (0.39" water-equivalent) recorded the lowest amount when, expressed as a percentage, with just under ½ of the expected precipitation. The two stations on the other side of the spectrum were Homer, with 436% of the

normal value of 1.71", and Anchorage at 247% of the normal value of 0.72". The mean value for the twenty stations was above normal with a positive deviation of 41%. As with temperature, the precipitation deviations for the different station are given in the table below:

| Station | Precipitation | | | | |
|-----------------|---------------|-------------|------------|------|-----------|
| | Observed (in) | Normal (in) | Delta (in) | (%) | Delta (%) |
| Anchorage | 1.78 | 0.72 | 1.06 | 247% | 147% |
| Annette | 6.15 | 7.31 | -1.16 | 84% | -16% |
| Barrow | 0.21 | 0.14 | 0.07 | 150% | 50% |
| Bethel | 1.24 | 0.72 | 0.52 | 172% | 72% |
| Bettles | 0.39 | 0.85 | -0.46 | 46% | -54% |
| Big Delta | 0.42 | 0.28 | 0.14 | 150% | 50% |
| Cold Bay | 6.04 | 2.98 | 3.06 | 203% | 103% |
| Fairbanks | 0.42 | 0.42 | 0.00 | 100% | 0% |
| Gulkana | 0.39 | 0.51 | -0.12 | 76% | -24% |
| Homer | 7.45 | 1.71 | 5.74 | 436% | 336% |
| Juneau | 3.10 | 4.13 | -1.03 | 75% | -25% |
| King Salmon | 1.12 | 0.76 | 0.36 | 147% | 47% |
| Kodiak | 7.41 | 6.14 | 1.27 | 121% | 21% |
| Kotzebue | 0.90 | 0.66 | 0.24 | 136% | 36% |
| McGrath | 0.80 | 0.94 | -0.14 | 85% | -15% |
| Nome | 1.08 | 0.93 | 0.15 | 116% | 16% |
| St. Paul Island | 1.86 | 1.30 | 0.56 | 143% | 43% |

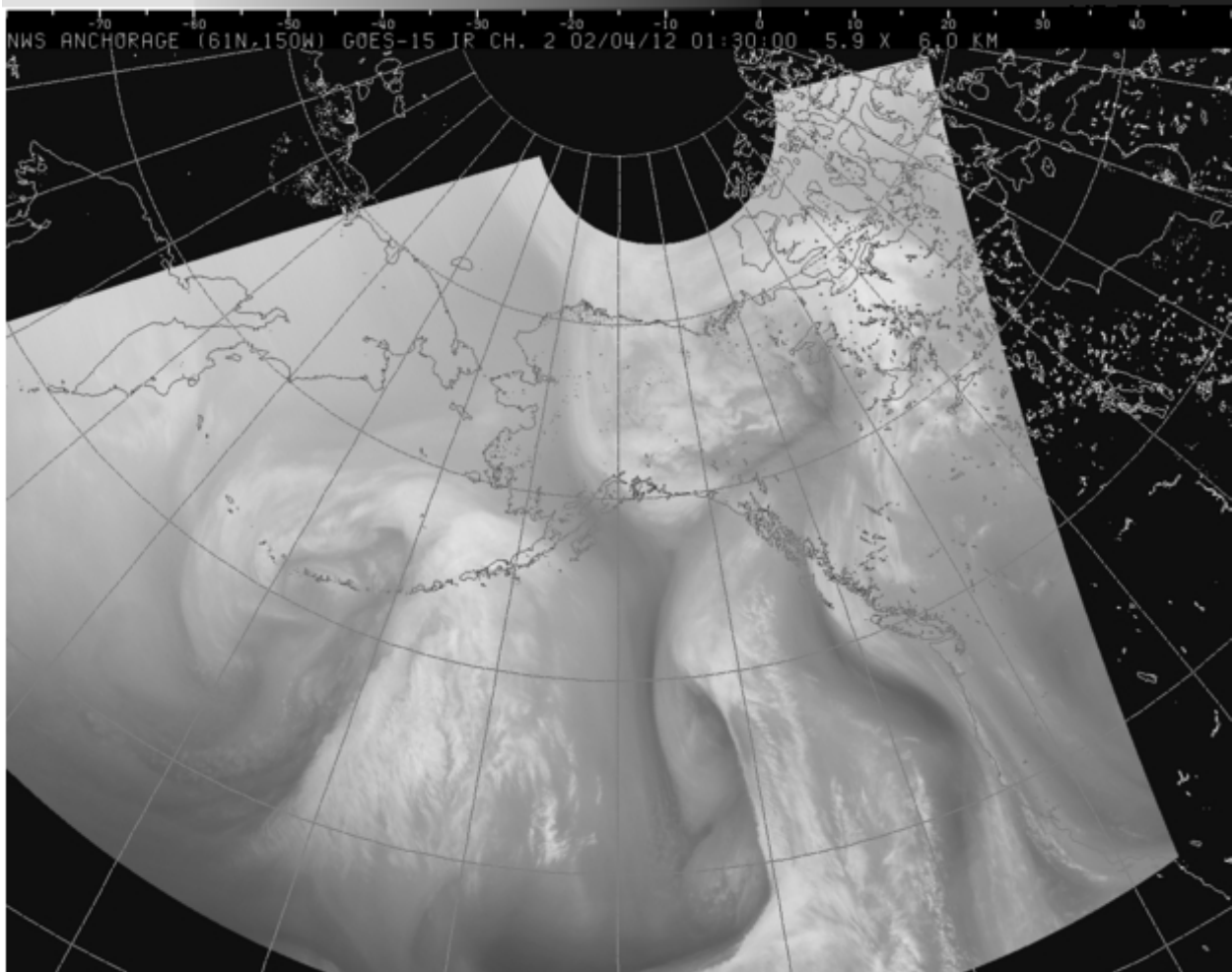
| | | | | | |
|-----------|--------------|--------------|--------------|-------------|------------|
| Talkeetna | 1.34 | 1.45 | -0.11 | 92% | -8% |
| Valdez | 8.10 | 5.79 | 2.31 | 140% | 40% |
| Yakutat | 10.49 | 10.86 | -0.37 | 97% | -3% |

Along with the strong storms that occurred during the month, there were fair a number of new daily records both for precipitation and snowfall. Daily records for both for precipitation and snowfall are summarized in second table. The depth of snow on the ground for Valdez New Town on February 29th was 97", surpassing the old record of 94" set on February 27th and 28th in 1990.

| Date | Precipitation Records | | | | |
|----------|-----------------------|---------------|------------|------------|--------------------|
| | Station | Element | New Record | Old Record | Year of old Record |
| 02/03/12 | Anchorage | Precipitation | 0.69 | 0.29 | 2000 |
| 02/03/12 | Anchorage | Snowfall | 9.1 | 5.4 | 1970 |
| 02/04/12 | Cold Bay | Precipitation | 1.03 | 0.88 | 1965 |
| 02/04/12 | Kotzebue | Precipitation | 0.41 | 0.25 | 1989 |
| 02/04/12 | Nome | Snowfall | 9.9 | 5 | 1916 |
| 02/04/12 | Nome | Precipitation | 0.49 | 0.44 | 1916 |
| 02/05/12 | Kotzebue | Precipitation | 0.23 | 0.18 | 1980 |
| 02/05/12 | Kotzebue | Snowfall | 3.2 | 2.4 | 1980 |
| 02/05/12 | Nome | Precipitation | 0.23 | 0.22 | 2001 |
| 02/07/12 | Cold Bay | Precipitation | 0.46 | 0.43 | 1993 |
| 02/15/12 | Kodiak | Snowfall | 4.2 | 3.7 | 1951 |

| | | | | | |
|----------|------------------|---------------|------|------|------|
| 02/20/12 | Gustavus | Precipitation | 0.87 | 0.62 | 1985 |
| 02/20/12 | Hoonah | Precipitation | 1.15 | 0.72 | 1973 |
| 02/20/12 | Pelican | Precipitation | 2.38 | 2.15 | 1975 |
| 02/20/12 | Snettisham Power | Precipitation | 2.85 | 2.52 | 1990 |
| 02/25/12 | St. Paul | Precipitation | 0.29 | 0.22 | 1971 |
| 02/26/12 | King Salmon | Precipitation | 0.28 | 0.19 | 1971 |

The heavy snowfall and precipitation caused a variety of incidents across the state. As can be seen from the table above, record precipitation and snowfalls events occurred in connection with a storm that hit Alaska at the first part of the month. On the 3rd of February Eaglecrest Ski Resort in the Juneau area reported a wind gust of 133 mph, a record, and several flights to Juneau had to be cancelled. Further, the Richardson Highway had to be closed at Thompson Pass due to avalanches. In addition, strong winds of 40 mph caused drifting snow, which made driving conditions difficult in the Alaska Range. The Steese Highway, going north from Fairbanks, had to be close between mile 101 and 116, the Eagle Summit area. On the Dalton Highway near-zero visibility conditions existed in the Atigun Pass are, and a travel advisory was announced.



This infrared satellite image from the National Weather Service shows strong winter systems affecting much of the state of Alaska on Friday, February 3, 2012.

The following day, a travel advisory was given for the Parks Highway in the Denali Park region. High winds with drifting and blowing snow were especially pronounced between Healy and Cantwell. Due to substantial snowfall an advisory on avalanche danger was given for the Anchorage area and the Sterling Highway to Seward had to be closed. Then on the 9th of February, a freezing rain event iced the roads in the Anchorage area, which led to the closure of schools due to the dangerous driving conditions. Additional snow fall later this month made the total winter (September through February) snowfall for Anchorage at 119.9", the 4th snowiest winter ever experienced, and only 13" short of the 1954-55 record year. Finding place to store the snow removed from the streets is becoming an issue. In Juneau, which by February 3rd was experiencing its fifth snowiest winter on record, snow removal is putting a strain on the city budget.

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.