

Alaska Statewide Climate Summary

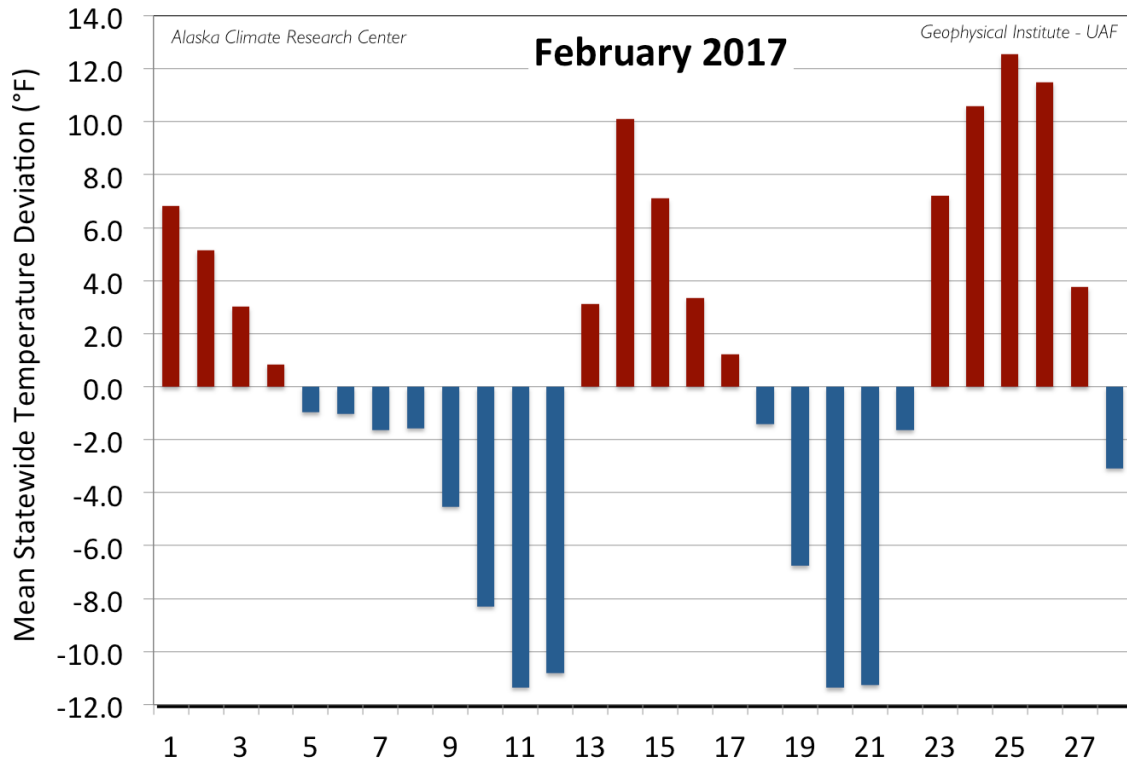
February 2017

Temperature

After sixteen months with mean statewide temperatures at or above normal, February 2017 was below normal. The monthly mean temperature of all First Order Stations was 14.7°F, 0.2°F below the normal of 14.9°F. This is 8.8°F below the February 2016 mean of 23.5°F. Calculating the mean daily temperatures of the First Order Stations, 14 days of the month were below the 30-year normal, with 14 days above normal. Above normal temperatures started the month, and below normal temperatures existed predominantly from the 5th to 12th and 18th and 23rd (see Figure). The peak positive deviation for the month occurred on the 25th at 12.5°F. The greatest negative deviation occurred on the 20th with -11.4°F. Monthly mean temperatures (see table) were below normal for ten of the First Order Stations. (Bettles was removed from the temperature discussion this month due to sensor failure.) As was the case for the last four months, Barrow held the spot with the greatest positive deviation in February with a significant 8.0°F above its normal of -14.2°F. The station with the greatest negative deviation was Bethel with -6.8°F. Nome had the next greatest negative deviation of -5.1°F.

| Station | Temperature | | |
|-----------------|------------------|----------------|---------------|
| | Observed (°F) | Normal (°F) | Delta (°F) |
| Anchorage | 18.7 | 20.2 | -1.5 |
| Annette | 36.3 | 37.7 | -1.4 |
| Barrow | -6.2 | -14.2 | 8.0 |
| Bethel | 4.3 | 11.1 | -6.8 |
| Bettles | -4.3 | -5.0 | 0.7 |
| Cold Bay | 27.6 | 29.0 | -1.4 |
| Delta Junction | 8.4 | 4.9 | 3.5 |
| Fairbanks | 0.7 | -1.3 | 2.0 |
| Homer | 27.6 | 26.2 | 1.4 |
| Juneau | 30.1 | 30.1 | 0.0 |
| King Salmon | 15.8 | 18.8 | -3.0 |
| Kodiak | 30.0 | 30.8 | -0.8 |
| Kotzebue | 1.1 | -0.8 | 1.9 |
| McGrath | 1.5 | 1.4 | 0.1 |
| Nome | 2.3 | 7.4 | -5.1 |
| St. Paul Island | 24.3 | 24.4 | -0.1 |
| Talkeetna | 17.3 | 18.1 | -0.8 |
| Yakutat | 29.6 | 29.7 | -0.1 |

The highest daily maximum temperature of the First Order Stations for February was 55°F reported at Annette on the 13th and 14th. Annette also held the spot for the highest mean temperature for the month at 36.3°F. The lowest temperature of -46°F was observed at Bettles on the 12th. Barrow reported the lowest February mean monthly temperature with a value of -6.2°F.



Daily mean temperature deviation from the normal temperature for the mean of the First Order Stations for February 2017.

There were only a limited number of new daily temperature record events in February, and most were new highs that occurred around the warm-up on the 14th. Two new minima also occurred. The temperature change in Fairbanks from -41°F on the 12th to +35°F on the 14th was the greatest temperature change in in a 53 hour period on record for Fairbanks.

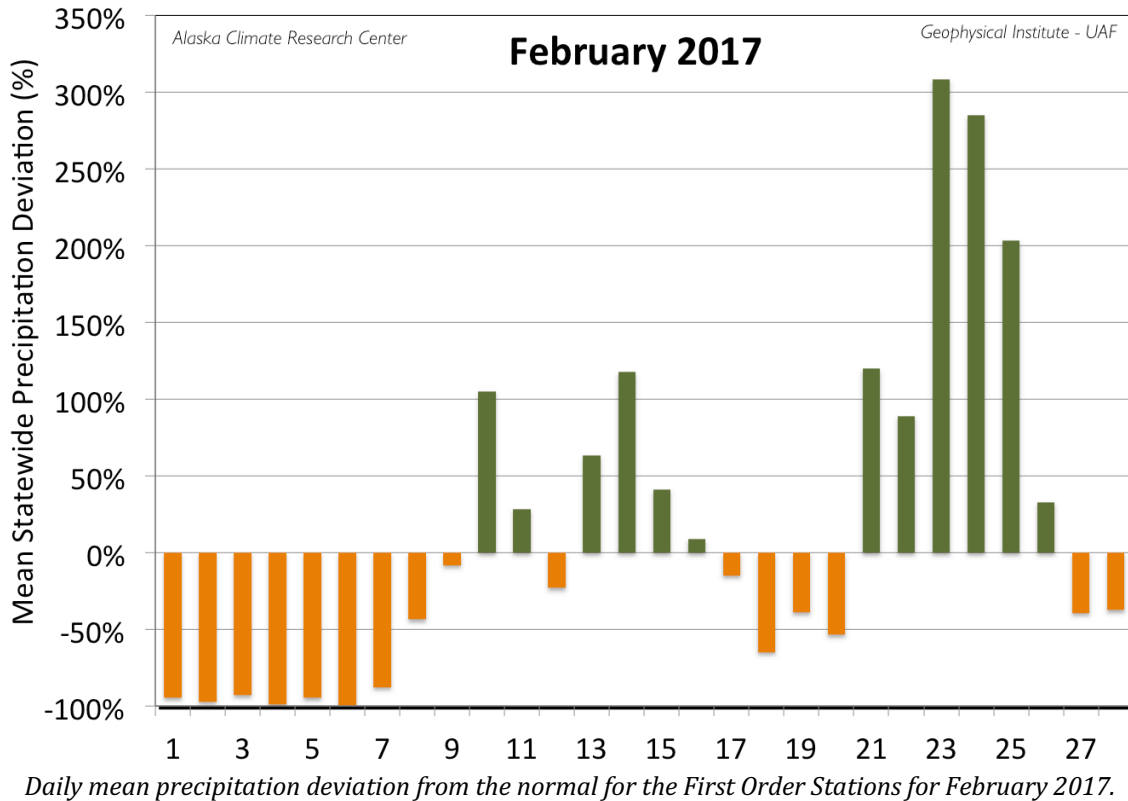
| Date | Temperature Records | | | | |
|----------|---------------------|------------------|------------|------------|--------------------|
| | Station | Element | New Record | Old Record | Year of old Record |
| 02/11/17 | Kodiak | Low Temperature | 9 | 10 | 1996 |
| 02/13/17 | Sitka | High Temperature | 56 | 55 | 2004 |
| 02/14/17 | Annette | High Temperature | 55 | 52 | 1998 |
| 02/14/17 | Annex Creek | High Temperature | 54 | 44 | 2015 |
| 02/14/17 | Craig | High Temperature | 54 | 51 | 1991 |
| 02/14/17 | Delta Junction | High Temperature | 45 | 39 | 1977 |
| 02/14/17 | Juneau | High Temperature | 53 | 46 | 1977 |

| | | | | | |
|----------|----------|------------------|----|----|------|
| 02/14/17 | Sitka | High Temperature | 52 | 51 | 1986 |
| 02/20/17 | Cold Bay | Low Temperature | -6 | -3 | 1982 |

Precipitation

Continuing the trend from December and January, February's precipitation was above normal, with the overall precipitation calculated as 18% above the average; this calculation was based on the mean of the deviations in percentage of the First Order Stations. Ten of the First Order Stations and twelve days of the month reported above normal values. This is wetter than February 2016, which reported a positive precipitation deviation of 9% above normal. The greatest daily precipitation amount occurred on the 23rd. The leading station with a greater than normal monthly precipitation amount was Fairbanks with 1.24", or 195% above normal. Barrow reported the next greatest deviation with 186% above normal. The relatively driest station was Kodiak with 42% of normal.

| Station | Precipitation | | | | |
|-----------------|------------------|----------------|---------------|--------------|------|
| | Observed (in) | Normal (in) | Delta (in) | Delta (%) | (%) |
| Anchorage | 0.99 | 0.72 | 0.27 | 38% | 138% |
| Annette | 5.19 | 7.31 | -2.12 | -29% | 71% |
| Barrow | 0.40 | 0.14 | 0.26 | 186% | 286% |
| Bethel | 0.68 | 0.72 | -0.04 | -6% | 94% |
| Bettles | 1.02 | 0.85 | 0.17 | 20% | 120% |
| Cold Bay | 1.85 | 2.98 | -1.13 | -38% | 62% |
| Delta Junction | 0.26 | 0.28 | -0.02 | -7% | 93% |
| Fairbanks | 1.24 | 0.42 | 0.82 | 195% | 295% |
| Gulkana | 0.48 | 0.51 | -0.03 | -6% | 94% |
| Homer | 1.65 | 1.71 | -0.06 | -4% | 96% |
| Juneau | 4.31 | 4.13 | 0.18 | 4% | 104% |
| King Salmon | 1.05 | 0.76 | 0.29 | 38% | 138% |
| Kodiak | 2.59 | 6.14 | -3.55 | -58% | 42% |
| Kotzebue | 1.04 | 0.66 | 0.38 | 58% | 158% |
| McGrath | 0.66 | 0.94 | -0.28 | -30% | 70% |
| Nome | 1.03 | 0.93 | 0.10 | 11% | 111% |
| St. Paul Island | 1.58 | 1.30 | 0.28 | 22% | 122% |
| Talkeetna | 0.96 | 1.45 | -0.49 | -34% | 66% |
| Yakutat | 7.85 | 10.86 | -3.01 | -28% | 72% |



February's highest monthly precipitation total reported for a First Order Station was 7.85" at Yakutat, and Yakutat also reported the highest daily total of 2.60" on the 13th. There were a limited number of precipitation records as noted in the table below.

| Date | Precipitation Records | | | | |
|----------|-----------------------|---------------|------------|------------|--------------------|
| | Station | Element | New Record | Old Record | Year of old Record |
| 02/11/17 | Juneau | Precipitation | 1.86 | 0.82 | 1994 |
| 02/11/17 | Sitka | Precipitation | 3.39 | 1.87 | 2002 |
| 02/12/17 | Auke Bay | Precipitation | 1.59 | 0.81 | 1983 |
| 02/12/17 | Hollis | Precipitation | 1.50 | 1.02 | 1960 |
| 02/23/17 | Bettles | Precipitation | 0.36 | 0.31 | 1964 |
| 02/23/17 | Fairbanks | Precipitation | 0.19 | 0.70 | 1956 |
| 02/23/17 | Nome | Precipitation | 0.67 | 0.54 | 1988 |
| 02/24/17 | Fairbanks | Precipitation | 0.33 | 0.13 | 1929 |
| 02/25/17 | Fairbanks | Precipitation | 0.43 | 0.40 | 1989 |

Snowfall

February was the third month this winter with above average snowfall across the State. Based on the mean of the deviations from all 15 stations, which measure snowfall, the overall deviation from the normals was 18% above the expected amount. This is considerably greater than the snowfall deviation from February 2016, which had a 49% deficit. Five of the 15 First Order Stations reported above normal snowfall. Fairbanks, like December, had the greatest positive deviation at 188% above its expected amount with a total of 23.3". This is the 7th snowiest February on record for Fairbanks. Yakutat reported the greatest snowfall amount for the month of 29.4". Kotzebue reported the highest one-day snowfall at 10.9" on the 23rd, a new daily record, breaking the 2011 record of 8.5". This is also greatest one-day snowfall for Kotzebue in February breaking the previous record of 9.9" from 2011. The greatest snow depth was 45" and was reported at Kotzebue on the 26th and 27th. There were a limited number of snowfall records as noted in the table below. Fairbanks set three consecutive records from the 23rd to the 25th. The snow depth at the Fairbanks airport reached 34" on the 26th, a depth that had not been reached since January 1993. Overall snowpack continued to be lower than normal, but just by around 5%.

| Station | Snowfall | | | | |
|-----------------|------------------|----------------|---------------|--------------|------|
| | Observed (in) | Normal (in) | Delta (in) | Delta (%) | (%) |
| Anchorage | 19.6 | 10.9 | 8.7 | 80% | 180% |
| Annette | 9.4 | 7.2 | 2.2 | 31% | 131% |
| Barrow | 4.9 | 2.6 | 2.3 | 88% | 188% |
| Bethel | 6.5 | 6.9 | -0.4 | -6% | 94% |
| Bettles | 16.8 | 14.0 | 2.8 | 20% | 120% |
| Cold Bay | 7.3 | 12.9 | -5.6 | -43% | 57% |
| Fairbanks | 23.3 | 8.1 | 15.2 | 188% | 288% |
| Juneau | 4.1 | 16.8 | -12.7 | -76% | 24% |
| King Salmon | 9.6 | 6.0 | 3.6 | 60% | 160% |
| Kodiak | 12.8 | 15.1 | -2.3 | -15% | 85% |
| Kotzebue | 19.2 | 9.6 | 9.6 | 100% | 200% |
| McGrath | 11.8 | 13.1 | -1.3 | -10% | 90% |
| Nome | 17.2 | 12.2 | 5.0 | 41% | 141% |
| St. Paul Island | 10.1 | 10.0 | 0.1 | 1% | 101% |
| Yakutat | 29.4 | 28.6 | 0.8 | 3% | 103% |

| Date | Snowfall Records | | | | |
|----------|------------------|----------|------------|------------|--------------------|
| | Station | Element | New Record | Old Record | Year of old Record |
| 02/10/17 | Craig | Snowfall | 1.8 | 1.0 | 1949 |
| 02/15/17 | Kodiak | Snowfall | 4.8 | 4.2 | 2012 |
| 02/23/17 | Fairbanks | Snowfall | 2.8 | 2.5 | 1968 |
| 02/23/17 | Kotzebue | Snowfall | 10.9 | 8.5 | 2011 |

| | | | | | |
|----------|-----------|----------|------|------|------|
| 02/23/17 | Nome | Snowfall | 10.1 | 5.6 | 1996 |
| 02/24/17 | Fairbanks | Snowfall | 3.5 | 2.6 | 2008 |
| 02/25/17 | Fairbanks | Snowfall | 7.0 | 5.0 | 2011 |
| 02/28/17 | Annette | Snowfall | 7.00 | 5.20 | 1965 |

Newsworthy Events

Winds up to 63 mph were reported near Juneau on the 2nd due to a storm in the Southeast, while minor wind damage was reported near Ketchikan on the 3rd. The 5th of the month brought to a total of five years since Barrow had seen temperatures at or below -40°F, the longest stretch on record. Hazardous driving conditions were reported along the Dalton Highway on the 8th due to high winds, drifting snow and low visibility. Difficult trail conditions along the Iditarod sled dog race trail by the 11th resulted in the move of the restart of the race from Wasilla to Fairbanks for March 6th. Haines reported more than a foot of snow on the 11th, while wind gust up to 44 mph were reported at Sitka. More than a foot of snow fell on the Richardson Highway near Glennallen on the 13th.

Rain and rising temperatures on the 14th results in difficult driving conditions and avalanche danger in the Southcentral area and four schools were closed in the Mat-Su Borough. Avalanche reduction work was performed on the Seward Highway along Turnagain Arm, and backcountry avalanche warnings were issued for Kenai and Chugach Mountains.

The Klondike Highway was closed on the 14th, while hazardous driving conditions were reported along the Edgerton, Dalton, Richardson and Seward Highways. On the 15th hazardous driving conditions were reported on the Dalton Highway, and the Klondike Highway was closed again. More than 6" of snow on the Seward Highway near Seward on the 17th made for difficult driving.

Stormy weather on the 22nd resulted in blizzard conditions at Toksook Bay with wind speeds up to 47 mph. More than 8" of snow fell at Kenai. Two-day snowfall totals for areas of the Interior on the 24th were: 9.6" at Fairbanks, 9.5" at Two Rivers, 9.4" at College Hills", 13.0" at Chandalar Camp, 7.7" at Fox, 10.1" at Nome", 12.0" at Kiana and Noatak. All the snow resulted in hazardous driving conditions along the Dalton and Elliott Highways on the 24th and 25th. On the 26th, the totals for the three days of snow were: 17.1" at the Fairbanks airport, 11.2" at Upper Chena River, 9.6" and at McKinley Park. On the 26th the Steese and Dalton Highways were closed due to the snow, while the next day the Elliott Highways was again closed due to the snow. Avalanche reduction efforts were carried out along the Dalton Highway in the Brooks Range on the 26th through 28th to clear the road at Atigun Pass. An avalanche in the pass had caught four semi-trucks, but no one was hurt. The road remained closed until the end of the month.

A storm brought a fair amount snow along the Panhandle on the 28th with totals of 5.0" at Pelican, 7.5" at Petersburg, 7.0" at Wrangle and 9.5" at Ketchikan.

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. 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.