



## Weather & Climate Summary Denali National Park & Preserve Summer 2016

### Denali Summer Weather

June was a bit warmer and wetter than normal. The average monthly temperature of 53.7°F was 0.9°F warmer than normal. The high temperature for the month was 81°F, which occurred on the 17th and the low temperature 32°F was recorded on June 2nd. The total rainfall for June was 2.55 inches, which is 0.40 inches more than normal.

July was near normal in terms of temperature, but quite wet. The average air temperature was 0.6°F warmer than normal at 56.2°F. There was measurable precipitation on 25 out of 31 days of the month. Total rainfall for the month was 5.82 inches, 181% of normal for July. There were five days of the month with >0.5 inches of rain recorded over a 24-hr period. It was the 5th wettest July on record; 2015 was the 4th wettest.

August was warmer and drier than normal. The average temperature for the month was 3.3°F warmer than normal at 53.9°F and precipitation totals were below normal. 1.76 inches of rain fell during the month, which is 65% of normal.

Overall, summer of 2016 was the 14th wettest summer on record. A total of 10.13 inches of rain fell over the three month period. The seasonal temperature was 1.6°F above normal and the 13th warmest summer on record (Figures 1 and 2; Tables 1 and 2).

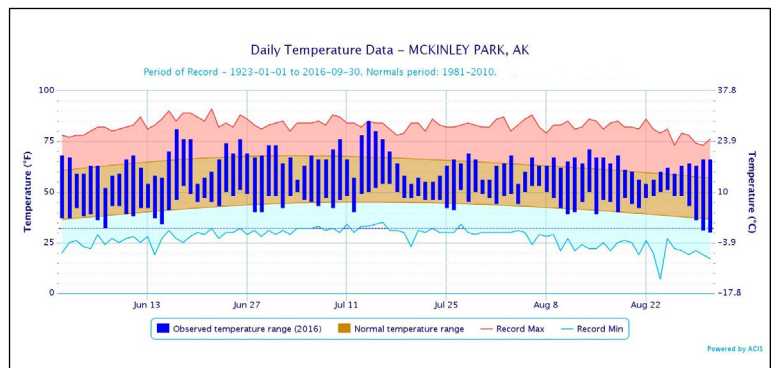


Figure 1. Summer 2016 daily temperatures at Denali showing **record maximum** (red), **record minimum** (blue), **normal** (brown) and 2016 observed **maximum** and **minimum**.

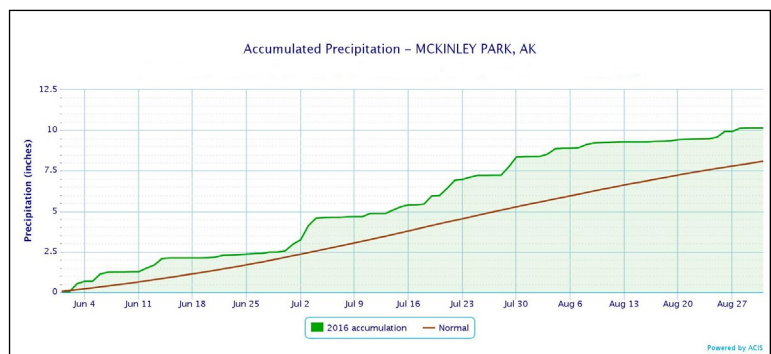


Figure 2. Summer **2016** (green) accumulated precipitation at Denali compared to **normal** (brown line).

Table 1. Temperature: Summer 2016 average monthly temperatures compared to the 1981-2010 normal.

| Summer 2016 | Average Monthly Temp °F | 1981-2010 Normal °F | Departure from Normal °F | Monthly High °F / Date | Monthly Low °F / Date |
|-------------|-------------------------|---------------------|--------------------------|------------------------|-----------------------|
| June        | 53.7                    | 52.8                | +0.9                     | 81 / Jun 17            | 32 / Jun 7            |
| July        | 56.2                    | 55.6                | +0.6                     | 85* / Jul 14           | 40 / Jul 12           |
| August      | 53.9                    | 50.6                | +3.3                     | 71 / Aug 14            | 30 / Aug-31           |

\*Record Daily High; Summer Season Temperature Departure from Normal: +1.6°F

Table 2. Precipitation: Summer 2016 monthly precipitation totals compared to normal.

| Summer 2016 | Total Monthly Precip. in. | 1981-2010 Normal in. | Departure from Normal in. | Greatest 24 -hr. total in. / Date | # Days with >=0.01 in. water |
|-------------|---------------------------|----------------------|---------------------------|-----------------------------------|------------------------------|
| June        | 2.55                      | 2.15                 | +0.40                     | 0.50 / Jun 3                      | 21                           |
| July        | 5.82                      | 3.22                 | +2.60                     | 0.87 / Jul 3                      | 24                           |
| August      | 1.76                      | 2.71                 | -0.95                     | 0.35 / Aug 26                     | 24                           |

Summer Season Rainfall Departure from Normal: +2.05 inches (125% of normal)

## Climate Monitoring in Denali National Park & Preserve

NPS climate stations in Denali complement the long-term record available from the National Weather Service station at park headquarters (Figure 3).

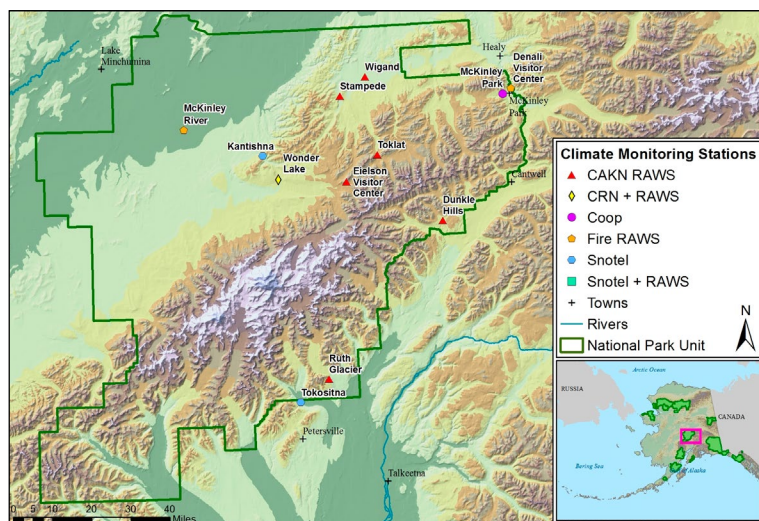


Figure 3. NPS stations in Denali National Park & Preserve.

## Denali Summer Rain: Wetter out West

Last year we reported that the total summer rainfall at Toklat for 2015 was 15.59 inches making it the wettest summer since the station was installed in 2005. That record only lasted a year; the summer of 2016 was wetter. A total of 16.66 inches of rain fell at Toklat between June 1 and August 31, with most of that falling during July (10.82 inches). July 16th, with a total of 2.15 inches, was the wettest 24-hour period of the summer at Toklat.

Eielson Visitor Center and Wonder Lake both had the wettest summer in over a decade of measurements with a summer total of 25.22 inches recorded at Eielson (20.88 in 2015; 21.36 in 2014) and 18.21 inches recorded at Wonder Lake (13.63 inches in 2015; 15.68 inches in 2014). Note: Earlier records from Eielson indicate wetter years in 2000, 2002, and 2003, but the instrumentation and location were different.

## Mountain Stations: Temperatures Up High

In 2016, the Denali mountaineering team helped establish two new sites on Denali, one at 16,200' (16K) and one at 17,200' (17K).

August Temperature Summary: The average temperature in August was 12.0°F at 16K and 5.9°F at 17K. The minimum for the month was -2.2°F at 16K and -6.7°F at 17K. The high temperature was 31.6°F at the lower elevation site and 23.4°F at 17K. Daily temperatures are shown (Figure 4).

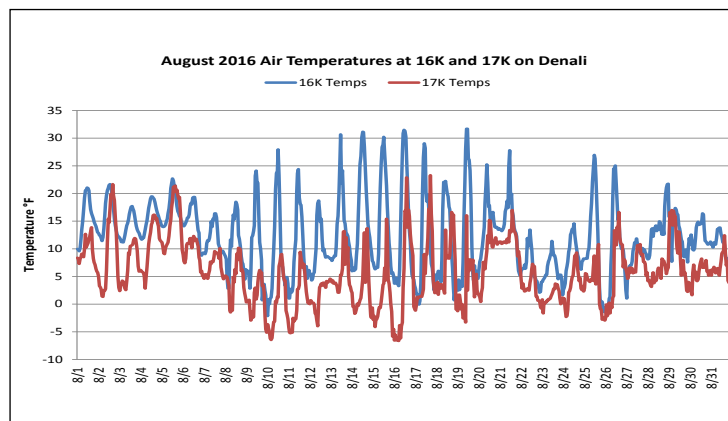


Figure 4. August air temperatures at 16K (blue) and 17K (red) on Denali.

## More Information

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