



Weather & Climate Summary Gates of the Arctic National Park & Preserve Spring 2018

Bettles Spring Weather 2018

Spring Highlights: March was warm; snowfall totals were below normal, and May was wet.

Overall, spring 2018 was warmer than normal, mostly due to a warm March. It was also wetter than normal, due to above normal rainfall in May. It was the 7th wettest spring on record with a total of 3.57 inches of precipitation (melted snow and rain), which is 173% of normal. The spring snowfall total was only 66% of normal with a total of 11.2 inches recorded between March 1 and May 31. The average spring temperature was 1.7°F warmer than the 1981-2010 normal, and ranked as the 16th warmest on record (Figures 1 and 2; Tables 1, 2, and 3).

The cumulative snowfall for the 2017-2018 season (Jul 1-Jun 30) was 113.7 inches, normal is 91.4 inches. It was the 8th snowiest season on record, with most of the snow falling in late fall and early winter.

March was warmer than normal with an average temperature of 8.7°F for the month, compared to a normal of 4.4°F. Temperatures were warmer than normal from about March 5-14 and then cooled off again after mid-month. A total of 9.9 inches of snow fell, normal is 9.3 inches; the water equivalent of the snow was 84% of normal. The snow depth at the end of the month was 36 inches.

April was just about normal in terms of temperature. The average monthly temperature was 23.1°F, which is 0.2°F cooler than the 1981-2010 normal. Temperatures were above freezing the last week of the month, which resulted in a wet snow/rain accumulation of 0.64 inches with only 0.5 inches of measurable snow for the month. Normally there is 6.3 inches of total snowfall in April. There was still 19 inches of snow on the ground on the last day of April.

May was warmer than normal. The mean monthly temperature was 45.3°F, 0.9°F warmer than normal and the 6th warmest May on record. The precipitation total for the month was 2.44 inches, which is 277% of normal. It was the 2nd wettest May on record. Only 0.8 inches of snow was recorded for the month, so most of that precipitation fell as rain (or sleet). The melt-out date for Bettles was on May 14, a few days later than normal (normal is May 10).

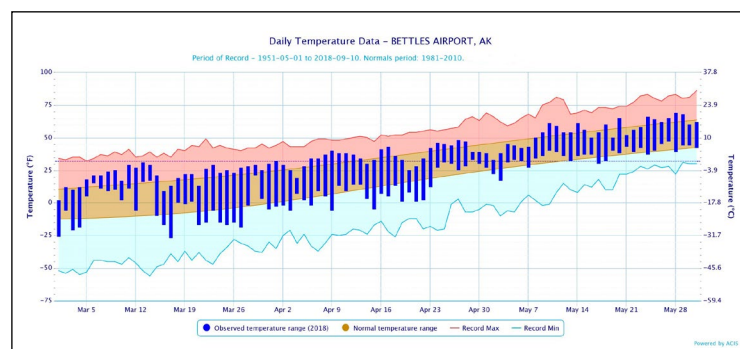


Figure 1. Spring 2018 daily temperatures at Bettles showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

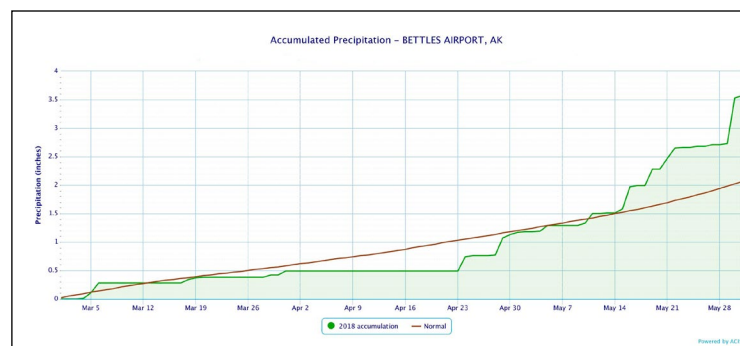


Figure 2. Spring 2018 accumulated precipitation at Bettles (green) compared to normal (brown line).

Table 1. Temperature: Spring 2018 average monthly temperatures compared to the 1981-2010 normal.

Spring 2018	Average Monthly Temp (°F)	1981-2010 Normal (°F)	Departure from Normal (°F)	Monthly High (°F / Date)	Monthly Low (°F / Date)
March	8.7	4.4	+4.3	31 / Mar 13	-27 / Mar 17
April	23.1	23.3	-0.2	48 / Apr 27	-6 / Mar 3, 9
May	45.3	44.4	+0.9	69 / May 28	17 / May 3

Spring Season Temperature Departure from Normal: +1.6°F.

Table 2. Precipitation: Spring 2018 monthly precipitation totals compared to normal.

Spring 2018	Total Monthly Precip. (in.)	1981-2010 Normal (in.)	Departure from Normal (in.)	Greatest 24 -hr. total (in. / Date)	# Days with ≥ 0.01 in. water
March	0.49	0.58	-0.09	0.17 / Mar 6	8
April	0.64	0.60	+0.04	0.30 / Apr 29	5
May	2.44	0.88	+1.56	0.80 / May 30	19

Spring Season Precipitation Departure from Normal: +1.51 inches (173% of normal).

Table 3. Snowfall: Spring 2018 monthly snowfall totals compared to normal.

Spring 2018	Total Monthly Snowfall (in.)	1981-2010 Normal (in.)	Departure from Normal (in.)	Greatest 24-hr snowfall total (in. / Date)	Seasonal Cumulative Snowfall (in.)
March	9.9	9.3	+0.6	3.2 / Mar 6	112.4
April	0.5	6.3	-5.8	0.3 / Apr 30	112.9
May	0.8	1.3	-0.5	0.5 / May 1	113.7

2017-2018 Snow Season Wrap-Up

The lack of sea ice in the Bering and Chukchi Seas in late fall, coupled with record warm temperatures, and persistent southerly storm tracks, primed western Alaska and the Central Interior of Alaska for an abundant amount of snow early in the season. With just over 113 inches, 2017-2018 ranks as the 8th snowiest on record for Bettles. This was the snowiest season since 2009. During the epic season of 1992-1993, over 170 inches of snow was recorded at Bettles (Figure 3).

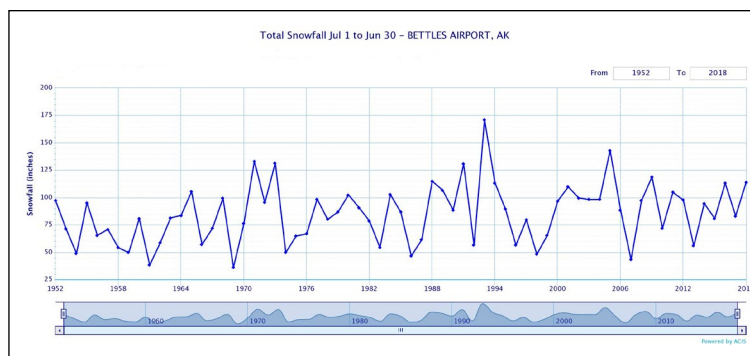


Figure 3. Total annual snowfall (Jul 1 – Jun 30) at Bettles 1952-2018.

The snowpack conditions are captured by the camera at the Pamichtuk climate station at 3100' in the Brooks Range. While the snowpack was robust in valley bottoms, most of the snow that fell at this exposed location was redeposited by persistent winds, which is not unusual (Figure 4).

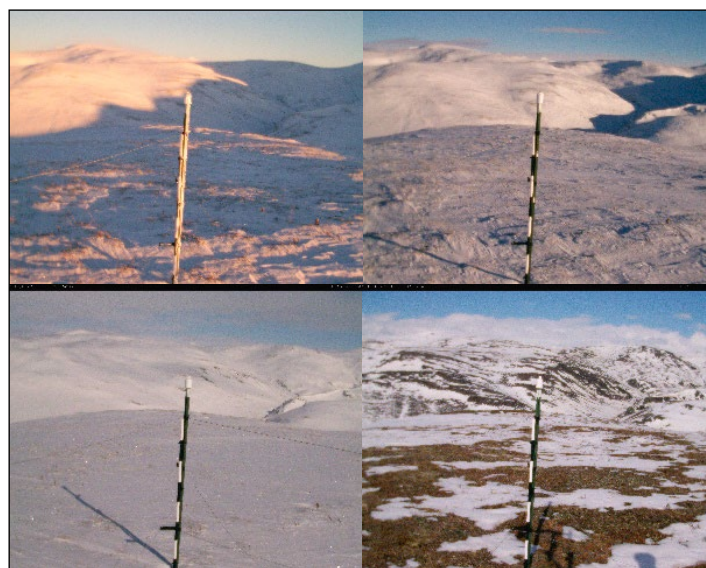


Figure 4. Images taken from the Pamichtuk climate site, at the end of January (top left), February (top right), March (bottom left), and April (bottom right) 2018.

More Information

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[Current Weather in Gates of the Arctic NP & Pres.](#)

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