



Weather & Climate Summary Western Arctic Parklands Spring 2018

Kotzebue Spring Weather 2018

Spring Highlights: Warm temperatures and a snowy March.

The spring of 2018 ranked as the **2nd warmest, 2nd snowiest, and 2nd wettest on record** in Kotzebue! The average spring temperature was 7.9°F warmer than normal at 23.3°F. The precipitation total for the spring (melted snow plus rain) was 2.68 inches, normal is 1.39 inches. Over 28 inches of snow fell during the spring months, which is more than twice as much as normal; almost all of that fell in March. The cumulative snowfall for the 2017-2018 season (Jul 1-Jun 30) was 107.6 inches, normal is 59.8 inches, the 2nd highest annual snowfall on record for Kotzebue.

March was 11.7°F warmer than normal with an average monthly temperature of 12.8°F. It ranks as the 2nd warmest March on record. March 2018 was also the snowiest March on record with an impressive 24.3 inches of snow for the month. Precipitation (water equivalent) for the month was 2.12 inches, 482% of normal and ranks as the 2nd wettest March on record.

The snow tapered off in April, but the warm temperatures persisted. The average monthly temperature was 21.3°F, normal is 13.3°F. Every day was warmer than normal in April, except for April 21st which was right at normal. Only an inch of snow was recorded for the month; normal is 5 inches. The water equivalent of that snow was 35% of normal.

May temperatures moderated a bit, but the average monthly temperature was still 4.0°F warmer than normal. The first few weeks of the month brought a little more snow with a total of

2.9 inches for the month. The total water equivalent for May was just below normal with 0.37 inches.. Most of that fell as snow or a rain/snow mix (Figures 1 and 2; Tables 1, 2, and 3). The melt out date at the airport was May 14.

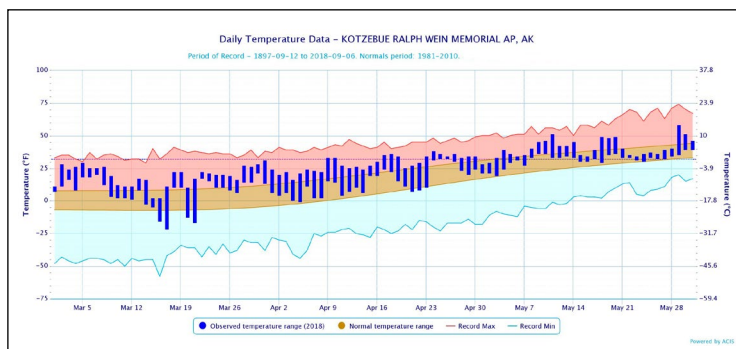


Figure 1. Spring 2018 daily temperatures at Kotzebue showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

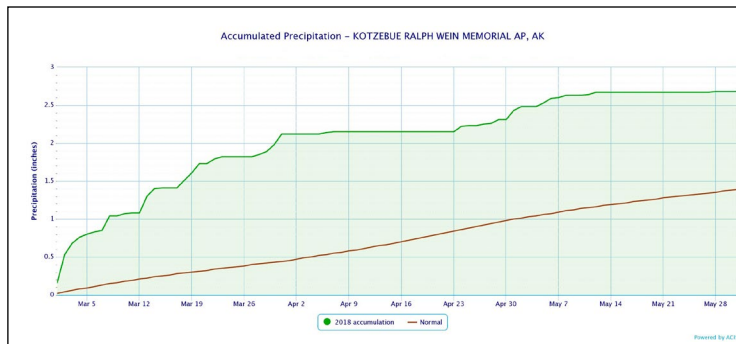


Figure 2. Spring 2018 accumulated precipitation at Kotzebue (green) compared to normal (brown line).

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	12.8	1.1	+11.7	31 / Mar 31	-22 / Mar 17
April	21.3	13.3	+8.0	38 / Apr 24	-1 / Apr 5
May	35.9	31.9	+4.0	58 / May 29	19 / May 3

Spring Season Temperature Departure from Normal: +7.9°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	2.12	0.44	+1.68	0.37 / Mar 2	22
April	0.19	0.54	-0.35	0.07 / Apr 24	7
May	0.37	0.41	-0.04	0.12 / May 1	9

Spring Season Precipitation Departure from Normal: +1.29 inches (193% of normal).

Table 3. Snowfall: Spring 2018 monthly snowfall totals compared to normal. *Snowiest March on record.

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	24.3*	5.9	+18.4	3.7 / Mar 3	103.7
April	1	5.1	-4.1	0.2 / Apr 6, 24, 27	104.7
May	2.9	1.2	+1.7	1.2 / May 1	107.6

Snow and Ice

Spring snowpack conditions are captured by the camera at the Salmon River climate site. The photos below show the winter-like scene at the beginning of May and the spring-like scene at the end of May (Figure 3).



Figure 3. Looking NE from the Salmon River climate station at the beginning of May (left) and the end of May (right).

Where's the Ice?

John Walsh, the Chief Scientist at the International Arctic Research Center/UAF wrote a compelling article in the Alaska Climate Dispatch on the “remarkable winter of 2017-2018” summarizing the lack of sea ice in the Bering and Chukchi Seas (Figure 4). Walsh refers to the “perfect storm” of several contributing factors including 1) remnant ocean heat from the “blob” of warm water in the North Pacific in 2014-2016 that led to low ice extent in previous years, 2) warm air temperatures in late 2017, and 3) a stormy fall season with strong southerly flow (that drove ocean currents and ice to the north).

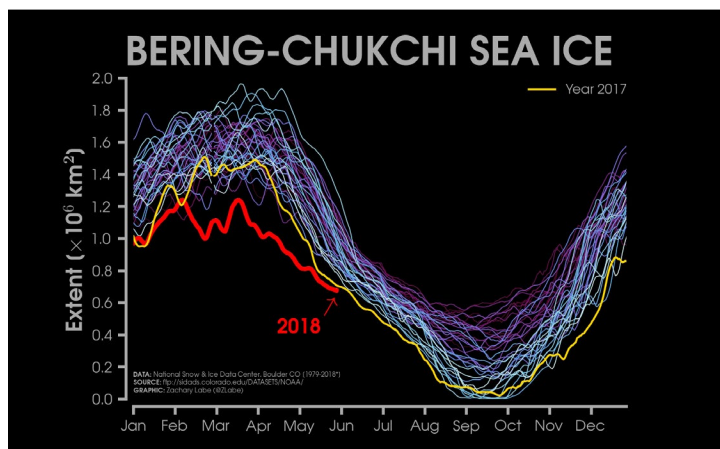


Figure 4. Bering-Chukchi sea ice remained at record low levels through the spring of 2018. Graph courtesy of Zach Labe, University of California-Irvine.

More Information

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