



Quarterly Weather & Climate Summary Bering Land Bridge National Preserve Spring 2015

Nome Spring Weather

March temperatures were cooler than normal and the snowfall and precipitation were near normal. The average temperature for March was 6.5°F compared to a normal of 10.3°F. Mid-March was particularly cool with daily high temperatures that were below the normal low temperature range. 8.8 inches of snow fell during the month, which is just about normal; 5.5 inches of that fell on March 6th breaking a record for that day (previous record 3.3 inches in 1954). Nome and Kotzebue were the only two locations in the state with cooler than normal temperatures for March (based on data from the first order weather stations).

The average April temperature was a degree above normal at 21.5°F; although above normal, this was nearly 7°F cooler than last April. There was a stretch of cool temperatures from April 11 -18. Precipitation was just below normal at 0.61 inches, with the snowfall total of 7.6 inches coming in just 0.1 inch above the 1981-2010 normal.

It was the eleventh warmest May since 1907. There were only 5 days where the minimum daily temperature was lower than the long-term average, but there were 23 days when the daily high temperature was above the normal high for the day. There were near record breaking high temperatures on May 4 and 31. The average temperature of 15.7°F for the month was 8.3°F warmer than normal. Precipitation was 173% of normal for May with 17 of 31 days having measurable rain. Only a trace of snow was recorded for the month; 2.3 inches of snow is the long-term average.

Overall, spring 2015 was slightly warmer and wetter than normal. The average spring temperature at Nome was 23.0°F

which is 0.5°F warmer than the 1981-2010 normal and 2.0°F warmer than the long-term average since 1907 (see Figure 5). The spring precipitation total was 2.80 inches, 123% of normal (Figures 1 and 2; Table 1, 2, and 3).

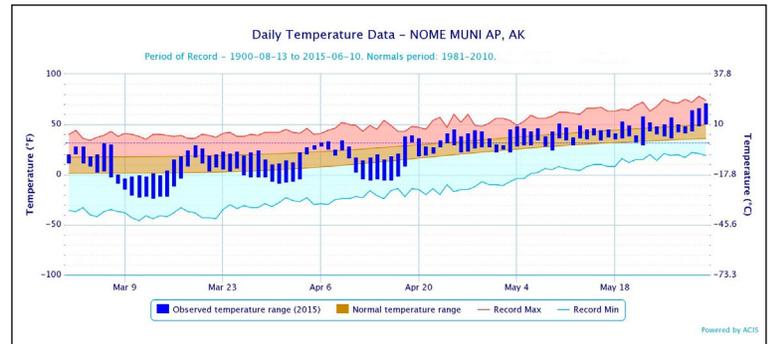


Figure 1. Spring 2015 daily temperatures at Nome showing record maximum (red), record minimum (blue), normal (brown) and observed range (blue bars).

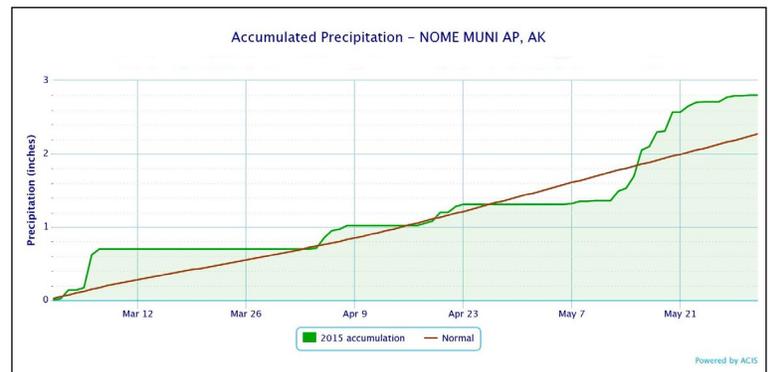


Figure 2. Spring 2015 accumulated precipitation at Nome (green) compared to normal (brown line).

Table 1. Temperature: Spring 2015 average monthly temperatures compared to the 1981-2010 normal.

Spring 2015	Average Monthly Temp °F	1981-2010 Normal °F	Departure from Normal °F	Monthly High °F / Date	Monthly Low °F / Date
March	6.5	10.3	-3.8	31 / Mar. 6	-24 / Mar. 13
April	21.5	20.5	+1.0	45 / Apr. 25	-8 / Apr. 1
May	41.1	36.8	+4.3	71 / May 31	22 / May 1, 3

Spring Season Temperature Departure from Normal: +0.5°F

Table 2. Precipitation: Spring 2015 monthly precipitation totals compared to normal.

Spring 2015	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	0.70	0.65	+0.05	0.45 / Mar. 6	5
April	0.61	0.76	-0.15	0.14 / Apr. 5	10
May	1.49	0.86	+0.63	0.36 / May 16	17

Spring Season Precipitation Departure from Normal: +0.53 inches (123% of normal)

Table 3. Snowfall: Spring 2015 monthly snowfall totals compared to normal.

Spring 2015	Total Monthly Snowfall in.	1981-2010 Normal in.	Departure from Normal in.	Greatest 24 -hr. snowfall total in. / Date	Cumulative snowfall since 1-July in.
March	8.8	8.9	-0.1	5.5 / Mar. 6	52.1
April	7.6	7.5	+0.1	1.8 / Apr. 20	59.7
May	T	2.3	-2.3	T / May 12, 21	59.7

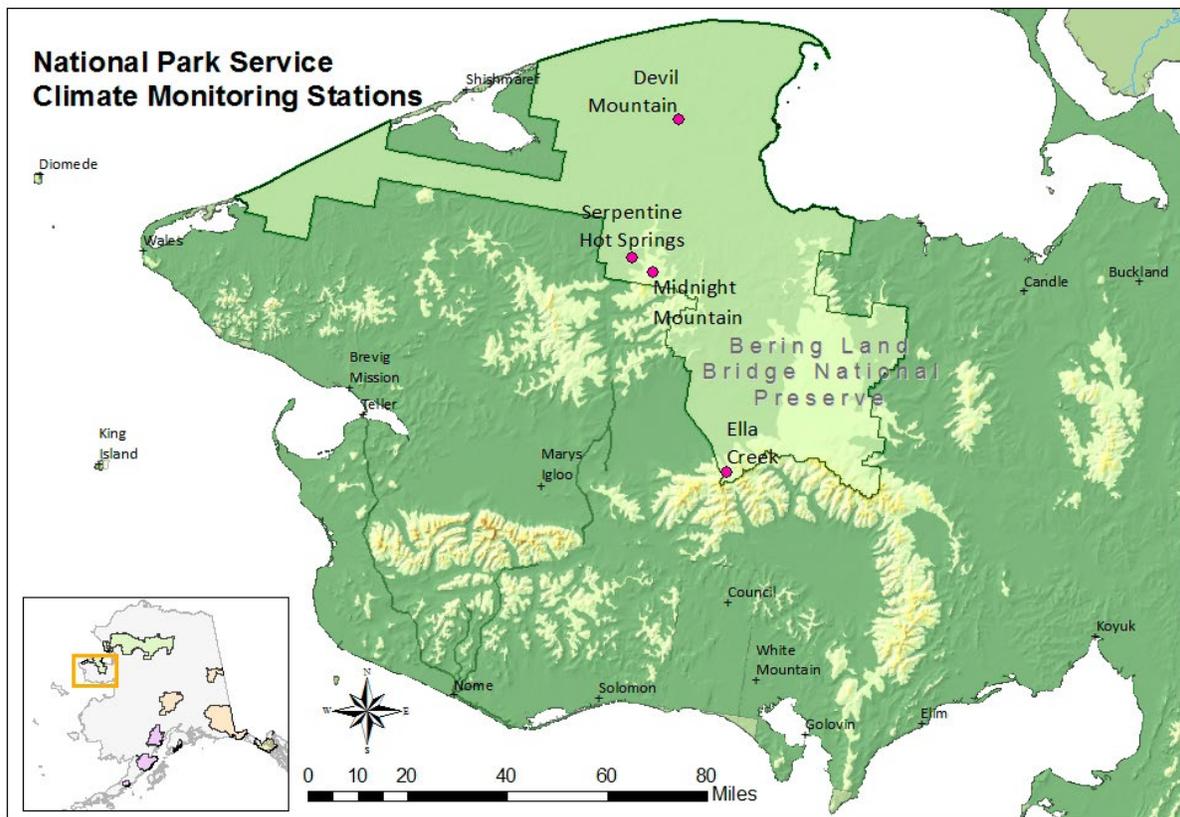


Figure 3. NPS Climate stations in Bering Land Bridge National Preserve.

Table 4. Summary of weather statistics from the Bering Land Bridge N Pres. climate stations. All data are preliminary and subject to review. *Snow depth measurements may not be representative of surrounding terrain due to complex topography and wind redistribution.

Site	Elev. (ft)	Average Temp °F			Extreme High (°F)	Extreme Low (°F)	Average Temp. Spring Season (°F)	Peak Wind (mph)	Apr. 30 Snow Depth (inches)	Snow Off Date
		Mar	Apr	May						
Devil Mtn	285	-3.7	14.0	37.2	55	-21	15.8	30	12	15-May
Ella Creek	2260	4.4	17.3	38.0	55	-19	19.9	m	22	18-May
Hoodoo Hill	1495	-0.9	15.7	40.5	68	-27	18.4	50	—	—
Serpentine	518	-3.4	15.0	39.7	58	-23	17.1	28	< 1	11-May

Interesting Notes from the RAWS Stations

- The high elevation Ella Creek site (2260 feet) was the warmest station on average for the spring season (19.9°F).
- The snowpack peaked at Devil Mountain in early May (12.6 inches) and at Ella Creek in mid- April (27 inches); both sites melted out quickly when the air temperatures climbed above freezing for a few days. Both sites went from having 1 to 2 ft. of snow to no snow in a matter of days.
- The wind sensor at Ella Creek stopped working around the third week of December, most likely due to a combination of icing and high winds. The sensor was replaced in early June.
- The lowest temperature recorded for the spring season was -27°F at Hoodoo Hill on March 12.

Climate Monitoring in Bering Land Bridge National Preserve

NPS climate stations were installed in Bering Land Bridge National Preserve in 2011 and 2012 as part of the Arctic Network Inventory and Monitoring Program (Figure 3). These new stations complement the long-term record from the National Weather Service station in Nome. The NPS stations will provide critical data for the Seward Peninsula which will help characterize the climate gradients and patterns affecting resources in the Preserve. Table 4 summarizes the spring data for these sites.

We have added a phenology camera to the Serpentine Hot Springs station. This camera captures images five times per day; the photos are stored on site and downloaded once a year. The images are used to help quantify the snow season, green-up period, and other basic phenologic information. Figure 4 shows selected images captured from the Serpentine camera in spring 2015.

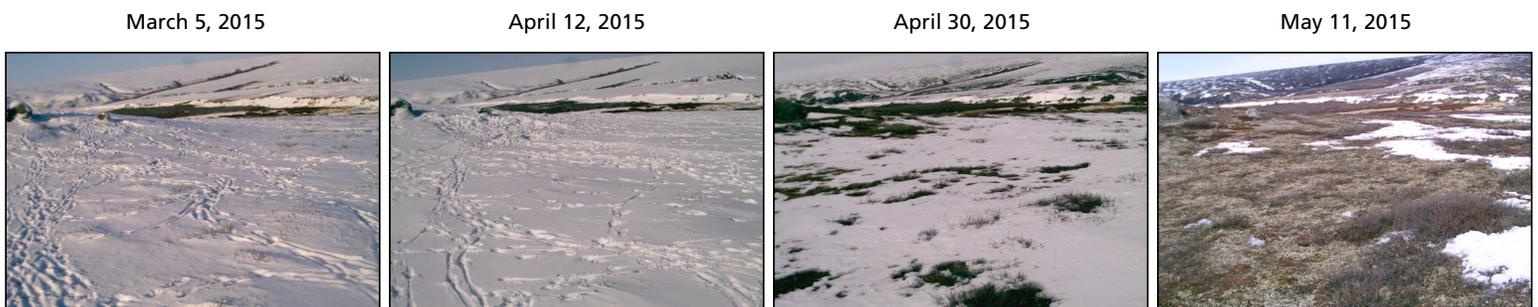


Figure 4. Selected images from the Serpentine Hot Springs time lapse camera from March 2015 – May 2015.

Nome Spring Temperature Trend

The average spring temperature for 2015 was 23.0°F which is 0.5°F warmer than the 1981-2010 normal and 2.0° F warmer than the long-term record beginning in 1907. 2015 ranks as the fortieth warmest spring on record.

We calculate the average spring temperature by simply taking the average of March, April, and May monthly temperatures. Average spring temperatures show great variability with a range between 11.3°F in 1920 and 29.7°F in 1981.

The overall trend is positive, but the temperature increase is non-linear, with multi-decadal variations. The warmest springs on record were during the late 1970s and early 1980s (Figure 5).

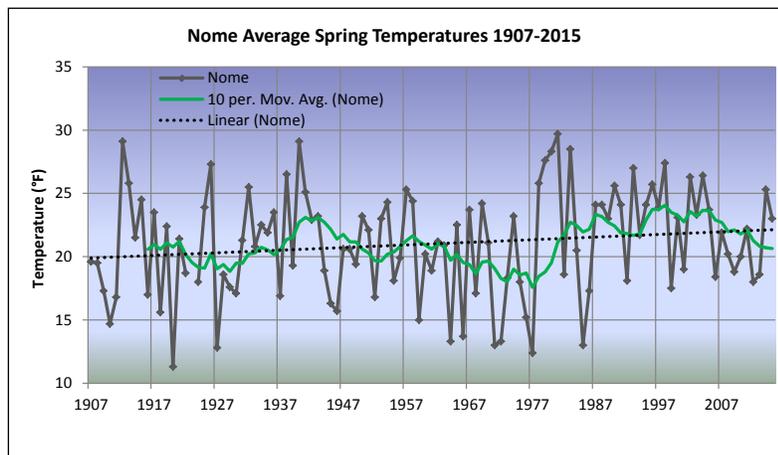


Figure 5. Average spring temperatures (March, April, May) at Nome since 1907. The green line is a 10-year moving average. The dashed line is a simple linear regression.

Nome Spring Precipitation Trend

The total precipitation for spring 2015 was 2.8 inches which is 123% of the 1981-2010 normal and 134% of the long-term average.

The driest period on record occurred during the late 1960s and early 1970s. 1998 was the wettest spring on record with a total of 6.20 inches of precipitation and 1928 was the driest with only 0.04 inches recorded. There is no significant trend in the spring precipitation data for Nome (Figure 6).

Spring is the driest season in Nome. Only 14% of the total annual precipitation falls during March, April and May. Summer is the wettest season with 38% of the annual precipitation, followed by fall with 31% and winter with 17%.

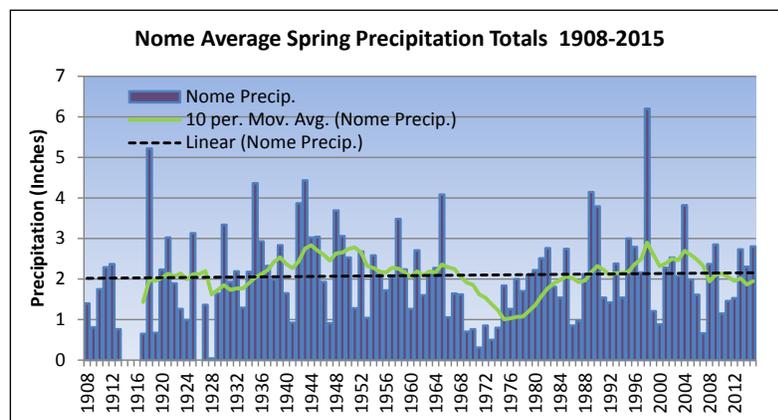


Figure 6. Total spring precipitation (March, April, May) at Nome since 1908. The green line is a 10-year moving average. The dashed line is a simple linear regression.

Connecting Further

- Previous weather summaries and other climate monitoring documents on the [Arctic Network web portal](#)
- Access near real-time data from [Western Regional Climate Center](#) and [MesoWest](#)
- Statewide summary of weather highlights in the latest [Alaska Climate Dispatch](#) from the Alaska Center for Climate Assessment and Policy

- [Maps](#) of projected temperature and precipitation changes for Bering Land Bridge National Preserve

More Information

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