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2018 Weather in Review: Fredericksburg and Spotsylvania National Military Park

In all, 2018 was warm and extremely wet. In fact, it was a record setting year for precipitation, with higher totals than ever recorded. Weather data collected since 1895 reveals that annual average temperature and annual total precipitation are increasing, though the increase in precipitation is not statistically significant.

Information in this brief represents weather data averaged from all of the counties surrounding the park. These counties include Caroline, Fredericksburg, Orange, Spotsylvania, and Stafford. More local weather data may vary slightly from what is reported here.

Temperature

In total, 2018 was the 15th warmest year at the park since 1895, with spring and summer being particularly warm. (Figure 1). Eight months had higher than normal temperatures, with February, May, and September all being more than 5 °F above normal (Table 1).

Table 1. Average monthly, average annual, and departures from long-term average temperatures. Departures from average are based on a comparison of 2018 average temperatures to relevant averages from 1895-2017. Data are available at <https://www.ncdc.noaa.gov/cag/county/time-series>.

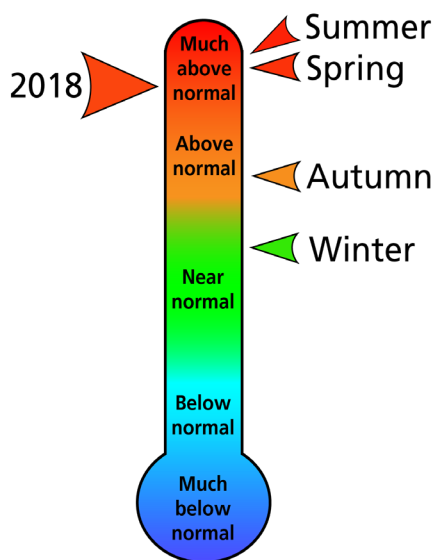


Figure 1. Seasonal and annual temperature rankings. An arrow at the top of the figure would represent the warmest year/season on record (since 1895); at the bottom, the coldest year/season on record. Data are available at <https://www.ncdc.noaa.gov/cag/county/rankings>.

Month/ Year	Average temperature (°F)	Departure from average (°F)
January	31.9	-2.5
February	44.3	+8.1
March	40.8	-4.1
April	52.7	+1.9
May	70.4	+6.6
June	73.8	+1.9
July	76.4	+0.4
August	77.1	+2.8
September	73.0	+5.1
October	59.7	+3.1
November	43.2	-2.9
December	39.4	+2.4
2018	56.9	+1.6

Precipitation

In total, 2018 was a record setting year at the park — it was the wettest year since 1895 (Figure 2). By the end of the year, 64.5 inches of precipitation had fallen, almost 23 inches more than long-term averages (Table 2).

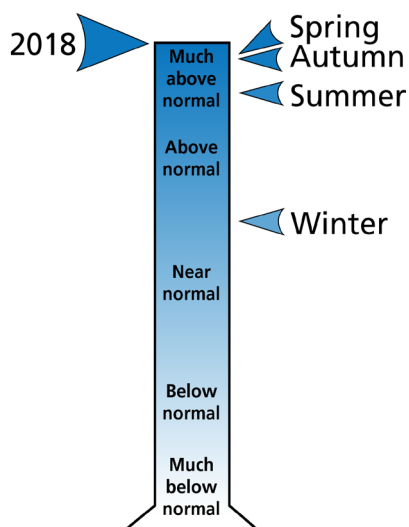


Figure 2. Seasonal and annual precipitation rankings. An arrow at the top of the figure would represent the wettest year/season on record (since 1895); at the bottom, the driest year/season on record. Data are available at <https://www.ncdc.noaa.gov/cag/county/rankings>.

Table 2. Monthly and annual total precipitation and departure from long-term averages. Departures from average are based on a comparison of 2018 precipitation to relevant averages from 1895–2017. Data are available at <https://www.ncdc.noaa.gov/cag/county/time-series>.

Month/ Year	Total precipitation (in.)	Departure from average (in.)
January	1.8	-1.3
February	5.9	+3.2
March	2.1	-1.4
April	4.3	+1.0
May	6.5	+2.6
June	7.8	+3.8
July	5.7	+1.5
August	4.4	+0.0
September	7.8	+4.1
October	5.2	+1.9
November	6.5	+3.6
December	6.6	+3.5
2018	64.5	+22.5

Temperature and Precipitation Trends (1895–2018)

Data collected in surrounding counties since the late 1800s shows a statistically significant increasing trend of 0.18 °F per decade in annual average temperature (Figure 3; $p < 0.05$, linear regression). The increasing trend in precipitation (+0.19 inches per decade) is not statistically significant.

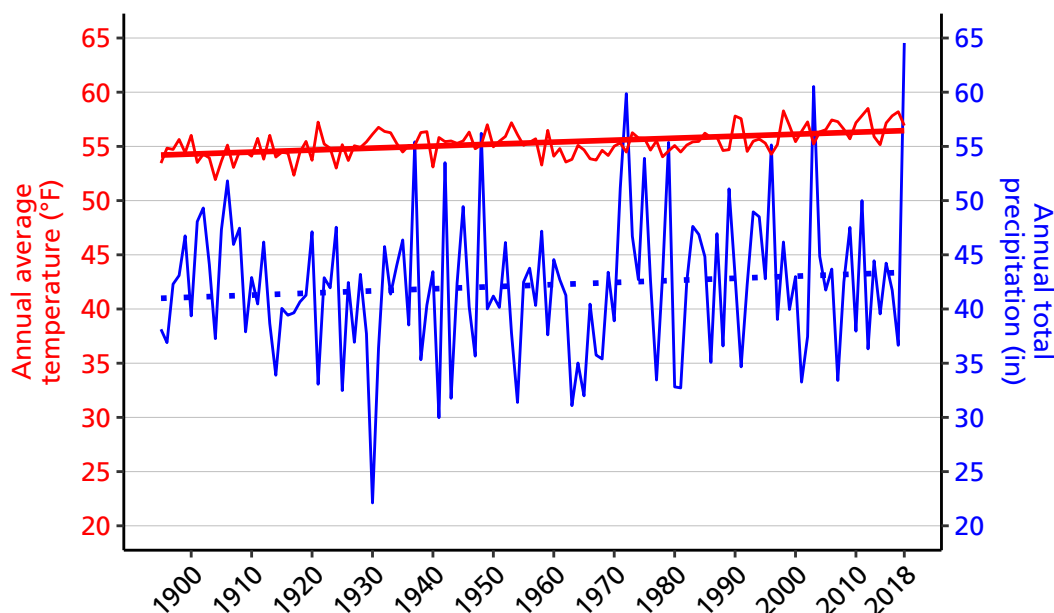


Figure 3. Annual average temperature (°F) and annual total precipitation (in.) for the counties surrounding Fredericksburg and Spotsylvania National Military Park from 1895–2018. Solid lines represent statistically significant trends ($p < 0.05$). Data are available at <https://www.ncdc.noaa.gov/cag/county/time-series>.

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Parks monitored: Appomattox Court House NHP • Booker T. Washington NM • Eisenhower NHS • Fredericksburg & Spotsylvania NMP • Gettysburg NMP • Hopewell Furnace NHS • Petersburg NB • Richmond NBP • Shenandoah NP • Valley Forge NHP

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