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2020 Weather in Review: Fredericksburg and Spotsylvania National Military Park

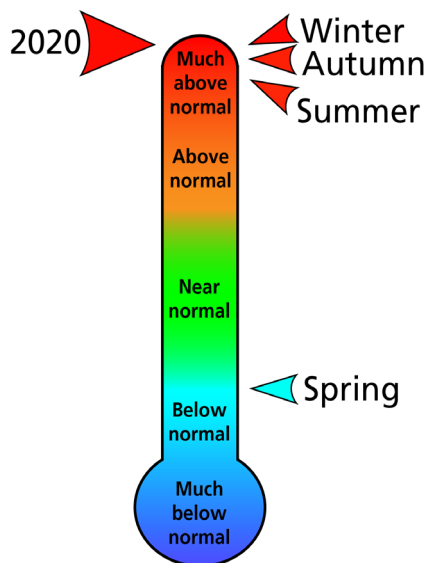
In all, 2020 was extremely warm and wet. The year ended as the 2nd warmest and 5th wettest on record. Weather data collected from surrounding areas also indicate that annual average temperature and annual total precipitation have both increased over the last century (+0.19 °F per decade and +0.25 inches per decade, respectively).

This brief provides county-scale weather data averaged from all of the counties surrounding the park, including data from 1895–2020 (i.e. period of record). These counties include Caroline, Orange, Spotsylvania, and Stafford counties, VA. Individual weather station data may vary from what is reported here.

Temperature

In total, 2020 was the 2nd warmest year ever recorded at the park, and all seasons were very warm except for the spring (Figure 1). Nine months had higher than normal temperatures with January, February, March and November all being more than 6.0 °F above long-term averages (Table 1).

Table 1. Average monthly, average annual, and departures from long-term average temperatures. Departures from average are based on a comparison of 2020 average temperatures to relevant averages from 1895-2019. Data are available at <https://www.ncdc.noaa.gov/cag/county/time-series>.



Month/ Year	Average temperature (°F)	Departure from average (°F)
January	40.4	+6.0
February	42.6	+6.3
March	52.1	+7.2
April	53.7	-0.9
May	61.7	-2.3
June	73.6	+1.6
July	81.4	+5.4
August	77.0	+2.6
September	67.3	-0.7
October	59.6	+2.9
November	52.3	+6.2
December	39.7	+2.7
2020	58.5	+3.1

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>.

Precipitation

In 2020, the park experienced the 5th wettest year since 1895 (Figure 2). In total, 56.7 inches of precipitation fell, over 14 inches more than the long-term average (Table 2).

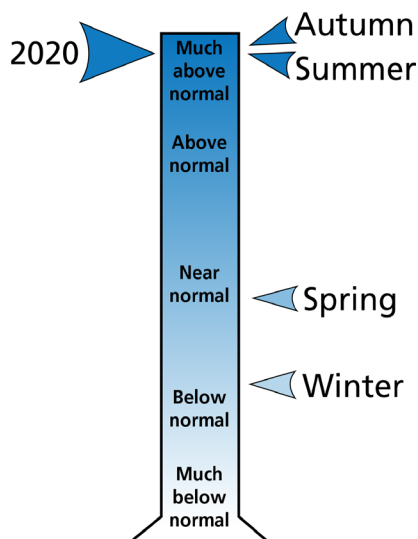


Figure 2. Seasonal and annual precipitation rankings. An arrow at the top of the figure would represent the wettest year/season on record (since 1895); at the bottom, the driest year/season on record. Data are available at <https://www.ncdc.noaa.gov/cag/county/rankings>.

Table 2. Monthly and annual total precipitation and departure from long-term averages. Departures from average are based on a comparison of 2020 precipitation to relevant averages from 1895–2019. Data are available at <https://www.ncdc.noaa.gov/cag/county/time-series>.

Month/Year	Total precipitation (in.)	Departure from average (in.)
January	3.1	0.0
February	3.1	+0.4
March	1.8	-1.7
April	5.4	+2.1
May	2.6	-1.3
June	3.1	-1.0
July	3.3	-0.8
August	11.3	+6.9
September	5.3	+1.6
October	6.0	+2.7
November	6.3	+3.4
December	5.4	+2.3
2020	56.7	+14.6

Temperature and Precipitation (1895–2020)

Data for counties surrounding the park indicate that annual average temperature has increased approximately +0.19 °F per decade and annual total precipitation has increased approximately +0.25 inches per decade since 1895 (Figure 3).

National Park Service scientists have forecast future changes in climate too. Models estimate that by 2100, annual average temperature at the park will increase by 2.9–8.8 °F (from a best-case to worst-case scenario, respectively). Annual total precipitation is expected to increase by 8–14% (see [Gonzalez et al., 2018](#) for details).

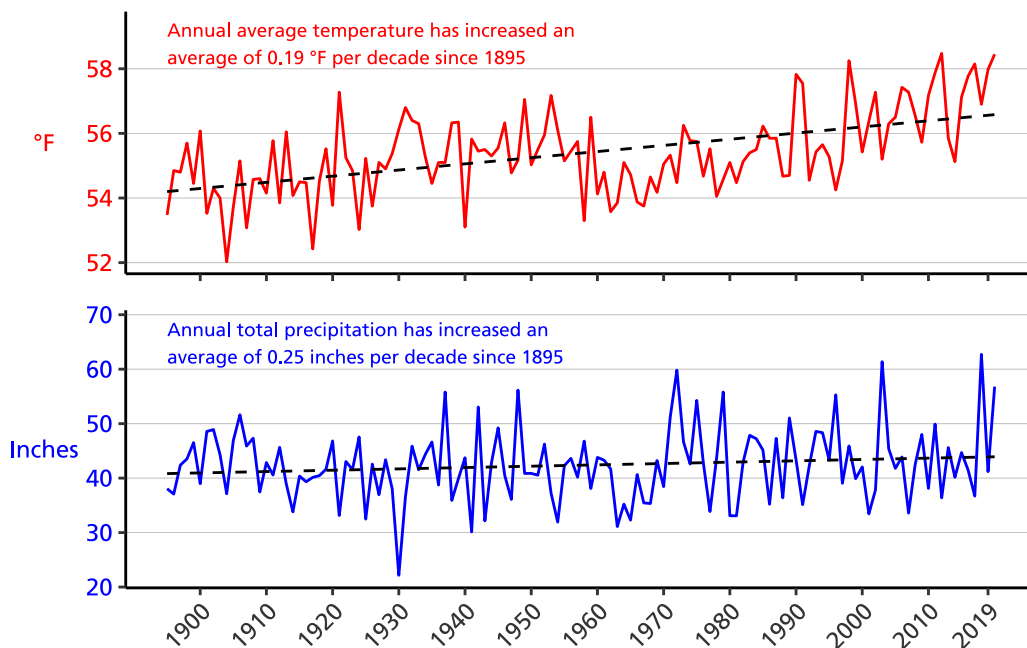


Figure 3. Annual average temperature (°F) and annual total precipitation (in.) from 1895–2020 for counties surrounding the park. Dashed lines represent linear estimates of change. Data are available at <https://www.ncdc.noaa.gov/cag/county/time-series>.

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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