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2020 Weather in Review: Richmond National Battlefield Park

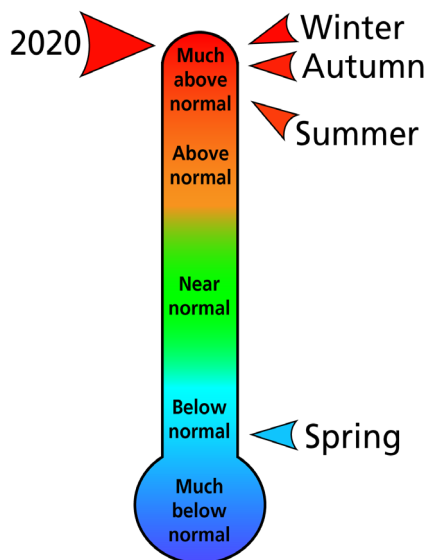
In all, 2020 was much warmer and wetter than average, and the year ended as the 3rd warmest and 3rd wettest on record. Weather data collected from surrounding areas also indicate that annual average temperature and annual total precipitation have both increased over the last century (+0.12 °F per decade and +0.39 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, Chesterfield, Hanover, and Henrico counties, VA. Individual weather station data may vary from what is reported here.

Temperature

In total, 2020 was the 3rd warmest year ever recorded at the park with all seasons being very warm except the spring (Figure 1). Nine months had higher than normal temperatures with January, February, March and November all being more than 5.0 °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	41.8	+5.1
February	44.0	+5.5
March	53.7	+7.0
April	55.4	-0.8
May	62.9	-2.6
June	74.0	+0.6
July	81.8	+4.4
August	77.9	+2.0
September	68.5	-1.1
October	60.9	+2.8
November	53.4	+5.7
December	40.6	+1.6
2020	59.6	+2.5

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

The year 2020 was the 3rd wettest year ever recorded in the park's three counties (Figure 2). In total, 62.0 inches of precipitation fell, over 18 inches more than the long-term average (Table 2).

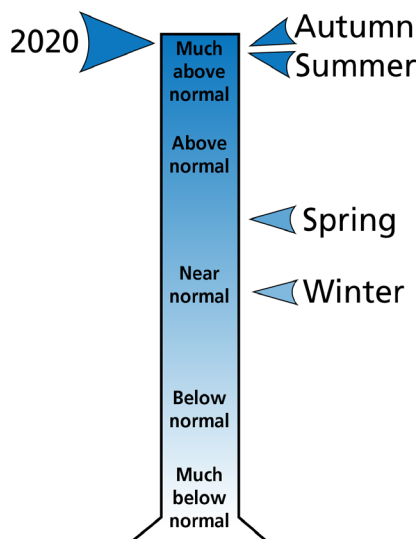


Figure 2. Seasonal and annual precipitation rankings. An arrow at the top of the figure would represent the wettest year/season on record (since 1895); at the bottom, the driest year/season on record. Data are available at <https://www.ncdc.noaa.gov/cag/county/rankings>.

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	3.2	-0.1
February	3.8	+0.9
March	2.4	-1.4
April	4.8	+1.5
May	2.5	-1.4
June	5.1	+1.1
July	3.7	-0.8
August	12.3	+7.7
September	6.5	+2.8
October	6.4	+3.1
November	5.1	+2.2
December	6.2	+3.0
2020	62.0	+18.6

Temperature and Precipitation (1895–2020)

Data for counties surrounding the park indicate that annual average temperature has increased approximately +0.12 °F per decade and annual total precipitation has increased approximately +0.39 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 2.7–8.5 °F (from a best-case to worst-case scenario, respectively). Annual total precipitation is expected to increase by 8–13% (see [Gonzalez et al., 2018](#) for details).

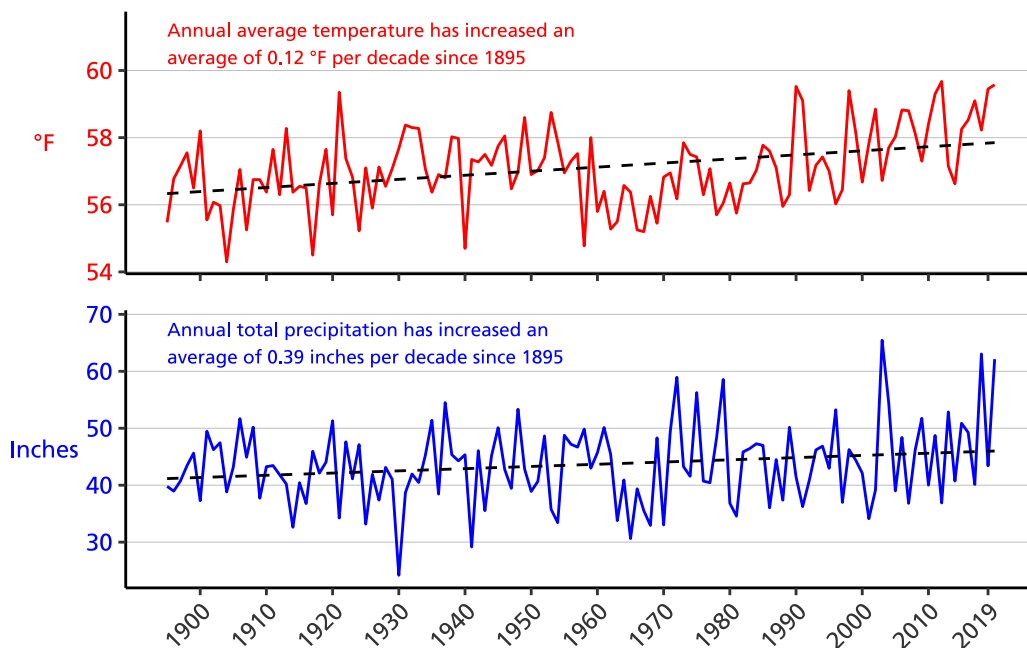


Figure 3. Annual average temperature (°F) and annual total precipitation (in.) from 1895–2020 for counties surrounding the park. Dashed lines represent linear estimates of change. Data are available at <https://www.ncdc.noaa.gov/cag/county/time-series>.

Network Contact

Jeb Wofford
Jeb_Wofford@nps.gov
Biologist / Science Writer

Mid-Atlantic Network

120 Chatham Lane
Fredericksburg, VA 22405
www.nps.gov/im/midn

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