National Capital Region Network

National Park Service
U.S. Department of the Interior

Inventory and Monitoring Division

NPS

2020 Weather in Review: Manassas National Battlefield Park

In all, 2020 was extremely warm. In fact, it was the warmest year ever recorded (since 1895) for Prince William County, VA. The year was also very wet, ending as the 8th wettest on record.

Weather data collected from surrounding areas indicate that annual average temperature and annual total precipitation have both increased over the last century (+0.23 °F per decade and +0.22 inches per decade, respectively).

This brief provides county-scale weather data for Prince William County, Virginia. In particular, the brief summarizes 2020 weather and compares it to 125 years of historical data (1895–2019). Individual weather station data may vary from what is reported here.

Temperature

In total, 2020 was a record setting year as the warmest ever recorded at the park. All of the seasons were very warm except the spring, which was near normal (Figure 1). Nine months had higher than normal temperatures with January, February, March, and November all being more than 6.7 °F above long-term averages (Table 1).

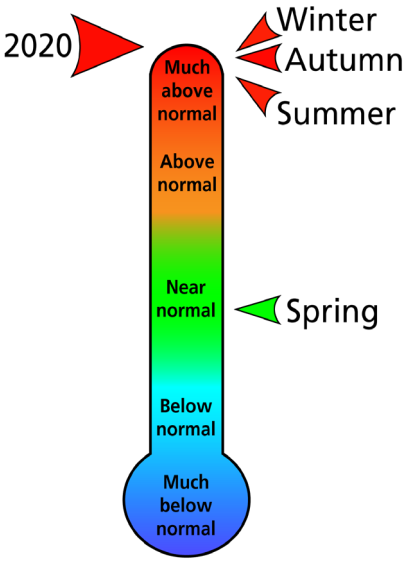

Figure 1. Seasonal and annual temperature rankings. An arrow at the top of the figure would represent the warmest year/season on record (since 1895); at the bottom, the coldest year/season on record. Winter = Jan–Mar, Spring = Apr–June, Summer = July–Sept, Autumn = Oct–Dec. Data are available at www.ncdc.noaa.gov/cag/county/rankings.

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

Month/ Year	Average temperature (°F)	Departure from average (°F)
January	40.0	+6.7
February	42.3	+7.2
March	51.1	+7.2
April	53.2	-0.7
May	61.7	-1.9
June	74.0	+2.2
July	81.4	+5.4
August	77.4	+3.1
September	67.6	-0.3
October	59.6	+3.2
November	52.3	+6.8
December	39.7	+3.5
2020	58.4	+3.5

Precipitation

In total, it was a very wet year, with all seasons except winter having higher than normal precipitation (Figure 2). The year ended as the 8th wettest on record. In all, 51.4 inches of precipitation fell, almost 11 inches more than the long-term average (Table 2).

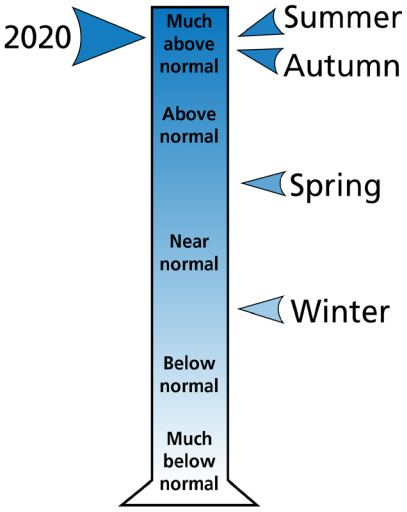

Figure 2. Seasonal and annual precipitation rankings. An arrow at the top of the figure would represent the wettest year/season on record (since 1895); at the bottom, the driest year/season on record. Winter = Jan–Mar, Spring = Apr–June, Summer = July–Sept, Autumn = Oct–Dec. Data are available at www.ncdc.noaa.gov/cag/county/rankings.

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 www.ncdc.noaa.gov/cag/county/time-series.

Month/ Year	Total precipitation (in.)	Departure from average (in.)
January	3.3	+0.3
February	3.0	+0.3
March	1.9	-1.3
April	5.4	+2.1
May	2.6	-1.3
June	4.0	+0.1
July	4.7	+0.6
August	8.7	+4.7
September	3.8	+0.3
October	4.4	+1.2
November	4.5	+1.7
December	5.1	+2.1
2020	51.4	+10.8

Temperature and Precipitation (1895–2020)

Data for Prince William County, VA indicate that annual average temperature has increased approximately +0.23 °F per decade and annual total precipitation has increased approximately +0.22 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 3.1–8.8 °F (from a best-case to worst-case scenario, respectively). Annual total precipitation is expected to increase by 7–14% (see Gonzalez et al., 2018 for details).

Data for this brief were retrieved from relevant websites on January 25, 2021.

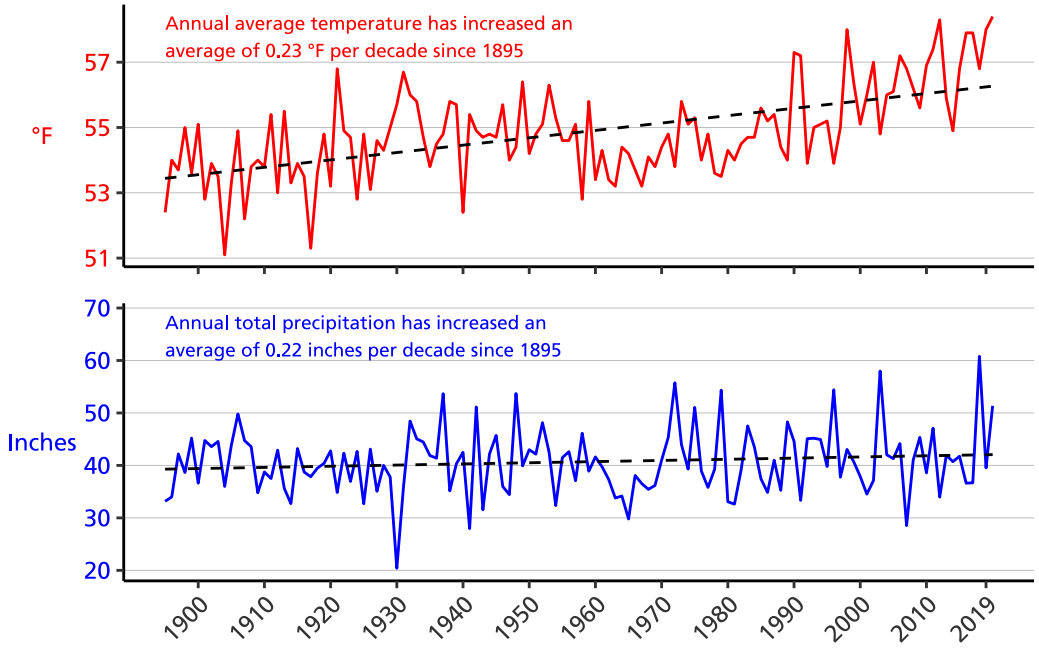

Figure 3. Annual average temperature (°F) and annual total precipitation (in.) from 1895–2020 for Prince William County, VA. Dashed lines represent linear estimates of change. Data are available at www.ncdc.noaa.gov/cag/county/time-series.

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