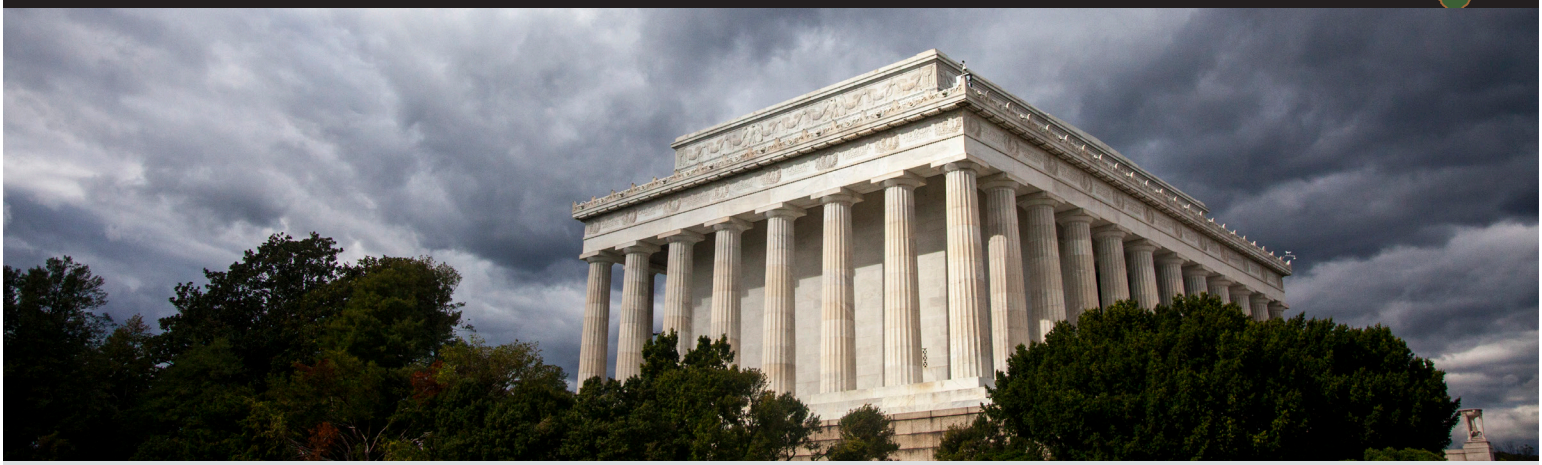
National Capital Region Network

National Park Service
U.S. Department of the Interior

Inventory and Monitoring Division



NPS / Diana Bowen

2020 Weather in Review: National Mall and Memorial Parks

In all, 2020 was extremely warm and wet. It was almost a record-setting year for both temperature and precipitation — the year ended as the 3rd warmest and 3rd wettest on record (since 1895).

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 +0.41 inches per decade, respectively).

This brief provides weather data for Washington, D.C. 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 the 3rd warmest year ever recorded at the park. All of the seasons were very warm except the spring, which was below normal (Figure 1). Nine months had higher than normal temperatures with January, February, March, and November all being more than 6.2 °F above long-term averages (Table 1).

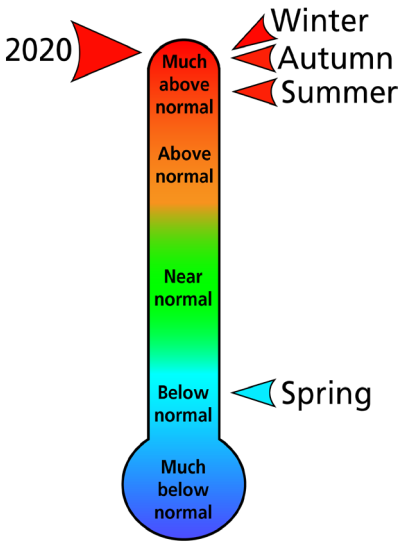


Figure 1. Seasonal and annual temperature rankings. An arrow at the top of the figure would represent the warmest year/season on record (since 1895); at the bottom, the coldest year/season on record. Winter = Jan–Mar, Spring = Apr–June, Summer = July–Sept, Autumn = Oct–Dec. Data are available at www.ncdc.noaa.gov/cag/county/rankings.

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	40.1	+6.3
February	42.3	+6.8
March	50.6	+6.3
April	53.0	-1.2
May	61.6	-2.4
June	74.2	+1.8
July	81.6	+4.9
August	77.5	+2.5
September	67.7	-0.8
October	59.9	+2.9
November	52.6	+6.5
December	39.8	+3.0
2020	58.4	+3.0

Precipitation

In total, it was a very wet year, and the year ended as the 3rd wettest on record (Figure 2). All seasons except winter had precipitation well above normal (Figure 2). In all, 58.9 inches of precipitation fell, 17.2 inches more than the long-term average (Table 2).

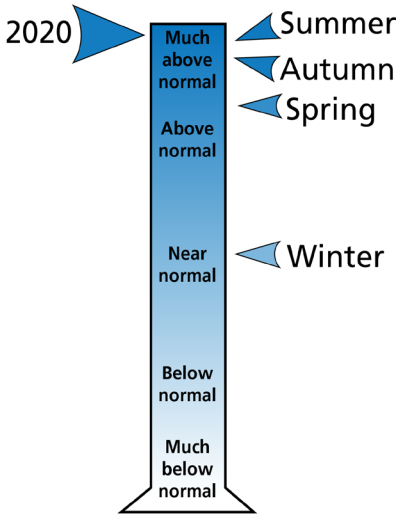


Figure 2. Seasonal and annual precipitation rankings. An arrow at the top of the figure would represent the wettest year/season on record (since 1895); at the bottom, the driest year/season on record. Winter = Jan–Mar, Spring = Apr–June, Summer = July–Sept, Autumn = Oct–Dec. Data are available at www.ncdc.noaa.gov/cag/county/rankings.

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	3.0	0.0
February	3.8	+1.0
March	2.4	-1.1
April	5.9	+2.6
May	3.7	-0.2
June	4.2	+0.3
July	5.6	+1.4
August	8.9	+4.7
September	6.1	+2.5
October	4.8	+1.6
November	5.3	+2.4
December	5.2	+2.0
2020	58.9	+17.2

Temperature and Precipitation (1895–2020)

Data for Washington, D.C. indicate that annual average temperature has increased approximately +0.23 °F per decade and annual total precipitation has increased approximately +0.41 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.

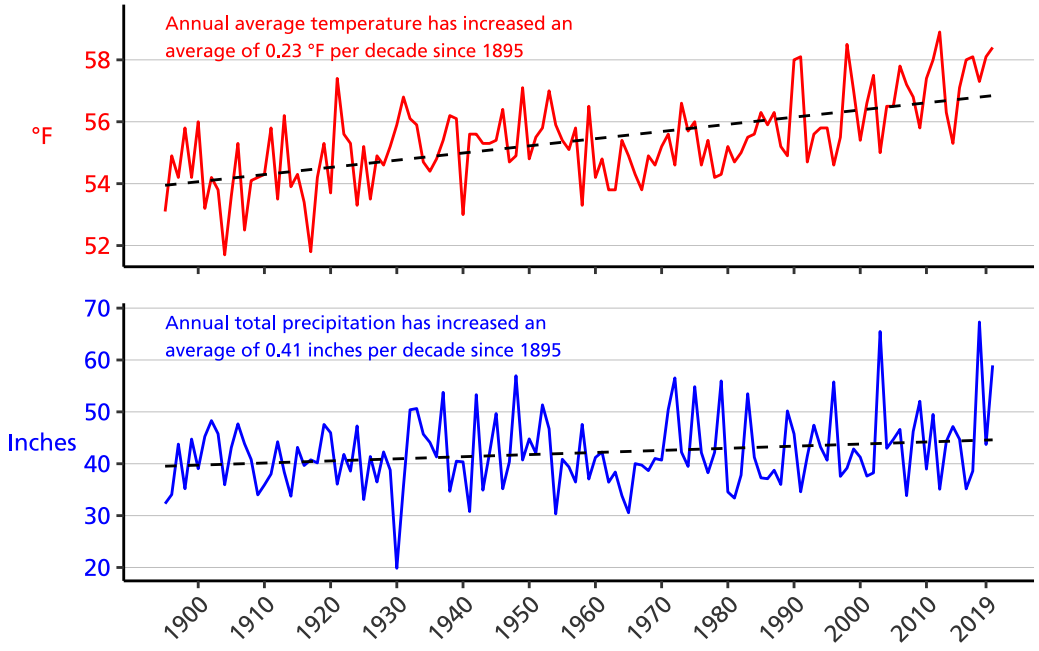


Figure 3. Annual average temperature (°F) and annual total precipitation (in.) from 1895–2020 for Washington, D.C. Dashed lines represent linear estimates of change. Data are available at www.ncdc.noaa.gov/cag/county/time-series.

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Parks monitored: *Antietam NB • Catoctin Mountain Park • Chesapeake & Ohio Canal NHP • George Washington MP • Harpers Ferry NHP • Manassas NBP • Monocacy NB • National Capital Parks - East • Prince William Forest Park • Rock Creek Park • Wolf Trap NP for PA*

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