



NPS

2020 Weather in Review: Chesapeake & Ohio Canal National Historical Park

In all, 2020 was extremely warm, and the year ended as the 3rd warmest year on record (since 1895). In contrast, annual total precipitation was very close to normal.

Weather data collected from surrounding areas indicate that annual average temperature and annual total precipitation have both increased over the last century (+0.19 °F per decade and +0.20 inches per decade, respectively).

This brief provides county-scale weather data for Washington County, MD, which is located near the middle of the 185 mile C&O Canal. 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 unusually cold (Figure 1). Nine months had higher than normal temperatures with January, February, and March all being more than 6 °F above long-term averages (Table 1).

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.

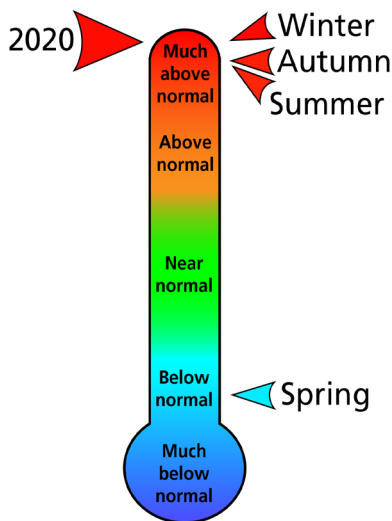


Figure 1. Seasonal and annual temperature rankings. An arrow at the top of the figure would represent the warmest year/season on record (since 1895); at the bottom, the coldest year/season on record. Winter = Jan–Mar, Spring = Apr–June, Summer = July–Sept, Autumn = Oct–Dec. Data are available at www.ncdc.noaa.gov/cag/county/rankings.

Month/ Year	Average temperature (°F)	Departure from average (°F)
January	36.5	+6.4
February	38.9	+7.0
March	47.3	+6.4
April	49.7	-1.7
May	59.2	-2.4
June	71.4	+1.4
July	78.5	+4.2
August	75.6	+3.2
September	64.6	-1.1
October	56.6	+2.5
November	48.6	+5.7
December	35.5	+2.2
2020	55.2	+2.8

Precipitation

In total, it was a near-normal year for precipitation, and all seasons were generally near normal (Figure 2). The year ended as the 58th driest on record for Washington County. In all, 38.3 inches of precipitation fell, about 1 inch less than the long-term average (Table 2).

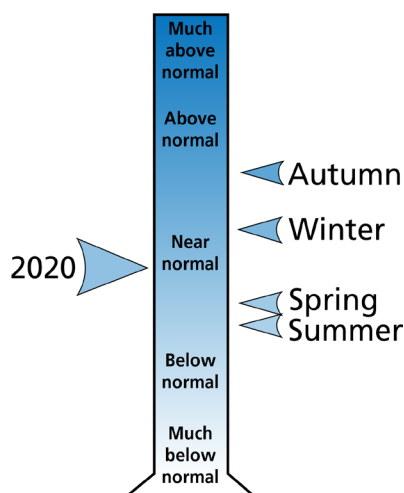


Figure 2. Seasonal and annual precipitation rankings. An arrow at the top of the figure would represent the wettest year/season on record (since 1895); at the bottom, the driest year/season on record. Winter = Jan–Mar, Spring = Apr–June, Summer = July–Sept, Autumn = Oct–Dec. Data are available at <https://www.ncdc.noaa.gov/cag/county/rankings>.

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

Month/ Year	Total precipitation (in.)	Departure from average (in.)
January	3.3	+0.6
February	2.5	+0.0
March	2.7	-0.6
April	4.6	+1.3
May	2.9	-1.0
June	2.8	-1.1
July	2.7	-1.0
August	3.7	0.0
September	2.9	-0.5
October	2.9	-0.3
November	3.0	+0.2
December	4.3	+1.4
2020	38.3	-1.0

Temperature and Precipitation (1895–2020)

Data for Washington County, MD indicate that annual average temperature has increased approximately +0.19 °F per decade and annual total precipitation has increased approximately +0.20 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 3.1–9.0 °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.

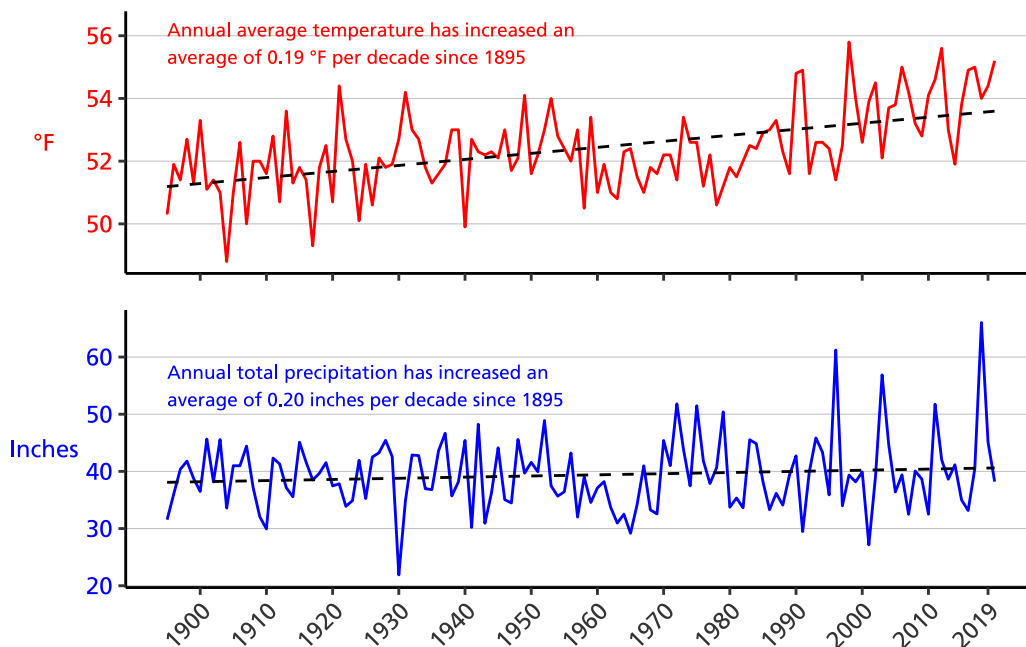


Figure 3. Annual average temperature (°F) and annual total precipitation (in.) from 1895–2020 for Washington County, MD. Dashed lines represent linear estimates of change. Data are available at www.ncdc.noaa.gov/cag/county/time-series.

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Parks monitored: Antietam NB • Catocin 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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