



NPS/Mary O'Neill

2024 Weather in Review: Fredericksburg and Spotsylvania National Military Park

In all, 2024 was the warmest year ever recorded for the park (since 1895) and was also drier than normal. Data indicate that over the long term, annual average temperature and annual total precipitation have both increased in the counties surrounding the park (+0.2°F per decade and +0.16 inches per decade, respectively).

This brief provides county-scale weather data averaged from all of the counties surrounding the park, including data from 1895–2024 (i.e., period of record). These counties include Caroline, Orange, Spotsylvania, and Stafford counties, VA. Data and analyses herein are courtesy of the National Oceanic and Atmospheric Administration's (NOAA) Climate at a Glance Program.

Temperature

In total, 2024 was the warmest year ever recorded at the park with all seasons being well above normal (Figure 1). Every month had a higher than normal temperature, and February, March, and November were all more than 5°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 2024 average temperatures to relevant averages from 1895-2023. Data are available at <https://www.ncdc.noaa.gov/cag/county/time-series>.

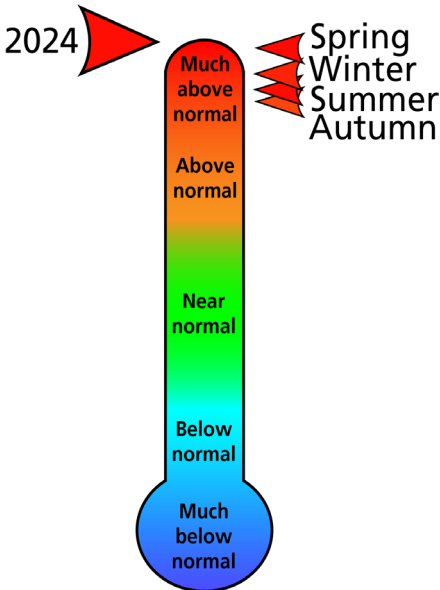


Figure 1. Seasonal and annual temperature rankings. An arrow at the top of the figure would represent the warmest year/season on record (since 1895); at the bottom, the coldest year/season on record. Winter = Jan–Mar, Spring = Apr–June, Summer = July–Sept, Autumn = Oct–Dec. Data are available at <https://www.ncdc.noaa.gov/cag/county/rankings>.

Month/ Year	Average temperature (°F)	Departure from average (°F)
January	37.7	+3.1
February	42.1	+5.6
March	50.4	+5.3
April	58.4	+3.8
May	67.3	+3.4
June	76.0	+4.0
July	80.1	+4.0
August	76.8	+2.2
September	69.1	+1.0
October	59.4	+2.6
November	51.9	+5.8
December	38.3	+1.2
2024	59.0	+3.5

Precipitation

In 2024, the park experienced a below normal year for total precipitation, ranking as the 38th driest on record (Figure 2). In total, 37.8 inches of precipitation fell, 4.5 inches less than the long-term average (Table 2).

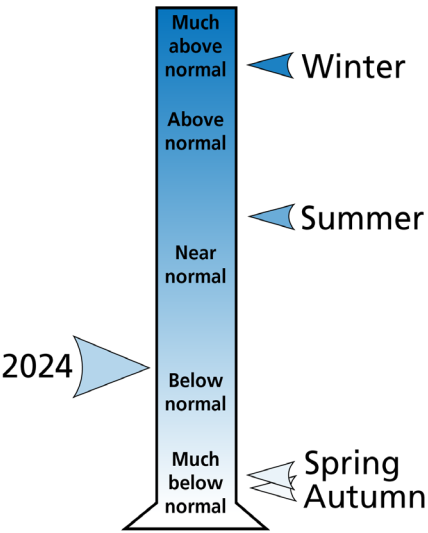


Figure 2. Seasonal and annual precipitation rankings. An arrow at the top of the figure would represent the wettest year/season on record (since 1895); at the bottom, the driest year/season on record. Winter = Jan–Mar, Spring = Apr–June, Summer = July–Sept, Autumn = Oct–Dec. Data are available at <https://www.ncdc.noaa.gov/cag/county/rankings>.

Table 2. Monthly and annual total precipitation and departure from long-term averages. Departures from average are based on a comparison of 2024 precipitation to relevant averages from 1895–2023. Data are available at <https://www.ncdc.noaa.gov/cag/county/time-series>.

Month/Year	Total precipitation (in.)	Departure from average (in.)
January	5.97	+2.88
February	1.81	–0.95
March	5.23	+1.76
April	2.38	–0.97
May	3.9	+0.04
June	0.81	–3.24
July	2.96	–1.22
August	6.25	+1.85
September	3.88	+0.20
October	0.72	–2.60
November	1.67	–1.27
December	2.21	–0.93
2024	37.81	–4.46

Temperature and Precipitation (1895–2024)

Data for counties surrounding the park indicate that annual average temperature has increased approximately +0.2°F per decade and annual total precipitation has increased approximately +0.16 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).

Data in this brief are preliminary and were retrieved from NOAA on 01/07/25.

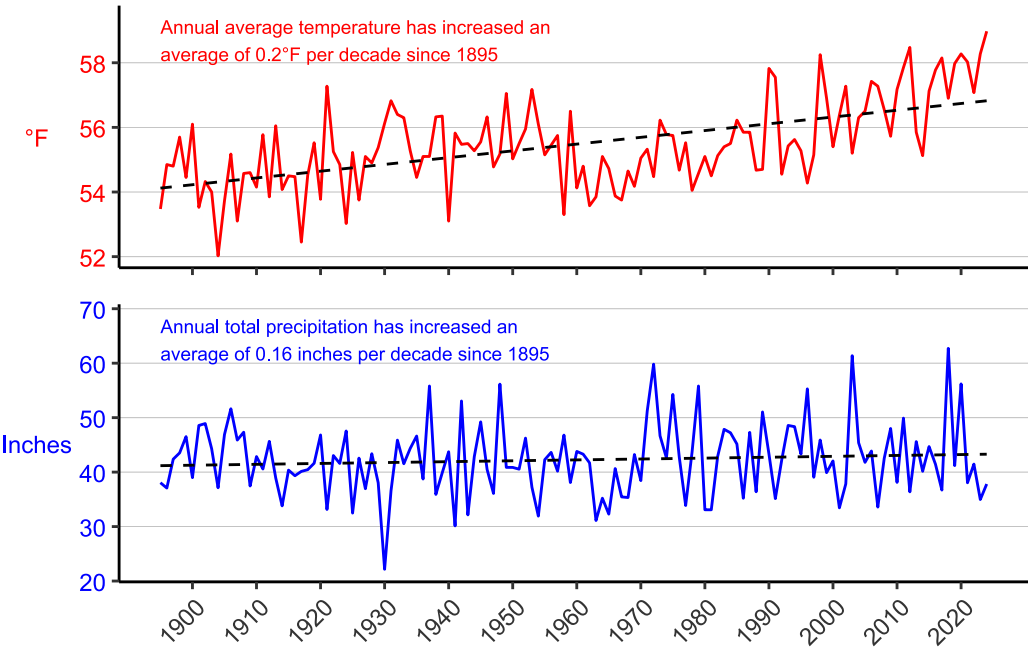


Figure 3. Annual average temperature (°F) and annual total precipitation (in.) from 1895–2024 for counties surrounding the park. Dashed lines represent linear estimates of change. Data are available at <https://www.ncdc.noaa.gov/cag/county/time-series>.