



Appomattox Court House National Historical Park & Booker T. Washington National Monument: 2017 Weather in Review

In 2017, five weather stations were selected to report the weather of Appomattox Court House National Historical Park (NHP) and Booker T. Washington National Monument (NM). The parks are located in the Western Piedmont climate division of Virginia. This brief provides a summary of 2017 weather conditions.

Highlights — 2017 was characterized by:

- *warmer than normal temperatures — in all, 2017 was the 3rd warmest year in 123 years of records;*
- *below average annual rainfall resulting in the 41st driest year since 1895;*
- *a growing season 3-4 weeks longer than average.*

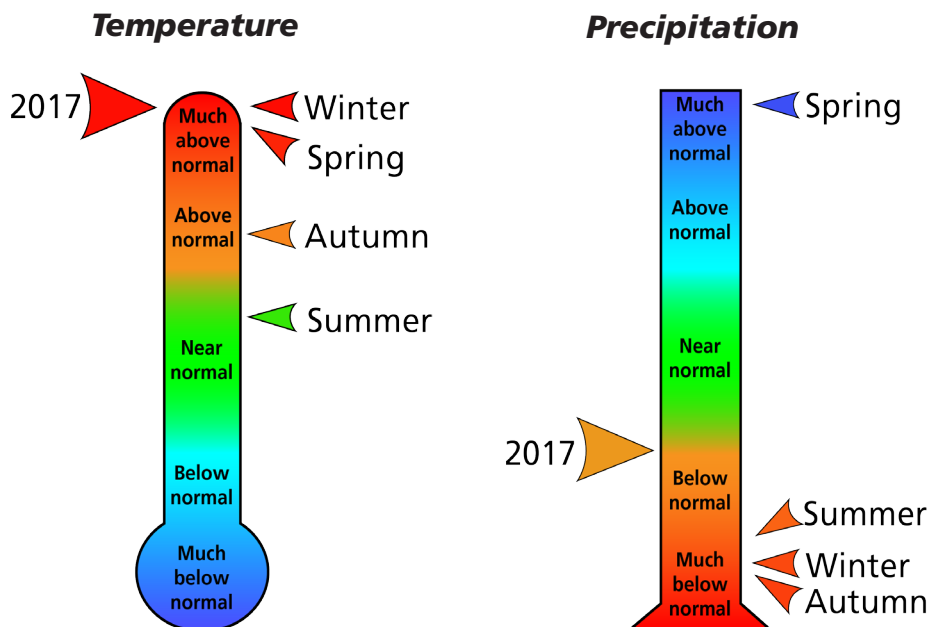
How does 2017 average temperatures and total precipitation in the Western Piedmont compare to the past?

Temperature and precipitation records collected since 1895 can be used to compare current climate conditions with those of the past. To do so, climate periods (e.g. seasons or years) can be ranked in order from the warmest to the coldest or the wettest to the driest. The figures below show these rankings over 123 years for the Western Piedmont climate division of Virginia. The figures show how each season (and the year) ranks compared to the prior 123 seasons/years. A rank at the top of the figure would indicate the warmest or wettest season/year on record, and at the bottom, the coldest or driest on record.

2017 Temperature Ranking Statistics: It was the 3rd warmest winter on record, the 8th warmest spring, the 30th warmest autumn, and the 45th warmest summer since 1895. In all, 2017 tied as the 3rd warmest year on record.

2017 Precipitation Ranking Statistics: It was the 3rd wettest spring, the 23rd driest summer, the 16th driest winter, and the 13th driest autumn since 1895. In all, 2017 was the 41st driest year on record.

Source: [National Oceanic and Atmospheric Administration](#), 2018.



Temperature: Almost all of the temperature metrics calculated from stations around Appomattox Court House NHP and Booker T. Washington NM indicate that 2017 was a warm year. Over the course of the year, most months had higher than average temperatures. February was particularly warm with temperatures almost 9.0°F (4.9°C) above normal. For the year, average annual temperatures were 2.0-2.5°F (1.1-1.4°C) above normal at all of the reporting weather stations. Average annual maximum and average annual minimum temperatures were also above average. In addition, at Appomattox there were two weeks of additional hot days (days with maximum temperatures > 90°F (32°C)) compared to normal (38 days vs. long-term average of 23 days). As a result of the warm weather, the growing season was more than 3 and 4 weeks longer than normal at Roanoke and Appomattox, respectively. All of the seasons ranked warmer than average, and the winter of 2017 was the 3rd warmest ever recorded. In all, 2017 was the 3rd warmest year in the Western Piedmont since 1895.

Precipitation: Overall, the year's precipitation was less than average, and the year ranked as the 41st driest on record. The fall season (Oct.-Dec.) was particularly dry with only 49% of normal rainfall. In contrast, the spring had 155% of normal precipitation. The wettest day of the year occurred on May 5th with 2.1 inches (54 mm) of rain. The longest dry spell occurred from mid-September through early-October with a period of almost 30 days without any precipitation. The number of heavy precipitation days (days with ≥1.0 in (25 mm) of rain) was less than normal at all stations. The dry weather combined with warmer than normal temperatures during the winter and autumn created moderate drought conditions across the Western Piedmont during February, March, and December.

For the full 2017 Appomattox Court House NHP and Booker T. Washington NM weather report, see Wofford (2018) as cited below.

Climate Change - Bird communities are expected to change at Appomattox Court House NHP and Booker T. Washington NM

National Park Service and National Audubon Society scientists recently studied the potential effects of climate change on seasonal bird communities in national parks. They predict that major changes in bird communities may occur at Appomattox Court House NHP and Booker T. Washington NM by 2050. Under a high-emissions scenario, 22 new bird species may colonize Appomattox NHP in summer and 44 new species in the winter season. At Booker T. Washington NM, 22 new species may colonize the park in summer and 45 in winter. Despite the large number of potential colonizing species, other birds may find future park climates inhospitable. By mid-century, the climate at Appomattox Court House NHP may become unsuitable for 11 species of birds that currently reside there in summer and 2 species that currently overwinter. At Booker T. Washington NM, 10 species in summer and 2 species in winter may be seasonally extirpated.

It is important to note that this study only assessed the possible impact of changing climate conditions and not potential changes in habitat or other ecosystem factors. Individual species may not respond as expected. Therefore, projections noted above should be interpreted as primarily revealing potential trends in species richness. Bird monitoring in the park will assess these potential community changes over the coming decades. For more information on park specific results, visit <https://www.nps.gov/subjects/climatechange/birdsinparks.htm>.



By 2050, under a high-emissions scenario, the summer climate at Appomattox Court House NHP and Booker T. Washington NM may become unsuitable for cedar waxwings. It's possible that in a few decades cedar waxwings won't be found in either of these parks during summer months.

Citations and Credits

Wofford, J.E.B. 2018. Weather of Appomattox Court House National Historical Park and Booker T. Washington National Monument: Mid-Atlantic Network summary report for 2017. Natural Resource Data Series NPS/MIDN/NRDS—2018/1164. National Park Service, Fort Collins, CO. Available here: <https://irma.nps.gov/DataStore/Reference/Profile/2253201>

Photographs : Cover photo, "Countryside" by Bill Dickinson (CC BY 2.0); back page photo courtesy of USFWS

Lead Scientist

Jeb Wofford
Jeb_Wofford@nps.gov
Biologist/Science Writer

Mid-Atlantic Network

120 Chatham Lane
Fredericksburg, VA 22405
science.nature.nps.gov/im/units/midn

Parks monitored: Appomattox Court House NHP • Booker T. Washington NM • Eisenhower NHS • Fredericksburg & Spotsylvania NMP • Gettysburg NMP • Hopewell Furnace NHS • Petersburg NB • Richmond NBP • Shenandoah NP • Valley Forge NHP