

**U. S. Department of Agriculture  
Weather Bureau**

**VIRGINIA SECTION**

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**GENERAL SUMMARY.**

Throughout all sections of the State the year as a whole was warm, the average excess in temperature being about two degrees. There was also more than the normal amount of precipitation in the Great Valley section, while in other portions of the State the year was slightly drier than usual. The winter passed without severe cold waves, and with but a moderate amount of snow, the mountain stations of Southwest Virginia, where the fall was heaviest, having received only from one to two feet during the whole winter. A moist and warm spring followed, while the summer had seasonable temperatures and slightly less than the average fall of rain. After the growing season the weather became unseasonably warm, and the year closed without unusually low temperatures.

The mean temperature of the State, 57.2°, was 2.0° above normal. Diamond Springs, with an annual mean temperature of 61.2°, was the warmest station, and Burkes Garden, with an annual mean of 50.2°, was the coldest. The highest and lowest temperatures were 102° on July 2d, and -3° on December 27th, the former occurring at Ivor and the latter at Burkes Garden.

The last killing frost of the spring occurred in the Appalachian and Blue Ridge portion of the State on the 12th of May, and in Middle and in Tidewater Virginia on the 22d of April, while the first killing frost of the autumn was recorded in these divisions on October 14th, October 22d, and October 22d, respectively.

The annual amounts of precipitation show the year to have been dry, except in the Rivanna Valley and the mountain section between Giles and Shenandoah counties and also locally in Surry and Pittsylvania counties. May, with an average of 5.48 inches, and February, with an average of 1.98 inches, were the wettest and driest months, respectively, of the year. The annual precipitation ranged from a maximum of 51.78 inches at Mountain Lake, in Giles County, to a minimum of 33.68 inches at Winchester, in Frederick County. The greatest local monthly rainfall, 10.84 inches, occurred at Newport News, Warwick County, in July, and the least, 0.30 inch, at Woodstock, Shenandoah County, in February.

Snow fell in January, February, and December in Tidewater Virginia and in the first four and the last three months of the year in Middle Virginia and the Great Valley. By months the greatest local monthly snowfalls were: January, 6.0 inches; February, 5.2 inches; March, trace; April, 1.0 inch; October, 2.0 inches; November, 6.0 inches; and December, 11.0 inches.

There were 178, or 49 per cent of, clear days; 98, or 27 per cent of, partly cloudy days; and 80, or 24 per cent of, cloudy days during the year. The prevailing wind direction for the State was west.

**THE WEATHER BY MONTHS.**

**JANUARY.**—During the past forty years there have been only two in which the opening month has been as warm as that of 1913. January, 1880, was slightly warmer, and January ten years later, which is the warmest month of this name on record, had an average temperature between one and two degrees higher than did January of 1913, but the current month seems to have had more long periods of spring-like weather than did either of the others cited. On the Eastern Shore violets came into

bloom, and on the 24th planting of potatoes was begun. In the southwestern counties there was much unsettled weather with more than the normal amount of precipitation, but elsewhere the departure from the unusually pleasant conditions was confined to short periods during the passage of storms on the 3d, 4th, 8th, 10th, and 12th.

**FEBRUARY.**—The unusually high temperatures of January were also reported in this month, and averages above normal were computed for all sections. There was also a general deficiency in precipitation, especially between the 4th and the 20th, when many stations reported but a single measurement. Prior to the 16th the daily temperatures were frequently somewhat below normal, and these cool spells were long in comparison with the intervening periods of warm weather. After the 16th, however, this tendency was reversed, the spring-like periods becoming more persistent while the intervening spells of wintry weather fell off both in intensity and duration. A moderate snowstorm occurred in Southwest Virginia on the 24th, and a thunderstorm, with southerly gales, was reported on the 27th from a number of stations.

**MARCH.**—In parts of the extreme southwest portion, which differed materially in the matter of temperature from the remainder of the State, the month was cool; while elsewhere the warm weather of February prevailed during most of March, and in Tidewater, where the temperature was but moderately high in February, the excess averaged locally as much as 8° per day. In precipitation, however, there was a deficiency in the lower counties, but moderate excesses received in nearly all other sections brought the average of the State slightly above normal. A cold wave occurred on the 7th, and wind velocities in excess of 40 miles per hour were reported on the 2d, 6th, 14th, 15th, 21st, 26th, and 27th. There were also two periods of high water in the James River watershed, one at the close of the first half of the month and the other from the 28th to the 30th.

**APRIL.**—Like the three preceding months the temperature was above normal in April over most of the State, the greatest excess being, as in March, in the Tidewater section, while the season continued backward in Southwest Virginia. The rainfall was very unevenly distributed, in that large sections of the State east of the Blue Ridge and north of the James River had an abundance, while all other sections had less than the normal April fall. The deficiency was greatest in the southern tier of counties east from Halifax and west from Grayson. There were heavy rains in the James River Valley on or about the 12th, and for the third time in less than a month freshet stages in that stream were reached.

**MAY.**—The average temperature for the State was above normal for the fifth consecutive month in the year, but, as in March and April, the reports from Southwest Virginia show the backward tendency of the season to have continued in that section. The rainfall in that section was, however, above normal, as it was in all other sections of the State. The first important feature of the month's weather was the cool wave on the 11-12th, which carried the line of freezing temperature eastward over the northern two-thirds of the State, and over the southern three tiers of counties to the Roanoke River. Freezing temperatures occurred also in the Southside counties from Southampton to Lunenburg. The lowest temperature in the State was 24°, notwithstanding which there were but a few scattered localities that had killing frosts. A moderate freshet occurred in the James River on the 24th and 25th, and on the 27th a violent local storm of the tornado type, sufficient in strength to uproot trees, occurred in north-central Buckingham County.

**JUNE.**—Stations in the central counties reported heavy local storms early in the month, the most severe occurring in Louisa and Fluvanna counties on the 3d-4th, where gardens, wheat, and other crops were damaged. There was also some loss to fruit on the 10th and 11th in the mountains, from frost caused



by a fall in temperature to points as low as 31°. But the most striking feature of the month's weather was the change to warmer that brought temperatures above 90° three or four days after the frosts. The month as a whole was warm in the James, Rivanna, and Shenandoah valleys, and averaged from 7 to 10 degrees cooler in the mountains. There was an abundance of precipitation over the southern two-thirds of Middle Virginia and in the lower James and the New River valleys, but in the extreme north very little rain fell during the month.

**JULY.**—The hot wave that set in over Southwest Virginia in the middle of June and in other sections of the State a week or ten days later, continued until the 6th of July when a general change to cooler set in, the temperatures falling to 50°, or lower, over a large section of the State. On the 9th and 10th, there were destructive thunderstorms in the upper Shenandoah Valley and in the extreme southeast. Far greater loss, however, was sustained on the 19th in the tobacco section, especially in Buckingham, Cumberland, Prince Edward, Nottaway, and Lunenburg counties, where hail beat down hundreds of thousands of young plants. The temperatures were again high during the last three or four days of the month. In most of the James River Valley, the Southwest, and in much of the northern section the rainfall for the month was deficient.

**AUGUST.**—The record-breaking hot wave that prevailed over the interior of the country during August extended into Southwest Virginia, Elk Knob, in Lee County, reporting the month to be the hottest August in the past 10 years. Eastward the month was more nearly normal, and the average for the State was in no way unusual. The hot wave of the closing days of July culminated early in August, and on the 10th a change to cooler set in over all but the southwestern section of the State. Northeast winds constituted part of this change in the weather, and state wide rains fell prior to the close of the first half of the month. The weather remained moderate, though there were a few occasional hot days before the close of the month.

**SEPTEMBER.**—In contrast with the two preceding months in Southwest Virginia, September was comparatively cool; and temperatures below the normal were the rule in all sections of the State. As to precipitation, there was slightly more than normal in the upper Tidewater counties and along the southern border between Mecklenburg and Grayson counties, while in the Shenandoah Valley and on the southern coast the amounts reported were small. September opened warm, and during the first week the highest temperatures of the month occurred. There was a general rain about the 17th, followed by a change to cooler, and the first frost of the season formed on the 23d. The only local storm of importance was that of the 3d, in the Norfolk section.

**OCTOBER.**—A local hail storm occurred in the Shenandoah Valley on the 1st, where great loss was occasioned to the apple crop in Rockingham, Shenandoah, and Frederick counties. On the same day wind damaged shade trees, chimneys, and roofs in the northern suburbs of Richmond. The month as a whole was moderately warm, except in Southwest Virginia where the mean temperatures showed normal conditions. The total fall of rain was also nearly normal, though the fall in the mountains was more copious than elsewhere. Early in the third decade a general change to cooler took place, and on the 22d a large number of stations experienced temperatures below 30°, bringing the first killing frost of the fall to most of the State.

**NOVEMBER.**—An optical phenomenon of unusual interest was observed in all sections of the State on Sunday, November 2d. It consisted of a white band that passed through the sun from west to east and was projected around the entire heavens in a complete circle about 45° above the horizon. The band was of a silvery hue, and was intersected at four nearly equidistant points by small arcs forming parhelia, some of which

were colored. On the 3d the first killing frost of the fall to cover the entire State was observed, and on the 8-9th there was a storm that caused southwest gales on the coast. The month had much warm and clear weather, especially in the latter half, and there was one period during which the temperatures were unusually high for November.

**DECEMBER.**—Two or three days of showers during the first three weeks of the month and a period of unsettled weather followed, in the southwestern counties, by zero temperatures, constitute the disagreeable features of an otherwise pleasant month. There was a rapid rise in temperature on the 5-6th when readings of 60° or above were made in all sections, followed by widespread and moderately heavy rains, and on the 8-9th by a decided change to colder. The third decade opened with increasing cloudiness and light local showers which by the 23d became general. There were also showers on the 24th, but the heaviest rain of the month occurred on Christmas when more than an inch of rain fell at many stations, and thunder was heard on the coast. In Southwest Virginia the rain changed on the night of the 25-26th to snow, and from 3 to 8 inches fell in the New River Valley.

#### KILLING FROSTS.

Stations.	Last killing frost in spring.	First killing frost in autumn.	Stations.	Last killing frost in spring.	First killing frost in autumn.
<b>TIDEWATER VIRGINIA</b>			<b>MIDDLE VIRGINIA—continued.</b>		
Ashland	April 21	Oct. 22	Lynchburg	Mar. 29	Oct. 22
Cape Henry	Mar. 8	Nov. 11	Mount Weather	April 21	Oct. 22
Diamond Springs	Mar. 8	Nov. 2	Quantico	Mar. 29	Oct. 22
Dry Bridge		Oct. 22	Randolph		Oct. 22
Eastville	Mar. 29	Nov. 3	Rocky Mount	April 22	Oct. 22
Hampton	Mar. 8		Ruckersville	April 21	Oct. 22
Ivor	Mar. 8	Oct. 22	Stuart		Oct. 22
Newport News	Mar. 8	Oct. 22	Sweetnam	April 21	Oct. 22
Norfolk	Mar. 3	Nov. 3	Washington, D. C.	May 12	Oct. 23
Petersburg	Mar. 8	Oct. 22	<b>THE GREAT VALLEY</b>		
<b>Richmond</b>	Mar. 9	Oct. 22	Blacksburg	April 22	Oct. 14
Runnymede	April 29	Oct. 22	Burkes Garden	May 11	Oct. 14
Wachapreague		Nov. 3	Catawba	April 21	Oct. 22
Warsaw	Mar. 29	Oct. 22	Dale Enterprise	April 8	Oct. 22
West Point	Mar. 29	Oct. 22	Elk Knob	Mar. 28	Oct. 22
Williamsburg	Mar. 29	Oct. 22	Emory	April 21	Oct. 14
<b>MIDDLE VIRGINIA</b>			Hot Springs	May 12	Oct. 14
Arvonnia	April 9	Oct. 22	Ivanhoe	Mar. 7	Oct. 14
Callaville	April 22	Oct. 22	Lexington	April 22	Oct. 22
Charlottesville	April 8	Oct. 22	Max Meadows	April 21	Oct. 21
Clarksville		Oct. 22	Mountain Lake	April 21	Oct. 14
Columbia	April 8	Oct. 22	Radford		Oct. 22
Culpeper	April 8	Oct. 22	Roanoke	April 29	Oct. 22
Danville		Oct. 22	Staunton	April 8	Oct. 22
Fredericksburg	April 8	Oct. 22	Waynesboro		Oct. 22
Lussiter		Oct. 22	Winchester	April 7	Oct. 22
Lincoln	April 8	Oct. 22	Woodstock	April 8	Oct. 22
			Wytheville	April 21	Oct. 21

#### NOTE.

Tables giving the daily temperature extremes and the daily precipitation, and also charts showing the differences between the normals and the monthly averages of temperature and the total monthly amounts of precipitation, at the several stations, have been published regularly during the year in the Monthly Weather Review, separates of which containing the data for Virginia will be furnished on application to the Local Office of the Weather Bureau, Richmond, Va.

#### ERRATA.

1911 Annual Summary—Page 5: Ivanhoe, mean temperature, 63.0°, should be 53.0°.  
 1912 Annual Summary—Pages 5 and 9: Total precipitation, Spottsville 43.37, Tidewater Virginia 36.26, Arvonnia 35.00, Mount Weather 44.19, Middle Virginia 43.37, Dale Enterprise 34.57, Roanoke 36.48, The Great Valley 41.94, and The State 39.19 inches, should be 40.24, 35.71, 45.00, 44.22, 44.00, 35.00, 36.47, 41.96, and 41.41 inches, respectively. Page 9: Annual departures from normal, Spottsville -4.98, Tidewater -9.00, Arvonnia -6.30, Middle Virginia -0.36, Dale Enterprise -7.16, The Great Valley -0.92, and The State -4.63 inches, should be -9.97, -9.55, -3.70, -0.27, -6.73, -0.90, and -2.41 inches, respectively.