

U. S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

LOCAL CLIMATOLOGICAL DATA

WITH COMPARATIVE DATA

1953

RICHMOND, VIRGINIA



NARRATIVE CLIMATOLOGICAL SUMMARY

In its location in east-central Virginia, Richmond enjoys the climatic variety of more northerly cities without the penalty of too much severity. In a record exceeding three-fourths of a century's length, the city's lowest temperature, on February 3, 1899, was -3° , and the highest, on August 6, 1918, 107° F. Fifty years of record show an average wintertime minimum a degree or two below freezing and summer maxima in the upper 80's. The greatest number of consecutive days with minima 10° or below was 7 (February 9-15, 1899), while the longest period of maxima 90° or above was 15 days (August 6-20, 1900).

Precipitation averages for the same period indicate normal falls of three inches or more in every month except October and November, with maxima approaching five inches in the thunderstorm months of July and August. The greatest number of consecutive days with measurable precipitation was 12 (August 3-14, 1942), and the greatest number of days without measurable precipitation was 39 (September 12 to October 21, 1884).

A notable feature of Richmond's climate is the characteristic of its occasional spectacular snowstorms, which, about every seven years, fill the city with wet, heavy falls ranging upward from ten inches to near two feet, causing much difficulty with transportation. Falls of four inches or more occur on an average of once a year. Snow-lying days range from one to a maximum of ten (January 19 to February 7, 1918). The months of December through April have all had maximum monthly snowfall totals of ten inches or more.

The average duration of the growing season is 216 days. The shortest season was in 1907 (190 days) and the longest in 1929 (256 days). The latest date of the last killing frost in Spring was April 26, 1919

and the earliest in Autumn was October 12, 1908.

The James River reaches tidewater at Richmond, where flooding has occurred in every month of the year, most frequently in March (28 times in 60 years) and least frequently in July (twice in 60 years). Spring thaws, along with moderate to heavy rains in its upper reaches and tributaries, have on four occasions caused major floods (exceeding 20 feet at Richmond). The other major floods occurred in the Fall months and resulted from torrential rains accompanying disturbances, tropical or other, which moved northward over the Piedmont Plateau.

Richmond has had its fair share of noteworthy damaging storms. While some glaze forms during each Winter, it is as a rule slight and without damaging effects. However, there have been two spectacular glaze storms. The first, on December 15-17, 1905, caused great damage to hundreds of trees and to transmission lines of all kinds. One person was killed by a live wire. The second storm (January 27-28, 1943), in which the ice accumulation was nearly one inch in thickness, was probably the worst in the city's history. Telephone, telegraph, and power lines were out of service in some sections for two weeks or more and many thousands of trees were destroyed or badly broken. There have been several damaging rain-storms that caused disastrous local flooding. The summer of 1922 produced excessive rainfall on three occasions, July 13 and 28 and August 26, resulting each time in the overflow of Shockoe Creek. The worst of these was on July 13 when the water rose to a depth of five feet at the Main Street railroad station. Damages from the three storms amounted to nearly a million dollars. A similar and greater flood occurred on July 30, 1923 when a torrential downpour of 6.33 inches in two hours was recorded. One life was lost.

LATITUDE 37° 30' N
 LONGITUDE 77° 20' W
 ELEVATION (ground) 162 feet

METEOROLOGICAL DATA FOR THE CURRENT YEAR

RICHMOND, VIRGINIA
 BYRD FIELD
 1953

| Month | Temperature | | | | | | | Degree days | Precipitation | | | | | | Relative humidity | | | | Wind | | | | Number of days | | | | | | | | | | | | | | | | | | |
|-------|---------------|---------------|---------|----------|---------|--------|---------|-------------|---------------|---------------------|--------|-------------------|---------------------|----------|-------------------|---------------|---------------|---------------|----------------------|----------------------|--------------|-----------|----------------|------------------------------|-------------------------------------|-------------------|---------------|--------|--------------------------------|------------------------------------|---------------|-----------|---------------|---------------|---------------|----------------|---|---|---|---|---|
| | Averages | | | Extremes | | | | | Total | Greatest in 24 hrs. | Date | Snow, Sleet, Hail | | | 1:30 a.m. EST | 7:30 a.m. EST | 1:30 p.m. EST | 7:30 p.m. EST | Average hourly speed | Prevailing direction | Fastest mile | | | Percent of possible sunshine | Average sky cover sunrise to sunset | Sunrise to sunset | | | Precipitation .01 inch or more | Snow, Sleet, Hail 1.0 inch or more | Thunderstorms | Heavy fog | Temperatures | | | | | | | | |
| | Daily maximum | Daily minimum | Monthly | Highest | Date | Lowest | Date | | | | | Total | Greatest in 24 hrs. | Date | | | | | | | Speed | Direction | Date | | | Clear | Partly cloudy | Cloudy | | | | | 90° and above | 32° and below | 32° and below | Zero and below | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jan. | 52.2 | 33.5 | 42.9 | 73 | 16 | 23 | 30+ | 680 | 4.47 | 1.70 | 24 | T | T | 12 | 81 | 84 | 60 | 72 | 5.1 | S | 32 | SW | 24 | 45 | 6.8 | 8 | 6 | 17 | 13 | 0 | 1 | 5 | 0 | 0 | 14 | 0 | | | | | |
| Feb. | 54.2 | 32.6 | 43.4 | 69 | 21 | 18 | 18 | 598 | 3.36 | 1.56 | 14-15 | T | T | 11 | 70 | 78 | 46 | 58 | 5.5 | WSW | 31 | SW | 27 | 54 | 6.1 | 9 | 5 | 14 | 10 | 0 | 1 | 0 | 0 | 0 | 16 | 0 | | | | | |
| Mar. | 58.7 | 37.9 | 48.3 | 72 | 14 | 24 | 9 | 509 | 3.95 | 0.87 | 12-13 | 5.6 | 5.1 | 2 | 78 | 81 | 52 | 65 | 5.7 | WSW | 27 | SW | 5 | 53 | 6.5 | 8 | 7 | 16 | 11 | 1 | 2 | 2 | 0 | 0 | 8 | 0 | | | | | |
| Apr. | 70.5 | 45.4 | 58.0 | 87 | 25 | 31 | 15 | 234 | 3.16 | 1.54 | 12-13 | 0.2 | 0.2 | 21 | 70 | 75 | 44 | 57 | 5.5 | WSW | 26 | SW | 20 | 67 | 6.7 | 5 | 10 | 15 | 10 | 0 | 4 | 2 | 2 | 0 | 0 | 2 | 0 | | | | |
| May | 82.6 | 60.4 | 71.5 | 94 | 26 | 48 | 29 | 7 | 2.35 | 0.63 | 18-19 | T | T | 15 | 84 | 78 | 51 | 71 | 5.0 | WSW | 30 | SW | 6 | 67 | 6.5 | 8 | 15 | 10 | 0 | 9 | 2 | 5 | 0 | 0 | 0 | 0 | 0 | | | | |
| June | 86.0 | 64.3 | 75.2 | 95 | 23+ | 48 | 2 | 6 | 3.06 | 1.43 | 9 | 0.0 | 0.0 | | 87 | 81 | 53 | 69 | 7.2 | S | 34 | NW | 9 | 66 | 5.5 | 10 | 9 | 11 | 11 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| July | 91.8 | 67.9 | 79.9 | 103 | 30 | 56 | 13+ | 0 | 2.04 | 0.70 | 5-6 | 0.0 | 0.0 | | 82 | 76 | 44 | 62 | 7.2 | SW | 32 | NE | 8 | 78 | 4.8 | 10 | 16 | 5 | 10 | 0 | 8 | 4 | 19 | 0 | 0 | 0 | 0 | | | | |
| Aug. | 89.0 | 65.6 | 77.3 | 102 | 31 | 54 | 19 | 0 | 0.99 | 0.55 | 13-14 | 0.0 | 0.0 | | 85 | 82 | 47 | 63 | 6.6 | S | 26 | SW | 9 | 71 | 4.9 | 12 | 10 | 9 | 6 | 0 | 5 | 2 | 13 | 0 | 0 | 0 | 0 | | | | |
| Sept. | 81.9 | 58.0 | 70.0 | 102 | 1 | 44 | 14 | 28 | 6.84 | 3.14 | 5 | 0.0 | 0.0 | | 85 | 84 | 47 | 71 | 7.7 | SW | 27 | NW | 12 | 79 | 3.3 | 18 | 6 | 6 | 7 | 0 | 2 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | | | |
| Oct. | 73.5 | 47.8 | 60.7 | 85 | 20 | 35 | 8 | 152 | 2.16 | 1.97 | 28-29 | 0.0 | 0.0 | | 86 | 88 | 47 | 73 | 8.1 | NNE | 24 | NE | 22 | 77 | 3.3 | 19 | 7 | 5 | 4 | 0 | 2 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Nov. | 61.7 | 35.3 | 48.5 | 80 | 3 | 22 | 29 | 488 | 1.85 | 0.86 | 22-23 | 7.3 | 7.3 | 6-7 | 84 | 85 | 48 | 70 | 6.3 | S | 29 | S | 22 | 62 | 4.9 | 14 | 4 | 12 | 7 | 1 | 0 | 0 | 5 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | |
| Dec. | 53.1 | 31.9 | 42.5 | 70 | 6 | 11 | 19 | 691 | 2.94 | 1.31 | 13-14 | 0.0 | 0.0 | | 75 | 79 | 49 | 65 | 8.1 | S | 31 | SW | 6 | 57 | 5.5 | 13 | 3 | 15 | 9 | 0 | 0 | 3 | 0 | 2 | 17 | 0 | 0 | 0 | 0 | 0 | 0 |
| Year | 71.3 | 48.4 | 59.9 | 103 | July 30 | 11 | Dec. 19 | 3393 | 37.17 | 3.14 | Sept 5 | 13.1 | 7.3 | Nov. 6-7 | 81 | 81 | 49 | 66 | 7.7 | S | 34 | NW | 9 | 65 | 5.4 | 134 | 91 | 140 | 108 | 2 | 44 | 36 | 55 | 2 | 69 | 0 | 0 | 0 | 0 | 0 | 0 |

NORMALS, MEANS, AND EXTREMES

| Month | Temperature | | | | | | | Normal degree days | Precipitation | | | | | | Relative humidity | | | | Wind | | | | Mean number of days | | | | | | | | | | | | | | | | | | | |
|-------|---------------|---------------|---------|----------------|-----------|---------------|-----------|--------------------|---------------|-----------------|------|-----------------|-----------|--------------------|-------------------|-------------------|-----------------|------|---------------|---------------|---------------|---------------|---------------------|----------------------|--------------------|------|-------|---------------------------|----------------------------------|-------------------|------|-------|--------------------------------|------------------------------------|---------------|-----------|---------------|--------|---------------|---------------|---------------|----------------|
| | Normal | | | Extremes | | | | | Normal total | Maximum monthly | Year | Minimum monthly | Year | Maximum in 24 hrs. | Year | Snow, Sleet, Hail | | | 1:30 a.m. EST | 7:30 a.m. EST | 1:30 p.m. EST | 7:30 p.m. EST | Mean hourly speed | Prevailing direction | Fastest mile | | | Pct. of possible sunshine | Mean sky cover sunrise to sunset | Sunrise to sunset | | | Precipitation .01 inch or more | Snow, Sleet, Hail 1.0 inch or more | Thunderstorms | Heavy fog | Temperatures | | | | | |
| | Daily maximum | Daily minimum | Monthly | Record highest | Year | Record lowest | Year | | | | | | | | | Mean total | Maximum monthly | Year | | | | | | | Maximum in 24 hrs. | Year | Speed | | | Direction | Year | Clear | | | | | Partly cloudy | Cloudy | 90° and above | 32° and below | 32° and below | Zero and below |
| | (b) | (b) | (b) | 56 | 56 | (b) | (b) | | | | | | | | | 82 | 82 | 56 | | | | | | | 56 | 56 | 56 | | | 56 | 56 | 56 | | | | | 56 | 56 | 56 | 56 | 56 | 56 |
| Year | 68.6 | 46.7 | 57.7 | 107 | Aug. 1918 | -3 | Feb. 1899 | 3955 | 42.89 | 16.08 | 1945 | 0.11 | Nov. 1890 | 7.26 | July 1923 | 12.5 | 22.4 | 1940 | 17.2 | Dec. 1908 | 82 | 80 | 55 | 68 | 7.5 | SSW | 62 | SW | 1943 | 61 | 5.1 | 133 | 111 | 121 | 122 | 4 | 40 | 17 | 33 | 7 | 70 | * |

REFERENCE NOTES

(a) Length of record, years.
 (b) Normal values are based on the period 1921-1950, and are means adjusted to represent observations taken at the present standard location.
 * Less than one half.
 - No record.
 † Airport data.
 ‡ City Office data.
 † Also on earlier dates, months, or years.
 † Trace, an amount too small to measure.

Mean values at the end of the Average Temperature and Total Precipitation tables are long-term averages based on the period of record beginning in 1896. Values have not been corrected for changes in instrument location listed in the Station Location Table.

Unless otherwise indicated, dimensional units used in this bulletin are: temperature in degrees F.; precipitation and snowfall in inches; wind movement in miles per hour; and relative humidity in percent.

Sky cover is expressed in a range of 0 for no clouds or obstructions to 10 for complete sky cover. Degree days are based on daily average temperatures of 65° F. Sleet and hail have been included in snowfall totals since June 1948.

Data for earlier years may be obtained by contacting the Weather Bureau Office in the city

for which this summary was issued.

Heavy fog in the Means and Extremes Table includes data referred to at various times in the past as "Dense" or "Thick". The upper visibility limit for heavy fog is 1/4 mile.

Below zero temperatures are preceded by a minus sign.

Sale Price: 10 cents per copy. Checks and money orders should be made payable to the Superintendent of Documents. Remittances and correspondence regarding this summary should be addressed to the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

% Average Temperature Table, 1898. Total Precipitation Table, 1872.

AVERAGE TEMPERATURE

TOTAL PRECIPITATION

Table with columns: Year, Jan., Feb., Mar., Apr., May, June, July, Aug., Sept., Oct., Nov., Dec., An. l. Data rows from 1910 to 1953, including MEAN TEMP, MAX, and MIN values.

Table with columns: Year, Jan., Feb., Mar., Apr., May, June, July, Aug., Sept., Oct., Nov., Dec., Annual. Data rows from 1910 to 1953, including MEAN values.

MONTHLY AND SEASONAL DEGREE DAYS

MONTHLY AND SEASONAL SNOWFALL

Table with columns: Season, July, Aug., Sept., Oct., Nov., Dec., Jan., Feb., Mar., Apr., May, June, Total. Data rows from 1909-10 to 1953-54.

Table with columns: Season, July, Aug., Sept., Oct., Nov., Dec., Jan., Feb., Mar., Apr., May, June, Total. Data rows from 1909-10 to 1953-54.

The horizontal lines drawn on the Average Temperature, Total Precipitation, Monthly and Seasonal Degree Days, and Monthly and Seasonal Snowfall tables separate the data according to station location (see Station Location table).

STATION LOCATION

RICHMOND, VIRGINIA
BYRD FIELD
1953

| Location | Occupied from | Occupied to | Airline distance and direction from previous location | Latitude | Longitude | Elevation above | | | | | | | | | | REMARKS | | |
|--|---------------|-------------|---|-----------|-----------|---|--|------------------|----------------------|--------------|------------------|--------------------------|--------------------|--------------|--|---------|--|--|
| | | | | | | Sea level | | Ground | | | | | | | | | | |
| | | | | | | Ground | Actual barometer elevation (H ₁) | Wind instruments | Extreme thermometers | Psychrometer | Telepsychrometer | Tipping bucket rain gage | Weighing rain gage | 8" rain gage | | | | |
| CITY OFFICE | | | | | | | | | | | | | | | | | | |
| High elevation in East Richmond | 1-1880 | 2-1893 | | | | Est. 150 | | | ? | | | | | | | | | W. H. Pleasants, Exact address unknown. |
| Near Southern RR Bridge | 3-1893 | 3-1895 | ? | | | Est. 35 | | | ? | | | | | | | | | A. J. Duesberry, River Observer, Observed Temperatures. |
| Westbrook Farms | 4-1895 | 10-1897 | 4 mi. N | 27° 36' N | 77° 24' W | 186 | | | ? | | | | | | | | | Capt. J.C. Shafer, Temperatures only. |
| State Library Building Capitol Square | 9-18-95 | 5-22-97 | 4 mi. S | 37° 32' N | 77° 27' W | 142 | | | | | | | | | | | | Section Center, No Observations. |
| Chamber of Commerce Bldg Ninth & Main Streets | 5-22-97 | 10- 4-97 | 3/8 mi. SW | 37° 32' N | 77° 27' W | 104 | | | | | | | | | | | | Section Center, No Observations. |
| Chamber of Commerce Bldg. Ninth & Main Sts. | 10- 5-97 | 5-31-00 | | | | 143.70 | 107 | 98 | 98 | | 89 | | 89 | | | | | Observational Program begun 10-5-97. |
| Times Bldg., 10th & Bank Streets | 5-31-00 | 6-30-05 | 1/8 mi. NE | 37° 32' N | 77° 27' W | 115 | 156.90 | 92 | 82 | 82 | 76 | | 76 | | | | | |
| Mutual Assurance Bldg. 9th & Main Streets | 6-30-05 | 1-30-10 | 1/8 mi. SW | | | 104 | 214.82 | 154 | 145 | 145 | 138 | | 138 | | | | | |
| Weather Bureau Building Chimborazo Park, 3301 E Broad Street | 1-30-10 | 7- 1-39 | 1-1/2 mi. E | 37° 32' N | 77° 25' W | 162 | 169.59 | 53 | 11 | 11 | 3 | | 3 | | | | | |
| Weather Bureau Building Chimborazo Park, 3301 E Broad Street | 7- 1-39 | 9-24-42 | | | | | | | | | | | | | | | | Observational program at Airport |
| Weather Bureau Building Chimborazo Park, 3301 E Broad Street | 9-24-42 | 4-19-46 | | | | | | | | | | 4 | | | | | | Observations, including Pibals, returned to WBO. Byrd Field occupied by AAF. |
| Weather Bureau Building Chimborazo Park, 3301 E Broad Street | 4-19-46 | 6- 1-50 | | | | | | | | | | | | | | | | |
| Observational and Pibal Program returned to WBAS, Byrd Field. moved to WBAS. Weighing gage returned to WBO. Climatological observations. | | | | | | Climatological Observations only at WBO. Triple register and associated instruments | | | | | | | | | | | | |
| Weather Bureau Building Chimborazo Park, 3301 E Broad Street | 6- 1-50 | 7- 1-53 | | 37° 32' N | 77° 25' W | 162 | | # 53 | 11 | | - | | 4 | 3 | | | | # Wind instruments for display. WBO consolidated with WBAS 7-1-53. |
| AIRPORT STATION | | | | | | | | | | | | | | | | | | |
| Old WB/CAA Bldg. location | 7-15-25 | 8- 3-30 | None | 37° 30' N | 77° 20' W | *158 | 163.96 | - | - | - | - | - | - | - | | | | Branch service of City Office and CAA cooperating. |
| WB-CAA Building | 8- 3-30 | 5-26-35 | None | 37° 30' N | 77° 20' W | 158 | 163.96 | 40 | 5 | 5 | - | - | - | 3 | | | | Full WBAS established; closed 1935. |
| WB-CAA Building | 5-27-35 | 7-14-38 | None | 37° 30' N | 77° 20' W | 158 | 163.96 | * 40 | 5 | 5 | - | - | - | 3 | | | | Observations by CAA during period WB closed. |
| WB-CAA Building | 7-14-38 | 9-24-42 | None | 37° 30' N | 77° 20' W | 158 | 163.96 | * 50 | 5 | 5 | - | - | - | 3 | | | | Reopened same location; closed 1942 because AF had AP. |
| Army Hangar (Operations Annex) | 9-24-42 | 4-19-46 | 1/2 mi. NNW | 37° 30' N | 77° 20' W | 156 | 159.72 | 55 | 5 | 5 | - | - | - | 3 | | | | Army base closed after World War II. |
| Old Airport Administration Building | 4-19-46 | 6- 1-50 | 1/3 mi. SSE | 37° 30' N | 77° 20' W | 156 | 166.85 | 46 | 5 | 5 | - | - | - | 4 | | | | WBAS re-opened in airport terminal building (old). |
| Byrd Field, New Terminal Building | 6- 1-50 | Present | 4/5 mi. N | 37° 30' N | 77° 20' W | 162 | 180.24 | 67 | 6 | 6 | - | 3 | - | 3 | | | | All Airport operations consolidated in new Terminal Building. |
| * Data doubtful. | | | | | | | | | | | | | | | | | | |