

Local Climatological Data

Annual Summary With Comparative Data

1976

RICHMOND, VIRGINIA



Narrative Climatological Summary

Richmond is located in east-central Virginia at the head of navigation on the James River and along a line separating the Coastal Plains (Tidewater Virginia) from the Piedmont. The Blue Ridge Mountains lie about 90 miles to the west and the Chesapeake Bay 60 miles to the east. Elevations range from a few feet above sea level along the river to a little over 300 feet in parts of the west section of the City.

The climate might be classified as modified continental. Summers are warm and humid and winters generally mild. The mountains to the west act as a partial barrier to outbreaks of cold, continental air in winter, the coldest air being delayed long enough to be modified, then further warmed as it subsides in its approach to Richmond. The open waters of the Chesapeake Bay and Atlantic Ocean contribute to the humid summers and mild winters. The coldest weather normally occurs in late December and in January, when low temperatures usually average in the upper twenties and the high temperatures in the upper forties. Temperatures seldom lower to zero. The record lowest temperature of minus 12° was recorded at the Airport in January 1940. The record high temperature of 107° occurred in August 1918 at Chimborazo Park.

Precipitation is rather uniformly distributed throughout the year. However, dry periods lasting several weeks do occur, especially in autumn when long periods of pleasant, mild weather are most common. There is considerable variability in total monthly amounts from year to year so that no one month can be depended upon to be normal. Snow has been recorded during seven of the twelve months. Falls of 4 inches or more occur on an average of once a year. Snow usually remains on the ground only 1 or 2 days at a time, but on one occasion it remained 21 days (January 23 to February 13, 1948). Ice storms (freezing rain or glaze) are not uncommon in winter, but they are seldom severe enough to do any considerable damage. A notable exception was the spectacular glaze storm of January 27 - 28, 1943, when heavy damage was done to trees and overhead transmission lines of all kinds.

The James River reaches tidewater at Richmond where flooding has occurred in every month of the year, most frequently in March and least in July. Hurricanes and less severe storms of tropical origin have been responsible for most of the flooding during the summer and early fall months. The flood of record at Richmond was Agnes in June, 1972 which produced on the 23rd crests 6 and one half feet above old high water marks dating back 200 years. Agnes was followed closely by serious flooding on October 7, 1972 and preceded by Camille on August 22, 1969 which is now the fourth greatest flood of record. In 1955 three hurricanes brought record rainfall to Richmond within a 6-week period. The most noteworthy of these were Hurricanes Connie and Diane that brought heavy rains five days apart.

Damaging storms occur mainly from snow and freezing rain in winter and from hurricanes, tornadoes, and severe thunderstorms at other seasons. Damage may be from wind, flooding, or rain, or from any combination of these. Tornadoes are infrequent but some notable occurrences have been observed within the Richmond area. The highest wind recorded has been 68 m.p.h. with a peak gust of 79 m.p.h. at the time of Hurricane Hazel, October 15, 1954.

The dates of the last freeze in spring and of the first in autumn mark the limits of the growing season for most crops. The average growing season is 216 days. May 11, 1966, has been the latest date in spring when a temperature of 32° or lower was recorded; October 5, 1965, has been the earliest date in autumn.

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ASHEVILLE, N.C.

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Meteorological Data For The Current Year

Station: **RICHMOND, VIRGINIA # 13740** R.F.E.BYRD INTERNATIONAL AP. Standard time used: **EASTERN** Latitude: **37° 30' N** Longitude: **77° 20' W** Elevation (ground): **164 feet** Year: **1976**

Month	Temperature °F							Degree days Base 65 °F		Precipitation in inches				Relative humidity, pct.				Wind						Number of days						Average station pressure mb Elev. 177 feet m.s.l.												
	Averages			Extremes				Heating	Cooling	Water equivalent			Snow, ice pellets	Hour 01	Hour 07	Hour 13	Hour 19	Resultant	Fastest mile		Percent of possible sunshine	Average sky cover, tenths, sunrise to sunset.	Sunrise to sunset			Precipitation			Temperature °F													
	Daily maximum	Daily minimum	Monthly	Highest	Date	Lowest	Date			Total	Greater in 24 hrs.	Date	Total						Greater in 24 hrs.	Date			Direction	Speed m.p.h.	Average speed m.p.h.	Speed m.p.h.	Direction	Date	Clear		Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, ice pellets 1.0 inch or more	Thunderstorms	Heavy fog, visibility 1/4 mile or less	90° and above	70° and below	32° and below	0° and below		
JAN	46.7	23.9	35.1	74	26	5	19	917	0	3.39	1.81	26-27	0.2	0.2	17	9	74	78	49	63	27	2.5	8.2	31	SW	14	57	9.5	11	6	14	10	0	0	0	0	0	0	0	0	0	1013.5
YEAR	70.5	44.8	57.7	100	15	5	19	3976	1385	34.76	2.16	15-16	3.9	1.7	8	8	79	82	49	62	25	1.6	7.3	34	W	13	61	9.8	110	101	155	103	3	33	15	55	5	112	0	1011.1		

† DATA CORRECTED AFTER PUBLICATION OF THE MONTHLY ISSUE.

Normals, Means, And Extremes

Month	Temperatures °F							Normal Degree days Base 65 °F		Precipitation in inches										Relative humidity pct.				Wind						Mean number of days						Average station pressure mb Elev. 177 feet m.s.l.							
	Normal			Extremes				Heating	Cooling	Water equivalent					Snow, ice pellets					Hour 01	Hour 07	Hour 13	Hour 19	Fastest mile		Pct. of possible sunshine	Mean sky cover, tenths, sunrise to sunset	Sunrise to sunset			Precipitation			Temperatures °F									
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year			Normal	Maximum monthly	Year	Minimum monthly	Year	Maximum in 24 hrs.	Year	Maximum monthly	Year	Maximum in 24 hrs.					Year	Hour			Hour	Hour	Hour	Mean speed m.p.h.	Prevailing direction	Speed m.p.h.	Direction	Year		Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, ice pellets 1.0 inch or more	Thunderstorms	Heavy fog, visibility 1/4 mile or less
(a)				47		47			39		39		39		39		39	42	42	42	42	28	15	26	26	26	31	31	31	31	39	39	39	47	47	47	47	47	47	4			
JAN	47.4	27.6	37.5	80	1950	-12	1940	853	0	2.86	5.93	1962	1.08	1951	3.31	1962	28.5	1940	21.6	1940	77	81	57	69	8.0	S	43	NW	1971	51	6.5	8	7	16	10	1	*	3	0	3	21	*	1013.7
YEAR	68.8	46.7	57.8	104	1952	-12	1940	3939	1353	42.59	18.87	JUL 1945	0.30	DEC 1963	8.79	AUG 1955	28.5	JAN 1940	21.6	JAN 1940	82	83	53	69	7.5	S	68	SE	OCT 1964	60	6.0	103	107	155	113	4	37	29	41	6	85	*	1011.4

Means and extremes above are from existing and comparable exposures. Annual extremes have been exceeded at other sites in the locality as follows: Highest temperature 107 in August 1919; minimum monthly precipitation 0.11 in November 1890 and earlier.

(a) Length of record, years, through the current year unless otherwise noted, based on January data.

(b) 70° and above at Alaskan stations.

* Less than one half.

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NORMALS - Based on record for the 1941-1970 period.

DATE OF AN EXTREME - The most recent in cases of multiple occurrence.

PREVAILING WIND DIRECTION - Record through 1963.

WIND DIRECTION - Numerals indicate tens of degrees clockwise from true north. 00 indicates calm.

FASTEST MILE WIND - Speed is fastest observed 1-minute value when the direction is in tens of degrees.

STATION LOCATION

RICHMOND, VIRGINIA

Location	Occupied from	Occupied to	Airline distance and direction from previous location	Latitude North	Longitude West	Elevation above										Remarks
						Sea level	Ground								Sea level	
							Ground at temperature site	Wind instruments	Extreme thermometers	Psychrometer	Telepsychrometer	Tipping bucket rain gage	Weighting rain gage	8" rain gage		
COOPERATIVE																
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.	
Westbrook Farms	4/1895	10/1897	4 mi. N	27° 36'	77° 24'	196									Capt. J. C. Shafer; temperatures only	
CITY																
State Library Building Capitol Square	9/18/95	5/22/97	4 mi. S	37° 32'	77° 27'	142									Section Center; no observations	
Chamber of Commerce Building, Ninth & Main Streets	5/22/97	5/31/00	3/8 mi. SW	37° 32'	77° 27'	104	107	98	98		89		89		Observational Program begun 10/5/97.	
Times Building 10th & Bank Streets	5/31/00	6/30/05	1/8 mi. NE	37° 32'	77° 27'	115	92	82	82		76		76			
Mutual Assurance Bldg. Ninth & Main Streets	6/30/05	1/30/10	1/8 mi. SW	37° 32'	77° 27'	104	154	145	145		138		138			
Weather Bureau Building Chimborazo Park 3301 E Broad Street	1/30/10	7/01/53	1-1/2 mi. E	37° 32'	77° 25'	162	53	11	11		3 a4		3		Climatological observations were continuous at City Office sites 10/5/97 through 6/30/53. a - At this site 9/24/42 to 4/19/46 and after 6/1/50.	
AIRPORT																
WB-CAA Building	7/15/25	9/24/42	None	37° 30'	77° 20'	158	#	5	5				3		CAA to 8/3/30. WBAS 8/3/30 to 5/26/35 and 7/14/38 to 9/24/42. # - 40 feet 8/3/30 to 5/26/35, estimated 40 feet 5/26/35 to 7/14/38 and estimated 50 feet to 9/24/42.	
Army Hangar (Operations Annex)	9/24/42	4/19/46	1/2 mi. NNW	37° 30'	77° 20'	156	55	5	5				3		AF operation.	
Old Airport Administration Building	4/19/46	6/01/50	1/3 mi. SSE	37° 30'	77° 20'	156	46	5	5				4		WBAS reopened.	
Byrd Field † New Terminal Building † R. E. Byrd International Airport effective 2/18/71	6/01/50	Present	4/5 mi. N	37° 30'	77° 20'	c164	b20	d6	d6		e19		e19 a4		a - Installed 2700 feet ENE of thermometer site 6/26/59. b - 67 feet to 1/11/61. c - 162 feet to 6/26/59. d - Discontinued 6/26/59. e - 3 feet to 10/9/69.	

Requests for additional climatic information should be addressed to: Director, National Climatic Center, Federal Building, Asheville, N. C. 28801

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