

Local Climatological Data

Annual Summary With Comparative Data

1978

RICHMOND, VIRGINIA

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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.

STATION LOCATION

RICHMOND, VIRGINIA

Location	Occupied from	Occupied to	Altiude distance and direction from previous location	Latitude North	Longitude West	Elevation above								Remarks
						Sea level	Ground							
							Ground at temperature site	Wind instruments	Extreme thermometers	Psychrometer	Telepsychrometer	Tipping bucket rain gage	Weighing 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.

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