

U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU

ANNUAL
METEOROLOGICAL
SUMMARY

WITH COMPARATIVE DATA

—1929—

RICHMOND, VIRGINIA

Compiled by
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Associate Meteorologist

LOCAL OFFICE, U. S. WEATHER BUREAU
RICHMOND, Va., FEBRUARY 24, 1930.

Annual Meteorological Summary, 1929.

Latitude 37°-32' N. Longitude 77°-27' W.

MONTH.	TEMPERATURE.						PRECIPITATION.				Relative humidity, percent.	Percentage of Sunshine.	WIND.				NUMBER OF DAYS.																
	Mean.			Extremes.			Total.	Maximum in 24 hours.		Snowfall, ^a			Average hourly velocity	Prevailing direction.	Maximum.			Winds 33 miles per hour or more.	Clear.	Partly cloudy.	Cloudy.	Precipitation. (.01 in. or more.)	Thunderstorms.	Dense fog.	Snow.*	Max. temp.		Min. temp.					
	Maximum.	Minimum	Monthly	Maximum.	Date.	Minimum.		Date.	Maximum in 24 hours.						Date.	Velocity.	Direction.									Date.	32 degrees and below.	30 degrees and above.	32 degrees and below.	Zero and below.			
January.....	48	29	39	76	18	12	14	1.53	0.56	5-6	0.9	69	56	7.8	De	35	W	6	2	12	6	13	13	0	2	5	1	0	0	22	0		
February.....	48	30	38	67	26	16	24	5.13	1.41	20-21	2.3	77	57	6.4	He	23	De	20	3	13	3	13	14	0	0	4	1	0	0	28	0		
March.....	63	42	53	87	24	18	10	3.96	1.01	4-11	1	66	61	8.0	SW	40	UW	7	3	11	11	10	10	0	0	0	0	0	0	7	0		
April.....	71	49	63	94	7	38	18	3.26	1.03	15-16	0.0	65	62	8.0	SW	39	W	1	2	15	6	9	9	0	0	0	0	0	0	0	0	0	
May.....	76	49	68	94	31	45	17	4.00	1.31	31	0.0	74	68	7.7	SW	39	W	3	2	12	14	9	14	0	0	0	0	0	0	0	0	0	
June.....	83	63	73	91	13	47	4	3.02	1.01	8-9	0.0	76	76	6.1	SW	33	W	25	0	13	3	6	6	0	0	0	0	0	0	0	0	0	0
July.....	87	65	77	97	29	58	30	2.16	0.84	30	0.0	74	69	6.2	SW	28	NW	10	0	13	9	9	12	0	0	0	0	0	0	0	0	0	0
August.....	85	65	75	94	18	54	5	2.41	0.84	8	0.0	73	67	5.4	SW	28	NW	29	0	14	13	7	10	4	2	0	0	0	0	0	0	0	0
September.....	82	61	71	93	7	44	5	2.41	2.13	30-1	0.0	79	66	5.4	SW	18	e	21	0	17	13	7	7	0	0	0	0	0	0	0	0	0	0
October.....	68	48	58	80	7	30	18	6.99	4.81	21-22	2.0	74	75	7.5	He	32	SW	22	0	15	9	7	7	0	0	0	0	0	0	0	0	0	0
November.....	58	42	50	81	2	14	30	3.34	2.34	3-4	3.8	76	49	7.2	SW	27	NW	28	0	13	9	11	11	0	2	2	1	0	0	5	0	0	
December.....	50	32	41	71	15	12	1	2.70	1.02	2	3.0	76	61	7.2	SW	35	SW	19	1	13	10	8	12	0	1	2	1	0	0	17	0	0	
Year.....	68.3	48.6	58.4	97	July. 29	Dec. 1		41.21	4.81	Oct. 21-22	10.0	73	63	7.2	SW	40	nw	Mar 7	9	156	105	104	128	37	8	13	3	33	71	0	0		

^a 8 pm. to 8 pm.

^b By 3-cup anemometer, not strictly comparable with those prior to 1928.

* .01 inch or more melted.

RICHMOND, VIRGINIA.

AVERAGES AND OTHER COMPARATIVE DATA.

Month	Temperature							Relative humidity (per cent)		Precipitation					Sunshine		Wind			Number of days																	
	Maximum	Minimum	Mean	Normals	Highest mean	Lowest mean	Daily range	8 a. m.	8 p. m.	Monthly	Normals	Greatest monthly	Least monthly	Snowfall	Number of hours of possible	Average per cent	Average hourly velocity	Prevailing direction	Highest		Wind (40 miles per hour or more)	Clear	Partly cloudy	Cloudy	With precipitation (0.01 inch or more)	Snow (0.1 inch or more, unmelted)	Thunderstorms	Dense fog	Max. temp.		Min. temp.						
																			Velocity	Direction									32° or below	90° or above	32° or below	Zero or below					
January . . .	47	30	38	37	48	28	17	79	64	18	3.21	0	0	0	0	0	0	SW	50	SW	12	10	0	0	0	0	0	0	0	0	0	0	0	0	0		
February . . .	55	30	42	39	49	31	28	77	66	24	3.17	0	0	0	0	0	0	SW	50	SW	12	10	0	0	0	0	0	0	0	0	0	0	0	0	0		
March	65	38	51	47	57	39	31	86	68	47	3.68	0	0	0	0	0	0	SW	44	SW	10	12	0	0	0	0	0	0	0	0	0	0	0	0	0		
April	75	45	60	56	63	39	31	93	78	68	4.98	0	0	0	0	0	0	SW	44	SW	12	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
May	83	55	69	66	74	41	31	94	80	79	6.66	0	0	0	0	0	0	SW	44	SW	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
June	92	65	78	74	82	43	31	97	85	90	9.49	0	0	0	0	0	0	SW	41	SW	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
July	97	71	84	81	88	43	31	99	87	93	14.01	0	0	0	0	0	0	SW	41	SW	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
August	97	71	84	81	88	43	31	99	87	93	14.01	0	0	0	0	0	0	SW	41	SW	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
September . . .	87	61	74	72	82	43	31	97	88	88	10.41	0	0	0	0	0	0	SW	45	SW	11	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
October	77	48	62	59	73	42	31	93	73	75	6.41	0	0	0	0	0	0	SW	37	SW	11	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
November	68	38	53	50	64	42	31	90	65	70	3.59	0	0	0	0	0	0	SW	38	SW	11	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
December	58	31	44	39	51	39	17	80	69	39	7.10	0	0	0	0	0	0	SW	44	SW	14	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Year	67.6	48.2	57.9	57.9	65.8	51.2	19.4	78	64	41.65	42.02	14.01	0.11	14.6	4451.5	60	7.3	SW	50	SW	Av 9	137	112	116	121	6	37	12	7	29	72	3					

★2-cup anemometer equivalent.

RICHMOND, VIRGINIA.

RICHMOND, VIRGINIA.

Monthly and Annual Mean Temperatures.

YEAR.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1880.	45.6	.....	46.7	58.8	.....	73.0	81.0	73.0	.....	52.7	42.2	40.9	.....
1881.	33.5	40.3	45.2	53.3	68.5	75.8	81.0	78.8	78.8	65.9	52.6	46.2	60.2
1882.	38.5	46.8	50.5	53.4	63.1	75.8	78.6	76.6	70.5	63.8	45.9	37.5	58.8
1883.	34.4	44.9	43.2	55.5	68.0	77.2	78.7	76.9	68.7	56.9	51.0	41.7	58.1
1884.	34.1	48.1	47.5	54.6	69.4	74.3	77.5	76.4	76.1	65.6	48.4	45.1	59.8
1885.	40.1	33.5	39.8	57.1	66.4	76.2	80.6	77.6	73.6	58.8	49.5	41.2	57.9
1886.	31.1	35.7	42.2	62.5	62.3	72.2	74.0	75.4	71.9	60.5	50.0	32.7	55.9
1887.	37.6	49.0	43.2	54.3	72.7	71.7	82.3	76.8	69.6	60.5	49.7	42.0	59.1
1888.	32.4	44.7	44.5	55.4	65.7	75.9	75.2	76.0	66.8	55.0	50.6	40.6	57.1
1889.	42.0	36.5	46.1	58.0	67.2	72.5	76.7	73.8	67.5	55.7	50.8	61.1	58.0
1890.	48.5	49.0	47.5	57.6	67.1	78.1	74.3	75.8	70.3	62.2	54.0	44.2	60.8
1891.	44.9	49.3	44.2	63.3	66.5	77.7	76.1	78.5	75.0	64.7	49.5	47.2	61.4
1892.	39.2	43.9	44.9	57.7	69.9	78.4	78.4	80.0	69.7	59.0	47.1	38.9	58.9
1893.	28.7	40.4	46.9	61.4	65.6	74.3	79.5	76.0	68.2	58.7	47.6	40.6	57.3
1894.	36.4	35.9	53.7	57.1	70.1	76.8	81.6	74.7	73.0	61.6	48.8	44.7	59.5
1895.	35.1	31.3	46.9	58.0	63.9	78.8	75.5	79.3	76.4	56.4	51.9	40.4	57.8
1896.	38.8	41.7	45.4	59.1	74.6	73.1	72.8	80.9	70.0	58.2	54.5	39.5	58.4
1897.	36.6	44.5	51.4	58.8	66.5	78.8	79.3	78.0	72.2	60.2	49.1	42.1	59.8
1898.	41.4	38.4	52.0	53.8	67.2	74.8	78.9	78.8	73.1	60.6	47.0	40.6	58.9
1899.	37.5	33.0	47.5	57.2	67.6	76.8	79.0	78.0	69.9	61.0	50.0	40.2	58.1
1900.	39.4	37.6	43.8	57.3	67.0	74.6	81.2	82.9	75.6	64.6	52.1	40.3	59.7
1901.	38.8	34.7	49.6	54.8	65.5	74.8	81.0	77.4	70.0	59.1	44.1	38.6	57.2
1902.	36.2	34.6	50.0	55.8	67.8	74.3	79.0	75.0	68.6	61.6	54.8	40.1	58.2
1903.	38.2	43.0	54.4	57.8	67.8	70.2	79.3	75.8	69.4	58.9	44.8	36.2	58.0
1904.	33.4	34.2	47.5	54.2	67.2	74.4	77.1	75.6	70.9	57.7	46.2	35.8	56.2
1905.	35.0	31.2	49.8	57.6	69.4	74.2	78.4	75.8	71.7	59.4	48.2	40.4	57.6
1906.	43.1	38.6	42.0	59.1	67.0	75.0	76.6	78.2	73.6	57.8	50.0	41.4	56.5
1907.	42.8	35.0	52.1	50.4	62.7	68.4	79.1	75.4	72.8	55.9	47.8	42.0	57.0
1908.	38.1	36.6	52.2	60.0	67.2	72.9	78.9	74.0	68.4	60.4	50.4	41.2	58.4
1909.	42.2	47.4	46.4	57.6	66.0	76.2	76.8	74.2	67.4	55.4	53.1	35.9	58.2
1910.	39.0	39.4	53.9	58.4	63.8	70.3	77.8	74.6	71.8	61.0	42.5	34.1	57.2
1911.	41.8	41.0	44.6	52.4	69.8	75.0	79.6	77.7	72.5	59.2	45.0	43.2	58.5
1912.	28.9	35.0	44.9	59.6	67.0	72.2	77.6	76.4	73.0	60.2	48.2	43.2	57.2
1913.	46.7	40.0	52.0	57.8	66.6	73.8	79.0	75.2	69.0	60.2	50.2	42.2	59.4
1914.	41.8	35.0	41.8	56.0	68.6	75.8	76.9	77.6	68.2	61.8	48.0	35.7	57.3
1915.	39.4	43.7	40.6	59.9	66.0	72.0	78.0	76.2	72.4	61.3	49.2	37.7	58.0
1916.	44.0	38.8	43.4	55.8	69.7	71.7	77.5	76.1	68.2	60.2	48.5	38.8	57.7
1917.	39.8	37.6	46.6	57.4	61.2	73.6	76.8	75.8	65.2	54.8	41.4	30.0	55.8
1918.	28.0	41.2	51.7	54.7	70.4	71.0	73.8	78.3	65.6	62.2	47.8	43.2	57.3
1919.	40.6	39.8	49.5	56.6	66.1	73.2	77.6	75.0	71.3	67.2	48.8	35.9	58.5
1920.	34.2	35.5	48.2	55.2	60.8	72.4	75.4	75.2	71.0	62.0	47.2	41.0	56.5
1921.	39.9	42.0	57.6	60.1	63.1	74.8	80.0	76.6	76.8	59.5	51.6	41.0	60.2
1922.	35.0	41.9	49.4	58.6	67.2	75.0	77.6	73.3	70.6	60.8	49.0	42.3	58.4
1923.	40.1	37.0	48.0	55.8	64.4	76.0	76.4	75.2	70.8	57.7	46.8	47.6	56.0
1924.	38.0	38.2	45.6	54.0	62.8	72.8	75.2	76.4	65.8	58.6	48.8	40.5	56.4
1925.	36.6	47.4	48.9	59.2	62.0	77.9	79.6	74.3	75.4	55.1	46.7	38.6	58.5
1926.	37.8	41.8	43.0	54.5	65.7	71.4	77.6	78.0	71.2	60.2	46.4	37.8	57.1
1927.	37.9	45.9	50.2	53.8	66.2	69.4	76.0	71.3	70.6	61.4	53.1	41.0	58.1
1928.	38.9	4.04	47.4	54.2	64.1	72.8	77.4	78.0	65.8	61.4	50.4	41.0	57.7
1929.	38.8	38.2	52.8	60.2	65.8	73.1	77.0	75.1	77.2	58.0	49.8	41.4	58.4
.....
.....
Normal	37.9	39.6	47.2	56.6	66.5	74.1	78.5	76.5	70.5	59.6	48.3	39.8	57.9
Means	38.2	40.0	47.5	56.8	66.7	74.4	78.0	76.5	71.0	59.7	48.9	40.5	58.2

Bold-faced figures indicate highest and lowest means.

RICHMOND, VIRGINIA.

Monthly and Annual Precipitation.

YEAR.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1871.....	.....	2.85	8.64	2.10	4.61	4.30	.....	.....	.....	.....	.....	.....	.....
1872.....	1.82	3.28	4.55	2.22	1.77	2.01	1.63	4.95	2.42	5.14	2.22	2.76	34.77
1873.....	4.50	8.92	2.05	2.45	8.98	2.21	3.00	9.22	2.59	4.80	3.45	1.05	53.24
1874.....	3.33	1.11	3.16	7.02	2.20	2.90	4.40	2.34	2.90	0.11	1.28	2.76	33.51
1875.....	2.63	3.70	5.60	3.11	2.67	3.25	2.60	9.50	1.58	1.39	3.76	1.69	41.48
1876.....	0.55	0.50	3.74	1.81	3.04	3.75	2.50	2.75	4.42	1.00	2.50	1.00	27.65
1877.....	2.45	0.66	3.17	3.33	2.04	1.29	5.22	1.97	2.35	4.27	3.55	1.41	31.71
1878.....	3.14	1.45	2.06	3.47	5.42	2.31	1.66	3.65	0.96	5.08	1.91	4.34	35.25
1879.....	4.11	1.49	2.28	3.25	1.70	2.20	3.39	7.33	1.29	1.06	0.70	5.01	33.81
1880.....	0.68	1.71	5.42	1.06	1.35	2.40	3.62	8.98	3.53	2.14	2.95	3.61	37.45
1881.....	2.30	2.32	3.74	3.04	1.15	5.32	3.28	1.78	2.42	3.15	3.55	5.84	37.89
1882.....	5.22	2.20	2.54	1.95	4.11	1.66	2.52	4.44	6.50	2.01	0.21	2.80	36.66
1883.....	3.38	2.74	2.01	6.45	1.60	2.64	1.78	1.79	6.03	5.13	1.30	1.48	35.83
1884.....	2.65	4.87	5.53	1.94	1.54	2.99	4.02	1.49	0.15	0.52	1.64	4.65	31.99
1885.....	3.97	2.00	2.19	1.63	5.17	2.86	3.07	1.69	1.20	3.49	2.86	4.39	34.52
1886.....	4.45	3.02	4.87	2.57	8.67	5.82	10.64	4.20	3.07	1.45	3.22	2.18	54.16
1887.....	1.83	4.40	2.38	2.63	3.56	4.45	6.58	8.27	1.19	4.94	2.49	4.04	46.81
1888.....	2.79	2.39	5.25	2.55	5.70	4.89	1.40	4.19	10.41	3.24	3.15	3.52	49.48
1889.....	1.77	3.71	3.66	8.89	9.13	7.93	14.01	3.99	5.60	5.15	4.59	0.57	72.02
1890.....	1.53	3.35	3.31	2.79	4.69	2.21	4.58	5.51	5.50	8.51	0.11	4.48	46.60
1891.....	4.70	5.68	8.78	1.96	5.18	4.12	4.69	4.80	1.24	2.12	1.88	2.13	47.37
1892.....	3.96	3.36	3.19	6.77	2.32	3.47	5.11	3.32	3.15	0.83	4.58	1.64	41.70
1893.....	3.37	4.98	2.44	3.82	5.15	2.62	3.24	3.43	6.86	5.72	3.22	2.39	47.24
1894.....	3.35	1.51	1.21	3.29	6.74	2.77	4.59	5.12	6.48	4.06	1.68	2.66	46.46
1895.....	5.25	1.47	4.23	8.31	4.24	2.33	5.01	2.68	0.42	1.69	3.05	2.40	41.14
1896.....	2.40	4.35	3.70	1.69	3.03	5.48	8.02	0.45	6.20	0.62	3.16	0.89	40.09
1897.....	1.86	6.40	5.11	2.76	2.48	2.31	4.18	1.83	1.03	6.54	3.07	2.63	40.20
1898.....	1.05	1.05	3.78	4.83	5.28	2.98	4.15	6.31	2.33	4.59	2.22	3.68	41.65
1899.....	2.94	1.72	5.56	2.04	2.14	2.51	4.12	5.61	6.21	4.03	1.19	2.33	43.40
1900.....	2.71	4.42	2.89	3.62	2.70	3.08	3.73	3.66	4.03	2.55	2.87	2.60	37.76
1901.....	2.80	0.55	3.79	5.29	3.80	2.32	5.06	6.99	3.21	0.79	1.37	6.08	42.07
1902.....	3.26	4.81	1.89	3.12	3.42	4.81	6.21	3.10	4.91	4.81	4.83	4.12	49.32
1903.....	3.61	5.02	8.14	4.46	3.36	5.73	5.17	3.21	1.60	3.44	1.40	2.28	47.42
1904.....	2.34	2.71	3.52	1.57	1.45	4.11	6.25	3.83	3.00	2.80	2.55	3.71	37.84
1905.....	2.47	4.14	2.18	3.06	4.09	3.72	3.25	4.01	2.61	1.24	0.51	7.10	38.32
1906.....	2.51	2.57	4.78	2.16	3.37	5.14	6.75	8.68	0.35	7.47	0.87	2.12	46.84
1907.....	1.22	2.30	2.91	4.87	5.78	6.21	2.99	5.31	6.51	2.30	4.04	3.44	48.48
1908.....	4.39	3.92	2.96	2.73	6.71	5.72	4.37	10.40	2.74	2.87	1.25	4.72	52.78
1909.....	3.00	2.91	4.13	3.21	3.41	1.59	1.25	4.01	2.89	0.77	0.62	3.39	31.21
1910.....	3.38	2.38	1.42	8.74	2.67	5.67	6.40	2.90	1.07	5.03	0.98	2.50	43.14
1911.....	3.65	2.20	2.15	4.00	0.60	2.83	0.57	7.26	1.85	3.61	4.33	3.95	37.00
1912.....	2.31	3.76	8.18	2.17	4.59	2.50	1.25	1.49	4.20	0.58	1.73	2.84	35.63
1913.....	2.53	1.51	3.53	2.54	4.80	3.78	3.65	4.59	3.20	3.95	1.49	2.17	37.74
1914.....	3.65	3.27	3.66	1.28	2.50	2.76	3.00	2.42	1.47	1.67	2.20	4.95	32.83
1915.....	5.41	3.92	1.10	1.68	3.00	3.77	2.42	7.34	1.99	3.27	0.63	1.93	36.46
1916.....	1.51	3.68	1.57	1.94	4.74	8.72	5.39	1.55	2.01	1.44	1.31	3.40	37.26
1917.....	2.98	2.28	5.97	2.56	4.59	5.31	6.28	2.74	4.62	3.78	0.44	1.72	43.27
1918.....	5.81	0.91	3.08	8.02	3.30	5.36	1.05	2.76	3.55	0.59	1.26	4.79	41.38
1919.....	3.64	2.22	3.51	3.25	5.19	3.90	9.92	2.62	0.54	1.71	1.31	2.30	40.11
1920.....	2.02	6.67	3.11	2.96	3.06	6.34	6.05	8.69	2.71	0.66	6.69	1.87	50.83
1921.....	3.80	3.52	2.13	4.65	3.89	1.49	2.36	0.61	6.95	1.26	2.97	3.02	30.59
1922.....	4.58	3.81	7.01	2.01	3.27	6.42	8.48	7.78	0.66	3.68	0.86	3.11	51.70
1923.....	4.61	3.09	5.88	3.96	1.16	2.09	10.87	6.41	1.25	2.16	2.20	2.28	48.96
1924.....	2.98	2.34	4.00	5.11	7.36	4.85	2.33	3.05	9.58	0.78	1.61	3.40	47.39
1925.....	5.41	0.90	2.47	2.33	2.15	2.24	2.32	2.55	0.93	4.67	1.55	3.86	31.42
1926.....	3.30	3.60	1.96	2.01	1.59	2.19	7.17	5.24	1.46	0.81	3.63	4.56	37.52
1927.....	0.70	2.87	1.95	3.47	3.30	3.12	9.10	7.19	4.01	2.02	1.61	5.02	44.36
1928.....	1.25	1.84	2.71	.....	1.99	7.19	1.95	8.05	7.01	0.40	1.20	1.46	42.89
1929.....	1.53	5.19	3.96	.....	4.00	3.02	2.16	2.41	2.41	6.99	3.34	2.70	41.21
Normal	3.02	3.10	3.72	3.45	3.85	3.54	4.42	4.41	3.43	3.32	2.39	3.00	41.63
Means.	3.13	3.15	3.76	3.44	3.78	3.80	4.59	4.50	3.19	2.91	2.28	3.12	41.61

Bold-faced figures indicate greatest and least amounts

RICHMOND, VIRGINIA.

Daily Mean Maximum Temperatures.
[October 5, 1897, to December 31, 1929.]

Day of month	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year
1	48.1	45.2	52.9	59.7	74.1	81.2	84.3	84.0	83.7	70.5	64.6	53.6	66.8
2	46.2	46.1	53.0	61.2	75.0	81.8	86.3	84.7	84.6	71.9	63.3	51.0	67.3
3	47.1	46.4	53.2	60.7	75.1	80.8	86.8	84.5	83.3	73.8	60.7	51.0	67.0
4	44.4	48.1	52.8	62.1	73.3	80.2	85.4	84.2	82.7	73.8	62.0	45.9	66.2
5	45.4	43.7	52.2	61.8	72.6	80.1	84.6	84.2	83.0	77.0	61.8	49.8	66.4
6	48.5	45.3	52.3	65.2	73.8	80.7	84.9	86.2	83.6	75.3	61.4	50.6	67.5
7	49.7	46.4	54.5	65.7	74.3	81.7	84.9	87.1	84.6	73.2	60.3	51.8	67.9
8	47.7	44.5	55.1	64.3	73.7	82.1	85.8	86.5	83.4	71.1	62.0	53.8	67.4
9	46.8	44.7	55.0	61.2	74.9	81.5	85.0	85.3	82.2	72.2	60.5	49.7	66.6
10	45.8	45.4	56.5	61.6	74.3	81.4	86.4	86.2	81.8	71.5	60.2	48.7	66.6
11	48.2	45.9	55.9	64.7	76.1	81.8	86.4	85.0	81.7	73.8	60.4	49.1	67.5
12	47.0	47.6	56.1	67.5	74.6	83.9	85.5	83.8	82.5	72.1	59.7	49.6	67.7
13	43.2	47.9	60.1	66.0	76.5	81.6	84.9	83.7	81.7	69.3	57.6	52.7	67.1
14	45.4	51.4	58.0	65.4	72.1	82.8	86.5	83.7	78.7	68.5	56.9	49.5	66.6
15	48.5	49.4	56.5	65.4	76.0	83.9	86.5	82.6	78.7	72.3	59.1	45.9	67.1
16	47.1	47.3	56.9	66.6	77.4	81.5	87.1	83.1	79.7	73.9	58.5	44.7	67.0
17	46.1	48.0	57.2	68.6	77.4	81.7	86.6	83.7	78.9	72.2	57.2	47.3	67.1
18	47.8	47.9	59.5	69.2	78.4	82.4	86.4	82.9	79.3	71.2	58.8	47.0	67.6
19	49.2	47.2	61.8	69.2	79.2	82.0	85.5	83.4	79.5	71.6	58.4	44.0	67.6
20	51.4	49.5	61.6	69.6	78.4	85.3	85.6	84.1	78.9	68.7	58.7	45.3	68.1
21	54.7	48.2	57.8	68.9	78.8	86.7	86.8	83.5	79.2	65.2	50.1	47.3	68.0
22	54.4	51.3	61.3	71.5	79.2	85.7	84.8	83.1	77.7	67.6	58.8	45.7	68.4
23	50.2	52.0	62.1	70.2	79.5	85.6	86.4	82.9	78.1	67.6	57.4	49.3	68.4
24	46.7	50.2	62.7	70.2	78.7	86.2	85.6	84.0	78.3	65.2	54.1	47.3	67.4
25	46.2	48.6	64.2	71.0	77.4	86.1	85.4	83.8	77.4	68.4	53.6	46.2	67.4
26	45.7	49.9	66.7	71.7	77.3	85.5	84.7	82.7	76.3	66.8	54.9	43.0	67.1
27	45.4	50.7	66.0	70.2	78.4	85.7	84.4	80.3	76.1	67.7	55.1	48.0	67.3
28	44.8	52.4	63.1	68.4	78.8	86.2	85.5	80.5	75.7	66.1	50.6	46.7	66.6
29	44.0		63.0	71.8	80.0	87.3	86.1	82.0	76.6	65.1	52.5	47.8	68.7
30	46.6		60.3	75.2	80.6	85.8	86.2	82.1	75.1	63.3	53.6	45.7	68.6
31	45.1		62.0	79.7		85.3	83.0		63.9			48.1	66.7
Means....	47.4	48.0	58.5	66.8	76.7	83.3	85.7	83.8	80.1	70.0	58.4	48.3	67.0

Seasonal Snowfall 1898-1929.

Season.	November.	December.	January.	February.	March.	April.	Season.	Greatest 24-hour Snowfall.	Greatest Depth on Ground at 8 p.m.
1897-1898	0.0	0.0	3.0	T	T	2.0	5.0	3.0	T
1898-1899	2.8	T	6.0	20.2	5.0	T	34.0	7.5	17.7
1899-1900	0.0	2.1	0.3	6.2	5.8	T	14.4	4.8	4.5
1900-1901	T	7.2	5.5	1.0	1.4	T	15.1	7.2	4.2
1901-1902	0.0	1.0	5.0	9.8	0.0	T	15.8	6.0	3.6
1902-1903	0.0	1.1	0.9	0.2	0.0	0.0	2.2	1.1	0.3
1903-1904	0.4	0.9	10.7	8.4	T	0.0	20.4	5.2	8.2
1904-1905	1.8	8.3	6.5	2.2	T	T	19.0	3.8	5.0
1905-1906	T	1.3	0.7	7.0	6.4	0.0	15.4	4.3	4.3
1906-1907	1.9	T	3.1	9.8	6.4	T	21.5	3.4	3.2
1907-1908	T	T	3.2	7.8	2.3	0.0	13.8	3.2	2.4
1908-1909	T	17.2	0.2	4.1	3.8	0.0	25.3	17.2	10.8
1909-1910	T	3.3	1.8	0.7	5.9	0.0	11.7	4.0	1.0
1910-1911	0.0	0.7	2.6	T	4.0	0.0	7.3	2.2	2.4
1911-1912	0.0	T	8.9	1.7	11.3	0.0	21.9	7.0	5.0
1912-1913	2.0	0.2	0.4	3.1	0.0	0.0	5.7	2.7	2.4
1913-1914	0.0	T	T	10.8	15.8	0.2	26.8	7.8	5.0
1914-1915	0.0	5.4	0.2	1.6	0.3	10.0	17.5	10.0	7.1
1915-1916	0.0	0.6	2.6	1.9	4.4	T	9.5	3.6	3.6
1916-1917	T	9.1	T	0.8	T	T	9.9	5.3	6.2
1917-1918	T	15.3	14.4	1.3	0.0	2.7	33.7	9.4	9.4
1918-1919	0.0	T	T	0.0	0.0	0.0	T	T	T
1919-1920	0.0	6.0	T	3.6	T	0.0	9.6	6.0	6.0
1920-1921	0.0	0.0	T	1.0	0.0	T	1.0	1.0	T
1921-1922	0.0	T	22.1	5.3	0.1	0.0	27.5	10.3	18.0
1922-1923	0.0	0.2	0.5	5.0	0.0	0.0	5.7	5.0	5.0
1923-1924	0.0	1.0	T	T	3.7	T	4.7	2.4	1.3
1924-1925	0.3	T	1.6	0.0	0.0	0.0	1.9	0.9	0.0
1925-1926	T	T	5.6	1.4	5.0	T	12.0	5.0	5.0
1926-1927	T	T	2.2	0.0	1.3	0.0	1.6	1.3	1.3
1927-1928	0.0	T	4.6	1.8	T	0.0	6.4	3.7	3.7
1928-1929	T	1.2	0.9	2.3	T	0.0	4.4	2.0	2.0
Means	0.3	2.8	3.7	4.0	2.8	0.5	14.1	17.2	18.0

T Indicates a trace.

RICHMOND, VIRGINIA.

Miscellaneous Averages And Extremes.

MONTH	Temperature 1880—1929.				Precipitation, 1871—1929.				Average percent of Sunshine, 1903—1929.
	Warmest Month.		Coldest Month.		Wettest Month.		Driest Month.		
	Mean.	Year.	Mean.	Year.	Amount.	Year.	Amount.	Year.	
January.....	48.5	1890	28.0	1918	5.81	1918	0.55	1876	50
February.....	49.9	1890	31.2	1905	5.32	1873	0.55	1901	55
March.....	57.6	1921	39.5	1855	8.78	1891	1.10	1915	59
April.....	63.3	1891	50.4	1907	8.89	1889	1.66	1880	63
May.....	74.6	1896	60.8	1920	9.13	1889	0.60	1911	68
June.....	78.8	1851	68.4	1907	8.72	1916	1.29	1877	64
July.....	82.3	1887	72.8	1896	14.01	1889	0.57	1911	66
August.....	82.9	1900	71.3	1927	10.40	1908	0.45	1896	63
September.....	78.8	1831	65.2	1917	10.41	1888	0.15	1884	65
October.....	67.2	1919	52.7	1880	8.51	1890	0.11	1874	65
November.....	54.8	1902	42.2	1880	6.69	1920	0.11	1890	59
December.....	51.1	1889	30.0	1917	7.10	1905	0.57	1889	48
Year.....	82.9	Aug. 1900	28.0	Jan. 1918	14.01	July. 1889	0.11	Oct. 1874 Nov. 1890	60

Extremes of Temperature.

Month.	TEMPERATURE					
	Max.	Year.	Day.	Min.	Year.	Day
January.....	78	1907	7	- 1	1912 †	14
February.....	76	1918	28	- 3	1899	10
March.....	94	1907	29	14	1925	3
April.....	96	1925	25	19	1923	1
May.....	96	1925	23	35	1923	10
June.....	100	1914	12	46	1913	16
July.....	100	1926	7	54	1918	3
August.....	107	1918	6	49	1923	22
September.....	100	1899	16	41	1914	29
October.....	94	1919	20	28	1917	31
November.....	82	1900 ††	13	14	1929	30
December.....	77	1927	13	- 2	1917	30
Annual....	107	1918	Aug. 6	- 3	1899	Feb. 10

Extremes of Precipitation and Wind.

Month.	Precipitation (24 hours).			Wind (Velocity).*			
	Max.	Year.	Day.	Max.	Dir.	Year.	Day.
January.....	2.66	1921	9-10	50	SW	1913	3
February.....	3.30	1920	3-4	50	SW	1909	10
March.....	3.59	1903	21-22	44	S	1913	27
April.....	5.33	1910	17-18	43	NW	1909	3
May.....	2.39	1907	6- 7	44	S	1909	1
June.....	3.26	1918	25-26	49	NW	1917	24
July.....	7.26	1923	30-31	37	S	1906	22
August.....	4.20	1928	11-12	45	NW	1915	1
September.....	3.98	1924	29-30	37	NW	1911	12
October.....	4.81	1929	21-22	43	NW	1917	5
November.....	2.77	1902	18	38	S	1905*	29
December.....	2.52	1909	12-13	44	S	1907	23
Annual.	7.26	1923	July 30-31	50	SW	1909	Feb. 10

† Also 1897. † Also 1915, 4th. * Also sw. 1916, 23rd; 1918, 18th. †† Also 1870, 1st
 * In three cup anemometer equivalents.

RICHMOND, VIRGINIA

James River at Richmond.

1929.

Average height of water during the year, with departure from the normal.

1929.		1929.	
Average height.	Dep. from normal.	Average height.	Dep. from normal.
Jan.	1.3	July	1.2
Feb.	1.6	Aug.	0.2
Mar.	3.7	Sept.	-0.2
Apr.	2.7	Oct.	1.6
May	2.0	Nov.	1.9
June	1.7	Dec.	1.5

Highest and Lowest Stages of Water Recorded in each month of the year 1929.

1929.		1929.	
High-est.	Low-est.	High-est.	Low-est.
Jan.	2.0	July	2.5
Feb.	4.2	Aug.	0.9
Mar.	11.8	Sept.	0.1
Apr.	11.4	Oct.	5.9
May	5.9	Nov.	7.9
June	2.5	Dec.	1.8

All data recorded to feet and tenths.

1893-1929.

Highest and Lowest Stages of Water Recorded at Richmond, Va. By months and years—Weather Bureau record only.

	Highest.	Year.	Lowest.	Year.
Jan.	20.5	1902.	-2.0	1900
Feb.	22.0	1899.	-1.7	1904
Mar.	20.5	1899.	-0.8	1901,3
Apr.	14.0	1901.	-1.3	1900
May	20.1	1924.	-1.2	1900
June	14.7	1903,7.	-1.3	1900
July	12.1	1919.	-1.2	1900,1
Aug.	17.0	1928.	-1.2	1900
Sept.	12.5	1893.	-2.8	1899
Oct.	19.4	1924.	-1.4	1904
Nov.	11.2	1900.	-2.8	1899
Dec.	23.2	1901.	-2.8	1899

All data recorded to feet and tenths.

Notable Floods Occurring at Richmond, Va.

October, 1870, 27.0; November, 1877, 28.6; April, 1886, 24.3; July, 1886, 17.2; August, 1889, 22.5; June, 1889, 25.2; January, 1895, 18.2; February, 1899, 22.0; March, 1899, 20.5; May 1901, 19.3; December 1901, 23.2; March 1902, 19.0; October 1906, 18.7; March 1912, 17.8; May 1912, 17.3; March 1913, 17.5; January 1919, 17.2; May 1924, 20.1; Oct. 1924, 19.4.

MISCELLANEOUS DATA FOR 1929.

Barometric pressure, reduced to sea-level: Mean, 30.08 inches; highest, 30.53 inches, Oct. 10; lowest, 28.82 inches, Mar. 5

Temperature.—Greatest daily range, 35, Mar. 11; least daily range, 3, Nov. 23; greatest monthly range, 69 in Mar; least monthly range, 39 in July.

Precipitation.—Longest period without precipitation, 8 days, Oct. 6 to Oct. 13, inclusive.

Greatest consecutive number of days with precipitation, trace or more, 6 days, Nov. 10 to 15, inclusive

Snow.—Greatest snowfall in 24 hours, 3.8 inches Nov. 22, 23; greatest depth of snow on ground measured at 8 p.m. 3.0 inches Nov. 23; last snow of winter occurred on Mar 2; first snow of winter occurred on Nov. 22.

Frost.—Last killing frost in spring, Mar. 11, 25 days earlier than the average date; first killing frost in autumn, Nov. 22, 23 days later than the average date.

Thunderstorms.—First, Mar. 3; last, Sept. 30.

Hail—none.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

ANNUAL METEOROLOGICAL SUMMARY FOR 19 29

Station: Richmond

Latitude: ° '; Longitude: ° '; Altitude: feet.

County: Observer: U.S.A.

Month	Temperature, in degrees Fahrenheit						Precipitation, in inches			Number of days—				Prevailing direction of the wind	Miscellaneous † <i>K. Frost</i>
	Mean	Departure from the normal	Highest	Date	Lowest	Date	Total	Departure from the normal	Snowfall	With precipitation	Clear	Partly cloudy	Cloudy		
January	38.8	+0.9	70	18	12	14	1.53	-1.68	0.9	1.3	12	6	13	NE	
February	38.2	-1.4	67	26	16	2	5.19	+2.02	2.3	1.4	13	3	12	NE	
March	52.8	+5.6	87	24	18	10	8.96	+2.28	7	1.0	11	11	9	SW	11
April	60.2	+3.6	94	7	38	18	3.50	+2.01	0	9	15	6	9	SW	
May	65.8	-0.7	88	31	45	17	4.00	+2.21	0	1.4	12	14	5	SW	
June	73.1	-1.0	91	13	47	4	3.02	-0.88	0	9	13	8	9	SW	
July	77.0	-1.5	97	29	58	20	2.16	-2.57	0	12	13	9	9	SW	
August	75.1	-1.4	94	18	54	5	2.41	-2.01	0	10	14	13	4	SW	
September	71.2	+0.7	93	7	44	20	2.41	-0.84	0	7	17	7	6	SW	
October	58.0	-1.6	80	7	39	18	6.99	+4.11	0	7	15	9	7	NE	
November	49.8	+1.5	81	2	14	30	3.34	+1.13	3.8	11	8	9	13	SW	22
December	41.4	+1.6	71	15	12	1	2.70	-0.59	3.0	12	13	10	8	SW	
Sums	70.4	+6.3	*	*	*	*	41.21	-1.81	10.0	128	156	105	104	S	
for extremes	58.4	+0.6	97	Feb. 29	12	Dec. 1	*	*	*	*	*	*	*	SW	

* No data required. † Date of last killing frost in spring and first in autumn should always be given when possible; in absence of such data, the date of last minimum temperature as low as 32° in spring, and first in autumn, should appear, with proper explanatory note.