

# CLIMATOLOGICAL DATA

38

## VIRGINIA SECTION

F. N. HIBBARD

VOL. XLVII RICHMOND, VA., YEAR 1937 No. 13

### GENERAL SUMMARY

For the State as a whole, the weather of 1937 was about normal in temperature and greatly above normal in precipitation. The average departure in the former was  $-0.1^{\circ}$ ; and in the latter,  $+11.24$  inches.

In temperature, average values for the year varied from an excess of  $0.3^{\circ}$  in Tidewater to a deficiency of  $0.2^{\circ}$  in Great Valley. For the various months, departures ranged from an excess of  $8.9^{\circ}$  in January to a deficiency of  $3.7^{\circ}$  in September. The January average of  $45.5^{\circ}$  was next to the highest of record, being exceeded only by that of 1932. February, June and August also were warmer than usual but not greatly so. Temperatures of the remaining months were normal or below. March, September and October were unusually cool, averages for March being lower only 12 times, September only four times, and October only five times in the 47 years of record. Station averages ranged from  $60.3^{\circ}$  at Norfolk on the coast to  $46.9^{\circ}$  at Mountain Lake in the higher mountain section of the western edge of the State.

The year was the wettest of record. In precipitation, all three sections recorded greater than normal amounts. Average excesses ranged from about six inches in Great Valley to about 15 inches in Middle Virginia. By stations, precipitation ranged from a deficiency of 2.81 inches at Clinchport to an excess of 27.46 inches at Charlottesville; or in actual amounts, from a total of 35.05 inches at Radford to 72.07 inches at Charlottesville. Less than normal precipitation was recorded at only five points, and these were limited to Great Valley section; the remainder of the State recorded more than usual rainfall. At 20 stations all previous records were broken. Twelve of these have records of 30 years or more; four have not less than 40 years of record; and the Charlottesville figures cover more than 60 years of record. By months rainfall ranged from an excess of 4.67 inches in January to a deficiency of 2.18 inches in March. Amounts in January and October were the greatest ever recorded in those months, and April and August were the third wettest of record. December was an unusually dry month and ranked next to the driest of record, and March has been drier only twice in the last 47 years. By stations the range was from the least monthly amount of .20 inch in December on Skyline Drive to 14.05 inches in October at Pinnacles, on the southern Blue-ridge Drive. The number of rainy days during the year was the greatest of record. January was not only the wettest and nearly the warmest of record, but also had the greatest number of rainy days, the greatest number of cloudy days, the least number of clear days, and the least amount of snow of record.

Weather conditions during the year were generally favorable for crop production. During the warm weather of January and February vegetation was abnormally advanced and some premature swelling of fruit tree buds was reported. Some frost damage occurred to early spinach and strawberries in March. Tobacco planting was delayed because of damage to plants from blue mold. Weather conditions were favorable during the latter part of July and the early part of August, and the tobacco crop made rapid improvement. Frequent rains during August and September damaged the flue-cured and fire-cured crops considerably and reduced the quantity and quality of the crop harvested

after September 1st. The planting of corn was well under way in April and was beginning to tassel in July. During the wet weather of August some bacterial patches appeared in the corn, but the damage was slight. General weather conditions were good to excellent for the planting, growth and harvest of potatoes, sweet potatoes, truck, wheat, oats, cotton and peanuts. Late haying however, was difficult. Spraying of trees in commercial orchards was done in February. By the end of March peaches, pears and plums were in bloom, and in April apple blooms were beginning to open in southwestern sections. The fruit crop as a whole averaged good to excellent, although some dropping of apples occurred during frequent heavy rains.

Storm damage amounted to less than usual; but nevertheless was heavy in certain sections of the State. Wind damage to barges in the Norfolk area in February approximated \$36,000, and to a dairy barn in Hanover county, \$2,000. Hail damage amounted to \$6,000 in May, \$8,000 in July, and \$100,000 in August, this heavy latter occurring in south-central counties.

Thunderstorm damage was limited principally to June and July, approximating in the former month, \$8,500, and in the latter month, \$5,500. April flood damage in the James cost approximately \$57,000, and in the Rappahannock, \$300,000; and heavy rains and floods entailed a loss in October in the James basin of \$5,000, in the New river, \$8,000, in the Dan and Roanoke basins, \$30,000, and in State highways, \$400,000.

### COMPARATIVE ANNUAL DATA FOR THE STATE

Year	Mean temperature	Highest	Lowest	Average precipitation	Average snow-fall	No. of rainy days	No. of clear days	No. of partly cloudy days	No. of cloudy days
NORMALS OR EXTREMES.....	55.8	109	-29	41.86	17.1	104	162	102	101
1891.....	55.6	106	-8	47.94	.....	95	163	101	102
1892.....	54.6	106	-8	39.45	.....	103	156	100	109
1893.....	54.7	104	-26	46.22	23.1	88	166	104	95
1894.....	56.8	106	-11	35.76	17.0	94	174	103	88
1895.....	54.4	107	-18	38.23	38.8	93	163	106	97
1896.....	56.6	105	-10	42.64	12.3	92	171	99	95
1897.....	56.0	103	-15	39.19	11.8	108	162	101	102
1898.....	56.6	105	-9	44.71	8.7	98	176	95	94
1899.....	55.4	106	-29	42.20	36.7	86	181	91	93
1900.....	57.1	107	-8	39.52	18.6	100	167	94	104
1901.....	54.5	106	-14	49.99	9.5	95	170	97	98
1902.....	55.6	108	-0	40.67	8.4	95	172	89	104
1903.....	54.9	105	-13	44.09	8.4	95	170	91	95
1904.....	53.7	100	-14	36.11	24.9	111	155	112	98
1905.....	54.9	98	-15	42.27	18.5	124	143	120	102
1906.....	56.2	102	-2	50.03	15.2	114	159	115	91
1907.....	54.5	97	-16	44.41	17.4	110	162	108	96
1908.....	55.5	102	-20	46.17	30.0	101	171	104	90
1909.....	55.6	102	-5	38.02	12.9	112	151	116	98
1910.....	54.8	102	-9	41.37	20.3	112	149	110	106
1911.....	56.8	104	0	41.00	9.2	103	165	106	95
1912.....	54.9	100	-25	40.88	24.6	100	178	98	89
1913.....	57.2	102	-3	42.33	4.0	101	168	100	97
1914.....	55.1	103	-17	36.66	39.8	97	160	116	89
1915.....	55.6	101	-5	40.03	13.5	103	165	106	95
1916.....	55.6	102	-11	38.94	18.6	114	158	107	100
1917.....	53.3	103	-27	40.11	23.7	105	159	97	109
1918.....	55.5	108	-22	43.48	24.7	102	161	99	105
1919.....	56.8	103	-16	41.65	7.4	106	162	89	115
1920.....	54.8	99	-9	45.91	7.1	97	161	102	102
1921.....	58.4	104	-12	34.94	13.8	97	145	107	113
1922.....	56.9	100	-13	45.15	24.8	103	168	96	101
1923.....	56.1	103	-1	40.90	10.3	105	165	90	111
1924.....	54.4	107	-12	47.34	12.8	98	160	99	106
1925.....	56.6	103	-14	32.53	9.5	112	157	97	111
1926.....	55.5	107	-6	41.41	16.5	113	148	103	114
1927.....	56.5	104	-7	41.64	10.4	110	151	112	103
1928.....	55.7	103	-5	43.07	9.2	115	155	97	113
1929.....	56.2	99	-8	46.31	16.7	86	165	99	101
1930.....	56.9	109	-13	24.99	23.4	105	163	106	96
1931.....	57.8	104	-2	38.00	3.7	102	169	90	107
1932.....	57.5	108	-9	44.68	13.1	102	163	101	101
1933.....	56.6	104	-7	39.46	8.2	113	157	104	104
1934.....	56.2	107	-16	45.73	21.6	119	150	103	112
1935.....	55.4	101	-16	46.48	21.9	108	169	95	102
1936.....	56.0	109	-17	45.30	25.1	126	155	99	111
1937.....	55.7	102	-3	53.20	14.7	.....	.....	.....	.....

Climatological Data for the Year 1937

Table with columns: Stations, Counties, Elevation, Temperature (Annual mean, Highest, Date, Lowest, Date), Precipitation (Total for the year, Greatest monthly, Month, Least monthly, Month, Total snowfall), Number of rainy days, Number of clear days, Number of partly cloudy days, Number of cloudy days, Prevailing direction of wind. Includes sections for Tidewater Virginia, Middle Virginia, and The Great Valley.

Section and State averages are computed from monthly means. The mean departures from normal temperature and precipitation are based only on records from stations that have 10 or more years of observation. Reference letters, a, b, c, appearing in the tables indicate number of days missing; for example, a represents two days, etc. T. Precipitation is less than 0.01 inch rain or snow. †Also on other dates. \*Interpolated. †Partially interpolated. ††Post-office addresses of these stations are as follows: Diamond Springs, Norfolk; Lincoln, Purcellville; Mount Weather, Bluemont; Wallaceton, Hickory; Pinnacles, Meadows of Dan; Balcony Falls, Glasgow; Big Meadows, Sexton Shelter and Camp 3, Skyland; Deerfield, Goshen; Moores Creek Dam, Lexington; North River Dam, Staunton.

Monthly and Annual Precipitation for the Year 1937 with Departures from the Normal

Table with columns for Stations, months (January-December), and Annual. Rows are categorized by region: Tidewater, Middle Virginia, and Great Valley. Each station entry includes monthly precipitation and departure values, followed by annual totals.

NOTE.—In this publication, annual means are computed from data for all stations; except those in supplemental table; whereas, in monthly reports, means may not include all stations, as in some cases reports are not received in time to be used in the computations. All means include the interpolated values.

Monthly and Annual Mean Temperatures for the Year 1937 with Departures from the Normal

Table with columns for Stations, months (January-December), and Annual. Each month has two sub-columns: Temperature and Departure. Rows are grouped into Tidewater, Middle Virginia, and Great Valley regions, ending with a State summary row.

For explanation of reference marks, see page 50

Supplemental Table of Monthly and Annual Precipitation for the Year 1937

Stations	Counties	Drainage-basin	Elevation, feet	Length of record, years	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Appomattox	Appomattox	Appomattox	825	1													
Arlington	Arlington	Potomac	10	1							3.61	7.44	1.91	8.46	1.53	0.90	
Big Knob	Scott	Tennessee	3,200	3	8.65	5.48	1.80	3.27	2.43	4.91	3.84	4.14	4.43	5.45	1.31	3.51	48.72
Buckingham	Buckingham	James	550	1											1.81	0.90	
Buena Vista	Rockbridge	do	885	1							2.40	6.83	2.61	9.48	2.00	0.82	
CCC Camp No. 1	Madison	Shenandoah	3,400	3	7.08	6.10	1.10	12.18	3.76	7.94	4.02	7.01	3.36	7.52	4.36	0.65	65.08
CCC Camp No. 5	Lee	Tennessee	1,500	4	13.61	5.49	2.82	3.60	4.20	6.44	5.22	3.07	0.93	6.44	1.46	3.80	57.08
Cleveland	Russell	do	1,525	2	7.96	4.25	1.46	3.09	2.22	5.81	6.36	5.69	1.68	6.30	1.38	2.03	48.23
Covington	Allegheny	James	1,245	1			1.32	3.09	1.24	2.17	2.63	7.46	1.70	7.42	1.43	1.35	
Damascus	Washington	Tennessee	1,930	5		5.55	0.87	1.22		3.20	4.59		1.73	5.90	0.54	2.81	
Dunbar	Wise	do	2,000	3	11.85	4.63	2.06	2.95	2.62	4.81	4.98	4.84	2.20	6.85	1.23	2.29	51.91
Dungannon	Scott	do	2,500	3	8.54	4.52	1.74	3.26	2.10	5.18	5.61	3.75	2.68	5.84	1.27	2.07	46.56
High Knob	Wise	do	4,000	3	12.15	5.44	2.01	2.75	2.87	7.64	5.41	5.75	3.18	7.40	2.40	3.19	57.98
Holston	Washington	do	3,450	3	7.79	3.83	1.16	3.24	2.58	3.74	3.29	5.43	2.18	7.60	1.24	2.44	44.82
Honaker	Russell	do	2,400	3	8.85	4.36	1.99	3.52	2.74	4.20	4.05	5.84	2.63	8.77	1.16	1.99	50.10
Jewell Ridge	Tazewell	do	2,700	2	6.93	4.43	1.70	3.31	2.03	6.14	3.41	7.02	2.82	8.19	1.17	2.02	49.17
Jonesville	Lee	do	1,400	3	11.38	5.67	1.73	3.79	3.15	5.91	5.10	4.12	1.54	4.50	1.08	2.98	50.95
Loves Mill	Washington	do	2,040	3	7.15	3.44	1.41	2.60	2.65	4.17	3.01	3.68	2.17	6.67	1.83	2.92	41.20
Lynchburg (Airport)	Campbell	James		1											1.78	0.76	
Marion	Smyth	Tennessee	2,150	3	7.44	3.78	1.87	2.71	1.73	2.50	3.09	5.35	2.06	8.29	0.47	1.58	40.87
Montebello	Nelson	James	2,500	1	8.01	6.02		8.97	3.30	7.23	5.21	8.70	3.78	8.60	3.78	0.97	
Mount Jackson	Shenandoah	Shenandoah	900	1	5.00	2.36				3.47	5.21	8.63	4.03	5.94	1.78	0.72	
Mount Solon	Augusta	do	1,400	1	5.58	2.92	1.17	4.75	1.13	6.06	4.70	7.67	2.37	10.11	2.15	1.08	49.69
Mutters Gap	Russell	Tennessee	3,925	3	8.42	4.98	1.77	3.32	2.84	3.58	3.48	7.41	4.11	9.26	1.69	2.81	53.67
Nebo	Smyth	do	2,425	3	6.56	3.19	0.98	2.39	3.07	2.97	5.50	4.99	1.18	9.45	0.60	3.28	44.16
New Castle	Craig	James	1,300	1							2.46	5.56	2.38	8.62	1.95	1.04	
North Garden	Albermarle	do	700												3.06	0.84	
Olinger	Lee	Tennessee	1,400	3	11.13	5.14	2.08	3.39	2.08	4.64	6.31	4.07	1.08	5.39	0.84	2.57	48.72
Panorama	Rappahannock	Rappahannock	2,304	3	6.24	4.98	0.81	12.08	4.29	7.93	3.14	6.76	3.48	7.51	4.40	0.48	62.10
Pedlar Dam	Amherst	James	800	4							4.74	8.51	2.89	10.24	2.75	1.54	
Pulaski	Pulaski	New Kanawha	1,904	1											8.29	1.37	0.93
Rattlesnake Point	Rappahannock	Rappahannock	3,100	3	6.07	5.10	0.87	9.85	3.11	7.00	3.22	6.54	3.40	7.45	4.45	0.44	57.50
Richmond (Byrd Airport)	Henrico	James	160	1							8.85	7.18	1.99	5.42	2.74	0.96	
Rockfish	Nelson	do	500	1											3.07	0.98	
Rose Hill	Lee	Tennessee	1,500	2	13.21	5.89	2.82	3.60	4.20	6.54	5.28	3.43	0.93	6.44	1.46	3.80	57.60
Spring Creek	Tazewell	do	3,150	3	6.31	3.57	1.03	1.72	2.24	4.06	3.00	7.02	3.12	8.39	0.94	2.35	43.75
Swords Creek	Russell	do	2,000	2	7.81	4.27	2.04	3.87	3.95	3.62	3.57	5.36	1.40	7.72	1.10	2.59	47.30
Tazewell	Tazewell	do	2,450	3	7.04	3.43	0.89	1.98	0.69	2.06	3.36	6.04	2.42	7.46	0.98	1.73	38.08
Troutdale	Grayson	do	3,450	3	6.06	6.01		4.67	2.48	5.78	4.64	5.90	3.83	8.89	1.37	2.55	
Tye River	Nelson	James	551												3.02	1.01	
Urbanna	Middlesex	Chesapeake Bay	20	1											3.66	4.19	0.99
Wallace	Washington	Tennessee	1,875	3	8.68	4.50	0.88	3.57	2.39	3.21	2.27	5.88	5.17	8.24	0.88	3.78	49.45

KILLING FROSTS 1937

Stations	Last in spring	First in autumn	Stations	Last in spring	First in autumn
<i>Tidewater Virginia</i>			<i>Middle Virginia Cont.</i>		
Cape Henry	Apr. 1	Nov. 5	Pinnacles	Apr. 17	Oct. 9
Christchurch	Apr. 11	Oct. 15	Powhatan	Apr. 11	Oct. 24
Dahlgren	Mar. 28	Nov. 23	Quantico	Mar. 27	Oct. 15
Diamond Springs	Mar. 28	Nov. 5	Randolph	Apr. 13	Oct. 15
Emporia	Apr. 11	Oct. 15	Rockymount	Apr. 17	Oct. 16
Holland	Apr. 11	Oct. 15	Stuart	Apr. 17	Oct. 15
Hopewell	Apr. 1	Oct. 15	Washington	Mar. 28	Oct. 25
Langley Field	Mar. 27	Nov. 22	<i>Great Valley</i>		
Norfolk	Mar. 28	Nov. 24	Afton	Apr. 11	Oct. 14
Onley	Apr. 13	Oct. 15	Berryville	Apr. 17	Oct. 13
Richmond	Mar. 28	Oct. 15	Big Meadows	Apr. 17	Oct. 13
Rappahannock	Apr. 13	Oct. 15	Blacksburg	Apr. 17	Oct. 15
Walkerton	Apr. 13	Oct. 15	Buchanan	Apr. 17	Oct. 15
Wallaceton	Apr. 13	Oct. 15	Burkes Garden	Apr. 17	Oct. 11
Williamsburg	Apr. 13	Oct. 15	Catawba Sanatorium	Apr. 17	Oct. 15
<i>Middle Virginia</i>			Clifton Forge	Apr. 17	Oct. 15
Bedford	Apr. 17	Oct. 15	Dale Enterprise	Apr. 17	Oct. 15
Callville	Apr. 11	Oct. 15	Dante	Apr. 17	Oct. 15
Charlottesville	Apr. 11	Oct. 15	Deerfield	Apr. 17	Oct. 15
Chatham	Apr. 12	Oct. 15	Emory	Apr. 17	Oct. 15
Clarendon	Apr. 17	Oct. 15	Floyd	Apr. 17	Oct. 15
Clarksville	Apr. 13	Oct. 15	Glen Lyn	Apr. 17	Oct. 8
Columbia	Apr. 17	Oct. 15	Hot Springs	Apr. 17	Oct. 15
Culpeper	Apr. 11	Oct. 15	Ivanhoe	Apr. 17	Oct. 10
Danville	Mar. 10	Oct. 15	Lexington	Apr. 13	Oct. 15
Farmville	Apr. 17	Oct. 15	Mendota	Apr. 13	Oct. 15
Fredericksburg	Apr. 11	Oct. 15	Mountain Lake	Apr. 17	Oct. 8
Halifax	Apr. 17	Oct. 15	North River Dam	Apr. 17	Oct. 15
Kenbridge	Apr. 12	Oct. 15	Pennington Gap	Apr. 12	Oct. 15
Lincoln	Apr. 17	Oct. 15	Roanoke	Apr. 17	Oct. 15
Lynchburg	Mar. 27	Oct. 15	Saltville	Apr. 13	Oct. 15
Manassas	Apr. 17	Oct. 15	Sexton Shelter	Apr. 17	Oct. 13
Martinsville	Apr. 11	Oct. 15	Shen's Camp No. 3	Apr. 17	Oct. 13
Mineral	Apr. 17	Oct. 15	Staunton	Apr. 17	Oct. 13
Mount Weather	Apr. 12	Oct. 11	Timberville	Apr. 17	Oct. 16
New Canton	Apr. 17	Oct. 15	Winchester	Apr. 17	Oct. 15
Orange	Apr. 10	Oct. 15	Woodstock	Apr. 17	Oct. 15
			Wytheville	Apr. 17	Oct. 15

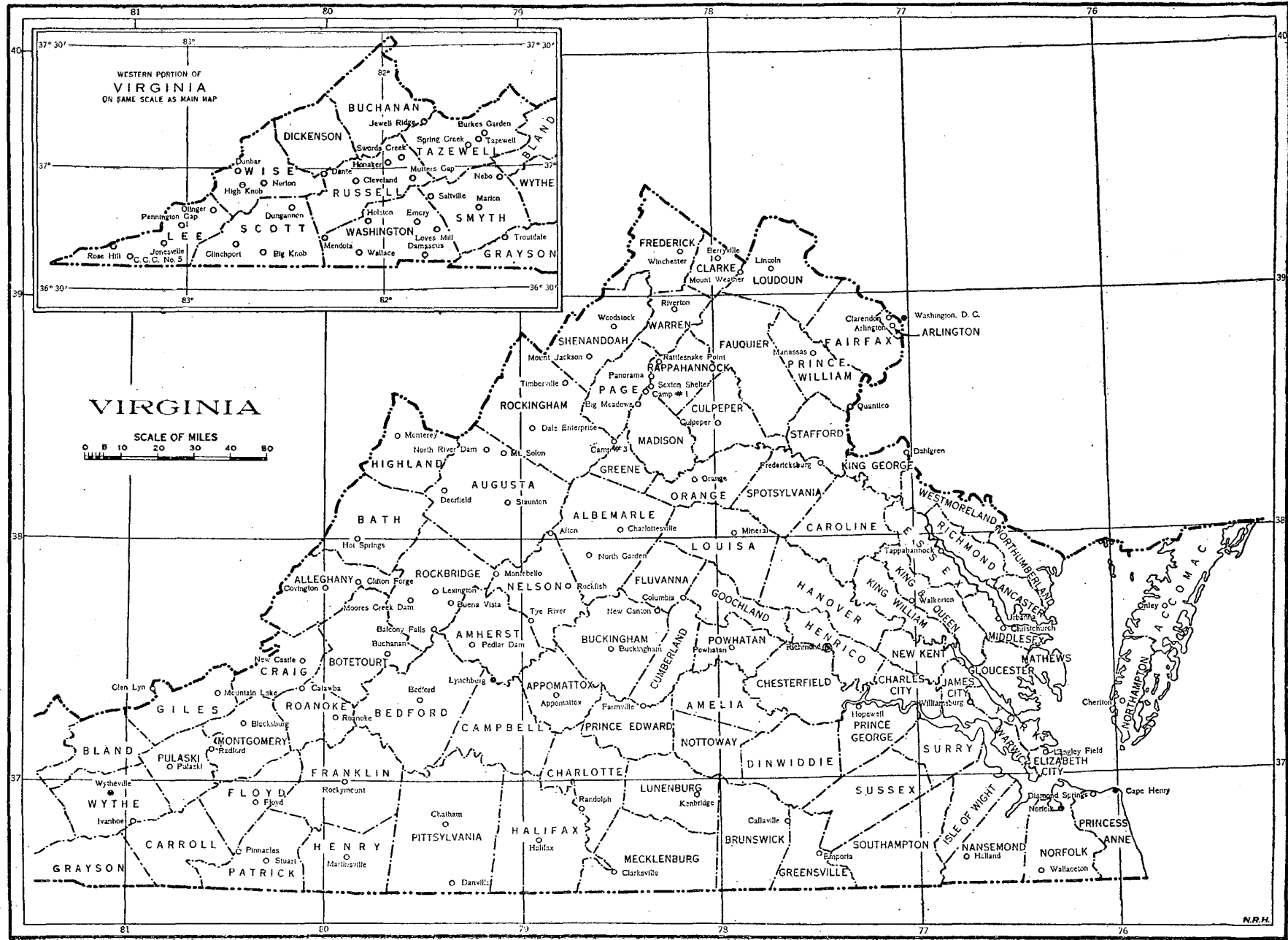
MONTHLY STATE DATA 1937

Month	Temperature				Precipitation			Number of days				
	Mean	Departure from the normal	Highest	Lowest	Average	Departure from the normal	Greatest 24-hour	Average snow-fall	Rainy	Clear	Partly cloudy	Cloudy
January	45.5	+8.9	79	13	8.01	+4.67	6.10	T.	18	4	6	21
February	37.7	+0.7	77	1	3.15	+0.03	3.04	7.3	11	10	7	11
March	42.6	-3.1	77	2	1.54	-2.18	1.77	3.6	7	15	9	7
April	54.1	-0.3	95	20	5.92	+2.56	5.44	T.	11	13	7	10
May	64.1	0.0	95	28	2.78	-0.94	2.33	0.0	9	19	9	3
June	73.6	+1.9	98	40	4.92	+0.78	3.07	0.0	13	13	12	5
July	74.5	-0.9	101	37	4.88	+0.38	4.30	0.0	12	15	10	6
August	75.5	+1.4	102	48	7.49	+3.10	4.66	0.0	13	13	10	8
September	64.9	-3.7	98	27	2.84	-0.29	3.24	0.0	7	18	6	8
October	54.0	-3.3	89	18	7.59	+4.55	7.26	0.4	12	12	7	12
November	44.6	-1.9	79	1	2.76	+0.36	4.45	0.3	12	16	9	8
December	37.1	-0.9	75	3	1.32	-1.77	1.51	2.6	7	12	7	12

ERRATUM

December, 1937: Stuart total precipitation should be 1.65, departure from the normal, -2.29.

CHART SHOWING LOCATION OF OBSERVATION STATIONS



(WBO, Richmond, Va.—2-28-36-1, 200)

CLIMATOLOGICAL DATA: VIRGINIA SECTION

YEAR, 1937