U. S. DEPARTMENT OF AGRICULTURE.

REPORT FOR MAY, 1897.

VIRGINIA SECTION

OF THE

CLIMATE AND CROP SERVICE

OF THE

WEATHER BUREAU,

IN COOPERATION WITH THE

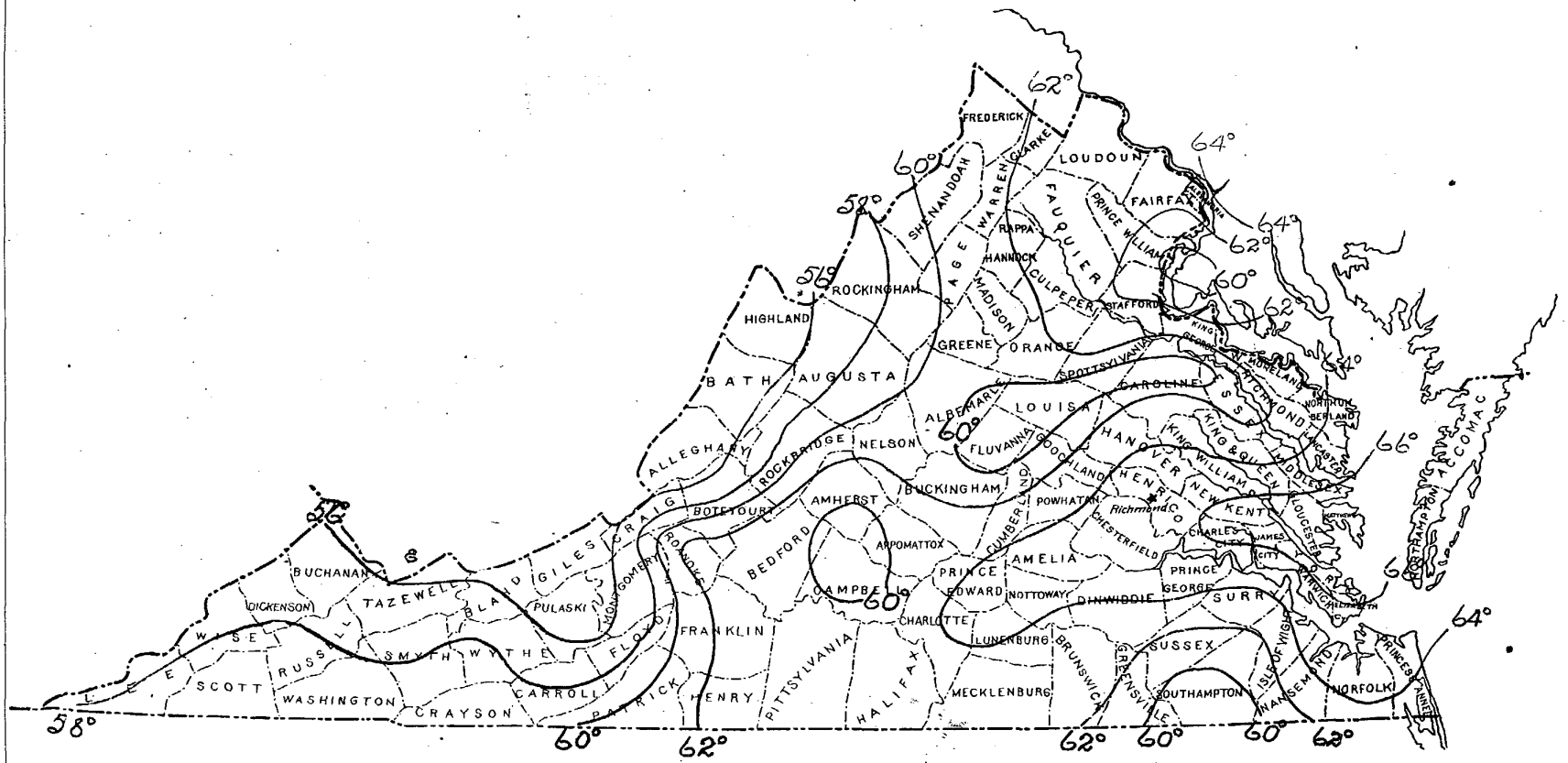
VIRGINIA STATE BOARD OF AGRICULTURE.

PREPARED UNDER THE DIRECTION OF
WILLIS L. MOORE,
CHIEF OF BUREAU.

BY

EDWARD A. EVANS
SECTION DIRECTOR,
RICHMOND, VA.

MONTHLY MEAN TEMPERATURE FOR MAY, 1897.



U. S. DEPARTMENT OF AGRICULTURE,

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OF THE

WEATHER BUREAU.

Central Office, WASHINGTON, D. C. } WILLIS L. MOORE, Chief.

VIRGINIA SECTION,

E. A. EVANS, Section Director,

RICHMOND, VA.

VOL. VII. RICHMOND, VA. No. 5.

EARTHQUAKES.

Seismic disturbances are, probably, as old as the earth itself, and, though our knowledge of the cause is by no means exact, they have offered a most inviting field for scientific investigation. We have authentic information of their occurrence in ancient times from the writings of Aristotle, Pliny and other philosphers of that period, but, beyond establishing the fact that they did occur, they have no special value, nor did they give any rational explanation of their causes. Indeed, the research of the present day gives us no exact, indisputable information on this point, some scientists inclining to one belief and some to another.

In general, the earthquake is ascribed to a wave-motion, or commotion, of the molten interior of the earth which is transmitted to the crust. Of the agencies which operate to produce this authorities advance: some the rapid generation or condensation of steam in the bowels of the earth; others the sudden rending of immense masses of rock due to great changes in temperature; still others the generation and explosion of vast quantities of gases, and the falling in of portions of the interior crust of the earth.

Most, if not all, of the seismologists of present day, believe that the earth tremor is a "vibratory motion propagated through the solid materials of the earth in the same manner that sound is propagated in the atmosphere." Mr. Mallet, an English physicist of some note, who has made a study of earthquakes and their causes, suggests that "some of them, especially those marked by long continued tremors, are due to the movement and crushing of rock masses by tangential pressure produced by secular cooling of the earth." Whether the phenomenon should be ascribed, to any one, or a combination of all, of these agencies, it must possess an interest for all people as something affecting their comfort, their possessions, and possibly their lives.

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The month of May witnessed two dates on which earthquakes were more or less general in this State, and several on which the shocks were of a local nature.

Those of the 3d and 4th were apparently confined to the mountainous portions of southwest Virginia while that of the 31st was felt in all portions of the State, but most severely in the Valley and Appalachian counties. In the city of Richmond the first shock was felt at 1.59 pm., the vibration being from east to west and lasting three seconds. The second and heaviest shock occurred at 1.59.12. The movement was decided, rocking buildings, rattling and throwing down loose articles, and causing considerable consternation among the inhabitants. The vibration was also from east to west and lasted 9 seconds. It was accompanied by a rumbling, grinding noise.

Appended are the special reports rendered by voluntary observers of the Virginia section who noted these earthquakes.

Wytheville, May 3, 1897. Severe earthquake at 12.15 pm. lasting about a minute. Shook tins, glass and china. Perceptible vibration of stores and large articles. Second shock at 4.9.30 pm. Lasted 26 seconds almost as severe as first. Third shock at 6. 01 pm. Not so severe nor so long. Seemed to be from S. or SE. Going N. or NW. Accompanied by a perceptible roar. Mountains covered with snow which fell last night.

May 4, 1897. Fourth earthquake shock between 11 and 12 last night. Not so severe as shocks during yesterday.

May 31st, Tremendous earthquake at 1.58 pm. lasting one minute and fifty seconds. Accompanied by deafening roar. Furniture and dishes rocked and rattled, clocks stopped, houses trembled, loose panes of glass shaken from windows, chimneys cracked and bricks thrown into streets and and yards. Felt distinctly by parties out of houses in yards and gardens. People rushed frightened into streets and yards. No fatalities or serious damage to property reported as yet. Oldest inhabitants never experienced a shock approaching this in duration and severity. Seemed to be moving from south to north. P. B. Green.

Dale Enterprise, May 31, 1897. An earthquake shock was quite sensibly felt here at about 2 pm. to-day and proved a source of slight alarm into some of our people. Walls trembled; windows and dishes rattled; furniture swayed to and fro in a manner as to be observed by most of the residents within 4 to 6 miles of this station. To some the sensation was that of a "sinking" rather than that of an "oscillating" nature. Slight earthquake trembling was felt by a few of our people at this point a week or 10 days ago, but little notice was taken of it at the time. L. J. Heatwole.

Stephens City, May 31, 1897. The earthquake shock was felt here at 2 o'clock by several persons. One minister noticed it very perceptibly and knowing what it was, consulted his clock and found it exactly 2 o'clock. W. B. Steele.

Buckingham, May, 31 1897. Earthquake shock felt here at 10 minutes past 2 pm. Shock lasting 1 minute. Came from NE; going SW direction. Dr. W. E. Pratt.

Hampton, Earthquake on this date about 2 pm. Persons in the upper rooms of three different buildings on our school grounds observed a trembling and swaying of the building. C. L. Goodrich.

Barboursville, May 31, 1897. Severe earthquake felt here from 1.59 to 2 pm. It lasted fully a minute; three distinct shocks; worst ever felt. Dr. T. H. Ellis.

ATMOSPHERIC PRESSURE.

The mean monthly air pressure as deduced from the U. S. Weather Bureau Stations at Lynchburg, Norfolk and Washington D. C., was 30.01 inches; highest 30.41 inches, at Washington, D. C., on the 8th; lowest 29.53 inches, at Lynchburg, Va., on the 1st; range 0.88 of an inch.

TEMPERATURE. (DEG. F)

TIDEWATER VIRGINIA.—Highest monthly mean, 67.1, at Doswell; lowest monthly mean, 60.5, at Sunbeam; maximum temperature, 88, at Petersburg, on the 7th; minimum temperature, 37, at Spottsville on the 4th; greatest daily range 41, at Doswell and Spottsville.

MIDDLE VIRGINIA.—Highest monthly mean, 65.0, at Bon Air; lowest monthly mean, 59.9, at Quantico; maximum temperature, 91, at Guinea, on the 17th; minimum temperature, 30, at Guinea, on the 27th; greatest daily range, 50, at Guinea.

THE GREAT VALLEY. — Highest monthly mean, 63.8, at Goshen; lowest monthly mean, 55.4, at Monterey; maximum temperature, 88, at Clifton Forge and Dale Enterprise, on the 20th, and 19-20th, respectively; minimum temperature, 18, at Hot Springs, on the 3d; greatest daily range, 48, at Dale Enterprise.

FOR THE STATE.—Average of the monthly mean temperatures, 61.3; average of the maximum temperatures, 85; average of the minimum temperatures, 37; average of the greatest daily range, 37.

The month of May was noteworthy for its great number of cool days. Both in averages and extremes there was a marked departure from the conditions usually prevalent. The average temperature, 61.3 degrees, was 4.2 degrees below the normal. In maximum and minimum temperatures all previous records back to 1891 were broken. The warmest weather generally occurred in the second decade, and the coldest from 1st to 5th. Frosts were quite frequent and damaging to fruit, berries, vines and tender vegetation, and ice formed at various places early in the month. Very little good growing weather occurred and this, combined with adverse conditions during April, still further retarded crops. Much of the corn had to be replanted, and cotton, peanuts, clover and grasses made but slight progress. Winter wheat and oats however, came through the month well, and an unusually fine crop of the former seems assured. The month was also notable for seismic disturbances, which occurred on the 4th and 31st. The first of these occurred, so far as known, only in the Valley of Virginia. The second was quite general over the State and of sufficient violence to cause considerable alarm.

PRECIPITATION.

TIDEWATER VIRGINIA.—Greatest monthly precipitation, 5.36 inches, at Norfolk; least monthly, 3.01 inches, at Ashland; greatest amount in any twenty-four consecutive hours, 1.39 inches, at Hampton, on the 13-14th.

MIDDLE VIRGINIA.—Greatest monthly precipitation, 6.71 inches, at Alexandria; least monthly, 2.46 inches, at Bon Air; greatest amount in any twenty-four consecutive hours, 3.22 inches, at Alexandria, on the 12-13th.

THE GREAT VALLEY.—Greatest monthly precipitation, 7.04 inches, at Monterey; least monthly, 2.78 inches, at Graham's Forge; greatest amount in any twenty-four consecutive hours, 3.53 inches, at Staunton on the 1st.

FOR THE STATE.—Average total precipitation, 4.15 inches.

The average total precipitation for the State, 4.15 inches, was 0. 29 of an inch below the normal for the month.

By sections Tidewater Virginia was 0.04 of an inch below the normal; middle Virginia, was 0.05 of an inch in excess and the Great Valley was 0.13 of an inch deficient. This nearly normal condition of precipitation in all portions of the State was very beneficial to crops and did much to avert serious injury from the unseasonable temperatures which obtained.

The average number of days on which 0.01 of an inch or more of rain or snow fell, was 10 in Tidewater Virginia; 8 in Middle Virginia, and 10 in the Great Valley. Average for the State, 9.

WIND.—The prevailing direction of the wind in the different sections was as follows: Tidewater Virginia SW.; Middle Virginia, SW.; the Great Valley, W. Prevailing direction for the State, SW.

WEATHER.—Tidewater Virginia, average number of clear days 13; partly cloudy, 8; cloudy, 10. Middle Virginia, average number of clear days, 17; partly cloudy, 9; cloudy, 5. The Great Valley, average number of clear days, 12; partly cloudy, 11; cloudy, 8. For the State, average number of clear days, 15; partly cloudy, 9; cloudy, 7.

NOTES AND COMMENTS.

A new voluntary observation station will be established at Dwale, Dickenson county, beginning with July 1st on which date observations will be commenced. Mr. F. M. Beverly, in whose charge the instruments are, has long been a valued crop correspondent of this service, and we are glad to have his services in his new capacity.

With the current number of the monthly report we enclose to each voluntary observer a copy of the new "Instructions to Voluntary Observers" prepared under the direction of Prof. Willis L. Moore, Chief of the Weather Bureau. It is fully illustrated, treats all pertinent subjects concisely and pointedly and will doubtless be a great aid to observers, especially those who have recently taken up the work. Its careful perusal is commended.

Upon its receipt each observer is desired to return to this office the old instructions in his possession or if they are lost or mislaid to advise us to that effect.

Climatological Data for May 1897.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit. Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Precipitation, in inches. Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted.)	Number of rainy days.	Sky. Number clear days.	Number partly cloudy days.	Number cloudy days.	Prevailing direction of wind.	Observers.
TIDEWATER VIRGINIA.																				
Ashland	Hanover	220	5	64.2	−1.5	87	7	39	4	34	3.01	−2.44	.79	....	8	7	19	5	s.	E. L. C. Scott.
Birdsnest (1)	Northampton	40	28	65.0	−0.5	86	14	51	8	....	4.65	−0.06	1.30	....	11	8	10	13	sw.	C. R. Moore.
Cape Henry	Princess Anne	17	22	64.4	0.0	86	10 21	45	4	32	5.32	+0.63	1.15	....	15	9	6	16	se.	U. S. Weather Bureau.
Doswell	Hanover	134	0	67.1	......	85	19	40	1 2	41	†1.70	....	.70	....	3	18	1	12	sw.	C. W. Butterworth.
Hampton	Elizabeth City	3	9	65.7	+0.1	84	7	46	4	26	5.00	−0.02	1.39	....	14	12	7	12	sw.	C. L. Goodrich.
Norfolk	Norfolk	3	25	65.3	−0.2	84	7	43	9	35	5.36	+0.54	......	....	15	13	6	12	sw.	U. S. Weather Bureau.
Petersburg	Dinwiddie	11	9	65.3	−1.4	88	7	41	9	38	3.40	−2.24	1.10	....	10	16	4	11	sw.	Prof. Jas. M. Colson.
Richmond (near)	Henrico	96	21	64.0	−1.0	85	11	40	4	35	......	....	......	....	....	23	....	8	nw.	Capt. J. C. Shafer.
Spottsville	Surry	15	7	64.4	−2.0	86	7 20	37	4	41	5.28	−0.30	1.24	....	8	17	4	10	sw.	B. W. Jones.
Sunbeam	Southampton	60	2	60.5	−5.1	79	14	38	4	33	4.06	−2.07	1.03	....	9	15	14	2	w.	Dr. W. H. Daughtry.
Warsaw	Richmond	200	3	63.4	−2.2	85	10	38	4	35	3.51	−0.77	1.12	....	9	8	19	4	s.	C. H. Constable.
																				L. S. Williams.
MIDDLE VIRGINIA.																				
Alexandria	Alexandria	35	37	63.8	−1.1	86	10	40	3	30	6.71	+1.88	3.22	....	12	7	23	1	nw.	H. C. Slaymaker
Barboursville	Orange		0	62.2	......	85	20	40	4	31	6.04	....	2.54	....	11	13	16	2	sw.	Dr. Thos. H. Ellis.
Bedford City	Bedford	900	6	61.2	−4.0	89	19	34	2 4	40	3.70	+0.02	1.10	....	6	14	15	2	se.	J. T. Davidson.
Bon Air	Chesterfield	130	2	65.0	−2.6	88	7 20	37	4	39	2.46	−2.23	.47	....	12	17	5	9	sw.	Wm. H. Pleasants.
Buckingham	Buckingham	550	3	61.4	−3.6	85	7 20	34	3	38	3.02	+0.01	.75	....	9	15	13	3	sw.	Dr. W. E. Pratt.
Callaville	Brunswick	570	2	63.4	−2.6	84	7	36	4	37	3.25	−0.76	.72	....	12	16	14	1	nw.	F. M. Gage.
Farmville	Prince Edward			64.0	......	90	14 31	35	4	40	4.65	....	1.10	....	7	25	0	6	sw.	Jno. R. Martin.
Fredericksburg	Spottsylvania		1	63.4	−2.1	89	19	40	4	36	4.59	−0.27	1.31	....	11	18	6	7	s.	E. C. Rowe.
Gordonsville	Orange	47	0	62.2	......	79	31	40	3	24	†1.50	....	.70	....	4	21	1	9	s.	H. S. Smithers.
Guinea	Caroline		0	59.0	+0.7	91	17	30	27	50	6.23	+1.27	3.00	....	5	17	12	2	sw.	M. A. Nunn.
Leesburg	Loudoun	100		63.2	......	88	9 20	39	3 4 27	46	3.26	....	1.05	....	9	20	7	4	w.	C. A. English
Lynchburg	Campbell		17	63.0	−1.4	86	7	40	3	35	4.27	+0.18	1.49	....	10	9	14	8	nw.	U. S. Weather Bureau.
Maidens	Goochland	525	1	......	......	....	....	....	....	....	†2.16	....	.61	....	4	21	1	9	s.	J. R. Hopkins.
Manassas	Prince William	185	2	63.0	−3.1	85	20	38	4	41	4.95	−0.23	1.67	....	7	18	7	6	se.	Thos. H. Lion.
Quantico	Prince William	317	7	59.9	......	84	10	32	8	42	......	....	......	....	....	20	0	11	s.	E. V. King.
Rocky Mount	Franklin		0	63.4	−3.2	85	7 20	36	4	33	5.03	+1.11	1.40	....	8	9	17	5	......	J. H. Binford.
Smithville	Charlotte	33	2	63.6	−2.5	84	29	39	4	33	5.67	+0.34	2.30	....	8	20	7	4	......	W. G. Williams.
Stanardsville	Greene	1150	2	60.8	−3.2	85	20 21	40	3	36	4.45	−0.55	2.04	....	8	....	....	....	......	W. N. Parrott.
Warrenton	Fauquier	560	6	63.4	......	83	20	41	4	40	4.65	....	1.30	....	7	22	3	6	nw.	J. T. Preston.
THE GREAT VALLEY.																				
Big Stone Gap	Wise	1966	6	58.1	−3.0	87	8	32	2	46	3.95	−1.31	1.30	....	10	14	7	10	......	John W. Fox. Sr.
Blacksburg	Montgomery	2100	7	56.2	−2.7	81	20	30	26	42	4.23	+0.25	1.62	.1	8	13	13	5	w.	Prof. W. B. Alwood.
Bristol†	Sullivan, Tenn.	1676	2	57.8	−4.5	83	9	35	1	35	3.37	+0.26	1.20	....	8	14	9	8	......	J. Bunting. Jr.
Burke's Garden	Tazewell		0	55.6	−5.7	79	19 22	29	26	43	3.89	−0.28	1.20	.3	12	12	8	11	w.	Rev. E. H. Kohn.
Christiansburg	Montgomery	2160	9	......	......	....	....	....	....	....	2.88	−1.11	1.22	....	6	15	6	10	w.	H. D. Walters.
Clifton Forge	Allegheny	1047	2	56.2	......	88	20	37	4	37	4.46	....	1.86	tr	12	14	3	14	sw.	T. P. Halloran.
Dale Enterprise	Rockingham	1350	10	58.1	−4.8	88	19 20	29	4	48	5.37	−0.34	2.10	....	14	9	17	5	s.	L. J. Heatwole.
Goshen	Rockbridge	1590	1	63.8	−1.8	80	1	40	3	25	†1.50	....	1.00	....	2	17	0	14	w.	J. B. Wood.
Graham's Forge(a)	Wythe		3	58.0	−4.6	83	20	33	26	41	2.78	+0.01	.92	tr	10	9	18	3	sw.	David Graham.
Hot Springs	Bath	2195	4	60.7	+0.3	84	19 20	18	3	33	5.73	+1.49	1.50	.1	11	....	....	....	......	W. B. Davis.
Lexington(a)	Rockbridge	946	23	59.6	−3.5	84	20	33	4	40	4.63	+0.97	1.90	....	11	9	17	5	nw s	Prof. H. C. Campbell.
Marion (a)	Smyth	2124	8	58.3	−3.7	84	19	34	2 3 26	42	3.56	−1.31	.82	.1	10	7	9	15	......	A. T. Lincoln.
Monterey	Highland	3008	2	55.4	−4.6	78	19 22	29	4	44	7.04	+1.47	2.00	....	9	10	12	9	w.	Jos. Jones.
Salem	Roanoke	1200	6	63.0	−4.7	86	20	37	4	31	4.03	+0.20	1.52	....	9	....	....	..	......	Prof. S. C. Wells.
Saltville	Smyth	1739	2	58.0	−4.3	83	19	35	3	40	3.08	+0.10	1.11	....	11	....	....	....	......	C. M. Perry.
Stanleyton	Page	1064	0	......	......	....	....	....	....	....	......	....	......	....	....	....	....	....	......	A. K. Grim.
Staunton	Augusta	1380	6	60.7	−3.0	86	20	35	4	38	5.75	+1.16	3.53	....	11	10	16	5	w.	W. C. Hedrick.
Stephens City	Frederick		4	61.1	−3.5	86	20	38	4	40	4.48	+0.03	1.42	....	9	10	17	4	w.	W. B. Steele.
Sword's Creek	Russell		0	58.0	......	84	9 19	35	16	40	4.08	....	2.00	....	6	19	0	12	......	J. H. Steele.
Woodstock	Shenandoah	927	0	61.4	......	83	9 18 19	39	3 4	33	5.41	....	1.98	....	15	6	23	2	w.	H. F. Miley.
Wytheville	Wythe	2370	25	57.0	......	78	7 19	33	3	35	3.26	....	1.00	tr	10	13	7	11	w.	Dr. P. B. Green.

† Estimated. ‡ Incomplete. tr. trace, or less than 0.01 of an inch. (1) Means from 7 am, 2 and 9 + 9 pm, observations.

Note— Estimated and incomplete data not considered in means,

MISCELLANEOUS PHENOMENA.

Sleet: Wytheville, 2, 3.

Hail: Ashland, 21; Hampton, 24; Alexandria, 21; Barboursville, 21, 24; Bon Air, 21; Buckingham, 5; Callaville, 11; Fredericksburg, 5, 21; Warrenton, 21; Blacksburg, 17; Bristol, 21; Clifton Forge, Marion, Wytheville, 17; Staunton, 1; Stephen's City, 24; Sword's Creek, 23.

Frosts, Light: Ashland, 4; Spottsville, 4, 9; Sunbeam, 4; Barboursville, 4; Fredericksburg, 4; Burke's Garden, 6, 15, 16, 17, 18; Clifton Forge, 4; Graham's Forge, 15, 18, 22, 27, 28; Hot Springs, 15, 24; Staunton, 26; Sword's Creek, 16; Wytheville, 15, 16, 18, 27.

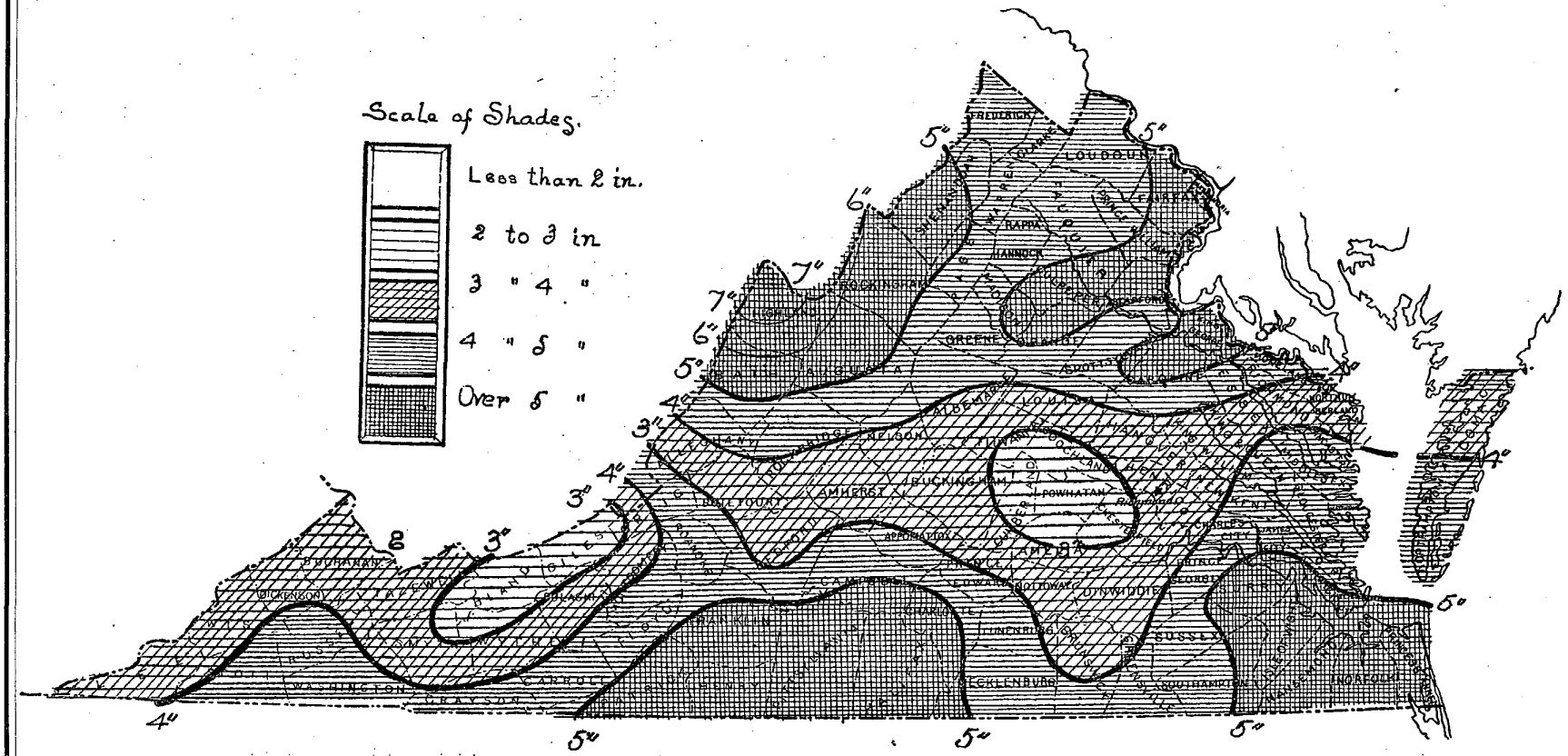
Frosts, Killing: Burke's Garden, 26, 29; Graham's Forge, Wytheville, 26; Staunton, 4; Sword's Creek, 17, 18.

Earthquakes: Ashland, Hampton, Barboursville, Bedford City, Fredericksburg, Gordonsville, Stanardsville, Warrenton, Big Stone Gap, Burke's Garden, Clifton Forge, Dale Enterprise, Saltville, Staunton, Sword's Creek, 31; Buckingham, 3, 31; Blacksburg, Graham's Forge, Lexington,3; Marion,4; Wytheville, 3, 4, 6, 21, 31.

Daily Maximum and Mininum temperatures for May, 1897.

Stations	1 Max.	1 Min.	2 Max.	2 Min.	3 Max.	3 Min.	4 Max.	4 Min.	5 Max.	5 Min.	6 Max.	6 Min.	7 Max.	7 Min.	8 Max.	8 Min.	9 Max.	9 Min.	10 Max.	10 Min.	11 Max.	11 Min.	12 Max.	12 Min.	13 Max.	13 Min.	14 Max.	14 Min.	15 Max.	15 Min.	16 Max.	16 Min.	17 Max.	17 Min.	18 Max.	18 Min.	19 Max.	19 Min.	20 Max.	20 Min.	21 Max.	21 Min.	22 Max.	22 Min.	23 Max.	23 Min.	24 Max.	24 Min.	25 Max.	25 Min.	26 Max.	26 Min.	27 Max.	27 Min.	28 Max.	28 Min.	29 Max.	29 Min.	30 Max.	30 Min.	31 Max.	31 Min.	Monthly Mean Max.	Monthly Mean Min.
TIDEWATER VA.																																																																
Ashland	68	63	60	48	60	45	71	39	61	50	80	53	87	55	71	49	77	43	84	67	83	60	82	64	74	69	86	56	78	52	76	48	73	46	78	47	85	51	85	54	74	60	70	46	84	52	81	62	70	54	70	47	77	43	78	45	78	58	73	52	75	64	75.8	52.7
Cape Henry	62	57	69	59	67	46	63	45	61	47	67	54	85	53	59	51	77	47	86	63	77	64	83	63	81	62	68	62	60	55	62	55	75	55	76	49	72	56	70	57	86	61	66	53	75	51	85	52	68	62	64	56	67	58	72	56	74	62	79	61	81	68	72.5	56.3
Doswell	68	40	81	40	60	49	70	50	66	45	72	63	72	64	75	55	75	62	75	70	83	75	75	69	79	62	82	54	83	59	72	45	70	51	69	60	85	59	84	68	81	62	79	60	79	59	81	65	79	56	80	58	80	54	81	47	80	46	81	65	83	69	76.8	57.5
Hampton	67	62	63	56	62	52	66	46	61	54	75	54	84	58	62	52	76	50	78	63	80	66	79	66	75	66	76	62	69	58	67	57	69	55	75	54	75	58	78	60	80	64	68	55	78	57	81	66	70	59	68	54	72	52	80	58	75	65	80	60	74	70	73.0	58.4
Norfolk	70	60	66	49	62	48	66	45	60	52	76	54	84	55	61	47	78	43	83	62	82	65	82	65	78	62	80	62	74	54	68	55	70	54	76	52	77	56	80	57	83	60	70	54	79	52	83	64	73	60	66	55	70	53	79	56	77	62	82	60	76	65	74.5	56.1
Petersburg	70	54	70	48	67	44	73	46	73	50	80	50	88	54	80	50	79	41	86	62	84	63	85	62	77	60	76	57	74	54	70	50	71	52	79	46	84	50	86	50	83	59	75	49	84	52	80	62	72	54	68	50	72	42	82	45	85	60	83	53	78	64	77.9	52.7
Richmond (near)	80	51	66	51	60	50	60	40	65	50	65	50	70	55	78	50	70	47	75	50	85	50	82	60	80	65	82	60	80	53	80	50	80	50	80	50	80	49	80	50	75	50	75	45	78	47	80	65	80	60	78	55	78	45	78	45	80	55	78	60	78	55	76.0	52.0
Spottsville	66	63	65	51	63	43	70	37	62	49	79	49	86	48	68	45	79	38	85	62	80	65	82	65	73	62	78	61	68	56	70	52	72	45	80	44	78	55	86	56	82	56	76	55	83	57	83	65	72	57	69	50	74	42	82	47	80	56	80	53	74	66	75.5	53.2
Sunbeam	64	62	52	52	56	43	59	38	60	42	61	49	72	50	72	49	73	40	76	51	70	60	75	65	66	55	79	62	75	55	63	53	62	50	67	47	73	50	71	52	78	60	64	50	72	51	66	65	62	57	58	50	63	44	73	49	78	50	77	66	78	67	68.2	52.7
Warsaw	68	61	66	57	60	45	68	38	60	47	77	52	84	52	65	45	78	43	85	63	82	64	81	64	77	59	79	54	70	52	70	50	72	45	76	46	80	52	83	54	78	58	72	47	75	57	83	60	70	55	67	48	70	45	79	45	73	57	72	57	77	62	74.1	52.7
MIDDLE VA.																																																																
Alexandria	67	60	70	43	53	40	67	48	63	52	78	54	81	58	67	52	80	57	86	66	80	63	81	63	71	59	77	53	69	47	72	45	73	47	77	55	81	58	84	63	81	51	70	58	82	60	79	52	68	46	68	45	70	49	77	59	69	51	75	61	75	52	73.9	53.8
Barboursville	69	54	61	47	55	42	66	40	60	49	76	46	83	52	67	49	78	51	81	59	72	57	75	61	70	62	77	54	65	47	68	48	70	44	76	46	82	54	85	60	80	64	73	45	81	59	79	62	67	51	65	44	75	44	76	45	76	56	70	48	78	58	72.8	51.5
Bedford City	70	37	68	34	55	35	67	34	69	44	82	46	85	46	76	43	80	50	77	53	77	57	79	59	75	54	79	45	72	45	74	40	70	41	79	46	89	51	87	54	83	43	78	46	78	51	81	46	69	39	72	40	78	42	80	46	78	53	77	57	82	48	76.3	46.0
Bon Air	68	62	65	48	63	43	74	37	65	50	82	50	88	56	75	52	80	41	86	62	82	60	82	63	74	63	82	56	71	52	74	48	76	45	79	48	84	57	88	53	83	53	75	46	85	51	81	63	72	53	72	48	75	44	81	48	84	59	81	52	76	61	77.5	52.4
Buckingham	68	43	63	42	58	34	59	38	66	43	79	48	85	48	72	43	79	56	79	58	79	60	80	68	70	59	80	52	68	45	69	41	70	42	71	41	83	51	85	58	81	43	75	45	81	63	79	51	78	40	66	41	73	42	81	43	78	53	75	57	83	48	74.6	48.3
Callaville	68	64	61	49	61	41	69	36	61	47	77	55	84	49	71	47	78	41	83	63	83	62	81	64	78	63	77	57	64	59	70	48	70	44	75	44	80	48	82	55	83	63	70	49	80	50	82	55	71	54	65	47	72	40	78	46	82	64	81	55	77	65	74.6	52.3
Farmville	75	60	70	45	68	45	74	35	65	47	70	45	80	48	80	50	78	48	77	46	75	50	85	60	89	65	90	65	75	55	76	48	75	46	78	45	85	45	80	48	79	46	75	48	80	45	82	47	75	45	72	45	80	43	85	45	80	60	85	55	90	65	78.3	49.7
Fredericksburg	67	63	64	50	55	47	65	40	61	53	75	53	80	55	67	49	76	46	82	64	73	60	78	65	71	63	78	58	67	55	68	51	68	46	74	48	89	53	85	55	80	51	74	46	81	53	79	62	72	55	71	50	68	44	79	47	79	59	72	49	77	63	73.4	53.3
Gordonsville	65	50	60	45	45	40	62	42	55	50	75	63	70	60	70	62	70	65	75	64	70	67	70	65	66	62	61	60	65	55	62	60	60	55	72	55	77	65	70	60	70	62	70	52	73	55	66	60	65	55	65	52	65	50	73	49	75	55	75	60	79	65	67.6	56.8
Guinea	60	40	56	39	59	37	68	37	72	40	85	45	80	50	89	48	80	47	87	52	80	32	82	40	82	47	71	47	83	36	81	35	91	47	81	39	85	43	83	36	84	34	71	42	82	35	82	36	72	32	74	35	80	30	75	38	86	37	83	36	85	34	78.4	39.5
Leesburg	74	60	74	48	55	39	67	39	78	50	82	52	73	53	68	42	88	42	81	43	83	53	79	63	73	63	76	58	69	43	78	46	82	42	83	53	86	54	88	54	82	58	72	44	85	47	87	53	83	47	82	42	73	39	84	46	74	54	74	40	74	42	77.6	48.7
Lynchburg	67	49	54	43	55	40	66	42	64	50	78	52	86	51	72	54	78	49	77	58	77	60	78	63	72	61	78	59	68	52	69	51	71	48	78	46	84	52	85	56	81	60	74	49	77	52	78	60	67	52	68	46	74	45	80	45	77	59	72	55	81	62	73.7	52.3
Maidens	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	....
Manassas	78	63	63	55	66	42	65	38	70	39	76	50	82	54	70	43	78	45	84	62	79	55	80	63	71	63	79	56	68	48	68	47	75	45	77	45	81	55	85	57	81	64	82	41	79	50	79	54	68	52	67	46	73	41	77	47	72	57	72	43	77	60	74.9	51.0
Quantico	67	36	68	41	58	40	64	37	67	41	76	40	68	34	71	32	77	44	84	42	77	38	79	62	70	65	76	57	78	59	70	36	71	36	77	43	81	44	82	58	79	54	72	46	81	55	80	47	69	53	68	47	72	45	78	40	76	48	74	49	76	60	73.7	46.1
Rocky Mount	64	60	60	40	55	40	64	36	69	49	83	54	85	52	80	56	78	58	75	60	75	60	76	60	71	63	75	52	70	50	73	50	74	47	78	45	83	52	85	55	82	60	77	47	76	54	75	60	68	49	70	45	75	45	75	45	75	65	78	60	79	60	74.3	52.5
Smithville	69	61	66	43	57	42	65	39	67	51	76	48	81	55	73	54	76	49	80	63	74	61	75	62	70	63	73	59	63	51	67	50	71	49	81	48	82	59	82	59	80	62	70	50	79	55	77	60	67	53	67	46	71	48	76	50	84	60	75	55	77	64	73.3	53.9
Stanardsville	67	57	54	45	53	40	67	42	61	50	78	55	84	58	69	46	78	42	79	55	71	55	75	57	68	54	77	53	68	44	67	44	67	44	77	46	83	52	85	54	85	53	73	45	80	45	77	56	65	51	67	46	73	43	78	44	73	45	72	43	80	56	72.7	49.0
Warrenton	65	48	59	54	52	45	63	41	60	49	74	56	81	60	70	49	74	56	81	61	74	62	76	66	68	64	75	60	67	52	68	53	70	52	76	56	81	63	83	61	79	64	80	50	76	53	77	56	64	55	65	50	68	50	76	53	71	58	69	52	74	63	71.5	55.2
GREAT VALLEY.																																																																
Big Stone Gap	59	38	51	32	50	34	57	41	70	40	78	37	86	40	87	44	84	51	76	51	72	55	72	54	77	51	72	43	68	33	69	35	73	35	73	34	84	40	84	44	80	52	81	41	83	46	79	49	65	43	72	35	80	34	73	41	70	54	81	43	78	52	73.7	42.5
Blacksburg	60	55	44	33	50	32	58	31	62	47	75	38	78	44	74	46	78	47	69	47	70	54	72	55	69	50	71	45	66	36	66	38	63	38	75	35	79	45	81	39	76	53	76	37	70	49	77	50	57	42	66	30	73	33	71	36	73	50	75	46	73	55	69.3	43.1
Bristol	66	35	50	36	49	40	50	44	60	40	70	44	80	45	82	53	83	53	68	57	69	58	71	56	66	47	65	39	55	40	68	42	65	40	70	45	80	51	80	52	72	44	77	50	81	56	76	42	62	37	68	39	75	45	67	56	69	50	80	57	74	45	69.3	46.4
Burke's Garden	63	53	40	31	46	30	48	40	61	43	71	35	75	38	76	40	75	59	64	58	68	56	70	58	70	55	60	52	60	36	62	37	64	36	70	33	79	41	75	55	72	57	79	36	75	60	69	52	52	43	52	29	69	30	68	38	70	50	75	56	68	52	66.3	44.8
Clifton Forge	50	45	49	42	48	40	67	37	50	49	62	52	84	47	72	47	82	46	72	53	62	52	72	56	61	56	59	49	68	42	70	42	52	50	50	48	82	44	88	50	75	52	67	40	82	45	76	42	53	45	52	38	58	40	68	39	72	52	80	43	59	55	65.9	46.4
Dale Enterprise	66	46	56	39	52	34	64	29	60	43	79	41	80	47	76	45	81	45	75	52	74	48	77	55	75	55	76	45	72	37	65	40	69	37	79	37	88	40	88	50	79	51	78	36	80	46	76	50	63	40	68	36	79	38	79	35	80	54	80	36	81	50	74.0	43.1
Goshen	80	68	76	60	65	40	65	50	63	57	74	60	76	60	75	62	75	60	76	58	73	55	71	67	71	62	70	60	72	58	74	50	58	55	60	55	64	52	66	50	68	50	70	54	71	56	70	55	72	58	70	58	74	54	76	56	76	58	74	60	74	62	70.9	56.8
Graham's Forge	71	45	48	36	53	36	55	35	65	45	73	41	81	41	..	..	80	48	73	47	72	55	76	56	70	55	74	46	73	37	72	42	63	39	73	37	80	43	83	47	80	49	76	41	76	48	80	53	62	44	68	33	75	34	76	36	73	57	78	48	76	56	71.8	44.3
Hot Springs	65	45	51	38	46	18	60	30	72	50	76	44	78	52	74	52	70	54	79	50	60	40	70	48	66	50	60	50	76	50	70	47	70	47	80	47	84	57	84	60	80	64	80	60	80	55	79	60	63	47	71	45	75	45	80	47	77	65	80	50	78	61	72.1	49.3
Lexington	66	49	51	40	54	38	64	33	63	47	76	36	82	46	72	50	79	46	75	50	70	53	75	59	69	58	76	52	69	43	69	47	68	42	75	40	81	48	84	52	78	55	75	45	77	47	77	57	64	45	67	59	72	40	79	..	73	56	75	46	77	59	72.0	47.3
Marion	70	48	50	34	50	34	57	43	64	46	75	37	80	42	82	46	..	..	80	50	72	58	75	57	70	56	71	41	65	37	70	38	68	40	73	37	84	42	80	50	76	50	78	42	78	48	75	55	68	44	68	54	64	36	70	40	70	60	79	49	74	58	71.2	45.4
Monterey	64	40	42	34	45	31	59	29	60	38	64	40	70	40	74	50	76	50	68	54	68	50	70	54	74	54	70	50	68	40	63	34	62	36	72	36	78	50	76	54	70	50	78	34	74	50	70	48	54	44	66	40	66	38	70	38	70	50	70	46	76	50	67.3	43.6
Salem	68	56	54	41	53	39	65	37	68	52	78	48	83	53	76	57	78	53	74	56	72	62	77	63	74	64	77	53	67	46	70	50	68	47	76	45	81	54	86	57	81	62	73	48	76	50	81	62	72	50	68	42	76	45	77	47	76	64	74	56	82	63	73.6	52.3
Saltville	65	41	46	37	45	35	54	44	67	47	76	36	81	65	82	46	80	50	65	51	71	59	73	58	70	56	67	49	65	36	67	38	69	40	75	36	83	43	78	49	76	49	78	40	79	45	74	54	60	45	69	37	74	36	67	39	67	57	78	47	72	55	70.1	45.8
Stanleyton	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	....
Staunton	62	58	54	40	54	36	65	35	60	48	78	40	84	52	70	52	80	48	75	57	73	53	76	60	71	59	76	52	67	41	67	45	67	41	75	41	83	51	86	56	82	64	76	40	80	58	80	56	64	46	66	38	72	40	79	41	77	59	75	43	80	60	72.7	48.7
Stephens City	68	60	62	42	50	40	59	38	67	47	81	51	80	55	73	41	84	44	78	58	74	52	77	59	72	57	78	50	71	45	71	47	74	42	77	46	85	57	86	59	78	50	78	41	80	52	78	52	61	46	70	44	74	41	82	46	66	46	71	41	75	57	73.6	48.6
Sword's Creek	60	55	45	37	59	36	54	44	60	36	65	37	75	44	80	40	84	57	70	53	70	59	70	56	74	53	75	47	66	37	60	35	70	38	75	36	84	43	80	49	75	59	80	48	75	46	82	45	75	39	60	38	75	35	68	46	70	55	80	46	74	57	70.6	45.4
Woodstock	63	45	61	44	49	39	63	39	65	44	80	50	79	46	75	47	83	55	77	53	73	55	75	61	69	54	76	46	75	50	74	46	70	46	83	54	83	56	82	60	78	46	81	49	76	58	79	51	76	45	66	47	76	49	78	50	74	46	69	50	70	51	73.5	49.4
Wytheville	68	45	43	34	48	33	53	38	65	45	75	42	78	46	77	47	76	50	65	51	70	50	70	56	68	58	67	46	64	39	63	41	62	42	73	38	78	47	77	50	74	55	76	43	75	49	73	54	56	44	67	35	70	38	67	40	67	60	77	49	73	57	68.2	45.9

TOTAL PRECIPITATION FOR MAY, 1897.



Daily Precipitation for May, 1897.

Stations.	Day of Month.																														Total.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
TIDEWATER VIRGINIA.																																
Ashland	.36	.07	.06	....	.20	....	....	....	....	....	tr	....	.79	.66	....	....	....	....	....	....	.38	....	....	tr	....	....	....	....	....	....	.49	3.01
Birdsnest	.15	.25	.05	....	.10	.10	....	....	....	....	.35	.55	....	1.30	.70	....	....	....	....	....	.20	....	....	tr	.90	....	....	....	....	....	tr	4.65
Cape Henry	.97	.12	....	....	12	....	....	....	....	....	.83	.12	.77	.06	.51	.28	....	....	....	....	.08	.14	.02	1.00	.15	....	....	....	....	....	.15	5.32
Doswell †	....	.70	....	....	....	....	....	....	....	....	....	....	....	.50	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.50	1.70
Hampton	1.02	.02	tr	....	.21	.04	....	....	....	.01	tr	.88	1.31	.08	.48	....	....	....	....	....	....	.51	....	.31	.10	....	....	....	tr	tr	.03	5.00
Norfolk	1.05	.04	....	....	.19	.06	....	....	....	....	.84	.29	.65	.08	.53	.09	....	....	....	....	.24	.05	....	1.02	.19	....	....	....	tr	....	.04	5.36
Petersburg	.29	....	tr	....	.10	....	....	....	....	....	.90	.20	.85	.60	....	....	....	....	....	....	.20	....	tr	.10	.06	....	....	....	tr	tr	.10	3.40
Spottsville	.73	....	tr	....	.24	....	....	....	....	tr	1.00	.58	.81	tr	....	....	....	....	....	....	.27	....	....	.41	....	....	....	....	tr	tr	1.24	5.28
Sunbeam	.57	....	....	....	.06	....	....	....	....	....	.61	.42	.65	.21	.96	....	....	....	....	....	.18	....	....	.40	....	....	....	....	....	....	....	4.06
Warsaw	1.12	....	tr	....	.65	....	....	....	....	tr	....	.14	.35	....	.40	....	....	....	....	....	.50	....	.23	....	....	....	....	....	.07	....	.05	3.51
MIDDLE VIRGINIA.																																
Alexandria	.46	.10	.22	.13	.10	....	....	....	....	....	.68	2.11	1.11	.51	....	tr	....	....	....	....	.16	....	.63	.50	....	....	....	tr	....	....	....	6.71
Barboursville	.35	.18	.12	....	.18	....	....	....	tr	tr	.12	.07	2.04	.50	....	.01	tr	....	....	....	.05	....	....	1.52	....	....	....	....	....	....	....	6.04
Bedford City	.70	1.10	....	....	....	....	....	....	....	....	.20	.10	1.10	....	....	....	....	....	....	....	....	....	....	.50	....	....	....	....	....	....	....	3.70
Bon Air	tr	.39	.02	....	.06	.12	....	....	....	....	....	.11	.47	.30	.41	....	....	....	....	....	....	.36	....	.08	.04	....	....	....	....	tr	.10	2.46
Buckingham	.48	.16	....	tr	tr	....	....	....	....	....	tr	.50	.75	.31	....	....	....	....	....	.13	....	.16	.44	....	....	....	....	....	....	tr	tr	3.02
Callaville	.20	.03	....	....	.14	....	....	....	....	.09	.60	.07	.72	.41	....	....	....	....	....	....	.35	....	....	.24	.10	....	....	....	....	....	.30	3.25
Farmville	.50	.10	.10	....	....	....	....	....	....	....	....	.10	1.10	1.00	.75	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3.65
Fredericksburg	.27	.41	.10	....	.34	....	....	....	....	tr	.02	.44	1.31	.27	....	tr	....	....	....	....	.25	....	tr	1.08	....	....	....	....	....	....	.10	4.59
Guinea	.30	....	....	....	....	....	....	....	....	....	1.00	....	....	....	....	....	....	....	....	.93	....	1.00	3.00	....	....	....	....	....	....	....	....	6.23
Leesburg	.36	.49	.45	....	.18	....	....	....	....	....	....	.32	1.05	.18	....	....	....	....	....	....	....	....	.14	.09	....	....	....	....	....	....	....	3.26
Lynchburg	.54	.95	.32	....	tr	....	....	....	tr	tr	.57	.02	.91	.02	....	.16	tr	....	....	....	.09	....	tr	.69	tr	....	....	....	....	....	tr	4.27
Maidens	....	.55	.15	....	.10	....	....	....	....	....	....	....	.15	.15	.20	....	....	....	....	....	.15	....	....	.10	....	....	....	....	....	.61	....	2.16
Manassas	.41	....	.51	....	....	.19	....	....	....	....	....	.40	1.67	....	....	....	....	....	....	....	.22	....	1.55	....	....	....	....	....	....	....	....	4.95
Rocky Mount	.78	.50	.10	....	tr	....	....	....	....	tr	.25	tr	1.30	.60	....	....	.10	....	....	....	tr	....	tr	1.40	....	....	....	....	....	....	tr	5.03
Smithville	.25	.37	....	....	....	....	....	....	....	....	1.60	....	2.30	.25	....	....	....	....	....	....	.10	....	....	.70	.10	....	....	....	....	....	....	5.67
Stanardsville	.75	.22	....	.13	....	....	....	....	....	....	.06	.25	2.04	.50	....	....	....	....	....	....	....	....	....	.50	....	....	....	....	....	....	....	4.45
Warrenton	....	.94	.56	....	.26	....	....	....	....	....	....	.56	1.30	.21	....	....	....	....	....	....	....	....	....	.82	....	....	....	....	....	....	....	4.65
THE GREAT VALLEY.																																
Big Stone Gap	.37	.21	.05	tr	....	....	....	....	....	.37	.37	1.30	1.09	.05	....	....	....	....	....	....	tr	....	tr	tr	....	....	....	.09	tr	.05	....	3.95
Blacksburg	1.62	.32	.11	....	....	....	....	....	.25	....	.21	1.78	.52	....	....	....	.02	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4.23
Bristol	.50	.21	tr	....	....	....	....	....	....	tr	.39	1.20	....	.32	....	....	....	....	....	tr	.15	....	tr	tr	....	....	....	.12	....	.48	....	3.37
Burke's Garden	.55	.36	.35	tr	.03	....	....	....	tr	.16	.35	.20	1.20	.26	....	....	....	....	....	....	tr	....	....	.22	....	....	....	.16	....	.05	....	3.89
Christiansburg	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Clifton Forge	1.86	.14	....	....	....	....	....	....	.41	....	.32	....	1.21	.10	....	.05	.12	....	....	....	....	....	.05	....	.10	....	....	.05	....	.05	....	4.46
Dale Enterprise	.90	1.20	.30	.02	.05	....	....	....	.07	....	.10	.70	1.20	....	.39	....	....	....	....	....	.01	....	.31	.07	....	....	....	....	....	.05	....	5.37
Goshen †	....	1.00	....	....	....	....	....	....	....	....	.50	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.50
Graham's Forge	.80	.06	.18	tr	....	....	....	....	....	.03	tr	.06	.08	.92	.11	....	tr	tr	....	....	....	....	tr	tr	....	....	....	....	....	.36	.18	2.78
Hot Springs	1.30	.96	....	....	....	....	....	....	.25	.02	.62	.25	1.50	.06	....	.13	....	....	....	....	....	....	....	.34	....	....	....	....	....	.30	....	5.73
Lexington	.89	.90	.19	....	tr	....	....	....	.02	.05	.14	.19	1.71	.17	....	.09	tr	....	....	....	tr	....	....	.28	....	....	....	....	....	....	....	4.63
Marion	.35	.15	.55	....	tr	....	....	....	....	.10	tr	.42	.82	.20	....	....	.15	....	....	tr	....	tr	tr	....	....	....	....	....	.25	....	.57	3.56
Monterey	.45	2.00	....	....	....	....	....	....	.40	.10	....	.60	2.00	.26	tr	....	tr	....	....	....	tr	....	....	.55	....	....	....	....	....	.68	....	7.04
Salem	1.52	.53	.28	....	....	....	....	....	.61	....	.08	.05	.64	.15	....	....	.17	....	....	....	....	....	tr	....	....	....	....	....	....	....	....	4.03
Saltville	.35	.22	.18	....	....	....	....	....	....	.13	.40	.29	1.11	.06	....	....	....	....	....	....	....	....	....	.15	....	....	....	....	.13	.06	....	3.08
Stanleyton	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Staunton	3.53	tr	.16	....	tr	....	....	....	.04	tr	.42	.34	.74	.03	.15	tr	tr	....	....	....	....	....	.10	.16	....	....	....	....	....	.08	....	5.75
Stephens City	.11	.86	.46	tr	.21	....	tr	....	tr	tr	tr	.49	.93	.27	tr	.02	tr	....	....	tr	....	....	....	1.13	....	....	....	tr	....	tr	....	4.48
Sword's Creek	.60	.20	.50	tr	....	....	....	....	....	tr	.55	.23	2.00	tr	....	....	....	....	....	tr	....	....	tr	....	....	....	....	....	....	....	....	4.08
Woodstock	1.98	.19	.15	.12	.14	....	....	....	tr	.01	.40	.77	.47	.14	.04	.02	.02	....	....	tr	....	....	.80	.16	....	....	....	tr	....	....	....	5.41
Wytheville	.70	.29	.14	....	....	....	....	....	....	....	.22	.38	1.00	.05	....	....	.20	....	....	....	....	....	....	.06	....	....	....	....	....	....	.22	3.26

† Rainfall estimated. ‡ Incomplete. tr. Trace, or less than .01 of an inch.