

Virginia Tidewater Stations

Daily Maximum and Minimum temperatures for January, 1897.

VA State Records

Stations.	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	Monthly Mean.																																
	Max. Min.																																																															
TIDEWATER VA.																																																																
Ashland	60	29	58	29	63	43	70	53	61	40	37	25	44	14	40	18	54	19	59	33	55	28	44	26	28	19	34	27	36	30	38	27	50	31	53	35	42	19	29	22	56	34	53	32	48	29	56	32	48	17	24	11	37	6	36	2	40	10	45.0	24.6				
Cape Henry	47	32	44	49	55	41	60	42	57	43	46	31	56	30	38	32	41	32	56	34	59	37	41	33	36	28	40	32	38	36	40	33	53	32	59	43	45	33	45	35	60	43	52	34	49	34	57	35	36	20	30	18	32	21	30	15	28	11	29	21	34	27	44.6	31.6
Doswell	59	23	53	23	53	32	68	54	52	42	33	28	32	11	38	18	47	12	52	32	52	22	40	23	30	22	33	28	35	30	42	30	59	29	42	40	39	45	45	24	55	35	52	33	43	29	52	30	22	13	31	6	22	19	19	13	21	3	32	5	30	9	41.1	23.6
Hampton	56	35	47	49	60	42	63	50	53	47	38	32	39	25	40	28	47	26	59	38	53	40	40	31	32	24	38	32	37	35	42	35	52	33	56	48	43	28	44	32	55	44	52	35	48	40	52	38	31	19	36	14	29	26	23	17	37	14	33	20	38	21	44.3	31.9
Norfolk	51	37	46	49	63	44	68	54	58	49	40	30	39	27	41	29	47	30	59	36	52	38	39	30	35	35	41	34	52	35	59	41	41	31	52	32	61	48	54	34	46	35	55	34	29	19	33	15	30	25	20	17	31	11	32	21	36	25	44.7	31.9				
Petersburg	56	26	46	35	65	34	70	40	64	42	45	30	34	16	41	20	50	20	60	35	59	34	49	25	35	30	30	28	65	30	60	41	45	20	40	33	58	36	55	30	50	32	49	30	40	16	35	35	55	30	49	11	30	20	20	10	31	7	32	4	35	12	45.9	25.7
Richmond	45	28	50	30	61	42	65	44	55	49	33	29	35	15	37	20	47	22	56	34	59	32	36	29	28	20	35	28	36	31	38	21	40	23	50	35	50	31	25	15	28	10	25	20	17	12	32	4	35	12	45.1	25.8												

Received March 6, 1897

U. S. DEPARTMENT OF AGRICULTURE.

REPORT FOR JANUARY, 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,

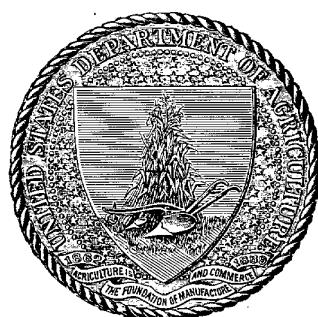
CHIEF OF BUREAU.

BY

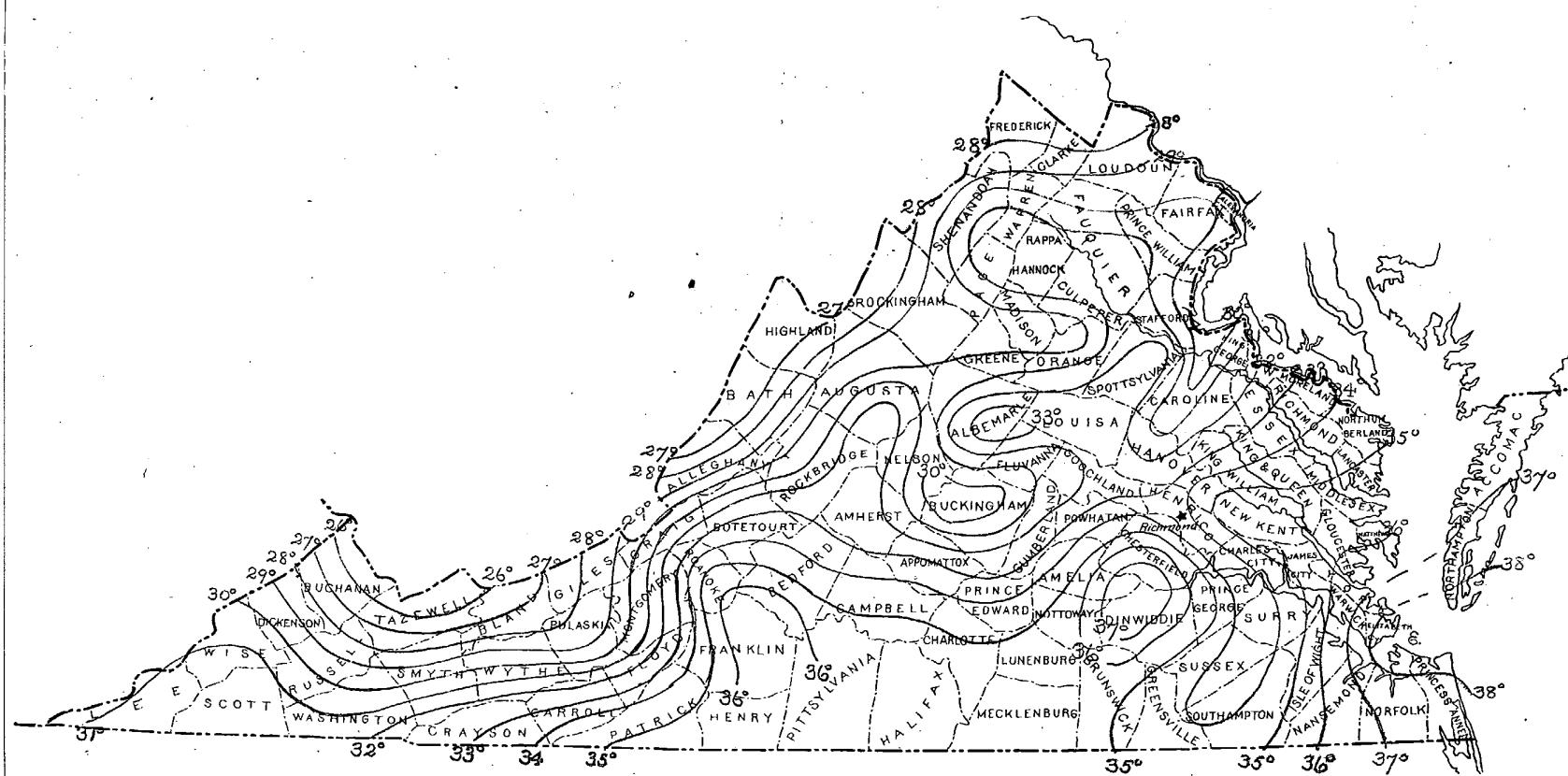
EDWARD A. EVANS

SECTION DIRECTOR,

RICHMOND, VA.



MONTHLY MEAN TEMPERATURE FOR JANUARY, 1897.



U. S. DEPARTMENT OF AGRICULTURE,
CLIMATE AND CROP SERVICE
 OF THE
WEATHER BUREAU.
IN COOPERATION WITH THE VIRGINIA STATE BOARD OF AGRICULTURE.

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

VIRGINIA SECTION,
 E. A. EVANS, Section Director,
 RICHMOND, VA.

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THOMAS JEFFERSON AS A METEOROLOGIST.

Concluded from last month.

In the following paragraph Jefferson alludes to the contemporary observations made at Monticello and Williamsburg, Va., some account of which has been given by Mr. McAdie:

It seems that Jefferson's cousin, Prof. James Madison, of William and Mary College, Williamsburg, Va., (afterwards Bishop Madison), had begun a systematic record of the barometer, thermometer, wind and rain, and Jefferson, in 1772, began a similar record at Monticello. The comparison of these records seems to have suggested the system of observation explained in the following extract from the letter dated January 1797, addressed to Mr. Volney, and published at page 341 of Vol. III of T. J. Randolph's Memoir, Correspondence, etc.:

I am sorry that you have received so little information on the subject of our winds. I had once (before our revolutionary war) a project on the same subject. As I had then an extensive acquaintance over this state I meant to have engaged some person in every county of it, giving them each a thermometer, to observe that and the winds twice a day for one year, to wit, at sunrise and at 4 p.m., (the coldest and the warmest point of the twenty four hours) and to communicate their observations to me at the end of the year. I should then have selected the days in which it appeared that the winds blew to a center within the state, and have made a map of them, and seen how far they had analogy with the temperature of the air. I meant this to be merely a specimen to be communicated to the Philosophical Society at Philadelphia, in order to engage them, by means of their correspondents to have the same thing done in every state, and through a series of years. By seizing the days when the winds centered in any part of the United States we might, in time, have come at some of the causes which determine the direction of the winds, which I suspect to be very various. But this long-winded project was prevented by the war which came upon us, and since that I have been far otherwise engaged.

During the past few years there have been several references in the WEATHER REVIEW to the subject of "frostless zones." It is a matter of course that observant farmers in dry climates, such as that of the United States, must always have been familiar with the phenomenon that the meteorologist calls the "inversion of temperature," occurring on still clear nights,

but it is interesting to find that Jefferson is the first American author who refers to the subject as in the following extract taken from his notes on the State of Virginia (see the Philadelphia edition of 1825, page 112):

The access of frost in the autumn and its recess in the spring do not seem to depend merely on the degree of cold, much less on the air being at the freezing point. White frosts are frequent when the thermometer is at 47°; have killed young plants of Indian corn at 48°, and has been known at 54°. Black frost, and even ice have been produced at 38 1-2°, which is 6 1-2° above the freezing point. That other circumstances must be combined with the cold to produce frost, is evident from this also; on the higher parts of mountains, where it is absolutely colder than in the plains on which they stand, frosts do not appear so early by a considerable space of time in autumn and go off sooner in the spring than in the plains. I have known frosts so severe as to kill the hickory trees round about Monticello, and yet not injure the tender fruit blossoms then in bloom on the top and higher parts of the mountain, and in the course of forty years, during which it has been settled, there have been but two instances of a general loss of fruit on it, while in the circumjacent country the fruit has escaped but twice in the last seven years. The plants of tobacco, which grow from the roots of those which have been cut off in the summer, are frequently green here at Christmas. This privilege against the frost is undoubtedly combined with the want of dew on the mountains. That the dew is very rare on their higher parts, I may say with certainty from twelve years observations, having scarcely ever, during that time, seen an unequivocal proof of its existence on them at all during summer. Severe frosts in the depth of winter prove that the region of dews extend higher in that season than the tops of mountains, but certainly, in the summer season, the vapors, by the time they attain that height are become so attenuated as not to subside, and form a dew when the sun retires.

One more extract from the notes on the State of Virginia showing Jefferson's close observation of the optical phenomenon known as "looming," which is frequent at sea but rare on land; but as Jefferson says:

At Monticello it is familiar. There is a solitary mountain about 40 miles off in the south, whose natural shape, as presented to view there, is a regular cone, but by the effect of looming it sometimes subsides almost totally in the horizon, sometimes it rises more acute and more elevated, sometimes it is hemispherical, and sometimes its sides are perpendicular, its top flat and as broad as its base. In short, it assumes at times the most whimsical shapes; and all these perhaps successively in the same morning. The Blue Ridge of mountains comes into view in the northeast at about 100 miles distance, and approaching in a direct line passes by within 20 miles and goes off to the southwest. This phenomenon begins to show itself on these mountains at about 50 miles distance and continues beyond that as far as they are seen. I remark no particular state, either in the weight, moisture, or heat of the atmosphere, necessary to produce this. The only constant circumstances are its appearance in the morning only, and on objects at least 40 or 50 miles distant. In this latter circumstance, if not in both, it differs from the looming on the water. Refraction will not account for the metamorphosis. That only changes the proportions of the length and breadth, base and altitude, preserving the general outlines. Thus it may make a circle appear elliptical, raise or depress a cone, but by none of its laws, as yet developed, will it make a circle appear a square, or a cone a sphere.

ATMOSPHERIC PRESSURE

The mean monthly air pressure as deduced from the U. S. Weather Bureau Stations at Lynchburg, Norfolk and Washington D. C., was 30.21 inches; highest 30.75 inches, at Washington D. C., on the 31st; lowest 29.72 inches, at Washington D. C., on the 22d; range 1.03 inches.

TEMPERATURE. (DEG. F.)

TIDEWATER VIRGINIA.—Highest monthly mean, 38.3, at Norfolk; lowest monthly mean, 32.4, at Doswell; maximum temperature, 70, at Petersburg and Ashland, on the 4th; minimum temperature, 2, at Ashland, on the 30th; greatest daily range, 36, at Doswell.

MIDDLE VIRGINIA.—Highest monthly mean, 36.8, at Bon Air; lowest monthly mean, 30.0, at Buckingham and Quantico; maximum temperature, 69, at Bon Air and Nottoway C. H., on the 4th; minimum temperature, -5, at Guinea, on the 28th, Buckingham on the 29th, and Maidens and Nottoway C. H., on the 30th; greatest daily range, 43, at Nottoway C. H.

THE GREAT VALLEY.—Highest monthly mean, 36.0, at Salem; lowest monthly mean, 26.0, at Burke's Garden; maximum temperature, 67, at Big Stone Gap, on the 3d; minimum temperature, -15, at Bristol, on the 28th, and Big Stone Gap, on the 30th; greatest daily range, 47, at Wytheville.

FOR THE STATE.—Average of the monthly mean temperatures, 32.7; average of the maximum temperatures, 63; average of the minimum temperatures, 3; average of the greatest daily range, 31.

The month of January was colder than usual in this section. The mean temperatures 32.7 degrees, was 4.2 degrees below the normal for the month. The warmest period occurred during the first and second decades, and, as a rule, the weather was pleasant during this time, but in the last decade it was more or less stormy with much cold and considerable snow. The range of temperature, though large, was within the record. The 4th was the warmest day, maximums ranging from 60 to 70 degrees were recorded, and the 28-30th the coldest days with temperatures from 2 above zero in Tidewater counties to 15 below zero in the Great Valley. During this cold spell considerable ice made, and large quantities were harvested.

The damage to fall grain was not as great as in December, the ground being well covered with snow during the prevalence of the cold.

PRECIPITATION

TIDEWATER VIRGINIA.—Greatest monthly precipitation, 3.15 inches, at Doswell; least monthly, 0.92 of an inch, at Cape Henry; greatest amount in any twenty-four consecutive hours 2.00 inches, at Doswell, on the 27th—28th.

MIDDLE VIRGINIA.—Greatest monthly precipitation, 5.00 inches, at Manassas; least monthly, 0.90 of an inch, at Buckingham; greatest amount in any twenty-four consecutive hours, 3.52 inches, at Manassas, on the 27th.

THE GREAT VALLEY.—Greatest monthly precipitation, 3.11 inches, at Big Stone Gap; least monthly, 0.90 of an inch, at Stanlyton; greatest amount in any twenty-four consecutive hours, 0.84 of an inch, at Blacksburg, on the 21st.

FOR THE STATE.—Average total precipitation, 1.94 inches.

The average total precipitation for the state, 1.94 inches, was 2.44 inches below the normal. By sections, the deficiency was greatest over Middle Virginia, excepting the counties bordering on the Potomac River. The amount was, however, fairly well distributed.

Snow was general over the state during the latter part of the month and occurred on several dates in the western and northern portions during the first fifteen days.

Crops received much benefit from the protection afforded thereby.

Fogs were general over the river valleys of the Tidewater section between the 1st and the 5th of the month.

The average number of days on which 0.01 of an inch or more of rain or snow fell, was 7 in Tidewater Virginia; 6 in Middle Virginia, and 6 in the Great Valley. Average for the State, 6.

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

WEATHER.—Tidewater Virginia, average number of clear days 14; partly cloudy, 6; cloudy, 11. Middle Virginia, average number of clear days, 16; partly cloudy, 7; cloudy, 8. The Great Valley, average number of clear days, 14; partly cloudy, 8; cloudy, 9. For the State, average number of clear days, 15; partly cloudy, 7; cloudy, 9.

NOTES AND COMMENTS

All voluntary observers are requested to examine the published reports each month, particularly the table of "Climatological Data," and see if the data for their station agrees with their retained report, if any discrepancies are discovered, the retained form should be re-checked. This is quite important, and is, therefore, commended to the attention of the observers.

With the approach of spring it is desirable that the dates of frosts, with damage resulting therefrom, if any, be recorded. The date of the last killing and light frost of the spring, in each locality, is especially desired.

The following interesting bit of information is extracted from a letter received at the central office from our esteemed observer at Birds Nest, Mr. C. R. Moore, in reply to one from this office inquiring as to the elevation of his station.

"***There is a gravel ridge starting in Maryland and running south to Cape Charles. It is a moraine and was left by the ice (glacial) when it melted from over this land. All the creeks in the Chesapeake Bay shore have their mouths to the southward showing that they and the Chesapeake Bay were gouged out by the ice in its course to the ocean."

Mr. Moore has evidently given more than a casual thought to this matter.

Reports from Cape Charles, Bedford City, and Rural Retreat, not received.

part of glacial drift
brought to bed near sea

Climatological Data for January, 1897.

Stations.	Counties.	Elevation, feet.	Length of record, years.	TEMPERATURE, IN DEGREES FAHRENHEIT.				PRECIPITATION, IN INCHES.				SKY.	Prevailing direction of wind.	Observers.							
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total rainfall (unadjusted).	Number of rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.			
TIDEWATER VIRGINIA.																					
Ashland	Hanover	220	5	34.8	+0.8	70	4	2	30	35	1.52	-1.03	0.96	5.0	7	8	13	10	w.	E. L. C. Scott.	
Birdsnest (t.)	Northampton	40	23	36.8	-2.5	60	4	10	16	29	1.80	-2.61	0.55	4.4	6	11	8	12	nw.	C. R. Moore.	
Cape Henry	Princess Anne	17	22	37.8	- . . .	60	21	11	29	22	0.92	- . . .	0.36	1.4	8	13	8	10	nw.	U. S. Weather Bureau.	
Doswell	Hanover	134	0	32.4	- . . .	68	4	3	29	36	3.15	- . . .	2.00	3.8	3	11	4	16	n.	C. W. Butterworth.	
Hampton	Elizabeth City	3	9	38.1	-2.7	63	4	14	26	29	23	1.87	-1.03	0.67	3.0	10	14	6	11	ne.	C. L. Goodrich.
Norfolk	Norfolk	3	25	38.3	- . . .	68	4	11	29	23	1.47	- . . .	0.49	- . . .	10	14	5	12	n.	U. S. Weather Bureau.	
Petersburg	Dinwiddie	11	9	35.8	-6.0	70	4	4	30	35	1.96	-0.78	1.03	6.2	2	9	12	12	ne.	Prof. Jas. M. Colson.	
Richmond (near)	Henrico	96	21	33.4	-4.1	65	4	4	30	27	- . . .	- . . .	5	18	0	13	sw.	Capt. J. C. Shafer.			
Spotsylvania	Surry	7	34.9	-4.1	68	4	9	29	29	2.06	-1.12	0.97	5.0	5	19	3	9	nw.	B. W. Jones.		
Sunbeam	Southampton	2	34.4	-3.7	62	11	12	29	29	2.22	-0.84	0.96	3.7	6	18	3	10	w.	Dr. W. H. Daughtry.		
Warsaw	Richmond	200	3	33.7	+0.1	67	5	3	29	26	1.99	-0.73	0.98	5.0	4	13	9	9	n.	C. H. Constable.	
Williamsburg	James City	160	9	- . . .	54	4	18	10	26	29	+0.40	- . . .	4.0	- . . .	20	8	3	nw.	L. S. Williams.		
MIDDLE VIRGINIA.																					
Alexandria	Alexandria	35	37	30.4	-3.0	66	4	7	25	30	1.83	-1.74	1.14	5.7	6	10	13	8	nw.	H. C. Shaymaker.	
Barboursville	Orange	0	39.4	- . . .	64	4	1	30	30	1.76	- . . .	1.06	7.3	9	16	17	8	sw.	Dr. Thos. H. Ellis.		
Bedford City	Bedford	900	6	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	J. T. Davidson.		
Bon Air	Chesterfield	130	2	36.8	+0.7	69	4	5	26	30	3.90	-2.09	1.10	4.7	5	16	2	13	sw.	Win. H. Pleasants.	
Buckingham	Buckingham	3	30	-3.0	65	4	-5	29	41	0.90	-2.31	0.45	2	2	4	8	8	w.	Dr. W. E. Pratt.		
Callaville	Brunswick	2	34.8	-2.8	67	4	4	30	28	1.95	-1.27	0.85	3.0	7	18	6	7	nw.	F. M. Gage.		
Charlottesville	Albemarle	9	33.4	-1.0	64	4	5	31	30	2.02	-0.69	0.90	6.0	7	14	7	10	se.	Prof. A. H. Tuttle.		
Fredericksburg	Spotsylvania	47	1	31.8	-5.6	68	4	-4	29	37	1.70	+0.34	0.84	6.0	9	17	10	4	w.	E. C. Rowe.	
Gordonsville	Orange	0	32.4	- . . .	65	4	0	30	30	+0.72	- . . .	0.60	7.2	3	22	0	9	n.	H. S. Smithers.		
Guinea	Caroline	0	30.4	- . . .	68	5	-5	28	39	3.60	- . . .	3.00	6.5	4	19	3	9	n.	M. A. Nunn.		
Lynchburg	Campbell	525	17	33.6	- . . .	63	3	4	28	32	2.19	-1.05	1.05	- . . .	12	10	9	nw.	U. S. Weather Bureau.		
Maidens	Goochland	185	1	32.0	-1.0	68	4	-5	30	36	1.65	-0.92	4.2	5	14	7	10	w.	J. R. Hopkins.		
Prince William	Prince William	317	2	30.8	-2.6	66	4	-4	26	29	3.00	+3.41	3.52	5.5	6	17	7	7	se.	Thos. H. Lion.	
Nottoway C. H.	Nottoway	7	34.7	+0.4	69	4	-5	30	43	1.90	-1.45	1.14	5.7	12	- . . .	- . . .	- . . .	- . . .	Goo Dunn.		
Quantico	Prince William	33	0	30.6	- . . .	62	4	-4	29	39	+0.62	- . . .	+0.52	6.2	4	16	5	10	nw.	E. V. King.	
Rocky Mount	Franklin	2	35.6	-1.0	62	3	4	28	31	2.21	-1.65	0.62	6.5	3	13	12	6	6	se.	J. H. Binford.	
Smithville	Charlotte	560	2	34.6	-0.4	65	4	6	28	29	1.87	-1.75	0.92	7.5	4	20	2	9	se.	W. G. Williams.	
Stanardsville	Greene	6	30.2	-1.6	63	4	5	28	29	2.00	-1.32	0.75	7.5	4	- . . .	- . . .	- . . .	- . . .	W. N. Parrott.		
THE GREAT VALLEY.																					
Big Stone Gap	Wise	1966	6	31.0	+0.2	67	3	-15	29	45	3.11	-0.35	0.78	5.1	7	11	6	14	n.	John W. Fox, Sr.	
Blacksburg	Montgomery	2170	7	29.2	-0.9	63	1	-3	28	36	1.65	-1.17	0.84	6.8	2	18	9	13	w.	Prof. W. B. Alwood.	
Bristol	Sullivan, Tenn	1676	2	30.9	-1.3	62	1	-15	28	38	2.37	-1.09	0.70	9.2	9	20	1	10	se.	J. Bunting, Jr.	
Burke's Garden	Fazewell	0	26.0	- . . .	52	3	-9	30	44	1.16	- . . .	0.40	7.0	3	14	1	16	w.	Rev. E. H. Kohn.		
Christiansburg	Montgomery	2160	9	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	- . . .	H. D. Walters.		
Clifton Forge	Allegheny	1047	2	26.7	- . . .	53	4	5	28	29	+2.35	-1.00	7.5	5	15	6	10	nw.	T. P. Halloran.		
Dale Enterprise	Rockingham	1350	10	28.8	-3.4	60	2	-2	29	38	1.56	-1.29	0.71	7.0	5	14	11	5	s.	L. J. Heatwole.	
Goshen (t.)	Rockbridge	1590	1	33.0	- . . .	59	3	4	28	30	+0.90	-0.50	9.0	+2	15	2	14	w.	J. B. Wood.		
Graham's Forge	Wythe	3	30.8	- . . .	58	4	-4	30	37	1.80	-4.88	0.72	6.7	5	8	14	8	n.	David Graham.		
Hot Springs	Bath	2105	4	27.8	-13.9	51	4	-3	27	36	2.15	-0.71	0.72	4.5	6	12	11	8	w.	W. B. Davis.	
Lexington	Rockbridge	946	23	31.8	-2.3	60	3	-1	30	35	1.76	-1.70	0.74	6.7	7	16	7	8	w.	Prof. H. C. Campbell.	
Marion	Smyth	2124	8	30.2	-1.4	57	4	-4	29	30	2.40	-2.28	0.80	6.0	6	13	2	14	se.	A. T. Lincoln.	
Monterey	Highland	3008	2	26.6	-2.0	50	2	3	30	28	1.33	-1.33	0.35	7.0	5	13	11	7	nw.	Jos. Jones.	
Salem	Roanoke	1200	6	36.0	-0.8	62	10	-5	32	34	1.69	-1.36	0.73	5.9	7	- . . .	- . . .	- . . .	Prof. S. C. Wells.		
Saltville	Smyth	1739	2	32.4	-0.2	61	3	5	30	51	1.67	+0.92	0.50	6.0	7	- . . .	- . . .	- . . .	C. M. Perry.		
Stanleyton	Page	1064	0	30.7	- . . .	64	4	2	31	27	0.90	- . . .	0.39	4.0	4	17	5	9	nw.	A. K. Grim.	
Staunton	Augusta	1380	6	31.9	+0.1	60	3	4	30	34	0.02	-1.76	0.28	6.5	6	15	9	7	w.	W. C. Hedrick.	
Stephens City	Frederick	4	28.5	-1.7	66	4	4	28	27	+0.68	-1.85	0.74	7.0	4	19	7	5	w.	W. B. Steele.		
Sword's Creek	Russell	0	33.1	- . . .	60	17	5	-2	25	30	31	+0.31	0.68	6.5	6	14	8	8	se.	J. H. Steele.	
Woodstock	Shenandoah	927	0	30.9	-0.3	63	3	4	28	35	1.46	+0.31	0.68	6.0	6	19	3	9	w.	H. F. Miley.	
Wytheville	Wythe	2370	25	30.4	0	59	3	-	47	1.43	-1.79	0.72	7.8	6	19	3	9	w.	Dr. P. B. Green.		

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

Note—Estimated and incomplete data not considered in means.

MISCELLANEOUS PHENOMENA.

—o—

Fogs: Birdsnest, 2, 4, 15, 16; Spottslye, 1, 2, 15, 16; Bon Air, 16; Buckingham, 15, 16, 17; Hot Springs, 14, 15; Staunton, 15, 16; Stephen's City, 16; Woodstock, 16.

Gales: Alexandria, 23; Buckingham, 11; Graham's Forge, 11, 12.

Hail: Birdsnest, 27, 28; Petersburg, 13; Spottslye, 27; Sunbeam, 27, 28; Buckingham, 20; Callaville, 27; Fredericks-

burg, 1, 2, 17; Quantico, 17; Stanardsville, 17; Clifton Forge, 17.

Halos, Lunar: Petersburg, 8; Spottslye, 7, 9; Wytheville, 9.

Halos, Solar: Spottslye, 7, 25.

Lightning: Petersburg, 2.

Sleet: Sunbeam, 27; Alexandria, 14; Barboursville, 13, 14, 17, 20; Fredericksburg, 15; Stanardsville, 17; Dale Enterprise, 13, 20; Hot Springs, 17, 20; Lexington, 17, 20; Staunton, 13, 17, 20; Stephens City, 17; Sword's Creek, 13, 14; Woodstock, 14, 17, 20; Wytheville, 20.

CLIMATE AND CROPS: VIRGINIA SECTION.

JANUARY, 1897.

Daily Maximum and Minimum temperatures for January, 1897.

Stations.	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	Monthly Mean.																				
	Max.	Min.																																																		
TIDEWATER VA.																																																				
Ashland	60	29	58	29	63	43	70	53	61	40	37	25	44	14	40	18	54	19	59	33	55	28	44	26	28	10	34	27	36	30	38	31	53	35	42	19	29	22	46													
Cape Henry	47	32	44	49	55	41	60	52	43	36	31	38	32	41	37	30	33	36	31	38	22	29	23	30	21	30	21	30	18	28	11	29	21	34	27	45	9	31	6	24												
Doswell	59	23	53	23	53	32	68	54	52	42	33	28	32	11	38	18	47	12	52	32	52	22	49	23	30	22	33	28	35	30	42	45	50	35	50	41	51	23	36	24	46											
Hampton	56	35	47	49	60	42	63	54	53	47	38	32	39	25	40	28	47	26	59	38	53	40	31	32	24	38	35	37	35	42	35	45	45	55	50	52	41	51	31	39	24	49										
Norfolk	51	37	46	49	63	44	68	54	58	40	39	39	27	41	29	47	30	59	36	59	38	39	30	35	29	35	32	41	34	52	35	55	41	52	44	52	34	46	34	51	31	39										
Petersburg	56	26	46	35	65	34	70	40	44	25	34	16	41	20	50	20	60	35	59	34	19	25	35	23	34	26	35	30	35	28	35	30	36	35	35	35	35	35	35	35	35	35										
Richmond	45	28	50	39	67	42	65	44	55	40	33	29	35	15	37	20	47	22	56	34	30	32	29	28	25	35	28	36	34	38	32	31	37	34	33	32	31	30	31	32	31	30										
Spotsylvania	50	26	47	32	68	44	68	53	53	32	26	22	37	16	39	20	45	18	55	28	55	26	40	22	31	18	36	30	36	34	38	32	31	35	34	33	32	31	30	31	32	31										
Sunbeam	46	32	45	35	61	45	61	53	49	46	33	32	34	18	36	24	46	34	62	33	35	20	32	23	35	32	37	31	40	34	43	36	43	36	42	37	36	35	34	33	32											
Warsaw	47	31	48	31	59	41	65	49	67	52	58	41	54	14	38	21	44	17	53	32	51	26	49	18	37	28	35	39	39	31	43	38	34	35	35	35	35	35	35	35	35	35										
Williamsburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
MIDDLE VA.																																																				
Alexandria	45	30	51	39	58	40	66	41	48	25	33	22	34	18	38	19	44	19	54	24	48	24	35	17	29	20	33	25	40	30	47	33	45	29	49	36	56	32	55	35	55	35	35									
Burbournsville	47	28	51	34	56	33	64	39	58	42	36	23	33	14	37	13	45	16	55	19	48	29	36	26	26	22	33	26	36	25	44	19	49	31	43	21	51	59	32	21	5											
Bedford City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bon A'ir	66	31	65	31	64	42	66	54	57	49	42	31	43	14	42	20	54	20	62	35	57	34	48	27	30	17	32	23	35	23	35	25	44	19	54	31	43	21	51	59	32	21	5									
Buckingham	50	21	52	39	63	40	65	37	50	26	52	11	30	11	30	12	47	15	56	25	52	24	49	17	29	23	32	20	32	24	40	19	49	32	42	21	51	59	32	21	5											
Callaville	51	31	52	39	63	40	67	53	59	45	35	30	38	13	38	23	49	18	57	37	50	31	44	24	29	21	35	29	35	28	40	26	43	13	43	31	41	21	51	59	32	21	5									
Charlottesville	59	28	53	39	65	35	64	52	54	39	39	23	37	15	40	15	49	19	56	30	51	33	41	24	34	26	30	26	30	24	34	20	34	19	49	32	42	21	51	59	32	21	5									
Fredericksburg	47	26	59	29	60	40	68	50	51	45	35	23	37	13	38	16	49	17	58	28	51	21	49	16	28	18	34	26	30	24	34	19	49	32	42	21	51	59	32	21	5											
Gordonsville	49	33	52	49	55	45	65	59	59	49	33	23	32	20	34	23	43	21	49	29	37	22	52	25	32	20	34	29	37	24	48	19	49	32	42	21	51	59	32	21	5											
Guinea	59	22	52	26	59	29	67	49	68	35	40	15	39	5	35	15	55	19	59	11	55	22	55	19	59	25	32	20	34	29	37	24	48	19	49	32	42	21	51	59	32	21	5									
Lynchburg	59	28	55	34	63	40	63	51	55	33	32	24	38	19	44	18	51	19	58	33	50	28	57	26	27	25	33	29	37	31	43	14	43	32	42	21	51	59	32	21	5											
Madisons	52	20	42	25	61	41	68	53	59	35	29	25	35	10	40	12	48	12	57	32	51	24	48	28	35	33	33	35	33	35	35	35	35	35	35	35	35	35	35	35	35	35	35									
Manassas	44	28	49	29	60	36	66	50	54	39	34	21	34	13	36	16	47	16	55	24	48	24	36	20	36	22	36	23	36	21	36	17	47	32	42	21	51	59	32	21	5											
Nottoway, C. H.	56	29	49	33	65	40	60	53	63	38	42	28	40	13	42	20	49	16	56	36	40	23	35	20	35	23	35	28	35	32	42	17	47	32	42	21	51	59	32	21	5											
Quantico	57	24	59	24	66	52	60	39	49	39	33	24	34	10	37	12	44	14	54	16	57	18	47	22	37	13	42	26	35	20	34	16	47	32	42	21	51	59	32	21	5											
Rocky Mount	55	34	52	49	62	40	60	58	58	34	30	24	34	15	45	20	52	27	57	40	55	41	45	30	37	24	35	24	35	27	45	20	34	16	47	32	42	21	51	59	32	21	5									
Smithville	59	44	47	33	63	41	65	53	57	37	30	26	35	15	40	20	40	27	53	37	54	30	45	26	35	21	35	25	45	36	45	36	45	36	45	36	45	36	45	36	45											
Stanardsville	49	39	52	34	63	33	63	47	49	37	32	17	34	12	40	16	47	18	45	26	33	22	35	22	35	17	32	24	48	27	42	19	44	21	31	10	31	7	24	14	6	3	36	11	36	11	36	11				
GREAT VALLEY.																																																				
Big Stone Gap	64	28	65	38	67	47	52	32	20	31	11	38	9	39	22	47	25	52	17	46	31	54	20	54	43	40	20	44	15	49	27	48	24	40	20	51	16	27	7	22	-15	39	6	42	3	10	6					
Blincksburg	63	27	54	34	66	39	59	23	43	24	26																																									

TOTAL PRECIPITATION FOR JANUARY, 1897.

Scale of Shades.



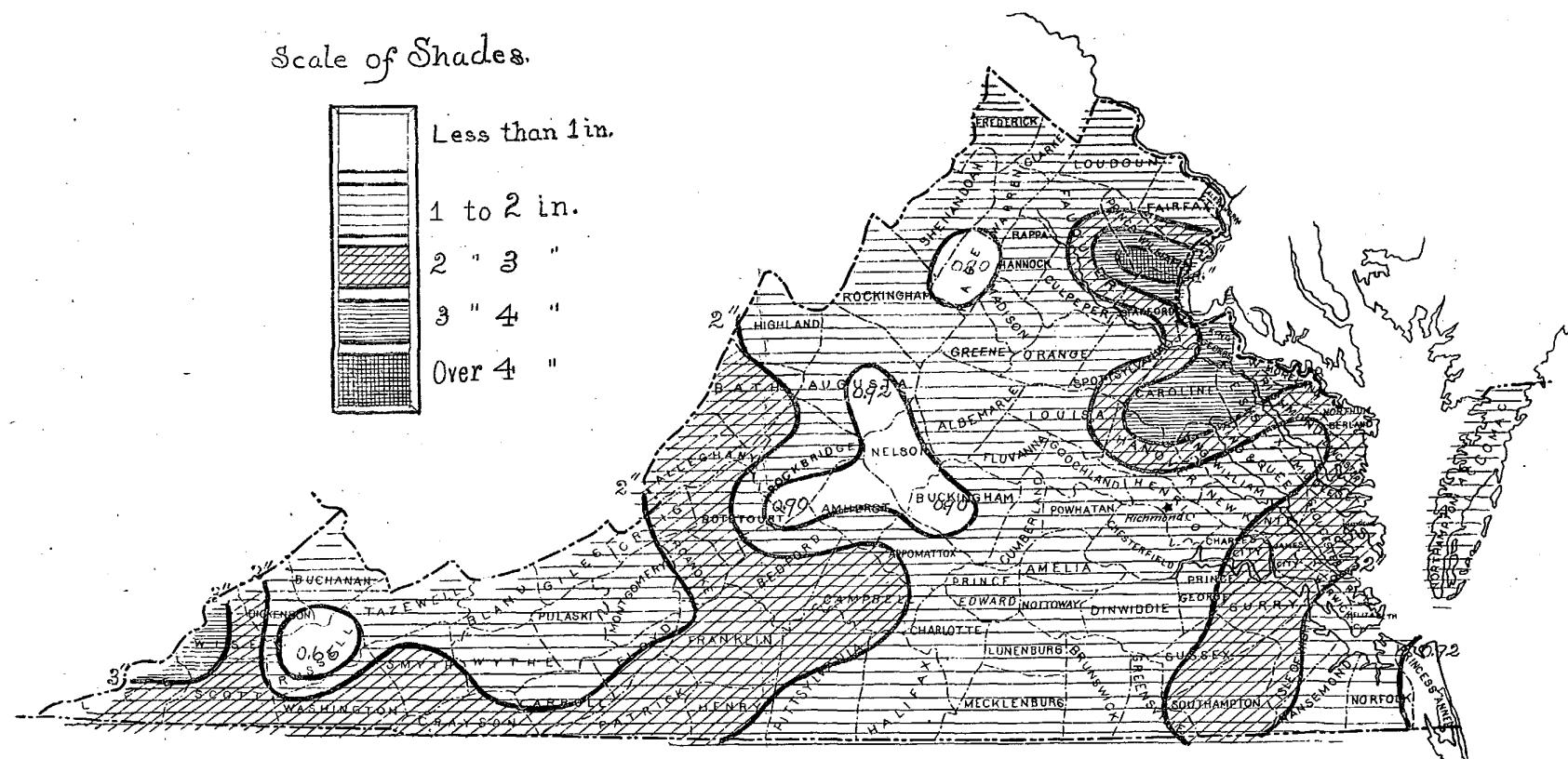
Less than 1 in.

1 to 2 in.

2 " 3 "

3 " 4 "

Over 4 "



Daily Precipitation for January, 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																																		1.52
Birdsnest																																	1.80	
Cape Henry																																	0.92	
Doswell																																	3.15	
Hampton																																	1.87	
Norfolk																																	1.47	
Petersburg																																	1.96	
Spottsville																																	2.06	
Sunbeam																																	2.22	
Warsaw																																	1.99	
MIDDLE VIRGINIA.																																		
Alexandria																																	1.83	
Barbourville																																	1.76	
Bedford City																																		
Bon Air																																	1.90	
Buckingham																																	0.90	
Culleville																																	1.95	
Charlottesville																																	2.02	
Fredericksburg																																	1.70	
Gordonsville																																	0.72	
Guinea																																	3.60	
Lynchburg																																	2.19	
Maidens																																	1.65	
Manassas																																	5.00	
Nottoway C. H.																																	1.90	
Quantico																																	0.62	
Rocky Mount																																	2.21	
Smithville																																	1.87	
Stanardsville																																	1.88	
THE GREAT VALLEY.																																		
Big Stone Gap																																	3.11	
Blacksburg																																	1.65	
Bristol																																	2.37	
Burke's Garden																																	1.16	
Christiansburg																																	1.59	
Clifton Forge †																																	2.35	
Dale Enterprise																																	1.56	
Goshen †																																	0.90	
Graham's Forge																																	1.80	
Hot Springs																																	2.15	
Lexington																																	1.76	
Marion																																	2.40	
Monterey																																	1.33	
Salem																																	1.69	
Saltville																																	1.67	
Stanleyton																																	0.90	
Stanton																																	0.92	
Stephens City																																	1.85	
Sword's Creek																																	0.66	
Woodstock																																	1.46	
Wytheville																																	1.43	

* Rainfall estimated. tr. Trace, or less than .01 of an inch.

OBSERVERS' NOTES.

Ashland.—High winds all night of the 22d. On the 27th, snow fell all day and until early morning of the 28th.

Birdsnest.—Average temperature for January, 23 years 40.1; highest 50.0, in 1890; lowest 33.7, in 1881. Average rainfall for January, 23 years 3.78 inches. Greatest, 6.75 inches in 1882; least 1.00 inch in 1876.

Sunbeam.—Considerable snow in places here and there on 31st.

Spottsville.—Period of small daily range 13th to 16th. Cold snap 25th to 29th. Hail on 27th changing to snow in the evening. Month mostly pleasant.

Barboursville.—Saw many dandelions in bloom on 3d and 4th. Heavy fog late in afternoon of 16th. On the 17th and 18th wind very severe from 10 p.m. to 11 p.m.

Fredericksburg.—High wind on night of 17th. Ice 3-inches thick. River frozen and navigation closed on 27th.

Bristol.—Sudden fall of temperature on the 24th. Heavy snow night of 26th.

Clifton Forge.—High west wind with light snowfall on 11th, remained on ground about 2 hours after sunrise; was followed by drizzling rain, and continued at intervals about 12 hours. Heavy frost noticed at 3 a.m. of the 16th.

Staunton.—Wheat has not suffered so much from freezing as might be expected, owing to the dry condition of the ground. Most of the plowing has been finished for spring crops.

Dale Enterprise.—Ice harvesters very busy, and skaters all agree from 25th to the close of month. Some sleighing on the 27th and 28th.

Lexington.—Ice 3.5 thick was cut from North river on 30th.