

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.  
VIRGINIA SECTION.

EDWARD A. EVANS, Section Director.

VOL. XXV. RICHMOND, VA., APRIL, 1915. No. 4.

GENERAL SUMMARY.

High April records were approximated or exceeded this month as follows: Mean and maximum temperature, total and daily snowfall, maximum wind velocity, and percentage of sunshine, while a new low record was established in the average precipitation.

PRESSURE.

In general the pressure was high for the season, as it was in February, having risen well above normal from the unusual deficiency in March. Most of the storms of the month passed east or well to the north of the State, while a strong tendency was shown by the areas of high pressure in moving eastward from the region of the Great Lakes to turn southward on nearing the Atlantic coast. The average sea-level pressures reported by the fully equipped stations were as follows: Cape Henry, 30.04 inches; Lynchburg, 30.05; Norfolk, 30.08; Richmond, 30.07; Wytheville, 30.09; and Washington, D. C., 30.05. All stations reported the 22d as the day of highest pressure, while the lowest readings were made on the 29th or 30th, except in the extreme southeast where somewhat lower readings were made on the 3d.

TEMPERATURE.

Unseasonably high temperatures, as in February, returned to all sections of the State in April, after an intervening month that was uniformly cold. The reestablishment of normal conditions, however, lacked uniformity, the gain being very decided in the northern counties and moderate in the southern half of the State. Protracted periods of unusual temperatures occurred prior to the 5th, when the cool wave of the last 5 or 6 days of March came to a close, in a 3 to 6 day period of low temperature about the middle of the month, in the warm wave of the 6th to 11th, and especially that of the 23d to 30th, which culminated in a temperature as high as ever before known in April in this locality. The central Piedmont section was the warmest in the State and the southwestern mountains the coldest.

HUMIDITY.

The relative humidity, as indicated by the averages of the 8 a. m. and 8 p. m. readings, made at the fully equipped stations was as follows: Lynchburg, 8 a. m., 68, 8 p. m., 60; Norfolk, 8 a. m., 73, 8 p. m., 58; Richmond, 8 a. m., 70, 8 p. m., 54; Wytheville, 8 a. m., 74, 8 p. m., 59; Washington, D. C., 8 a. m., 66, 8 p. m., 46.

PRECIPITATION.

All stations in the State reported a deficiency in precipitation in April as they did in March, and the small amount for these two months is less than ever before received at this time of the year. In the Norfolk section, where a deficiency has been accumulating since January, the totals for the month were less than 1.00 inch; and the northwestern portion of the State reported an even smaller catch both for this and the next preceding month. At only one station, Burkes Garden, did the amount reach 2.50 inches.

SNOWFALL.

The average snowfall, notwithstanding that but little occurred over nearly half of the State, was nearly twice as great as ever before known in April. The entire fall occurred during the storm of the 2-3d, which is quite fully discussed below.

WIND.

The westerly drift was deflected somewhat to the northward in crossing the middle mountain section and to the southward in crossing the northern Blue Ridge, while in the southern Blue Ridge the turn was first to the southward, but on traversing Middle Virginia the deflecting force resulted in steady southwest winds which maintained their course to the coast.

SUNSHINE AND CLOUDINESS.

April was the third consecutive month with more than the normal sunshine. The percentages of the possible amounts, which, excepting that of Washington, D. C., are larger than those of either February or March, are as follows: Lynchburg, 76; Norfolk, 79; Richmond, 82; Wytheville, 68, and Washington, D. C., 74.

MISCELLANEOUS PHENOMENA.

*Frosts.*—Temperatures of freezing or below were experienced at all stations of the State, but owing to the backward condition of vegetation no damage of consequence occurred. Killing frosts formed in the mountains, on the eastern slope of the Blue Ridge, locally in the middle James River Valley, and in Tidewater as late as the 15th, but generally east of the Blue Ridge there was none later than the 5th, and the 2d marks the date of the last to form over most of Tidewater. Plant growth became vigorous in the latter part of the second decade.

*Hail.*—Hail fell in southern Middle Virginia on the 11th and in the northern part of that section on the 28th.

*Halos, solar.*—Observed locally in the eastern part of the State on the 2d, 5th, 6th, 9th, 11th, 12th, 19th, and 23d.

*Halos, lunar.*—Richmond, on the 27th.

*Thunderstorms.*—Occurred along the entire southern border of the State on the 7th, in southwest Virginia and locally in the northern portion of the middle section on the 9th, generally over the State on the 11th, in the eastern counties on the 20th, and in the mountains and in northern Middle Virginia on the 27th, 28th, and 29th.

THE STORM OF APRIL 2-3, 1915.

By J. H. KIMBALL.

In its control of the weather of the State the barometric depression of April 2-3 inaugurated a sequence of meteorological changes that were both unusual in their progressive development and unique in the proportions attained.

The storm center as it moved up the coast caused in lower Tidewater gales that persisted for several hours, and tides that rose as almost never before. In upper Tidewater severe rains and record breaking snows occurred with winds paralyzing telephone and telegraph service, while the entire mountain section escaped with but moderate storm manifestation.

Gaging its advance by the time precipitation began at the several stations, the storm first appeared in the State, not near the coast as might have been expected from the course of the low, but about 200 miles inland, rain setting in at Danville on the 2d, nearly 3 hours before it did at either Cape Henry or Norfolk. The progress into the Piedmont section was halting, and by 8 p. m. the eastern front had not only gained a slight advantage, but was yielding rains in larger amounts. Midnight found the advance more uniform, but in the early morning, with a general change of rain to snow, opposing conditions were again encountered, this time in the

(Continued on page 32.)

## Climatological data for April, 1915.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.						Precipitation, in inches.				Number of days.			Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	With precip. on inbornore.	Clear.	Partly cloudy.	Cloudy.	
<i>Tidewater Virginia.</i>																			
Ashland.....	Hanover.....	221	24	58.8	+ 2.9	95	26†	27	4	37	1.88	-1.98	1.08	7.0	2	13	14	3	ne.
Cape Henry.....	Princess Anne.....	20	41	58.1	+ 3.5	96	27	30	2	33	0.93	-3.00	0.68	T.	4	18	9	3	sw.
Diamond Springs††.....	do.....	25	5	58.1	.....	96	27	31	2	39	.....	1.92	.....	.....	.....	.....	.....	.....	U. S. Weather Bureau.
Doswell (near).....	Hanover.....	134	6	.....	.....	97	27	.....	.....	.....	2.55	.....	1.70	7.0	3	20	8	2	Ira E. Day.
Eastville.....	Northampton.....	15	5	58.0	+ 3.2	94	27	32	3†	34	2.28	-1.33	1.73	6.0	2	15	13	2	T. B. Robertson.
Ivor.....	Southampton.....	87	6	.....	.....	94	25†	.....	.....	.....	2.15	.....	1.65	T.	2	.....	.....	.....	N & W. Ry. Ex. Farm.
Mount Moriah Farm††.....	King George.....	100	2	58.6	+ 1.3	94	27	32	1	32	1.99	-1.97	1.58	2.0	3	16	12	2	J. R. Covert.
Newport News.....	Warwick.....	13	12	58.6	+ 1.3	94	27	32	2	33	0.91	-2.88	0.66	T.	4	19	6	5	C. W. Ashby.
Norfolk.....	Norfolk.....	91	45	60.2	- 4.2	93	27	32	3	33	1.91	.....	.....	.....	.....	.....	.....	.....	U. S. Weather Bureau.
Petersburg.....	Dinwiddie.....	60	28	61.2	+ 4.3	98	26†	30	5	41	1.26	-2.45	0.84	5.0	3	19	7	4	Taylor Smith.
Richmond.....	Henrico.....	144	36	59.9	+ 2.7	96	27	31	1	37	1.68	-1.77	1.30	10.0	5	17	11	2	U. S. Weather Bureau.
Runnymede (near).....	Surry.....	15	27	59.0	+ 4.1	95	26†	27	5	45	2.40	-1.76	1.65	4.0	3	16	9	5	B. W. Jones.
Wachapreague.....	Accomac.....	15	3	56.6	.....	96	26	30	2	38	1.91	.....	1.35	T.	2	.....	.....	.....	Mrs. A. H. G. Mears.
Warsaw (near).....	Richmond.....	160	23	58.9	+ 4.3	97	26	27	5	40	2.03	-1.27	1.40	12.0	4	9	17	4	C. H. Constable.
West Point.....	King William.....	16	3	59.6	.....	96	26†	27	41	2.24	.....	1.74	7.0	5	22	6	2	C. L. Maskey.	
Williamsburg.....	James City.....	70	24	58.3	+ 3.8	95	27	30	1†	42	1.90	-2.27	1.05	2.0	2	24	4	2	Eastern State Hospital.
Means and extremes.....	.....	.....	.....	58.9	+ 3.5	98	26†	27	2†	45	-1.84	-1.82	1.92	5.2	3	17	10	3	sw.
<i>Middle Virginia.</i>																			
Burkeville.....	Nottoway.....	528	2	59.8	.....	95	26†	24	1†	39	0.96	.....	0.62	4.0	3	18	10	2	sw.
Callaville.....	Brunswick.....	250	21	59.0	+ 2.8	95	27	20	1	42	0.99	-3.02	0.95	3.0	2	22	7	1	F. M. Gage.
Catharpin.....	Prince William.....	275	2	57.8	.....	97	26	20	2	44	1.09	.....	0.90	0.5	4	14	14	2	Mrs. H. M. Artz.
Charlottesville (near).....	Albemarle.....	854	16	61.6	+ 5.6	97	26†	28	2	32	0.49	-2.78	0.16	0.8	4	18	10	7	Leander McCormick Obs.
Clarksville.....	Mecklenburg.....	286	21	.....	.....	.....	.....	.....	1.35	-1.78	0.95	7.0	4	.....	.....	.....	.....	J. A. Ligon.	
Columbia.....	Fluvanna.....	246	17	57.3	+ 2.0	95	26	21	1	42	1.32	-2.20	0.80	4.0	4	17	10	3	C. & O. R'y Company.
Culpeper.....	Culpeper.....	450	7	57.8	.....	96	26	25	5	44	0.64	.....	0.37	T.	4	11	16	3	Col. H. C. Burrows.
Danville.....	Pittsylvania.....	413	15	.....	.....	.....	.....	.....	2.33	-0.48	1.06	2.5	4	.....	.....	.....	.....	Mrs. H. M. Watkins.	
Dry Bridge††.....	Chesterfield.....	325	4	.....	.....	.....	.....	.....	1.62	.....	1.00	10.0	3	.....	.....	.....	.....	E. W. Magruder, M. D.	
Fredericksburg (near).....	Spotsylvania.....	100	22	60.0	+ 5.0	96	26†	29	1	41	2.27	-2.27	0.78	7.8	5	17	11	2	S. G. Howison.
Gordonsville.....	Orange.....	499	2	59.9	.....	96	26†	22	8	39	0.55	.....	0.30	2.0	3	22	7	1	.....
Lassiter.....	Goochland.....	100	5	.....	.....	96	26	29	1†	30	1.54	.....	0.63	6.0	6	20	8	2	J. C. Graves.
Leeds Manor††.....	Fauquier.....	550	2	59.4	.....	96	26	29	1†	30	1.20	.....	1.02	T.	5	18	12	5	T. J. Davis.
Lincoln.....	Loudoun.....	500	14	58.8	+ 6.2	100	26	26	5	46	1.03	-2.88	0.62	T.	6	12	13	5	W. G. Yeager.
Lynchburg.....	Campbell.....	685	44	59.8	+ 4.2	93	27	30	2	40	0.87	-2.30	0.58	2.3	4	13	14	4	Geo. Roberts, M. D.
Mount Weather††.....	Loudoun.....	1,726	11	56.5	+ 8.1	91	26	23	2	33	0.44	-2.63	0.29	T.	5	8	15	7	U. S. Weather Bureau.
New Canton.....	Buckingham.....	350	1	56.9	.....	95	27	19	1	45	2.26	.....	1.13	4.0	4	17	9	4	J. E. Fowler.
Quantico.....	Prince William.....	17	18	57.4	+ 3.8	95	27	22	1	51	1.08	-2.28	0.71	2.0	2	27	1	2	Rev. Plummer F. Jones.
Randolph.....	Charlotte.....	334	11	.....	.....	95	27	27	1†	75	0.47	0.95	0.80	3	.....	.....	.....	R. F. & P. Railroad Co.	
Rocky Mount.....	Franklin.....	1,150	21	.....	.....	93	27	27	1†	75	1.01	-2.42	0.50	4.0	3	16	0	14	D. J. Luftsford.
Swetham.....	Fairfax.....	300	3	.....	.....	95	27	32	3	36	1.51	.....	0.60	3.0	6	20	6	4	G. W. B. Hale.
Washington.....	Dist. Columbia.....	112	45	59.4	+ 6.3	95	27	19	1	51	0.90	-2.35	0.44	3.5	7	11	13	6	Potomac Electric P'r Co.
Means and extremes.....	.....	.....	.....	58.8	+ 4.4	100	26	19	1	20	-2.16	1.13	3.8	4	16	10	4	U. S. Weather Bureau.	
<i>The Great Valley.</i>																			
Blacksburg.....	Montgomery.....	2,170	24	53.6	+ 3.4	89	27	21	2	43	1.86	-1.19	0.73	1.0	6	13	13	4	Agricultural Exp. Sta'n.
Buchanan.....	Botetourt.....	920	11	.....	.....	95	27	16	2	43	1.19	-1.34	0.36	1.0	7	.....	.....	D. D. Booze.	
Burkes Garden.....	Tazewell.....	3,250	20	49.3	+ 1.9	81	27	16	2	43	2.65	-1.81	1.18	1.0	5	15	5	10	C. H. Greeler.
Catawba Sanatorium.....	Roanoke.....	2,100	4	57.6	.....	91	26†	24	2	37	1.70	.....	0.80	2.0	4	15	12	3	State Bd' of Health San.
Date Enterprise.....	Rockingham.....	1,350	36	54.8	+ 2.3	92	26†	18	1	44	0.67	-2.29	0.22	T.	6	10	17	3	Rev. L. J. Heatwole.
Elk Knob††.....	Lee.....	3,243	12	58.9	+ 5.0	86	26	22	3	29	2.04	-2.33	1.02	0.0	6	12	6	12	Henry Nicoll.
Emory.....	Washington.....	2,094	3	52.2	.....	80	24†	19	1	42	0.84	.....	0.35	0.0	4	11	8	11	K. R. Knight.
Hot Springs.....	Bath.....	2,195	23	.....	.....	81	26	28	1	40	0.55	.....	0.40	0.0	3	20	4	5	Frank Bannister.
Lexington.....	Rockbridge.....	1,060	38	56.8	+ 8.8	95	27	22	1	52	1.04	-1.97	0.38	2.0	6	21	2	7	Va. Military Institute.
Mendota.....	Washington.....	1,350	6	.....	.....	.....	.....	.....	.....	.....	1.62	.....	0.92	0.0	6	.....	.....	.....	Frank M. Barker.
Narrows.....	Giles.....	1,519	2	.....	.....	.....	.....	.....	.....	.....	1.15	.....	0.40	T.	4	.....	.....	J. F. Heslip.	
Radford.....	Montgomery.....	1,773	6	.....	.....	.....	.....	.....	.....	.....	1.33	-1.92	0.44	2.0	6	21	5	4	Arthur Roberts.
Roanoke.....	Roanoke.....	907	5	59.2	.....	92	26	25	2	42	0.79	.....	0.32	T.	4	15	10	5	Capt. Reese F. Bell.
Speers Ferry.....	Scott.....	1,221	19	.....	.....	.....	.....	.....	.....	.....	1.90	-1.88	1.00	1.0	2	.....	.....	.....	D. F. Flanary.
Staunton.....	Augusta.....	1,880	23	57.5	+ 4.1	94	27	21	1	43	1.53	-1.46	1.05	1.0	4	13	10	7	Ernest Nothnagel.
Waynesboro.....	do.....	1,350	3	56.3	.....	92	27	22	1	41	.....	.....	.....	.....	5	15	3	12	H. M. Magie.
Winchester.....	Frederick.....	717	4	58.1	.....	93	26	28	1	40	0.55	.....	0.40	0.0	3	20	4	5	R. L. Glazier.
Woodstock.....	Shenandoah.....	927	19	58.5	+ 5.4	97	26†	22	2	46	0.30	-2.35	0.11	0.0	4	15	10	5	C. L. Miley.
Wytheville.....	Wythe.....	2,293	22	53.4	+ 1.5	87	27	24	2	38	1.02	-2.64	0.38	0.5	9	18	6	6	U. S. Weather Bureau.
Means and extremes.....	.....	.....	.....	56.2	+ 4.1	97	26†	16	2	52	1.39	-1.86	1.18	0.8	5	16	8	6	w.
State means and extremes.....	.....	.....	.....	58.0	+ 4.2	100	26	16	2	52	1.42	-1.98	1.92	3.1	4	17	9	4	sw.

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports have been used in determining section and division means.

Reference letters, <sup>a</sup>, <sup>b</sup>, appearing in the table, indicate number of days missing; for example, <sup>b</sup> represents two days, etc.

†Also on other dates. ††Received too late to be included in means and summaries. \*\*Temperature data are from observed readings of the dry bulb; means are computed from observed readings. Post office addresses of these stations are as follows: Of Diamond Springs, Norfolk; of Dry Bridge, Midlothian; of Elk Knob, Pennington Gap; of Leeds Manor, Markham; of Mount Moriah Farm, Nindes Store; of Mount Weather, Bluestone.

T. Precipitation is less than 0.01 inch rain or melted snow.

## Daily precipitation for April, 1915.

Stations.	Watershed.	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.....	James.....	.80					T.	T.			1.03																						1.83
Cape Henry***	Coast.....	.05	.63				T.	T.			.21	.04																				0.93	
Diamond Springs	do.....	1.92																															2.55
Doswell (near).....	James.....	1.70					T.	T.			.65	.20																				2.28	
Eastville .....	Coast.....	1.73				T.	T.					.55																					
Ivor  .....	Chowan.....	1.65										.50																					
Mount Moriah Farm	Coast.....																																
Newport News.....	do.....	.01	1.58				T.					.21	.04																			1.99	
Norfolk***	do.....	11	.55				T.																									0.91	
Petersburg.....	James.....	.84										.32																				1.26	
Richmond***	do.....	.02	1.28									.36																				1.68	
Runnymede (near).....	Chowan.....	1.65										.67																				2.40	
Wachapreague.....	Coast.....	1.35										.56																				1.91	
Warsaw(near).....	Rappahannock.....	1.40										.42																				2.03	
West Point.....	Coast.....	1.74				T.						.05																				2.24	
Williamsburg.....	James.....	.85										1.06																				1.90	
Middle Virginia.																																	
Burkeville.....	Chowan.....	.34				T.	.04					.14	.48																			0.96	
Callaville.....	do.....	.95										.12																				0.99	
Catharpin.....	Potomac.....	.05										.12																				1.69	
Charlottesville(nr)  .....	James.....	.08										.16																				0.49	
Clarksville  .....	Roanoke.....	.80	.15									.25																				1.35	
Columbia.....	James.....	.80										.50																				1.32	
Culpeper.....	Rappahannock.....	.08			T.							.13																				0.64	
Danville  .....	Roanoke.....	.82	.24		T.							.68																				2.33	
Dry Bridge.....	James.....	1.00										.39	.23																		1.62		
Fredericksburg (n'r).....	Rappahannock.....	.78			T.							.30	.09																		1.27		
Gordonsville.....	do.....	.15										.30																				0.55	
Lassiter.....	James.....	.63										.34	.47																			1.54	
Leeds Manor.....	Potomac.....	T.										.03	T.	.13																		1.30	
Lincoln.....	do.....	T.										.04	.06	T.																		1.03	
Lynchburg***.....	James.....	.03	.20									.58																				0.87	
Mount Weather.....	Potomac.....	T.										.04	T.																			0.44	
New Canton.....	James.....	.74										.96	.17																		2.26		
Quantico.....	Potomac.....	.37										.71																				1.08	
Randolph  .....	Roanoke.....	.95										.80																				1.75	
Rocky Mount.....	do.....	.50										.41																				1.01	
Swetnam.....	Potomac.....	.60										.26																				1.51	
Washington, D. C. ***.....	do.....	.44			T.	T.						.28	.02																		0.90		
The Great Valley.																																	
Blacksburg.....	Kanawha.....	.21	.01				T.	T.				.73																			1.86		
Buchanan  .....	James.....	.12	.16									.18	.26																		1.19		
Burkes Garden.....	Tennessee.....	.10										.50	.18	T.																	2.65		
Catawba Sanatorium.....	Roanoke.....	.80										.50																			1.70		
Dale Enterprise.....	Shenandoah.....	T.	.02									.01	T.	.19																	0.67		
Elk Knob.....	Tennessee.....											.02		.10																	2.04		
Emory.....	do.....											.04		.20																	0.84		
Hot Springs.....	James.....											.38	.02																		1.04		
Lexington.....	James.....	.22	T.																														
Mendota  .....	Tennessee.....																															1.62	
Narrowst  .....	Kanawha.....	T.																														1.15	
Radford  .....	do.....	.23																														1.33	
Roanoke.....	Roanoke.....	.32	T.		T.							.28																			0.79		
Speers Ferry  .....	Tennessee.....																															1.90	
Staunton.....	Shenandoah.....	.10	T.									.18	.25																		1.53		
Winchester.....	Potomac.....																															0.55	
Woodstock.....	Shenandoah.....				T.	T.						.03	.05	.11																0.30			
Wytheville***.....	Kanawha.....	.02	.03									.06	.38																	1.02			

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation.

\*\* Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight.

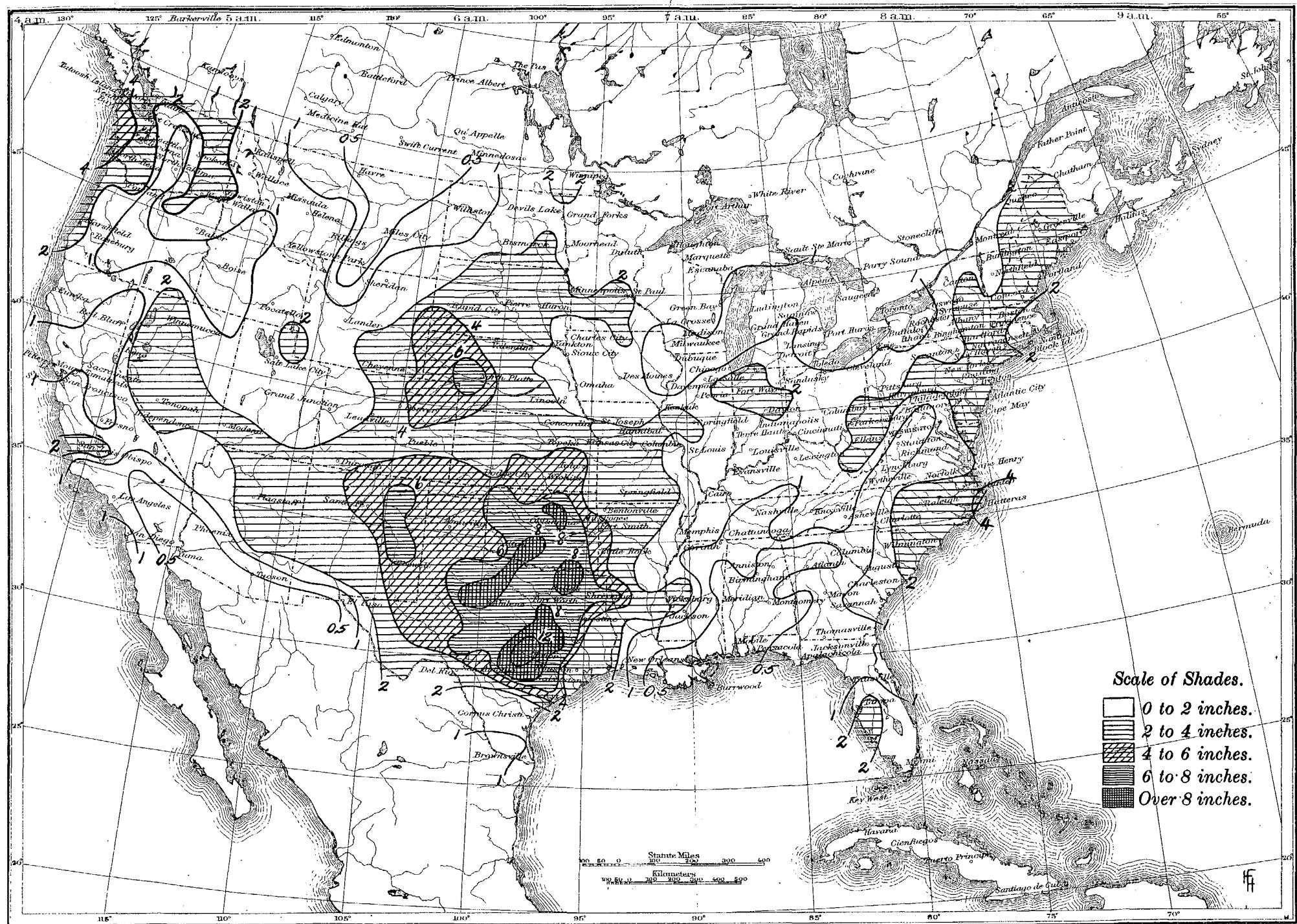
||| Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. \* Precipitation included in the next following measurement.

T. Trace, or less than 0.01 inch.

## Daily temperatures for April, 1915.

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	Mean	
<i>Tidewater Virginia.</i>																																	
Ashland.....	54	49	44	51	61	76	76	62	74	81	78	78	59	59	63	70	60	68	82	86	70	60	75	84	87	95	95	88	87	78	71.7		
	28	29	31	28	50	46	36	42	59	63	49	44	38	34	35	42	40	45	45	53	47	54	52	58	65	60	56	61	46.0				
Cape Henry.....	50	45	42	48	64	75	79	57	64	77	80	69	53	54	55	61	55	62	81	84	68	57	73	73	78	94	96	85	74	72	67.5		
Diamond Springs.....	36	30	34	36	36	52	46	45	43	55	53	53	45	43	46	48	48	53	60	49	49	54	55	64	67	61	52	56	56	48.7			
Doswell (near).....	51	48	43	54	55	53	50	49	50	47	80	75	62	68	57	70	63	65	84	88	78	65	78	81	88	94	96	93	80	78	68.1		
	32	31	33	49	50	48	39	35	38	44	60	58	38	44	41	23	48	47	45	56	52	54	56	52	61	62	64	60	54	63	48.1		
Eastville.....	56	50	47	54	61	76	76	70	75	82	78	70	61	62	65	71	63	70	85	88	72	61	76	85	91	96	97	91	89	81	78.3		
	22	24	22	28	25	50	31	32	52	54	44	44	37	30	29	26	36	31	51	42	54	48	50	52	59	57	50	56	56	56	48.1		
Ivor\$.....	50	44	52	65	71	83	69	70	77	81	75	62	60	62	71	59	70	84	88	69	66	79	87	90	94	94	90	98	81	73.7			
Mount Moriah Farm.....	Maximum.....	49	47	41	50	63	74	81	58	69	75	76	73	57	57	56	66	60	68	83	86	69	58	76	79	76	88	94	90	74	74	68.9	
Newport News.....	Minimum.....	32	33	34	35	46	49	39	43	51	58	52	47	40	38	36	50	45	52	57	52	50	56	59	59	62	65	63	54	60	48.3		
Norfolk.....	Maximum.....	54	47	39	50	62	74	80	64	71	76	78	73	58	56	54	70	59	67	82	88	68	66	71	81	87	91	86	75	70.4			
Petersburg.....	Maximum.....	57	56	58	54	67	79	84	75	78	81	75	63	64	67	72	70	71	86	86	73	65	76	86	91	98	98	92	90	82	76.0		
	Minimum.....	32	33	31	34	30	50	45	39	42	45	55	50	45	40	35	35	42	41	45	55	57	45	55	54	55	57	65	61	55	61	46.3	
Richmond.....	Maximum.....	55	49	37	52	68	77	79	66	74	80	79	70	60	60	63	70	62	70	83	86	70	63	74	87	91	95	96	90	88	78	72.2	
	Minimum.....	31	33	32	32	34	51	47	41	43	54	56	50	45	41	39	37	49	44	48	54	49	46	55	55	59	66	61	56	63	46.6		
Runnymede (near).....	Maximum.....	50	46	50	55	65	70	74	68	77	78	72	65	62	68	69	73	65	75	89	89	73	65	75	85	90	95	95	90	86	72.5		
Wachapreague.....	Maximum.....	52	48	44	49	53	72	75	69	68	73	72	73	67	63	64	72	70	71	86	89	70	65	75	85	95	95	97	92	80	77.8		
Warsaw (near).....	Maximum.....	53	50	40	45	50	60	76	71	75	81	73	70	69	60	63	71	66	64	84	87	66	64	89	94	95	97	96	90	87	84	72.2	
West Point.....	Minimum.....	29	30	32	30	27	40	50	31	43	53	48	45	50	44	35	38	35	46	44	46	44	58	52	40	45	60	58	62	62	52	46	45.6
Williamsburg.....	Maximum.....	57	51	50	55	65	77	80	76	80	80	72	65	63	72	71	75	84	88	72	66	78	86	92	96	96	92	88	82	74.8			
	Minimum.....	54	50	40	50	55	74	79	72	74	75	80	74	65	60	63	69	70	82	87	72	64	74	80	92	95	95	92	88	82	72.7		
<i>Middle Virginia.</i>																																	
Burkeville.....	Maximum.....	57	50	48	54	60	78	67	70	74	80	80	79	62	61	64	71	73	78	86	87	71	69	87	90	92	95	95	90	88	84	74.7	
	Minimum.....	24	30	24	32	38	43	35	44	58	52	48	40	37	30	38	42	46	47	58	52	46	50	60	62	63	63	58	55	52	45.0		
Callaville.....	Maximum.....	56	52	58	51	64	74	77	84	70	74	79	82	71	65	66	71	64	81	80	61	79	88	92	94	95	91	88	82	74.6			
Catharpin.....	Minimum.....	20	27	32	28	27	47	42	37	36	52	61	49	44	36	31	29	45	37	48	47	52	49	53	54	57	53	58	43.4				
Charlottesville\$ (n'r).....	Maximum.....	49	43	50	56	61	75	74	71	77	84	73	68	55	60	64	72	63	86	89	70	60	79	87	95	97	96	90	84	72.4			
	Minimum.....	56	49	44	57	65	79	77	69	68	82	67	67	62	68	65	72	64	84	87	73	66	81	87	95	97	91	89	82	73.2			
Charlottesville\$ (n'r).....	Maximum.....	29	28	30	30	36	47	51	41	46	56	59	49	42	37	40	44	48	46	58	65	55	57	47	47	70	64	64	59	61	49.9		
Columbia.....	Maximum.....	56	50	43	50	61	72	78	70	74	81	76	70	61	62	65	72	64	72	79	87	72	58	73	81	90	95	86	84	88	81	71.8	
	Minimum.....	21	30	32	32	35	48	56	33	36	56	53	44	38	32	30	31	46	45	53	48	45	53	54	59	56	53	54	53	42.8			
Culpeper.....	Maximum.....	55	51	46	53	66	78	70	66	78	79	77	68	66	55	60	74	62	72	84	87	75	58	76	83	95	96	90	88	84	78	72.5	
	Minimum.....	26	29	31	31	25	45	41	30	34	57	58	45	40	33	30	38	40	37	41	58	53	45	51	51	52	59	57	56	58	43.2		
Fredericksburg (near).....	Maximum.....	52	48	46	56	62	77	77	70	73	84	78	70	66	60	64	72	66	72	86	89	77	74	83	89	97	96	90	87	82	74.2		
Gordonsville.....	Minimum.....	29	30	32	31	30	51	43	34	38	57	57	47	43	38	33	35	47	41	45	57	54	44	53	52	55	57	53	58	45.7			
Leeds Manor.....	Maximum.....	57	47	46	58	65	79	78	72	74	82	76	78	68	62	65	72	65	74	85	88	76	71	87	93	96	93	91	81	74	71.6		
	Minimum.....	22	27	31	31	27	44	46	33	44	52	56	45	41	37	36	36	38	39	49	50	53	56	59	60	64	64	63	68	45.9			
Lincoln.....	Maximum.....	50	51	40	57	65	75	72	71	70	84	75	70	64	62	65	73	68	75	87	85	75	67	82	86	93	99	97	90	88	76	73.9	
	Minimum.....	27	25	30	29	31	43	41	39	37	55	54	42	37	34	30	32	34	30	41	42	41	39	41	40	45	45	40	40	47	43.6		
Lynchburg.....	Maximum.....	57	48	40	56	63	76	78	72	76	81	79	77	68	66	63	68	63	71	77	87	86	72	80	88	93	90	88	80	78	78.0		
	Minimum.....	30	30	33	32	32	49	43	41	54	58	53	49	44	37	35	36	50	47	53	48	53	58	56	59	58	56	59	60	46.5			
Mount Weather.....	Minimum.....	27	28	25	33	38	45	45	36	49	52	54	50	45	33	31	36	44	40	36	55	60	50	47	58	58	69	70	63	51	46.4		
New Canton.....	Minimum.....	19	25	23	21	28	31	28	31	39	35	48	45	43	30	29	30	32	31	36	37	36	37	40	45	50	55	56	50	41.3			
Quantico.....	Minimum.....	51	52	48	54	58	78	76	77	78	80	75	71	70	71	70	71	74	78	87	89	82											

Total Precipitation, April, 1915.



(Continued from page 27.)

mountains near Lynchburg, where northward movement was almost stopped until about daylight. Both east and west flanks in the meantime swept northward more rapidly than before, although the latter with decreasing productivity, the snows diminishing to mere traces in the northern mountains. In Tidewater, however, precipitation in excess of 1.00 inch had fallen generally by the afternoon of the 3d, of which that of the northern counties was derived from snows nearly a foot in depth, the greatest amount ever falling in Virginia in an April storm, of which there is record, and with but few exceptions the greatest 24-hour fall ever known in this State.

Early in the morning of the 3d telephone and telegraph poles and wires began to go down, and before the day's business operations were well begun many towns and cities were cut off from wire service with the outside world.

Some of the details furnished by stations lying in the region of greatest storm violence are given as follows:

*Cape Henry.*—The storm was unusually severe, being the worst since October 10, 1903. It began with wind from the northeast at 10 p. m. of the 2d, reaching a maximum velocity of 74 miles per hour at 10:17 a. m. of the 3d. The wind began to back to the north at 10:47 a. m. and to the northwest at 7:50 p. m., continuing with gale force until midnight. Much damage was done to shipping and to telephone and telegraph lines. Several shipwrecks were reported, among them being the tug *Edward Luckenbach* which went to the bottom off False Cape with 17 lives.

*Danville.*—Rain began at 4:20 p. m. of the 2d, changing on the 3d to snow, with high winds. The snow began several hours before sunrise, reached its height between 11 a. m. and 1 p. m., and ended at 3:15 p. m. No damage reported except by telephone and telegraph companies.

*Eastville.*—The storm of the 3d was the worst in many years. Great damage was done by wind and tide.

*Newport News.*—The storm of the 3d began at 7 p. m. of the 2d with rain and high wind, the rain changing to snow at 7:30 a. m. of the 3d, and ceasing at 7:30 p. m. The highest tides in years occurred and the shores were badly eroded. Wires and trees were prostrated, large windows broken, and fences and awnings damaged.

*Norfolk.*—The wind settled into the northeast at 6:20 a. m. of the 2d, but did not increase materially until just before 7:00 p. m. From then on the increase was steady, reaching the force of a moderate gale at 10:15 p. m., a strong gale at 11:17 p. m., and a whole gale at 2:41 a. m. of the 3d, after which the wind blew with gale force until 6:23 p. m. The storm was attended by moderately heavy precipitation, the rain being accompanied by snow most of the time from early morning of the 3d until 11:15 a. m., after which time the precipitation was entirely in the form of snow which melted as it reached the pavements. Considerable damage was done by the storm, which is believed to have caused the next to the highest tide at Norfolk of which there is authentic record. Telegraph and telephone service was crippled and many streets in the business section were inundated, automobiles being abandoned in many instances and wagons and buggies were used to carry pedestrians across the streets during the high

tide, while a gasoline launch was used by the local post office to collect mail.

*Richmond.*—At about 2:30 a. m. of the 3d snow began to fall and continued until 5:10 p. m. At 8 a. m. there were 2.5 inches on the ground. Telephone and telegraphic service practically ceased and trains were reported in some instances from 2 to 4 hours late. At 9 a. m. the snow was 4.0 inches deep; at 9:45 a. m., 5.1; at 10:30 a. m., 6.0; at 11:30 a. m., 6.5; and at 12:30 p. m., 6.8. The rate of fall diminished somewhat after 11 a. m., and at 8 p. m. the average depth was 7.1 inches. No weather map was issued, the station being without information from outside points.

*Runnymede.*—On the 3d snow began to fall about 4 a. m., with a temperature of 26°, which moderated considerably during the morning. By noon or before, the wind increased in force and the snow in intensity. Despite constant melting it attained a depth of 2 or more inches, the fall in all amounting to fully 5 inches. The driving wind of the p. m. made the storm the worst of the winter. Trees were broken and prostrated, and unstable fences and fodder stacked in the fields were damaged.

*Warsaw.*—The storm of the 2-3d, bringing 12 inches of snow, was of benefit to crops, but damaging to telephone and telegraph wires.

*West Point.*—On the 3d occurred the worst storm of years and the highest tide, 9 feet, according to old inhabitants. Rain and heavy snow driven by high winds broke poles and snapped wires, and telephone and light services became paralyzed. The rain began at midnight Friday, grew strong at 4 a. m., Saturday, blowing hardest at 7:30 a. m. Many small boats were sunk or driven ashore.

#### COMPARATIVE DATA FOR VIRGINIA: APRIL.

Year.	Temperature.			Precipitation.		Number of days.			
	Monthly means	Highest	Lowest	Total	Snowfall	Rainy	Clear	Partly cloudy	Cloudy
1891	53.5	91	23	4.82	.....	8	11	8	11
1892	56.5	92	23	2.75	0.0	10	9	11	10
1893	54.1	92	10	2.38	0.3	6	13	9	8
1894	54.4	95	22	4.91	T.	10	13	8	9
1895	58.6	100	10	1.61	T.	6	14	9	7
1896	58.9	95	18	2.08	0.0	6	15	8	7
1897	51.4	97	12	3.66	0.6	9	12	8	10
1898	54.3	95	16	1.94	1.5	5	16	8	6
1899	54.7	90	12	2.88	T.	6	15	7	8
1900	50.0	92	21	6.04	1.6	11	11	6	13
1901	52.9	94	19	2.97	1.1	7	13	10	7
1902	54.3	92	12	4.26	T.	10	13	6	11
1903	51.4	90	11	2.32	T.	8	11	10	9
1904	55.2	89	19	2.75	0.1	9	13	10	7
1905	56.2	94	20	2.41	0.0	7	17	8	5
1906	48.1	89	13	3.99	1.4	11	11	9	10
1907	57.3	93	20	2.81	T.	10	15	7	8
1908	55.3	91	12	3.38	0.1	9	15	7	8
1909	56.4	95	24	4.68	T.	11	10	10	10
1910	51.0	92	15	4.20	0.1	12	9	9	12
1911	57.3	86	19	3.42	T.	10	12	9	9
1912	55.5	89	20	3.06	T.	8	16	7	7
1913	54.3	95	14	2.61	T.	8	14	9	7
1914	58.0	100	16	1.42	3.1	4	17	9	4

#### ERRATA.

*Waynesboro.*—All rainfall measurements at this station are inaccurate and should not be considered.