

U. S. DEPARTMENT OF AGRICULTURE,
WEATHER BUREAU.

ANNUAL

METEOROLOGICAL SUMMARY

OF

RICHMOND, VA.

8-272

For the Year that Ended December 31, 1902.

*Corrected by Error Letter dated
May 29-03. (L.R. # 306-03) &
corrections made. E.A.G.*

MAY 30 1903

LOCATION OF OFFICE DECEMBER 31, 1902.

Street, 10th and Bank

Number, Times Bldg

Room, 22, 23, 24, 25

SUM OF BAROMETER CORRECTIONS.

From 8 A. m. Jan 1 to 8 P. m. Dec 31 inc., -.010 in.

From m. to m. inc., in.

From m. to m. inc., in.

REMARKS.

U. S. Department of Agriculture,

WEATHER BUREAU.

ANNUAL METEOROLOGICAL SUMMARY

FOR

1902.

STATION:

Richmond, Va.

INSTRUCTIONS.

1. This form will be made out in duplicate at the end of the year, on the current edition.
2. Seventy-fifth meridian time must be used throughout this report.
3. If the elevation of the anemometer, thermometer, or rain gage has been changed, that on December 31 must be given. The dates and changes in elevation must be carefully recorded on the margin.
4. The sum of corrections, and all changes in the same, must be carefully noted under "Sum of Barometer Corrections," page 1, with the authority for the new correction; also the date and observation upon which it was first used.
5. When one or more observations are taken late, state the fact on the margin of page 2 in this way: One (or more) 8 a. m. (or 8 p. m.) observations taken late. Connect the note to the name of the month by a reference mark. When one or more observations are missed connect all data for less than a full month with a footnote, stating the length of time of the record.
6. The monthly mean pressure, dew-point, relative humidity, absolute range of pressure, and all other data, except as herein-after provided for, will be taken from the summary of Form 1001—Met'l. The decimal in the case of the dew-point and relative humidity will be disposed of according to rule.
7. In the space for date of highest and lowest pressure and temperature for the year enter the month and day thereof, as "July 6." The mean daily range and mean daily change of temperature will be taken from the columns similarly headed on page 6, Form 1001.

8. The data to be entered in the columns headed "Total" and "Possible" will be taken from the sum of the columns similarly headed on Form 1070. The "Percentage" will be taken from the monthly percentage of "Total." Stations not supplied with a sunshine recorder will leave these columns blank.

9. The prevailing wind direction for the year (at foot of column headed "Prevailing Direction") will be determined from the sums of "Number of times observed blowing from the N., NE., etc.," except at stations preparing page 8, or Form 1021, for the whole year. When Form 1021 is prepared and page 8 is not, it will be determined from the directions entered in the column headed "Prevailing Direction;" and when page 8 is prepared it will be determined from the sums of the time columns, page 8.

10. The mean hourly pressure (recorded to thousandths), temperature, and wind velocity will be taken from the mean values at the foot of Forms 1026 and 1022, respectively, and the data for entry in columns headed "For the month," from the average hourly pressure, temperature, and wind velocity, respectively. The base number will be entered once only, in the space provided for it on page 5. The data for entry on page 8 will be taken from the sums as recorded at the foot of page 5, Form 1001. The percentage for the year will be obtained by dividing the sum (multiplied by 100) of the miles and hours from each direction by the total number of miles and hours for the year, respectively. Stations not preparing page 5, Form 1001, will leave the columns on this page blank. Data for less than one-half of a month will not be recorded, and in case the data for one or more months are missing, the sums and means for the year will be omitted. All means will be obtained by dividing the sums of the respective columns by 12, and each mean will be recorded to the same number of decimal places as the data from which it is obtained are recorded.

11. A copy of this form will be forwarded to the office of the Chief of Bureau not later than the 15th day of January succeeding the year for which it is the record, in an envelope marked "Records."

WILLIS L. MOORE,

Chief of U. S. Weather Bureau.

ANNUAL METEOROLOGICAL SUMMARY FOR 1902.—STATION Richmond, Va.

Latitude N. 37° 32' Longitude W. 77° 27' Local time 0 h. 10 min. (t) slower than 75th meridian time.

MONTHS.	STATION PRESSURE. (Corrected for temperature, instrumental error, gravity, and removal.)							TEMPERATURE.															
	STATION ELEVATION OF BAROMETER CISTERN ABOVE MEAN SEA-LEVEL, <u>144</u> FEET.							ELEVATION OF DRY THERMOMETER BULB ABOVE GROUND ON DEC. 31, <u>82</u> FEET.															
	MEAN.			Highest observed. (c.)	Date.	Lowest observed. (c.)	Date.	Absolute range. (c.)	MEAN.		FROM SELF-REGISTERING INSTRUMENTS.									Max. below 32°	Max. above 90°	Min. below 32°	
	8 a. m. (c)	8 p. m. (c)	* Corrected monthly. (c)						8 a. m. (d)	8 p. m. (d)	MEAN.			High-est. (e)	Date.	Low-est. (e)	Date.	RANGE.					Mean daily change. (d.)
In.	In.	In.	In.	In.	Max. (d.)	Min. (d.)	Month-ly. (d.)	Abso-lute. (e.)	Mean daily. (d.)														
Jan.,	29.995		29.973	30.554	28"	29.260	22"	1.294	31.5		44.3	28.0	36.2	59	10"	18	4"	41	16.3	5.0	1	0	20
Feb.,	29.785		29.762	30.241	20"	29.215	28"	1.026	29.4		41.8	27.5	34.6	65	28"	15	5"	50	14.3	3.6	0	0	21
Mar.,	29.895		29.863	30.275	7"	29.275	2"	1.000	43.8		59.9	40.2	50.0	76	29"	19	19"	57	19.7	6.0	0	0	6
April,	29.853		29.821	30.161	25"	29.198	8"	.963	50.4		66.3	45.3	55.8	90	22"	33	9"	57	21.0	4.4	0	0	0
May,	29.934		29.902	30.199	31"	29.588	27"	.611	62.9		78.6	57.1	67.8	91	13"	46	28"	45	21.5	5.3	0	2	0
June,	29.841		29.813	30.320	1"	29.434	26"	.886	71.8		84.7	63.9	74.3	96	13"	52	10"	44	20.9	3.5	0	5	0
July,	29.906		29.881	30.119	2"	29.722	21"	.397	75.7		89.6	68.3	79.0	98	19"	62	3"	36	21.3	2.7	0	14	0
Aug.,	29.857		29.833	30.090	30"	29.650	16"	.440	71.4		84.9	65.1	75.0	96	4"	56	17"	40	19.8	2.8	0	4	0
Sept.,	29.925		29.901	30.156	17"	29.565	28"	.591	66.0		78.0	59.2	68.6	88	1"	48	15"	40	18.8	2.6	0	0	0
Oct.,	29.962		29.938	30.431	30"	29.465	28"	.966	56.7		71.6	51.5	61.6	81	25"	35	30"	46	20.1	4.2	0	0	0
Nov.,	29.981		29.957	30.338	1"	29.360	26"	.978	49.8		64.5	45.2	54.8	79	16"	32	29"	47	19.2	4.3	0	0	0
Dec.,	29.994		29.971	30.521	15"	29.369	5"	1.152	36.1		48.1 48.1	32.1	40.1 40.1	68	11"	20	27"	48	16.0 16.0	6.6	1	0	16
Sum,	358.928		358.615		Highest. Date.	Lowest. Date.		10.304	645.5		812.1	583.4	697.7	Max. Date.	Min. Date.			551	228.7	51.0	2	25	63
Mean,	29.911		29.885	30.554	Jan 28"	29.198	Apr 8"	.859	53.8		67.7	48.6	58.2 58.2	98	July 19"	15	Feb 5"	46	19.1	4.2	a.	a.	a.

a.—Omit data from this space. c.—To thousandths. d.—To tenths. e.—To whole numbers. t.—Enter the word "faster," or "slower," as the case may be.

MONTHS.	TEMPERATURE.								DEW-POINT.			RELATIVE HUMIDITY (Percentage).			VAPOR PRESSURE.			PRECIPITATION. (Amount in inches and hundredths). ELEVATION OF TOP OF GAUGE ABOVE GROUND DEC. 31, <u>76</u> FEET.									SNOWFALL (total depth). In.
	NO. OF DAYS.																										
	MEAN.								MEAN.			MEAN.			TOTAL AMOUNT. In.	GREATEST AMOUNT IN ANY 24 CONSECUTIVE HOURS.		EXCESSIVE.									
	BELOW—		ABOVE—						8 a. m.	8 p. m.	Month-ly.	8 a. m.	8 p. m.	Month-ly.		8 a. m.	8 p. m.	Month-ly.	2.50 inches in 24 hours. (g.)		1 inch per hour. (g.)						
	14°	32°	41°	50°	59°	68°	77°	90°	(e.)	(e.)	(e.)	(e.)	(e.)	(e.)		(e.)	(e.)	(e.)	Am't.	Date.	Am't.	Dur't'n. (h. & m.)	Date.	Am't.	Dur't'n. (h. & m.)	Date.	
Jan.,	0	9	7	0	0	0	0	0	24			74			.137	3.26	1.73	21"								5.0	
Feb.,	0	13	6	1	1	0	0	0	23			75			.136	4.84	1.23	28"								9.8	
Mar.,	0	0	26	16	3	0	0	0	37			78			.242	1.89	.54	5"								0	
April,	0	0	29	21	10	4	0	0	41			72			.268	3.12	1.52	7" + 8"								T	
May,	0	0	31	31	28	15	1	0	55			76			.449	3.42	1.29	5" + 6"								0	
June,	0	0	30	30	30	25	9	0	60	*		66			.528	4.81	2.88	16"	2.88	8-21	16"	1.01	1-0	16"	0		
July,	0	0	31	31	31	31	19	0	64	*		69			.613	6.21	3.59	30"	3.59	11-0	30"	2.24	0-53	30"	0		
Aug.,	0	0	31	31	31	29	11	0	63			74			.579	3.10	1.33	14"								0	
Sept.,	0	0	30	30	29	17	0	0	59			79			.521	4.91	1.79	3" + 4"				1.05	0-49	3"	0		
Oct.,	0	0	31	29	21	2	0	0	49			77			.370	4.81	2.07	11" + 12"				1.06	0-42	11"	0		
Nov.,	0	0	30	23	7	0	0	0	43			78			.289	4.83	2.77	18"	2.77	20-57	18"				0		
Dec.,	0	5	12	3 ⁴	0	0	0	0	28			72			.164	4.12	1.33	21"								1.1	
Sum,	0	27	294	246	191	123	40	0	546			890			4.296	49.32	a.	a.	a.	a.	a.	a.	a.	a.	a.	15.9	
Mean,	a.	a.	a.	a.	a.	a.	a.	a.	46			74			.358	a.	3.59	July 30"	a.	a.	a.	a.	a.	a.	a.	a.	

g.—No entry unless the precipitation actually equaled or exceeded 2.50 inches in 24 consecutive hours, or 1 inch per hour, as the case may be.

* For 29 days

(3)

† Estimated

MONTHS.	MEAN CLOUDINESS. (0 to 10.)			HOURS OF SUNSHINE.			WIND. ELEVATION OF ANEMOMETER CUPS ABOVE GROUND DEC. 31, <u>90</u> FEET.														NUMBER OF DAYS.										
	8 a.m. (d.)	8 p.m. (d.)	Monthly. (d.)	TOTAL.	POSSIBLE.	PERCENTAGE.	TOTAL MOVE- MENT IN MILES.	PRE- VAILING DIREC- TION.	MAXIMUM HOURLY VELOCITY DURING MONTH.			No. OF DAYS WITH GALES. (h.)	DIRECTION.								No. OF CALMS.	CLEAR.	PARTLY CLOUDY.	CLOUDY.	PRECIPITATION.				THUNDERSTORMS.	AURORAS.	
									From.		Date.		NUMBER OF TIMES OBSERVED BLOWING FROM THE—												.01 inch and over.	.04 inch and over.	Snow.	Hail.			Fog.
									Miles.	From.	Date.		N.	NE.	E.	SE.	S.	SW.	W.	NW.											
Jan.,	6.4		6.3				4117	N	23	SW	21"	0	15	9	1	6	5	8	11	7	0	7	9	15	7	6	3	0	2	0	0
Feb.,	5.6		5.6				4430	N	38	SW	28"	0	18	4	5	2	1	5	8	13	0	10	7	11	9	9	4	0	0	1	0
Mar.,	5.7		5.5				5541	NW	30	SW	31"	0	10	8	2	10	11	8	1	12	0	8	10	13	10	8	0	1	0	2	0
April,	5.0		5.6				5274	SW	40	S	26"	1	6	6	3	9	8	14	7	6	1	11	8	11	6	5	0	0	0	2	0
May,	5.2		5.1				4261	SW	20	SW	19"	0	7	8	5	8	12	13	5	4	0	10	12	9	12	9	0	1	1	8	0
June,	4.6		4.9				4544	SW	34	SW	29"	0	5	5	3	10	10	17	5	5	0	11	10	9	7	7	0	0	0	8	0
July,	4.3		5.1				3837	S	28	NW	6"	0	7	4	7	8	14	11	6	5	0	8	16	7	13	10	0	0	1	11	0
Aug.,	4.5		4.7				3260	N	26	NW	11"	0	16	11	4	11	8	9	2	1	0	12	13	6	7	5	0	0	4	6	0
Sept.,	5.5		5.5				3071	N	25	SW	9"	0	15	6	5	13	12	2	4	3	0	11	7	12	8	7	0	0	1	3	0
Oct.,	3.8		3.6				3248	N	21	SW	13"	0	18	3	3	7	12	4	7	7	1	20	2	9	8	8	0	0	2	0	0
Nov.,	6.0		5.4				3304	N	21	NW	28"	0	14	4	4	12	5	11	4	4	2	11	5	14	6	5	0	0	3	0	0
Dec.,	6.5		6.2				4149	N	24	SW	10"	0	12	7	3	4	9	12	6	8	1	10	7	14	14	13	1	0	1	0	0
Sum,	63.1		63.5				49036	a.	a.	a.	a.	1	143	75	45	100	107	114	66	75	5	129	106	130	107	92	8	2	15	41	0
Mean,	5.3		5.3				a.	N	40	S	26"	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.	a.

h.—Days with 40 miles per hour and over. j.—One entry only.

WIND.

MEAN HOURLY VELOCITY.

MONTHS.

MONTHS.	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	FOR THE MONTH.
	a. m.	a. m.	a. m.	a. m.	a. m.	a. m.	a. m.	a. m.	a. m.	a. m.	a. m.	Noon.	p. m.	p. m.	p. m.	p. m.	p. m.	p. m.	p. m.	p. m.	p. m.	p. m.	p. m.	Mid't.	
Jan.,	4.7	4.4	4.6	4.2	4.5	4.6	4.5	4.6	4.8	5.8	6.5	7.0	7.6	7.7	7.7	6.7	6.5	5.5	5.4	5.1	5.2	5.3	5.1	4.9	5.5
Feb.,	5.5	5.4	5.5	5.7	5.8	5.8	6.1	6.2	7.0	6.9	7.4	8.1	8.5	8.3	8.4	8.0	7.4	6.8	5.8	5.9	5.8	6.2	5.9	6.0	6.6
Mar.,	5.6	5.7	5.5	5.5	5.5	5.9	6.1	7.0	7.7	8.9	8.8	9.7	10.1	10.4	10.2	9.7	9.4	8.8	7.7	6.6	6.7	6.3	5.7	5.3	7.4
April,	5.4	4.9	5.1	4.8	4.9	5.2	5.0	6.6	7.6	8.4	9.1	9.4	10.3	10.6	10.5	10.3	10.2	8.8	7.8	6.8	6.6	6.4	5.9	5.5	7.3
May,	4.1	4.0	3.8	3.8	3.9	3.9	4.7	5.7	6.2	6.6	6.8	7.4	7.6	7.8	7.9	7.6	7.9	6.6	5.5	6.0	5.5	5.1	4.7	4.6	5.7
June,	5.0	4.6	4.6	4.4	4.3	4.0	4.9	6.1	7.1	7.3	7.7	7.5	8.1	8.5	8.6	8.3	9.2	8.6	7.2	5.9	4.7	5.0	4.8	4.9	6.3
July,	3.8	3.8	3.5	3.7	3.7	3.4	3.9	4.6	5.8	6.4	6.6	6.5	6.7	6.8	7.3	6.8	7.2	6.4	6.0	4.6	4.2	4.2	4.3	3.9	5.2
Aug.,	3.4	3.2	3.5	3.4	3.2	3.5	3.7	4.1	4.3	4.7	5.2	5.4	6.0	6.0	6.2	6.2	6.7	5.0	4.5	3.8	3.1	3.1	3.3	3.5	4.4
Sept.,	3.0	3.0	2.8	2.9	3.0	2.6	3.5	3.9	5.2	5.9	6.1	6.0	6.6	6.5	6.1	6.1	5.0	4.1	3.3	3.4	3.4	3.5	3.2	3.2	4.3
Oct.,	3.4	3.6	3.5	3.6	3.6	3.5	3.5	3.8	4.8	5.1	5.5	6.0	6.6	6.3	6.6	6.3	5.4	4.1	3.6	3.1	3.2	3.1	3.3	3.2	4.4
Nov.,	3.8	3.7	4.0	3.9	3.8	3.7	3.4	3.4	4.2	4.5	5.3	5.8	6.9	6.7	6.8	6.4	5.4	4.4	4.1	4.0	4.2	4.0	3.9	4.1	4.6
Dec.,	4.9	4.6	4.6	4.6	5.4	5.0	5.0	4.8	^{5.5} 5.5	6.1	6.8	6.8	7.6	7.6	7.4	7.1	6.2	5.1	4.8	4.6	4.7	4.9	4.9	4.8	5.6
Sum,	52.6	50.9	51.0	50.5	51.6	51.1	54.3	60.8	70.1	76.6	81.8	85.6	92.6	93.2	93.7	89.5	86.5	74.2	65.7	59.8	57.3	57.1	55.0	53.9	67.3
Mean,	4.4	4.2	4.2	4.2	4.3	4.3	4.5	5.1	5.8	6.4	6.8	7.1	7.7	7.8	7.8	7.5	7.2	6.2	5.5	5.0	4.8	4.8	4.6	4.5	5.6