

U. S. DEPARTMENT OF AGRICULTURE.

REPORT FOR OCTOBER, 1899.

MARYLAND AND DELAWARE SECTION

OF THE

CLIMATE AND CROP SERVICE

OF THE

WEATHER BUREAU.

IN COOPERATION WITH THE

MARYLAND STATE WEATHER SERVICE.

(Prof. Wm. B. Clark, Director; Prof. Milton Whitney, Secretary and Treasurer.)

PREPARED UNDER DIRECTION OF

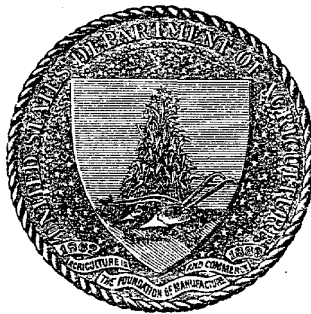
WILLIS L. MOORE,

CHIEF OF WEATHER BUREAU.

BY

F. J. WALZ.

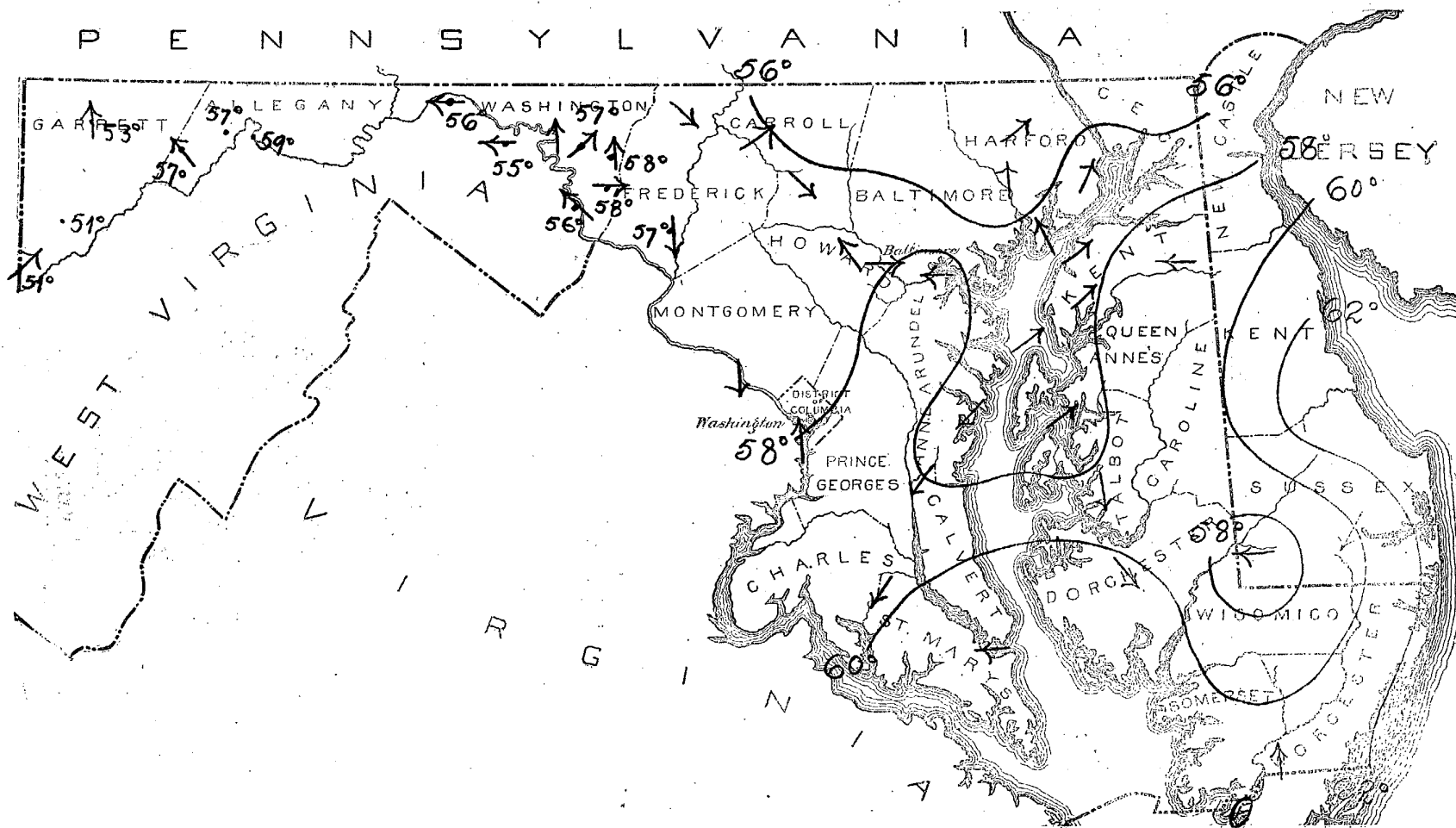
SECTION DIRECTOR.



BALTIMORE, MD.:
WEATHER BUREAU OFFICE.
JOHNS HOPKINS UNIVERSITY.

1899.

MONTHLY MEAN ISOTHERMS AND PREVAILING WINDS, OCTOBER, 1899.



U. S. DEPARTMENT OF AGRICULTURE,
CLIMATE AND CROP SERVICE

OF THE

WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

BALTIMORE, MD.

VOL. IV.

BALTIMORE, MD.

No. 10.

REVIEW OF OCTOBER WEATHER.

The average temperature for the month was several degrees above normal. There were two cold periods—from the 1st to 5th and from the 20th to 22d. These were accompanied by heavy or killing frosts over the greater part of the Section. Drought conditions prevailed in Western Maryland until the close of the month when they were broken by the general and heavy rains that fell on the 29th to 31st. In other districts the rainfall was about normal, with moderate to heavy rainfall on the 6th to 9th and 16th to 19th. Humidity was high and fogs were prevalent toward the close of the month.

The dry weather in the western counties prevented rapid advance in farm work and was unfavorable to the germination of winter grain; forest fires were also of frequent occurrence in the mountains. In other sections the weather was exceptionally favorable for soil preparations and seeding, which made rapid progress. Some farmers have delayed planting in order to avoid possible damage by the fly, but the wheat and rye that has been sown shows no evidence of injury, and a well set, vigorous growth is the general report. The hard frosts early in the month did some damage to late corn and other outstanding crops, and the damp, foggy weather that prevailed later prevented a rapid curing of the ear. Most of the corn, however, was housed in good condition.

* * *

LOSS BY LIGHTNING IN SEPTEMBER, 1899.

On the 8th of September, 1899, severe thunderstorms occurred throughout Frederick, Carroll, and Baltimore counties. They developed first in Frederick County at about 8.30 p. m., and prevailed over districts toward the southeast at about 10 p. m.

At Ellerton, Frederick County, a barn, wagon shed and corn crib were struck by lightning and destroyed, entailing a loss of \$900. A hog pen was struck at Braddock and five fat hogs were killed, but the pen was uninjured.

At Shipley, Carroll County, a large barn was struck and burned, with most of its contents which included a large amount of grain, hay, and straw, and two hogs. The aggregate loss was \$1,500.

In Baltimore County, a barn was struck near White Marsh. At Bradshaw the B. & O. station was struck and slightly damaged. A few shingles were knocked from the roof of a house at Loreley. The storm was severe at Baltimore and

in the vicinity of Pikesville, Mount Washington, Roland Park, and Govanstown. A house on the York Road was struck and slightly damaged. A storehouse on Bel Air Road was struck and the building and contents burned; loss estimated at \$750.

On September 23d at 7 p. m. a dwelling was struck by lightning at Milford, Del. The building and contents were burned, the entire loss amounting to about \$1,000.

* * *

CUTTING BACK OF PEACH TREES.

As soon as it was generally known that the peach crop for 1899 would be a failure in Missouri, the orchardists of that State were advised by the Columbia Agricultural Experiment Station to cut back their trees severely, and the results of that advice will be looked for with considerable interest. It is now reported by those growers who acted upon the suggestion that, as was to be expected, the cutting back has proved to be eminently successful, the trees so treated having made a splendid growth. In some instances new branches are said to be fully four feet in length. The trees not cut back have developed a new wood-growth of only four or five inches.

The cutting back plan in years of crop failures caused by frosts is not new and is very generally understood.—*Trade*.

* * *

CLIMATOLOGY OF THE MONTH.**ATMOSPHERIC PRESSURE—IN INCHES AND HUNDREDTHS.**

Monthly mean at Washington, D. C., 30.20; at Baltimore, 30.19; average, 30.20; highest, 30.56 at Washington, D. C., on the 22d; lowest, 29.47 at Washington, D. C., on the 31st.

TEMPERATURE—IN DEGREES FAHRENHEIT.

The monthly mean (entire territory), 57.6; is 2.5 above the normal.

The highest monthly mean was 62.5; at Solomons.

The lowest monthly mean was 50.8, at Deer Park.

The highest temperature recorded during the month was 88, at Jewell, on the 28th.

The lowest temperature recorded during the month was 15, at Deer Park, on the 1st.

The greatest local monthly range was 65, at Deer Park.

The least local monthly range was 39, at Cambridge.

The greatest daily range was 48, at Deer Park, on the 2d.

The least daily range was 1, at Westernport, on the 8th.

PRECIPITATION—IN INCHES AND HUNDREDTHS.

The monthly average (entire territory) 2.80, was 0.24 below the normal.

The greatest amount was 5.34, at Millsboro, Del.

The least amount was 0.35, at Clear Spring.

The greatest amount in twenty-four hours was 3.32, at Millsboro, Del., on the 6th.

The average number of rainy days, 5.

WIND.

The prevailing direction was from the northeast.

The total movement was 3,415 miles, at Baltimore, and 3,837 miles, at Washington, D. C.

The maximum wind velocity was 28 miles per hour from the northeast, at Washington, D. C., on the 31st.

MISCELLANEOUS.

The following are dates on which miscellaneous phenomena occurred:

Frost, heavy.—Annapolis, 21; Baltimore, 2, 3; Boettcherville, 2, 21; Boonsboro, 1, 2, 3, 21, 22; Charlotte Hall, 1, 2, 3, 22; Chase, 2, 3, 21; Chestertown, 22; Chewsville, 1, 2, 3, 21, 28; Clear Spring, 1, 2, 3, 4; Darlington, 1, 2, 3, 4, 5; Fallston, 3; Frederick, 1, 2, 3; Frostburg, 1, 2, 3, 4, 21, 22; Grantsville, 2, 3, 4; Green Spring Furnace, 1, 2, 3, 21, 22; Hancock, 1; Harney, 1, 2, 3, 4, 21; Jewell, 22; Laurel, 1, 2, 3, 4; Md. Agricultural College, 1; Milford, Del., 2, 3, 21, 22, 27; Millsboro, Del., 3, 4, 22; Mt. St. Mary's, 7, 20, 21, 23; Newark, Del., 3, 22; New Market, 1, 2, 3, 21, 22; Pocomoke City, 1, 2, 3; Princess Anne, 1, 2, 3, 4, 22; Queenstown, 1, 2, 3, 21; Rock Hall, 2, 3, 4, 22; Seaford, Del., 22; Sharpsburg, 1, 2, 3, 4, 21, 22; Smithsburg, 1, 2; St. Charles College, 2; Suddlersville, 4, 21, 22; Sunnyside, 1, 2, 3, 21; Taneytown, 21; Van Bibber, 1, 2, 3; Washington, 1, 2; Woodstock, 2, 3, 4, 22.

Frost, light.—Baltimore, 1; Chase, 1, 4; Chestertown, 1, 2, 3; Coleman, 2, 3, 22; Easton, 1, 2, 3, 4, 22; Fallston, 1, 2, 4; Frederick, 4; Frostburg, 30; Green Spring Furnace, 23, 30; Harney, 22; Jewell, 1, 2, 3, 4; Milford, Del., 1; Millsboro, Del., 1, 2; Mt. St. Mary's, 22; Newark, Del., 2; Pocomoke City, 5; Seaford, Del., 1, 21; Solomons, 2; Suddlersville, 1, 2, 3; Sunnyside, 4, 10, 22, 23, 25, 30; Van Bibber, 20, 21; Woodstock, 1, 21.

Ice.—Annapolis, 21; Chestertown, 2, 3, 22; Princess Anne, 1, 2; Queenstown, 21; Smithsburg, 1.

Fog.—Boettcherville, 24, 25; Chase, 9, 15, 16, 26, 27, 28; Chestertown, 13, 14, 15, 16; Coleman, 9, 10, 11, 15, 16, 17, 18, 25, 26, 27; Easton, 15, 16, 17, 18, 19, 25, 26, 27; Jewell, 13, 15, 16, 17, 25; Md. Agricultural College, 24, 25, 26, 27; Millsboro, Del., 11, 15, 20, 25, 26, 27; Mt. St. Mary's, 15, 25, 26; Pocomoke City, 26, 27; Princess Anne, 10, 11, 12, 13, 14, 15, 16, 17, 25, 26, 27, 28; Rock Hall, 5, 10, 11, 13, 15, 16, 17, 18, 26; Seaford, Del., 10, 11, 15, 16, 25, 26, 27; Solomons, 13, 17; Sunnyside, 20, 24; Taneytown, 24, 25, 26, 27; Van Bibber, 15, 16, 17, 25, 26, 27; Western Md. College, 13, 15; Woodstock, 11, 14, 15, 16, 17, 27.

Thunderstorms.—Mt. St. Mary's, 9; Solomons, 13; Sunnyside, 4, 5, 11, 27.

Aurora.—Solomons, 30.

Halos, solar.—Green Spring Furnace, 30; Jewell, 4; Washington, 11.

Corona, lunar.—Millsboro, Del., 17.

Halo, lunar.—Washington, 10.

* * *

CORRECTIONS FOR AUGUST REPORT.

The temperature and precipitation records for Annapolis are of doubtful value. Rain probably fell on the 2d and 5th; the minimum thermometer readings were inaccurate on the 1st, 2d, 8th, 9th, 12th, 18th, and 31st.

The minimum temperature for Darlington should have been 56° on the 17th.

The mean temperature for Deer Park should have been 66.6°.

At Great Falls the maximum temperature should have been 93° on the 21st and 22d.

At Sandy Point the total precipitation should have been 5.00 inches, and the precipitation table should have shown an entry of .15 inch on the 2d.

The mean temperature for Woodstock should have been 73.3°, and in the precipitation table the amount of rainfall on the 2d for that station should have been 1.30.

LATE REPORTS.

Queenstown, July, 1899.—Mean temperature, 76.8°; mean maximum, 86.4°; mean minimum, 67.2°; absolute maximum, 94° on the 23d; absolute minimum, 57° on the 10th. Total rainfall, 2.99; greatest rainfall in 24 hours, 1.00 inch on the 25th. Number of rainy days, 11; clear days, 20; partly cloudy days, 8; cloudy days, 3. Prevailing direction of wind, southwest. Thunderstorms, on the 8, 13, 16.

Dr. W. K. CARROLL.

Wyoming, Del., July, 1899.—Mean temperature, 75.3°; mean maximum, 84.1°; mean minimum, 66.5°; absolute maximum, 92° on the 22d; absolute minimum, 54° on the 1st. Total rainfall, 7.40 inches. Number of rainy days, 9; clear days, 17; partly cloudy days, 8; cloudy days, 11. Prevailing direction of wind, southwest. Thunderstorm, on the 16th.

J. A. TROPE.

Suddlersville, July, 1899.—Mean temperature, 75.1°; mean maximum, 85.4°; mean minimum, 64.8°; absolute maximum, 93° on the 22d; absolute minimum, 53° on the 1st. Total rainfall, 4.24 inches. Number of rainy days, 8; clear days, 13; partly cloudy days, 16; cloudy days, 2. Prevailing direction of wind, west. Thunderstorms, on the 5th and 6th.

J. S. BARWICK.

Mt. St. Mary's College, August, 1899.—Mean temperature, 75.2°; mean maximum, 85.3°; mean minimum, 65.1°; absolute maximum, 99° on the 20th; absolute minimum, 53° on the 29th. Total rainfall, 3.82 inches; greatest amount in 24 hours, 1.25 inches. Number of rainy days, 11; clear days, 7; partly cloudy days, 18; cloudy days, 6. Prevailing direction of wind, northeast. Thunderstorms on the 2, 4, 5, 6, 11, 12, 13, 21, 22, 26.

Dr. J. A. MITCHELL.

Charlotte Hall, August, 1899.—Mean temperature, 75.7°; mean maximum, 85.8°; mean minimum, 65.6°; absolute maximum, 97° on the 21st; absolute minimum, 57° on the 1st. Total rainfall, 5.58 inches; greatest amount in 24 hours, 1.63 inches on the 6th. Number of rainy days, 10; clear days, 13; partly cloudy days, 13; cloudy days, 2. Prevailing direction of wind, northeast. Thunderstorms, on the 2, 4, 6, 10, 11, 22, 26. Hail, on the 2d.

Prof. J. F. COAD.

Pocomoke City, August, 1899.—Mean temperature, 75.1°; mean maximum, 83.4°; mean minimum, 66.9°; absolute maximum, 94° on the 5th and 21st; absolute minimum, 55° on the 11th. Total rainfall, 3.97 inches; greatest amount in 24 hours, 1.18 inches. Number of rainy days, 7; clear days, 11; partly cloudy days, 11; cloudy days, 9. Prevailing direction of wind, northeast. Thunderstorm, on the 22.

R. M. STEVENSON.

Md. Agricultural College, August, 1899.—Mean temperature, 72.5°; mean maximum, 83.0°; mean minimum, 62.0°; absolute maximum, 96° on the 27th; absolute minimum, 52° on the 22d; greatest daily range, 31°. Total rainfall 5.51 inches; greatest in 24 hours 1.32 inches. Number of rainy days, 11; number of clear days, 7; partly cloudy days, 19; cloudy days, 5. Thunderstorms, on the 2, 11, 13, 21, 26.

Prof. J. H. PATTERSON.

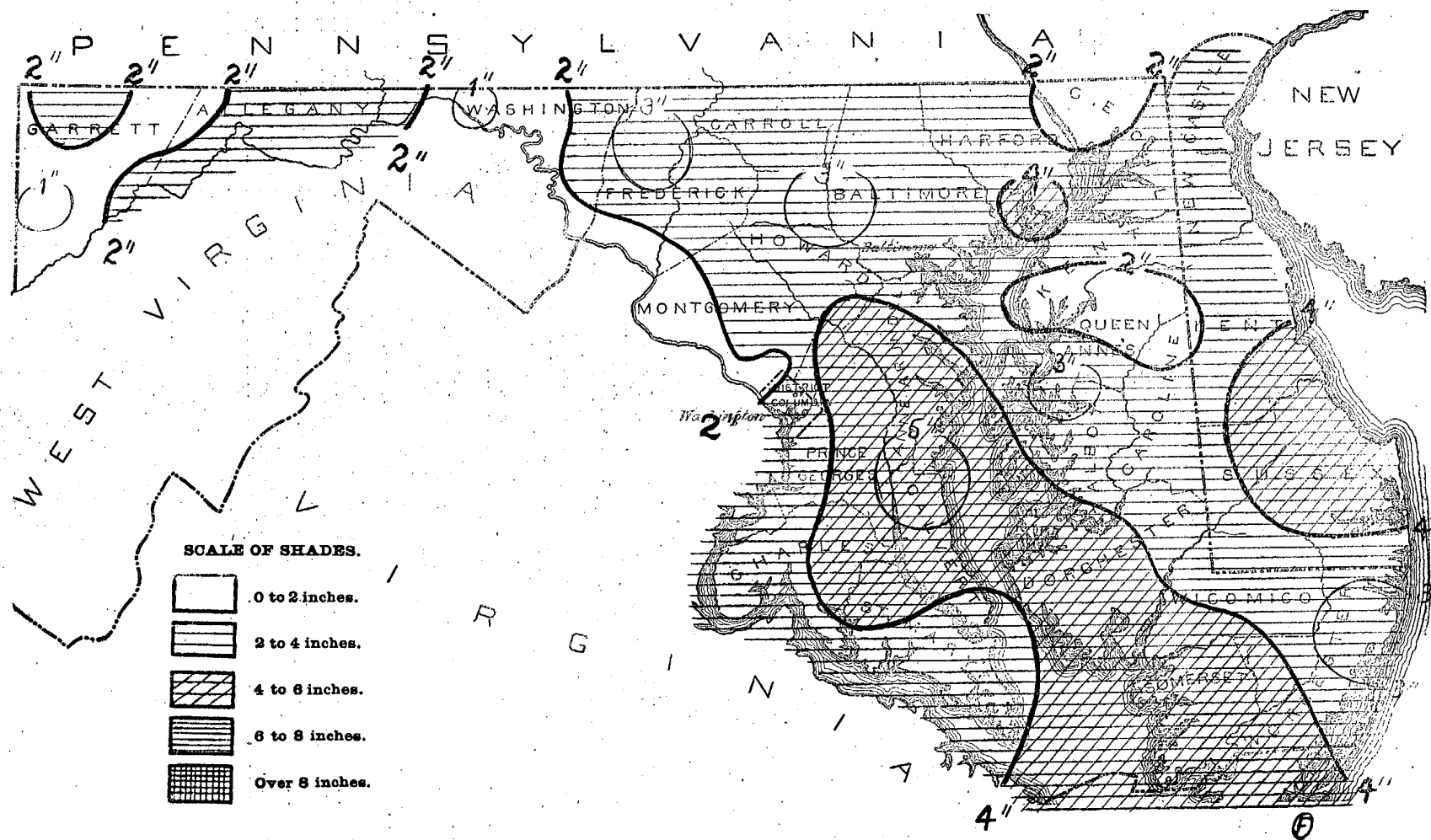
Climatological data for Maryland and Delaware, October, 1899.

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 snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.			Number cloudy days.
WESTERN MARYLAND.																				
Boettcherville.....	Allegany.....	780	9	56.4	+4.9	84	14	22	1	42	1.28	-1.18	0.77	.....	3	.....	.....	.....	.....	F. F. Brown.
Boonsboro a.....	Washington.....	600	1	57.7	.....	82	13	29	1	36	2.32	.....	1.25	.....	5	20	7	4	W	C. E. Huntzberg.
Boonsboro b.....	Washington.....	800	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Henneberger.
Chewsville.....	Washington.....	530	1	55.9	.....	80	14	27	22	32	1.63	.....	0.67	.....	7	14	12	5	SW	Samuel L. Ford.
Clear Spring.....	Washington.....	500	1	54.0	.....	78	14	22	3	34	0.35	.....	0.20	.....	3	22	5	4	.....	E. I. Oswald.
Cumberland.....	Allegany.....	722	40	59.1	+3.4	76	16	35	1	26	1.98	-0.48	1.54	.....	4	.....	.....	.....	.....	W. W. Frantz.
Deer Park.....	Garrett.....	2,457	8	50.8	+3.9	80	14	15	1	48	0.39	-1.71	0.24	.....	2	.....	.....	.....	.....	Howard Shriver.
Frostburg.....	Allegany.....	1,200	4	56.8	.....	79	14	29	1	44	1.45	.....	0.75	.....	4	23	0	8	SE	S. P. Specht.
Grantsville.....	Garrett.....	2,400	6	53.2	+4.0	80	15	21	2	33	2.37	-0.16	2.00	.....	3	21	6	4	S	Mrs. G. G. Townsend.
Green Spring Furnace.....	Washington.....	450	7	55.1	+3.4	78	13	26	22	35	1.70	-1.18	0.82	.....	4	21	5	5	SE	J. S. Miller.
Hagerstown.....	Washington.....	552	8	59.0	+3.1	83	13	29	22	33	1.01	-1.27	0.36	.....	3	14	4	3	E	E. G. Kinsell.
Hancock.....	Washington.....	455	1	56.2	.....	84	13	25	22	42	2.49	.....	1.72	.....	3	11	10	10	SE	Clyde B. Stouffer.
Sharpsburg.....	Washington.....	420	1	56.2	+3.2	77	13	31	22	30	1.40	-1.14	0.63	.....	3	19	5	7	SE	J. D. Stottemeyer.
Smithsburg.....	Washington.....	900	1	57.6	.....	81	15	30	21	30	2.51	.....	0.97	.....	20	.....	.....	.....	.....	R. L. Huberger.
Sunnyside.....	Garrett.....	2,440	7	51.0	+3.4	81	15	17	1	45	1.12	-2.24	0.44	.....	5	17	9	9	SW	Dr. D. W. Crowther.
Westernport.....	Allegany.....	1,000	5	54.7	+3.7	79	28	29	1	31	2.20	-0.01	1.87	.....	5	.....	.....	.....	.....	J. G. Knauer.
Average.....	.....	.....	.....	55.6	+3.7	.....	.....	.....	.....	.....	1.61	-1.04	.....	.....	4	18	6	6	S	Prof. O. H. Bruce.
NORTHERN-CENTRAL MD.																				
Bachman's Valley.....	Carroll.....	860	6	54.8	.....	77	13	25	22	31	2.32	-1.13	1.30	.....	5	23	3	5	NW	J. M. Myers.
Baltimore.....	Baltimore.....	123	65	58.7	+2.0	78	12	34	22	26	2.09	-0.84	1.04	.....	6	11	9	11	E	U. S. Weather Bureau.
Baltimore, J. H. Hospital.....	Baltimore.....	112	5	57.0	+1.7	79	13	33	23	31	2.21	.....	0.62	.....	9	15	6	10	NE	W. L. Woods.
Chase.....	Baltimore.....	25	1	55.6	.....	78	13	16	22	30	2.42	.....	1.33	.....	8	8	12	11	NE	J. W. Crouch.
Darlington Academy.....	Harford.....	339	10	55.6	+2.2	75	12	29	22	27	2.65	-0.59	1.15	.....	5	16	8	7	SW	Prof. A. F. Galbreath.
Fallston School.....	Harford.....	450	31	56.2	+1.9	75	13	31	22	23	2.23	-1.32	1.02	.....	7	7	19	5	S	G. G. Curtiss, A. M.
Frederick.....	Frederick.....	275	27	56.8	+2.2	79	13	30	22	30	3.12	+0.62	1.63	.....	7	17	5	9	N	McClintock Young.
Great Falls.....	Montgomery.....	200	11	56.0	+1.2	78	28	30	22	30	1.28	-0.98	0.43	.....	4	16	0	15	NW	Washington Aqueduct.
Harney.....	Frederick.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.11	.....	1.00	.....	4	18	7	6	.....	Warren Hill.
McDonogh.....	Baltimore.....	.....	.....	56.6	+2.1	76	13	32	22	32	3.51	+0.71	1.73	.....	6	22	4	5	.....	W. T. Purdum.
Mt. St. Mary's College.....	Frederick.....	720	39	57.2	+2.6	78	24	30	30	30	3.02	-0.75	1.90	.....	8	14	8	9	NW	J. A. Mitchell, Ph. D.
New Market.....	Frederick.....	550	16	57.2	+2.6	78	19	28	22	32	2.14	-0.65	0.57	.....	6	13	11	7	SE	H. H. Hopkins, M. D.
St. Charles College.....	Howard.....	500	5	56.1	+1.2	77	13	29	22	34	2.69	-1.88	1.04	.....	5	8	13	9	W	Rev. George L. Harig.
Takoma Park.....	Montgomery.....	.....	.....	59.3	.....	84	13	30	22	31	2.30	.....	1.05	.....	6	.....	.....	.....	.....	G. A. Warren.
Taneytown.....	Carroll.....	490	7	56.0	+0.8	79	5	27	22	37	1.97	-0.73	0.87	.....	5	19	6	6	NE	Prof. H. Meier.
Van Bibber.....	Harford.....	22	4	56.0	+1.7	75	13	13	21	25	4.06	+0.28	1.67	.....	10	14	5	12	SE	H. A. Wroth.
Walbrook.....	Baltimore.....	.....	.....	57.3	.....	77	13	22	32	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. J. Walz.
Western Maryland Coll.....	Carroll.....	720	5	57.3	+1.6	79	1	28	21	47	2.89	+0.44	1.51	.....	5	10	13	8	NW	Prof. Roland Watts.
Woodstock College.....	Baltimore.....	392	30	57.3	+4.2	83	12	30	22	31	2.94	-0.45	1.76	.....	7	13	6	12	SE	D. T. O'Sullivan, S. J.
Average.....	.....	.....	.....	56.7	+1.2	.....	.....	.....	.....	.....	2.55	-0.40	.....	.....	6	14	8	9	NW	.....
SOUTHERN MARYLAND.																				
Annapolis.....	Anne Arundel.....	45	26	59.4	+2.1	77	19	29	1	33	4.50	+0.66	1.50	.....	5	4	21	6	NE	W. M. Abbott.
Charlotte Hall School.....	St. Mary's.....	167	6	58.9	+2.5	83	27	27	22	34	4.39	+0.70	2.20	.....	5	16	11	4	NE	J. F. Coad.
Distributing Reservoir.....	Dist. of Columbia.....	120	9	58.3	+2.3	.....	.....	.....	.....	.....	1.57	-0.58	0.62	.....	.....	.....	.....	.....	.....	Washington Aqueduct.
Jewell.....	Anne Arundel.....	165	12	58.0	+2.9	88	28	31	22	32	5.07	+1.37	2.30	.....	5	19	4	8	NE	J. Plummer.
Laurel.....	Prince George's.....	150	5	57.1	+2.3	79	28	29	22	31	5.30	+2.54	2.70	.....	5	15	9	7	.....	Dr. T. M. Baldwin.
Md. Agricultural College.....	Prince George's.....	170	8	56.9	+1.8	79	13	28	1	34	1.35	-1.56	0.58	.....	5	21	6	4	.....	Prof. J. H. Patterson.
Receiving Reservoir.....	Dist. of Columbia.....	160	9	56.0	+0.3	.....	.....	.....	.....	.....	1.17	.....	.....	.....	6	10	9	6	E	Washington Aqueduct.
Solomon's.....	Calvert.....	20	8	62.5	+3.2	83	18	39	22	24	3.21	-0.01	2.00	.....	6	10	9	6	E	W. H. Marsh, M. D.
Washington.....	Dist. of Columbia.....	112	29	58.5	+2.0	80	27	32	22	30	2.80	-0.21	1.22	.....	7	18	4	9	S	U. S. Weather Bureau.
Average.....	.....	.....	.....	58.4	+2.2	.....	.....	.....	.....	.....	3.26	+0.36	.....	.....	6	15	9	6	NE	.....
EASTERN MARYLAND.																				
Berlin.....	Worcester.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. E. J. Dirickson.
Cambridge.....	Dorchester.....	.....	.....	60.0	.....	76	13	37	2	30	3.97	.....	2.40	.....	3	16	3	11	NW	J. A. Jordan.
Chestertown.....	Kent.....	80	15	58.0	+2.6	78	17	32	22	24	2.60	-0.42	1.20	.....	7	21	4	6	SW	Hon. M. de K. Smith.
Coleman.....	Kent.....	80	1	57.8	.....	79	12	33	22	30	2.21	.....	1.25	.....	5	14	8	9	SW	James S. Harris.
Denton.....	Caroline.....	42	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. C. Ramsdell.
Easton.....	Talbot.....	35	10	58.2	+1.5	83	13	31	22	36	2.70	-0.31	2.00	.....	7	20	5	6	N	Henry Shreve.
Mardela Springs.....	Wicomico.....	25	12	59.8	+4.9	79	27	29	21	29	3.89	-0.71	2.30	.....	7	10	0	11	SE	A. E. Acworth.
Ocean City.....	Worcester.....	10	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. M. Scott.
Pocomoke City.....	Worcester.....	37	6	60.6	+0.2	80	19	31	1	31	3.73	+1.17	3.06	.....	5	14	9	8	E&S	R. M. Stevenson.
Port Deposit.....	Cecil.....	25	2	57.4	.....	80	12	30	22	33	1.60	.....	0.85	.....	6	15	2	14	NW	J. I. France.
Princess Anne.....	Somerset.....	20	25	59.2	+2.4	81	17	28	22	33	4.33	+0.35	2.60	.....	6	6	19	6	SW	J. R. Stewart.
Queenstown.....	Queen Anne.....	20	1	58.1	.....	80	13	28	21	27	2.99	.....	1.30	.....	9	17	9	5	SW	Dr. W. K. Carroll.
Rock Hall a.....	Kent.....	20	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. N. Satterfield.
Rock Hall b.....	Kent.....	25	1	.....	.....	79	17	28	22	27	1.77	.....	1.25	.....	4	17	3	11	SW	Isaac L. Leary.
Sandy Point.....	Worcester.....	12	1	62.0	.....	84	10	35	22	32	3.30	.....	2.00	.....	4	20	1	10	NE	J. B. Dirickson.
Sudlersville.....	Queen Anne.....	.....	1	58.6	.....	78	17	32	22	26	1.65	.....	1.35	.....	2	13	14	3	E	J. S. Barwick.
Average.....	.....	.....	.....	58.9	+2.3	.....	.....	.....	.....	.....	2.98	+0.02	.....	.....	5	15	6	8	SW	.....
DELAWARE.																				
Milford.....	Kent.....	20	20	61.6	+6.0	83	27	33	22	30	4.45	+0.85	2.83	.....	4	22	1	8	.....	J. Y. Foulk.
Millsboro.....	Sussex.....	23	7	58.6	+2.3	80	28	31	22	29	5.34	+0.42	3.32	.....	6	18	4	9	NE	Rev. L. W. Wells.
Newark (Delaware Coll.).....	Newcastle.....	136	6	55.8	+2.1	77	13	29	22	32	2.02	-0.95	1.21	.....	5	11	11	9	NE	Prof. W. H. Bishop.
Seaford.....	Sussex.....	40	9	57.3	+1.6	77	17	31	22	26	2.73	-0.79	2.12	.....	5	16	6	9	E	W. T. Wallace.
Average.....	.....	.....	.....	58.4	+3.0	.....	.....	.....	.....	.....	3.61	-0.12	.....	.....	5					

OCTOBER, 1899.

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.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Annapolis.....	62	29	55	41	55	41	64	41	68	43	68	43	68	43	66	50	68	50	68	54	71	51	71	54	73	60	77	58	75	60	68	52	68	53	76	65	77	56	72	54	56	42	53	38	65	45	72	53	70	51	72	53	74	57	70	56	64	50	61	51	67	8	50.9																																																																																																																																																																																																																																																																																																																																																																																																																																																
Bachman's Valley.....	53	38	56	48	55	48	63	32	63	32	69	39	68	43	66	52	68	52	68	54	71	43	73	46	74	58	77	51	70	48	66	48	68	56	77	56	69	48	57	44	58	30	66	38	75	49	72	45	74	58	66	50	63	45	65	2	44.3																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Baltimore.....	56	39	59	38	59	38	65	30	65	30	69	46	68	46	66	56	68	56	68	58	73	52	73	54	74	58	77	50	70	56	66	54	63	59	72	58	76	56	64	51	52	35	63	43	72	52	75	53	77	56	69	54	65	45	66.8																																																																																																																																																																																																																																																																																																																																																																																																																																																								
Baltimore, J. H. Hpl.....	56	35	59	35	59	35	63	34	63	34	69	47	67	42	67	42	68	51	68	51	70	49	73	48	73	58	77	50	70	56	66	54	64	55	72	55	77	56	64	51	52	35	63	43	72	52	75	53	77	56	69	54	65	45	66.8																																																																																																																																																																																																																																																																																																																																																																																																																																																								
Berlin.....	56	35	59	35	59	35	63	34	63	34	69	47	67	42	67	42	68	51	68	51	70	49	73	48	73	58	77	50	70	56	66	54	64	55	72	55	77	56	64	51	52	35	63	43	72	52	75	53	77	56	69	54	65	45	66.8																																																																																																																																																																																																																																																																																																																																																																																																																																																								
Boetherville.....	60	22	67	26	68	28	73	31	76	37	71	43	70	43	68	50	65	45	70	39	76	39	73	45	70	58	81	50	84	49	82	48	80	51	80	61	78	59	76	47	65	50	60	27	59	38	71	33	76	30	67	39	68	41	65	43	70	9	47.0																																																																																																																																																																																																																																																																																																																																																																																																																																																				
Boonsboro a.....	59	29	62	29	60	30	67	38	74	38	68	53	68	53	68	40	68	50	69	52	75	44	73	45	70	58	82	60	71	47	79	55	74	62	73	59	74	58	76	51	70	53	55	31	59	30	71	42	78	52	77	46	69	47	66	40	42.3																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Boonsboro b.....	59	29	62	29	60	30	67	38	74	38	68	53	68	53	68	40	68	50	69	52	75	44	73	45	70	58	82	60	71	47	79	55	74	62	73	59	74	58	76	51	70	53	55	31	59	30	71	42	78	52	77	46	69	47	66	40	42.3																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Cambridge.....	57	43	57	37	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62	33	62

TOTAL PRECIPITATION, OCTOBER, 1899.



Daily precipitation for Maryland and Delaware, October, 1899.

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.			
WESTERN MARYLAND.																																		
Boettcherville.....								.45																					.06		.77	1.28		
Boonsboro a.....						.04		.59										.23											.21		1.25	2.32		
Boonsboro b.....																																	1.63	
Chewsville.....								.67										.33											.34		.29	0.35		
Clear Spring.....																		.20												.15		1.56	1.98	
Cumberland.....								.39	.03																				.15		.24	0.39		
Deer Park.....																													.12		.75	1.45		
Frostburg.....								.57	.01			†																	.14		2.00	2.37		
Grantsville.....								.23																					.14		.82	1.70		
Green Spring Furnace.....									.59									.15											.14		1.70	2.49		
Hagerstown.....																		.41											.24	.36		1.01		
Hancock.....							.58																						.19		1.72	2.49		
Sharpsburg.....								.50	.13			†						.24											.15		.38	1.40		
Smithsburg.....						†		.40				†					.37	.47											.30		.97	2.51		
Sunnyside.....								.02	.13				.10																.44		.43	1.12		
Westernport.....								.20	.13																						1.87	2.20		
NORTHERN-CENTRAL MARYLAND.																																		
Bachman's Valley.....						.46		.31									.09												.16		1.30	2.32		
Baltimore.....						1.04		.62	.61	.02	†						.03	.08	.20										†		.24	.68	2.09	
Baltimore, Johns Hopkins Hospital.....								.18	.11								.02		.15											.13		.35	2.21	
Chase.....					1.33		.15	.10										.18		.15										.22		1.00	2.65	
Darlington Academy.....						1.02		.14	.10								†	.10	.29											.19		.39	2.23	
Fallston School.....						.55		.50	.02			†					.21		.20	.01										.21		1.63	3.12	
Frederick.....						.43		.35	.15																						.35		1.28	
Great Falls.....							.26	.55										†												.30		1.00	2.11	
Harney.....						.85		.28	.20								.20														.25	1.73	3.51	
McDonogh.....					.10	.17		.52							.10		†	.17	.05											.10		1.90	3.02	
Mt. St. Mary's College.....						.40		.22	.28									.17	†											.50		.57	2.14	
New Market.....						1.04		.16										.24												.23		1.02	2.69	
St. Charles College.....						1.05		.08	.18									†												.24		.75	2.30	
Takoma Park.....						.29		.16	.46										.20											.15		.87	1.97	
Taneytown.....					.51	.85		.16							.05	.04	.02	.41												.22	.13	1.67	4.06	
Van Bibber.....						.50		.25									.35														.28		1.51	2.89
Western Maryland College.....						.78		.09	.04								.10	.04												.13		1.76	2.94	
Woodstock College.....																																		
SOUTHERN MARYLAND.																																		
Annapolis.....						1.50		1.70									.20													.30	.80	4.50		
Charlotte Hall School.....						1.63		.15								†	.05		.15											.21		2.20	4.39	
Distributing Reservoir, D. C.....						.62	.42		.20																						.22	.11	1.57	
Jewell.....						2.30		.30									.05													.30		2.12	5.07	
Laurel.....						1.10		1.30									.10														.10		2.70	5.30
Maryland Agricultural College.....						.48	.58	†	.10								.05													.14		1.35		
Receiving Reservoir, D. C.....						.47		.11	.26																						.22	.11	1.17	
Solomon's.....						†	2.00	†	.14								.04	.02												.11		.90	3.21	
Washington, D. C.....						1.12		.21	.01		†						†	.01	.04											.19		1.22	2.80	
EASTERN MARYLAND.																																		
Cambridge.....						2.40		†									†													.12		1.45	3.97	
Chestertown.....						1.20		.02									.25													.08	.20	.85	2.60	
Coleman.....						1.25		.05									.32													.23		.36	2.21	
Denton.....																																		
Easton.....						2.00		.03											.12												.15		.40	2.70
Mardela Springs.....						2.30		.04									.02	.39	.02												1.00		3.69	
Pocomoke City.....						3.06		.08									.10														.19		1.30	4.73
Port Deposit.....						.80		.40	.20																						.50	.10	.85	1.60
Princess Anne.....						†	2.60										.03	.67														.98	4.33	
Queenstown.....						.75	.52		.02							.02	.01	.17													.10	.10	1.30	2.99
Rock Hall a.....																																		
Rock Hall b.....						1.25		†									.04														.26		.22	1.77
Sandy Point.....						.90																									.40	1.00	1.00	3.30
Sudlersville.....						1.35																									.30			1.65
DELAWARE.																																		
Milford.....						2.83		.08										.18														1.26	4.35	
Millsboro.....						3.32		.09								.12		.12													19	1.50	5.34	
Newark (Delaware College).....						2.21		.03										.31													.12		.35	2.02
Seaford.....						2.12		.03										.33													.25			2.73
Wyoming.....																																		