U. S. DEPARTMENT OF AGRICULTURE.

REPORT FOR JUNE, 1897.

MARYLAND AND DELAWARE SECTION

OF THE

CLIMATE AND CROP SERVICE

OF THE

WEATHER BUREAU.

IN COOPERATION WITH THE

MARYLAND STATE WEATHER SERVICE.

PREPARED UNDER THE DIRECTION OF

WILLIS L. MOORE,

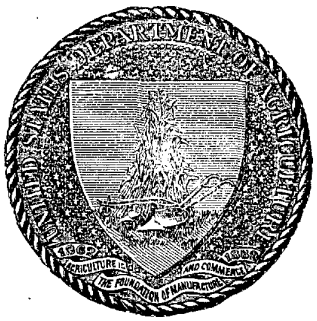
CHIEF OF BUREAU.

BY

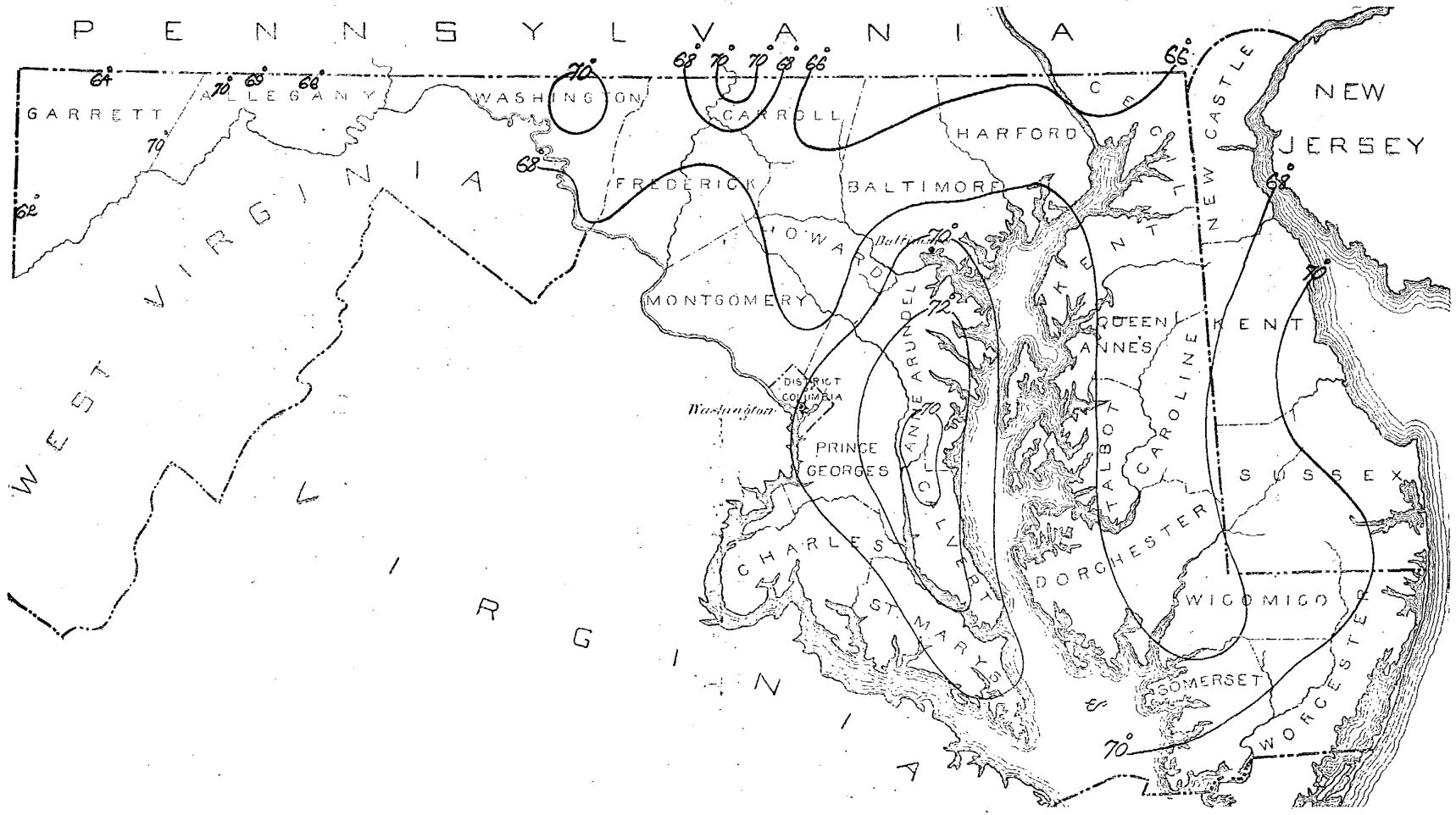
F. J. WALZ,

LOCAL FORECAST OFFICIAL AND SECTION DIRECTOR,

JOHNS HOPKINS UNIVERSITY, BALTIMORE, MD.



MONTHLY MEAN ISOTHERMS, JUNE, 1897.



U. S. DEPARTMENT OF AGRICULTURE,

CLIMATE AND CROP SERVICE

OF THE

WEATHER BUREAU.

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

IN COOPERATION WITH THE

MARYLAND STATE WEATHER SERVICE.

MARYLAND AND DELAWARE SECTION,

F. J. WALZ, Section Director,

BALTIMORE, MD.

VOL. II. BALTIMORE, MD. No. 6.

REVIEW OF THE CROP CONDITIONS.

WEEK ENDING, *June 7, 1897.*

The temperature for the past week averaged slightly above normal, the excess in heat occurring toward its close. During the early portion of the week the nights were unseasonably cold, checking the growth of vegetation, and frosts were reported from the more westerly counties. The precipitation was above normal, owing to general and beneficial rains on Thursday and Friday. Wheat, rye, oats, and grasses are in fine condition in all sections of Maryland and Delaware, and the wheat is heading out nicely. Corn is holding its own, but cannot take on rapid growth while cool weather lasts. Potatoes and tomatoes show satisfactory growth; early potatoes are being marketed in small quantities. Hay harvesting has begun; the crop is not a heavy one. Tobacco is mostly planted. Some cherries are ripe; blackberries promise a large crop. All crops, in fact, are in good condition, awaiting warmer weather for their best development. Apples are likely to be of inferior quality.

* * *

WEEK ENDING, *June 14, 1897.*

The weather during the past week has been for the greater part quite cool, the temperature averaging daily 6° below normal. It warmed up rapidly the last two days, however, and cereals and vegetation in general responded quickly with rapid growth and development. Showers, while not heavy, were general during the week, especially the first part, and were on the whole beneficial. The week generally was favorable to crops and for all farm work. Wheat is in good condition, heading out well, and is nearly ready for harvest. Corn is not so good; it came up late and is growing slowly; oats are heading out and in fine condition; tobacco planting is nearly finished, much replanting is necessary. Timothy and clover are in good condition and about ready to cut. Early potatoes are in bloom and promise a good crop. Cherries are ripening and will be plentiful. Apples and plums are dropping from the trees. Blackberries will be plentiful. Garden truck is good, but backward. Cut worms continue ravaging corn, cabbage, and tomatoes.

WEEK ENDING, *June 21, 1897.*

While the temperature and the rainfall for the past week have both been slightly below the normal, yet the week as a whole has been very favorable for all crops. Showers were frequent over the Section, light ones occurring nearly every day, and were of decided benefit. Corn made rapid advancement during the week, but is still late and thin and not overly promising. Wheat is turning and will in great part be ready for harvesting this week; clover is being cut, and timothy is improving, both will make a good crop. Oats are about headed out and in good condition; tobacco is about all planted; some early potatoes are ready for market, and the crop is large. A large acreage of sweet potatoes has been planted. Melons and cucumbers are in bloom; cherries are plentiful; apples, pears, and peaches continue to drop, and the crops of these fruits will be short of the average, peaches especially so. Raspberries and blackberries will be plentiful; grapes are promising. Some injury to wheat from red wevil is reported from Harford County, and considerable havoc from potato bugs from Montgomery County.

* * *

WEEK ENDING, *June 28, 1897.*

The weather during the past week has been very favorable for the growth and development of all crops. The temperature and rainfall were both below the normal, but one or two quite warm days and a few scattering showers caused a splendid advancement in all vegetation. The week was also perfect for harvesting and all farm work. The harvesting of wheat is proceeding rapidly, and the crop is excellent; oats and rye are heading out finely; clover is being cut and the crop will be heavy and of fine quality; corn is improving in growth and color, and though late, is a good stand. Grass is in fine condition; tomatoes are looking well and growing rapidly; gardens are flourishing; berries are plentiful. Tobacco is growing rapidly and in general standing well. Apples and peaches are still dropping; while the apple crop will be below the average, the quality is promising. Few peaches remain on the trees.

* * *

CLIMATOLOGY OF THE MONTH.

ATMOSPHERIC PRESSURE--IN INCHES AND HUNDREDTHS.

Monthly mean at Washington, D. C., 29.99; at Baltimore, 29.97; average, 29.98; highest, 30.29 at Washington, on the 2d; lowest, 29.70 at Baltimore, on the 13th.

TEMPERATURE--IN DEGREES FAHRENHEIT.

The monthly mean (entire territory), 68.6, was 3.5 below the normal.

The highest monthly mean was 72.5, at Pocomoke City.

The lowest monthly mean was 62.1, at Sunnyside.

The highest temperature recorded during the month was 97, at Taneytown, on the 30th.

The lowest temperature recorded during the month was 29, at Grantsville and Sunnyside, on the 2d.

The greatest local monthly range was 60, at Westernport.

The least local monthly range was 39, at Annapolis and Fallston.

The greatest daily range was 50, at Sunnyside, on the 2d.

The least daily range was 1, at Smithsburg, on the 7th.

PRECIPITATION—IN INCHES AND HUNDREDTHS.

The monthly average (entire territory) 2.82, was 0.64 above the normal.

The greatest amount was 6.47, at Cherryfields.

The least amount was 0.82, at Port Deposit.

The greatest amount in twenty-four hours was 2.92, at Solomon's, on the 24th.

The average number of rainy days, 9.

WIND.

The prevailing direction was from the northwest.

The total movement was 3,440 miles, at Baltimore, and 4,592 miles, at Washington, D. C.

The maximum wind velocity was 25 miles per hour from the northwest, at Washington, D. C., on the 4th.

MISCELLANEOUS PHENOMENA.

Thunderstorms.—At Bachman's Valley, on the 15th and 25th; at Baltimore, on the 3d, 4th, 13th, 16th, 19th, and 25th; at Boettcherville, on the 12th, 13th, 15th, and 16th; at Charlotte Hall, on the 4th, 13th, 16th, 19th, and 24th; at Cherryfields on the 4th, 13th, 15th, 16th, 17th, 19th, 20th, and 24th; Chestertown, on the 3d, 4th, 13th, 15th, 24th, and 25th; at Cumberland, on the 16th; at Fallston, on the 3d, 4th, 12th, 13th, 15th, 16th, 19th, 20th, and 25th; at Frederick, on the 3d, 11th, 15th, 19th, and 20th; at Grantsville, on the 3d, 13th, 16th, and 19th; at Green Spring Furnace, on the 15th and 19th; at Jewell, on the 3d, 4th, 13th, 14th, 15th, 16th, 19th, 20th, 24th, and 25th; at Laurel, on the 3d, 4th, 15th, and 19th; at Mardela Springs, on the 4th, 6th, 12th, 13th, 15th, 16th, 17th, 19th, 24th, 25th, and 30th; at Milford, Del., on the 13th, 20th, and 25th; at Millsboro, Del., on the 12th, 13th, 16th, 24th, and 25th; at Mt. St. Marys College, on the 3d, 4th' 16th, and 20th; at Newark, Del., on the 13th; at Port Deposit, on the 4th, 19th, and 20th; at Princess Anne, on the 4th, 12th, 15th, 16th, and 24th; at Seaford, Del., on the 4th, 13th, 16th, 24th, and 25th; at Sharpsburg, on the 3d, 15th, and 19th; at Solomons, on the 4th, 13th, 15th, 16th, and 24th; at Sunnyside, on the 3d, 4th, 12th, 13th, 16th, 18th, 19th, 20th, and 25th; at Taneytown, on the 3d, 4th, 16th, 19th, 24th, and 25th; at Woodstock, on the 3d, 13th, 16th, and 20th.

Lightning, distant.—At Cherryfields, on the 26th; at Millsboro, Del., on the 3d, 15th, 19th, and 20th; at Solomons, on the 12th and 27th.

Frosts, light.—At Boettcherville and Grantsville, on the 2d.

Hail.—At Bachmans Valley, on the 25th; at Charlotte Hall, on the 20th; at Sharpsburg, on the 15th; at Solomons, on the 13th.

Fogs.—At Green Spring Furnace, on the 6th; at Mardela Springs, on the 6th, 13th, 19th, and 25th; at Millsboro, Del., on the 8th and 9th; at Sunnyside, on the 10th.

Coronæ, lunar.—At Millsboro, Del., on the 12th.

High winds.—At Charlotte Hall, on the 20th; at Green Spring Furnace, on the 13th, 15th, and 16th, at Solomons, on the 13th.

* * *

REMARKS BY OBSERVERS.

Charlotte Hall, Mr. J. F. Coad.—A hailstorm on the 20th did much damage to corn and tobacco; the path of the storm was about one-fourth of a mile wide.

Cumberland, Mr. Howard Shriver.—The nights of June were very cool, but the days were hot. Crops on the whole promise more than fair, both as to quantity and quality.

Fallston School, Prof. G. G. Curtiss.—This has been the coldest June in the past twenty-eight years at this place.

Mardela Springs, Mr. Albert E. Acworth.—The coldest June since 1891, at this place.

Grantsville, Mr. J. S. Miller.—The month has been cool and the latter part dry.

* * *

REMARKABLE OBSERVATIONS ABOUT COLD.

It would be impossible to live in water heated to 100° Centigrade, while air at that temperature would be supportable. Payer, leader of the Austrian expedition to the north pole in 1874, has left remarkable observations about cold. It was impossible to smoke because his pipe became covered with ice. Every metallic object caused a severe burn at the slightest contact. The dryness of the air producod abundant perspiration. Although suffering from thirst he might as well have poured molten lead in his mouth as to have touched the frozen snow. The marching men were enveloped in thick clouds from the perspiration which escaped through their furs. It then froze in small crystals, which fell rattling to the ground. Sound could be heard at great distances. "Meat was split like wood and mercury could have been used for bullets." Intense cold paralyzed the mental faculties—movement, speech, taste, and smell. Contact with a solid body could not be endured in a temperature where the cold of the atmosphere caused no great inconvenience, because the latter is a bad conductor of heat. Metal, being a good conductor, draws off the heat rapidly and tends to bring the flesh to its own temperature.—*Ex.*

* * *

A heavy rain at Upper Marlboro on the 20th did much damage to roads, and much of the newly planted tobacco crop was washed out. Several bridges over small streams were destroyed. At Brandywine there was a cloudburst, and considerable damage was done.

Climatological data for Maryland and Delaware, June, 1897.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.					Sky.				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.	Prevailing direction of wind.	
WESTERN MARYLAND.																				
Boettcherville*2	Allegany	900	7	69.2	—3.2	.....	.....	.....	.....	.....	2.20	—2.12	0.08	.....	6	.....	.....	.....	.....	F. F. Brown.
Cumberland	do	650	38	70.6	+0.3	92	30	45	2	.....	1.88	—1.62	1.00	.....	.....	.....	.....	.....	.....	Howard Shriver.
Deer Park	Garrett	2,457	6	.....	.....	84	30	30	1	49	3.49	.....	1.09	.....	4	.....	.....	.....	.....	S. P. Specht.
Flintstone	Allegany	.....	2	66.1	.....	91	19	32	2	48	2.53	.....	0.60	.....	7	20	6	4	. ...	N. T. Downs.
Grantsville	Garrett	2,100	4	63.8	.....	86	16	29	2	48	2.72	.....	0.51	.....	11	.....	.....	.....	.....	J. S. Miller.
Green Spring Furnace	Washington	500	5	69.2	—5.2	95	30	42	1	37	1.85	.....	0.63	.....	8	12	15	3	e.	E. G. Kinsell.
Hagerstown	do	550	6	70.1	.....	93	30	42	2	35	1.39	.....	1.39	.....	1	15	10	5	.....	Prof. C. E. Carl.
Sharpsburg	do	420	3	67.6	.....	92	30	40	2	36	2.40	.....	0.62	.....	9	22	4	4	.....	R. L. Hiberger.
Smithsburg	do	.....	.....	68.6	.....	90	30	46	2	35	2.71	.....	0.90	.....	10	6	19	5	nw.	L. J. Bell.
Sunnyside	Garrett	2,440	5	62.1	—3.2	87	16	29	2	50	6.47	+1.91	1.58	.....	14	10	0	20	sw.	J. G. Knauer.
Westernport	Allegany	1,000	3	70.3	.....	96	16	36	1	40	1.39	.....	0.55	.....	7	...	.....	.....	.....	Prof. O. H. Bruce.
Average		.....	.....	67.8	—1.8	.....	.....	.....	.....	.....	2.64	—1.47	.....	.....	8	14	9	7	.....	
NORTHERN-CENTRAL MD.																				
Bachman's Valley	Carroll	.....	4	65.4	.....	91	30	36	2	35	3.71	.....	1.26	.....	5	17	10	3	nw.	J. M. Myers.
Baltimore	Baltimore	123	63	70.1	—2.7	95	30	48	2	25	2.57	—1.39	0.83	.....	12	7	16	7	nw.	U. S. Weather Bureau.
Darlington Academy	Harford	300	8	67.4	—4.1	92	30	42	2	29	1.27	—3.04	0.40	.....	7	17	9	4	sw.	Prof. A. F. Galbreath.
Fallston School*1	do	450	29	66.7	—3.4	90	30	51	2	.....	3.01	—0.78	0.96	.....	14	2	23	5	nw.	G. G. Curtiss, A. M.
Frederick	Frederick	250	25	68.9	.....	93	30	39	2	37	2.06	—2.48	0.56	.....	7	2	23	5	.....	McClintock Young.
Great Falls*3	Montgomery	150	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. D. Gaillard.
Johns Hopkins Hospital		124	3	69.3	.....	94	30	44	2	29	3.01	.....	1.18	.....	10	8	14	8	nw.	W. L. Woods.
McDonogh School	Baltimore	545	22	70.3	—0.5	88	30	45	2	29	.....	.....	.....	.....	.....	15	2	9	.....	S. H. Moore.
Mt. St. Mary's College	Frederick	720	37	67.5	.....	90	30	42	2	31	3.52	—0.46	0.91	.....	14	13	10	7	nw.	J. A. Mitchell, Ph. D.
New Market	do	550	14	69.2	—4.6	92	30	48	2	30	2.76	—1.08	0.97	.....	8	7	17	6	sw.	H. H. Hopkins, M. D.
St. Charles College	Howard	300	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. M. Chapuis, S. S.
Taneytown	Carroll	.....	5	69.8	.....	97	30	40	2	38	3.95	.....	1.07	.....	10	9	16	5	sw.	Prof. H. Meier.
Van Bibber	Harford	.....	2	68.3	.....	93	30	43	2	31	2.31	.....	0.81	.....	11	13	2	15	sw.	H. A. Wroth.
Western Maryland Coll.	Carroll	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Roland Watts.
Woodstock College	Baltimore	392	28	67.1	—3.9	88	25	40	2	35	3.81	+0.17	0.84	.....	10	21	7	1	nw.	T. J. A. Freeman, S. J.
Average		.....	.....	68.3	—3.4	.....	.....	.....	.....	.....	2.91	—0.87	.....	.....	10	11	12	6	nw.	
SOUTHERN MARYLAND.																				
Annapolis	Anne Arundel	20	24	72.5	.....	94	30	55	9	25	1.73	—2.66	0.91	.....	6	12	13	5	.....	J. E. Abbott.
Charlotte Hall School	St. Mary's	167	4	69.7	.....	92	30	45	2	29	2.69	.....	1.30	.....	4	14	12	3	sw.	J. F. Coad.
Cherryfields*2	do	20	4	70.5	.....	.....	.....	.....	.....	.....	2.82	.....	1.03	.....	9	6	18	6	ne.	Col. J. E. Coad.
Distributing Reservoir*3	Dist. of Columbia.	120	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Captain Gaillard.
Jewell	Anne Arundel	165	10	68.9	—5.9	93	30	45	2	26	2.29	—1.65	1.05	.....	6	15	10	5	ne.	J. Plummer.
Laurel	Prince George's	.....	3	67.9	.....	90	16	45	1	33	2.40	.....	0.60	.....	6	7	20	3	.....	Dr. T. M. Baldwin.
Md. Agricultural College	do	170	6	.....	.....	91	30	38	2	35	3.49	—1.41	1.77	.....	10	.....	.....	.....	.....	Prof. J. H. Patterson.
Receiving Reservoir*3	Dist. of Columbia.	160	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Captain Gaillard.
Solomon's	Calvert	20	6	71.6	—1.8	92	30	52	2	23	5.69	+2.69	2.92	.....	8	5	12	13	se.	W. H. Marsh, M. D.
Washington	Dist. of Columbia.	112	27	69.5	—2.0	93	30	43	2	31	2.60	—1.34	1.12	.....	11	9	10	11	nw.	U. S. Weather Bureau.
Average		.....	.....	70.1	—3.5	.....	.....	.....	.....	.....	2.96	—0.44	.....	.....	8	9	14	7	ne.	
EASTERN MARYLAND.																				
Chestertown	Kent	80	13	67.8	—4.0	90	29	43	3	41	5.35	—1.35	1.94	.....	11	0	27	3	sw.	Hon. M. de K. Smith.
Denton	Caroline	42	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. C. Ramsdell.
Easton	Talbot	35	8	68.5	—5.0	93	30	40	2	35	3.35	+0.85	1.40	.....	12	17	8	5	sw.	Henry Shreve.
Mardela Springs	Wicomico	25	10	69.8	—3.2	93	30	42	2	30	2.79	+0.28	1.78	.....	9	6	20	4	ne.	A. E. Acworth.
Pocomoke City	Worcester	37	4	71.2	.....	94	30	46	9	34	1.35	.....	0.68	.....	4	14	13	3	s.	R. M. Stevenson.
Port Deposit	Cecil	.....	.....	65.8	.....	93	30	46	2	31	0.82	.....	0.30	.....	7	18	4	8	nw.	A. L. Lamb.
Princess Anne	Somerset	20	23	67.6	—5.1	92	30	40	2	32	2.62	.....	1.19	.....	12	5	24	1	sw.	J. R. Stewart.
Average		.....	.....	68.4	—4.1	.....	.....	.....	.....	.....	2.71	—0.14	.....	.....	9	10	16	4	sw.	
DELAWARE.																				
Dover	Kent	40	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. S. Jester.
Kirkwood*1	Newcastle	.....	1	.....	.....	89	30	34	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. S. Carnagy.
Milford	Kent	.....	18	70.8	—1.7	95	30	49	2	28	3.27	+0.43	1.06	.....	7	19	3	8	nw.	J. Y. Foulk.
Millsboro	Sussex	.....	5	69.1	—3.4	90	26	40	2	31	2.45	—0.37	0.50	.....	13	12	12	6	n.	Rev. L. W. Wells.
Newark (Delaware Coll.)	Newcastle	.....	4	67.0	.....	93	30	42	2	29	1.17	.....	0.38	.....	9	9	15	6	nw.	Prof. W. H. Bishop.
Seaford	Sussex	.....	7	68.6	—3.5	90	29	44	2	28	4.74	+3.10	2.25	.....	8	.....	.....	.....	.....	H. L. Wallace.
Average		.....	.....	68.9	—3.0	.....	.....	.....	.....	.....	2.93	+0.23	.....	.....	9	13	10	7	nw.	
General average		.....	.....	68.6	—3.5	.....	.....	.....	.....	.....	2.82	—0.64	.....	.....	9	11	12	6	nw.	

* Extremes of temperature from observed readings of dry thermometer.

1 Mean of 7 a. m. + 2 p. m. + 9 p. m. + 9 p. m. ÷ 4.

2 Mean of 8 a. m. + 8 p. m. ÷ 2.

3 Mean of 7 a. m. + 2 p. m. ÷ 2.

Maximum and minimum temperatures for Maryland and Delaware, June, 1897.

Stations.	1. Max.	1. Min.	2. Max.	2. Min.	3. Max.	3. Min.	4. Max.	4. Min.	5. Max.	5. Min.	6. Max.	6. Min.	7. Max.	7. Min.	8. Max.	8. Min.	9. Max.	9. Min.	10. Max.	10. Min.	11. Max.	11. Min.	12. Max.	12. Min.	13. Max.	13. Min.	14. Max.	14. Min.	15. Max.	15. Min.	16. Max.	16. Min.	17. Max.	17. Min.	18. Max.	18. Min.	19. Max.	19. Min.	20. Max.	20. Min.	21. Max.	21. Min.	22. Max.	22. Min.	23. Max.	23. Min.	24. Max.	24. Min.	25. Max.	25. Min.	26. Max.	26. Min.	27. Max.	27. Min.	28. Max.	28. Min.	29. Max.	29. Min.	30. Max.	30. Min.	31. Max.	31. Min.	Monthly mean. Max.	Monthly mean. Min.
WESTERN MARYLAND.																																																																
Boettcherville *2	56	54	66	40	73	65	73	70	74	66	68	59	64	58	60	56	64	60	64	60	67	62	68	66	72	79	75	57	78	74	77	70	72	70	70	68	73	70	72	66	66	60	62	60	76	60	74	72	73	72	68	66	72	66	74	72	76	74	82	78	..	..	.....	.....
Cumberland	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
Deer Park	..	30	..	..	..	..	..	..	..	..	..	..	73	65	57	50	70	52	68	44	74	36	77	52	75	49	74	48	82	33	82	55	73	58	81	53	82	57	74	48	73	41	73	36	81	41	80	51	81	61	74	50	74	45	80	40	82	49	84	66	..	..	.....	.....
Flintstone	68	38	80	32	82	52	82	54	79	47	75	43	75	53	63	53	75	55	73	47	81	41	83	55	81	45	82	50	88	52	87	59	72	64	83	55	91	61	80	60	75	43	79	41	88	50	91	57	88	62	83	57	84	48	80	52	88	58	90	54	..	..	80.9	51.3
Grantsville	66	36	77	29	83	57	78	56	71	50	78	40	61	40	60	49	71	51	72	46	78	42	79	60	78	46	77	53	84	53	86	65	76	59	78	61	83	59	78	55	64	42	75	37	84	48	86	54	83	55	77	53	77	44	83	44	85	53	85	65	..	..	77.1	50.4
Green Spring Furnace	69	42	77	43	86	56	87	60	82	59	73	58	73	58	66	55	76	55	77	54	81	60	86	66	84	55	85	53	90	55	90	55	74	62	82	59	86	56	82	62	76	45	82	45	86	57	87	64	91	64	82	59	78	60	82	54	89	65	95	65	..	..	81.8	56.7
Hagerstown	71	49	77	42	87	61	86	64	77	62	82	54	67	59	64	56	71	55	75	53	80	50	84	64	83	53	83	56	88	60	86	66	80	64	81	59	88	58	81	65	81	49	82	54	88	60	91	61	90	64	80	64	87	55	85	53	88	64	93	72	..	..	82.1	58.2
Sharpsburg	67	45	75	40	84	60	82	63	74	61	78	51	61	57	60	54	70	55	72	50	78	48	84	62	80	51	82	54	87	57	84	61	72	66	78	60	82	57	80	64	71	52	77	48	84	48	85	63	89	65	81	63	77	58	76	55	86	64	92	72	..	..	78.3	56.8
Smithsburg	71	51	72	46	80	50	83	68	80	64	76	57	63	62	65	59	68	59	71	58	75	55	81	66	79	58	67	59	85	50	72	56	70	65	77	63	78	67	79	67	71	52	75	50	83	62	84	70	86	68	78	63	76	61	75	61	83	66	90	74	..	..	76.4	59.7
Sunnyside	57	36	79	29	79	57	75	58	67	48	74	41	67	38	61	53	67	50	67	40	76	39	75	58	75	56	74	59	81	55	87	59	74	59	75	63	80	54	72	53	60	40	72	36	81	47	85	52	80	61	71	52	73	46	79	44	81	51	83	66	..	..	74.2	50.0
Westernport	70	36	84	51	89	58	91	53	81	47	84	53	64	54	76	55	83	50	78	45	84	52	90	51	81	55	85	55	94	61	96	66	84	66	82	59	96	63	82	47	77	44	87	51	94	59	88	63	94	58	87	51	86	50	96	56	94	70	94	68	..	..	85.7	54.9
NORTHERN-CENTRAL MARYLAND.																																																																
Bachman's Valley	65	44	74	36	84	48	85	64	75	60	80	50	60	38	57	52	64	54	70	48	78	46	80	60	78	50	79	55	84	56	81	62	72	60	76	58	80	51	81	63	70	48	75	45	82	56	90	62	86	63	78	60	76	54	75	50	85	50	91	71	..	..	77.0	53.8
Baltimore	69	54	72	48	85	60	86	66	75	63	78	59	61	55	60	55	66	57	75	57	80	58	86	66	81	62	84	63	88	66	86	67	75	63	79	62	80	60	85	65	72	56	78	54	83	63	83	67	92	70	82	66	76	60	76	56	83	65	95	72	..	..	79.0	61.2
Darlington Academy	68	48	71	42	82	57	86	66	73	62	77	55	62	54	60	53	65	55	72	53	78	52	88	63	76	56	80	61	86	59	83	64	69	59	77	58	80	54	83	64	70	53	76	49	80	58	87	64	89	69	77	60	75	56	78	52	81	59	92	71	..	..	77.4	57.5
Fallston School *1	66	53	67	51	79	61	84	67	71	62	73	60	59	56	58	54	62	56	69	58	76	60	79	65	68	62	79	67	84	63	80	66	64	62	75	60	76	66	81	66	67	56	69	60	77	62	81	66	89	72	75	66	73	62	72	60	80	63	90	72	..	..	.....	.....
Frederick	74	46	76	39	85	56	87	65	75	63	80	52	61	59	61	55	71	55	74	52	79	50	85	62	84	54	83	55	89	59	86	65	71	63	79	60	83	55	83	64	74	53	78	48	86	56	87	64	92	70	82	66	80	58	73	53	88	67	93	70	..	..	80.0	57.8
Great Falls *3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
Johns Hopkins Hospital	69	51	73	44	86	58	85	66	75	62	78	55	62	55	60	53	66	54	80	54	86	64	81	66	82	62	84	63	88	63	85	65	75	63	78	59	81	59	85	63	73	53	73	53	82	60	85	64	92	69	81	66	74	57	75	55	84	63	94	66	..	..	79.1	59.5
McDonogh School	74	45	72	45	81	58	84	68	72	67	74	68	78	58	60	54	65	55	70	60	76	56	81	64	79	63	..	..	84	76	82	76	..	..	80	72	80	68	81	68	..	..	75	68	80	71	84	67	..	..	76	67	74	60	75	58	79	64	88	74	..	..	77.1	63.5
Mt. St. Mary's College	66	48	72	42	81	57	82	64	73	60	76	52	68	55	59	52	68	54	72	55	77	55	82	61	78	62	80	59	85	62	81	65	73	59	78	62	80	63	81	50	82	51	74	50	80	50	86	61	87	68	78	63	75	54	71	62	84	66	90	70	..	..	77.3	57.7
New Market	69	51	78	48	85	58	87	66	77	61	82	53	61	55	60	55	70	55	74	58	78	58	84	67	80	62	82	57	88	68	81	67	71	53	80	60	84	57	82	64	76	51	79	50	85	62	85	68	90	68	75	58	80	57	72	54	85	65	92	71	..	..	79.1	59.2
St. Charles College	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
Taneytown (Milton Academy)	73	48	78	40	84	52	88	62	79	61	84	53	60	56	59	54	75	54	79	54	83	54	87	60	85	54	87	57	89	60	89	64	71	59	87	59	85	54	84	61	83	59	80	49	86	59	90	69	94	69	86	62	85	54	76	54	89	59	97	70	..	..	82.4	57.3
Van Bibber	74	43	74	57	79	65	83	64	74	56	76	56	61	54	60	55	66	53	74	57	83	64	83	57	83	62	83	61	86	64	83	62	70	60	78	56	79	62	82	53	62	53	78	58	79	61	85	67	91	66	80	56	75	53	76	61	82	65	93	70	..	..	77.6	59.0
Western Maryland College	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
Woodstock College	69	46	75	40	83	53	84	66	75	63	77	55	62	54	59	54	69	54	74	54	77	51	84	57	79	51	83	60	87	59	85	64	72	63	79	60	82	54	81	61	75	53	78	48	80	54	83	61	88	66	81	64	79	55	72	52	84	63	..	..	..	..	77.8	56.4
SOUTHERN MARYLAND.																																																																
Annapolis	78	64	73	60	82	64	75	65	76	69	78	60	65	55	64	58	77	55	78	56	80	69	85	71	87	76	85	71	88	70	85	73	79	67	75	64	79	64	83	67	72	69	75	70	78	71	82	65	88	77	79	73	78	59	76	60	82	67	94	69	..	..	79.2	65.9
Charlotte Hall School	71	52	74	45	84	62	85	68	73	61	77	59	65	58	67	52	72	57	73	54	79	55	85	65	82	57	83	63	90	63	88	65	89	68	76	64	79	58	85	66	73	59	75	50	..	..	..	..	89	65	79	65	72	61	71	57	85	67	92	74	..	..	79.0	60,4
Cherryfields *2	67	61	64	65	71	72	76	68	63	68	70	66	61	60	63	64	62	64	67	66	68	70	74	76	70	72	72	71	75	72	79	77	74	71	69	66	74	71	74	74	66	62	69	70	71	76	78	72	78	80	75	72	68	68	70	72	76	77	83	80	..	..	.....	.....
Distributing Reservoir, D. C. *3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
Jewell	70	54	71	45	84	60	84	63	76	61	76	52	68	52	63	51	65	54	72	56	75	55	85	60	84	59	81	60	88	63	85	66	77	65	75	61	80	60	85	65	71	55	76	55	79	62	83	65	89	68	79	65	73	61	73	57	84	67	93	73	..	..	78.1	59.7
Laurel	69	45	74	47	75	50	83	65	74	63	76	55	77	53	59	54	67	56	73	49	75	52	84	60	80	52	83	59	86	57	90	65	80	67	79	62	81	54	85	65	72	52	80	47	82	53	83	60	90	66	82	64	77	58	75	51	83	65	90	68	..	..	78.8	57.1
Maryland Agricultural College	68	46	73	38	83	56	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	83	60	83	50	81	63	86	56	84	63	73	66	..	..	83	60	..	..	..	..	..	..	..	..	..	..	..	..	..	..	73	57	70	50	81	64	91	69	..	..	.....	.....
Receiving Reservoir, D. C. *3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
Solomon's	72	57	70	52	83	64	87	67	76	68	80	62	73	57	67	57	73	59	76	58	81	58	84	67	81	61	83	64	88	65	85	67	80	69	76	64	80	63	85	68	71	61	75	58	78	66	88	69	90	70	81	70	74	62	73	63	85	69	92	76	..	..	79.6	63.7
Washington, D. C.	69	50	74	43	84	63	86	68	72	59	78	56	62	57	60	56	70	58	74	55	79	56	86	65	84	59	83	63	89	61	88	65	76	64	98	62	81	59	85	65	71	56	77	51	80	64	85	62	91	70	81	65	74	59	72	55	84	67	93	74	..	..	79.5	58.6
EASTERN MARYLAND.																																																																
Chestertown	68	53	72	48	84	43	85	68	73	62	75	58	61	56	58	54	66	55	67	55	73	55	77	65	76	54	81	61	78	60	83	65	78	65	79	59	81	59	84	65	72	53	70	52	82	52	88	65	87	68	78	66	74	57	77	55	90	64	87	69	..	..	76.8	58.7
Denton	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
Easton	70	50	74	40	83	48	87	68	74	63	77	60	63	55	64	56	66	58	74	54	78	54	84	63	80	55	82	62	88	58	83	66	78	67	78	59	81	63	81	62	72	55	76	52	81	58	87	63	86	65	78	66	75	57	71	54	84	62	93	68	..	..	78.3	58.7
Mardela Springs	71	54	72	42	82	57	86	66	72	65	76	60	63	56	65	59	68	60	73	54	77	54	84	65	81	57	82	68	87	60	87	67	79	66	75	71	81	57	85	64	73	57	76	49	81	59	86	65	89	71	80	68	74	57	76	58	87	66	93	75	..	..	78.7	60.9
Pocomoke City	73	56	80	46	82	60	88	69	78	68	78	60	60	56	64	55	71	46	74	58	78	57	87	66	86	62	85	61	88	60	88	68	78	67	78	62	84	61	84	66	73	58	78	53	81	60	90	69	93	74	79	73	78	59	79	58	90	69	94	77	..	..	80.6	61.8
Port Deposit	67	..	71	46	80	60	81	68	73	63	79	57	62	57	63	53	63	56	73	55	76	52	82	61	77	57	82	60	82	59	79	63	61	50	84	58	74	62	80	58	75	52	75	52	79	52	75	50	94	64	85	54	72	51	75	54	84	61	93	69	..	..	76.5	55.1
Princess Anne	71	47	72	40	80	58	84	66	72	64	76	59	63	53	64	56	69	59	70	53	76	54	82	64	80	56	78	64	80	58	84	66	74	65	76	60	78	55	80	64	71	53	74	46	74	56	84	65	90	70	80	60	72	56	73	56	83	63	92	72	..	..	76.7	58 6
DELAWARE.																																																																
Dover	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....	.....
Kirkwood *1	66	52	65	61	77	62	72	48	69	49	..	..	62	60	61	48	62	57	54	38	56	36	64	48	..	..	78	70	71	64	68	42	62	34	64	42	65	40	..	..	64	38	72	61	80	62	75	68	75	67	78	68	..	..	78	62	81	64	89	71	..	..	.....	.....
Milford	67	55	77	49	85	58	95	70	77	65	77	59	59	56	64	56	67	57	76	62	75	58	86	65	84	66	86	62	87	66	86	69	74	66	81	62	82	60	87	63	72	58	79	53	84	58	89	67	91	72	82	67	76	59	75	54	85	66	95	74	..	..	80.0	61.7
Millsboro	74	51	71	40	77	57	82	70	89	65	73	59	73	55	60	57	63	61	68	55	75	55	79	64	85	54	83	60	81	58	88	66	85	67	76	60	76	57	82	63	86	58	74	58	78	56	83	65	87	71	90	67	80	58	74	53	76	65	84	71	..	..	78.4	59.9
Newark (Delaware College)	66	48	71	42	82	55	86	66	73	60	72	55	63	55	61	53	64	55	71	54	77	53	80	63	72	55	80	59	86	60	83	63	67	60	79	58	82	53	83	63	74	49	76	49	83	56	86	62	89	69	77	62	75	53	79	50	83	59	93	71	..	..	77.1	57.0
Seaford	68	54	72	44	81	57	86	67	72	64	75	60	62	55	64	56	66	60	73	55	76	55	83	64	81	56	79	61	86	60	83	66	77	64	75	60	80	59	84	61	71	56	76	52	81	59	87	65	87	70	77	66	72	57	73	55	84	65	90	72	..	..	77.4	59.8

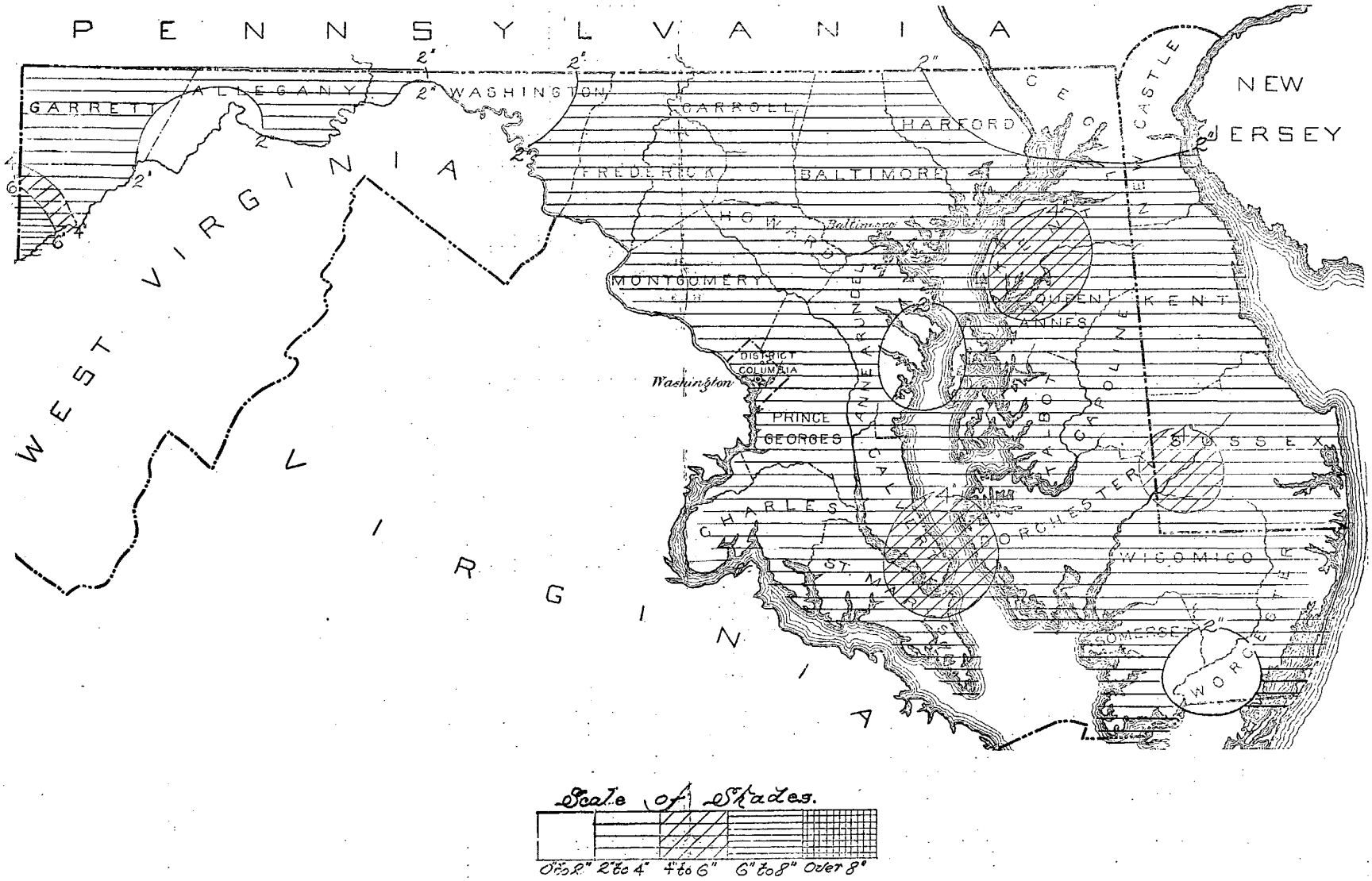
* Extremes of temperature from observed readings of dry thermometer.

1 Observations taken at 7 a. m., 2 p. m., and 9 p. m.

2 Observations taken at 8 a. m. and 8 p. m.

3 Observations taken at 7 a. m. and 2 p. m.

TOTAL PRECIPITATION, JUNE, 1897.



Scale of States.

0 to 2" 2 to 4" 4 to 6" 6 to 8" Over 8"

Daily precipitation for Maryland and Delaware, June, 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.	
WESTERN MARYLAND.																																
Boettcherville			†					.10				.20				.80	.30	.10						.70								2.20
Cumberland													.24			1.00	.34							.30								1.88
Deer Park							.60						1.09			.90		.90														3.49
Flintstone			.42	.18				.23					.60			.50	.12		.48													2.53
Grantsville			.40	.40			.01	.15	.05				.50			.24	.51		.18	.20				.08								2.72
Green Spring Furnace			†	.15	.05				.23						.31	.17	.06		.25	.63												1.85
Hagerstown				1.39																												1.39
Sharpsburg			.03	.20	.40		†	.55	.12				.06		.42	†	†		.42	.20				†	†				†			2.40
Smithsburg			.10	.90			.54				.12				.28	.05	.35		.37										†	†		2.71
Sunnyside			.37	.18		†	.18	.27	†		†	.14	.67			1.26	.56	1.58	.46	.02				.11	.13				†	.54		6.47
Westernport			.08				.15	.07					.55			.36	.03							.15								1.39
NORTHERN-CENTRAL MARYLAND.																																
Bachman's Valley	†		†	.84				1.26			†		†		†		.31	†	.55					†	.75				†			3.71
Baltimore	†		.15	.82	.12		†	.06	.01		†	†	.30		†	.33	.18	.07	.05	.17				†	.31				†			2.57
Darlington Academy			.05	.40				.13			.17				.11		.21		.20													1.27
Fallston School	†			.96	.16		†		.09		†	.02	.88			.18		.35		.31					.06			†	†			3.01
Frederick			.04	.54				.56					.01		.01		.40			.50									†			2.06
Great Falls																																
Johns Hopkins Hospital				.28	1.18	.12		.02	.05					.41		.22		.24		.22						.27						3.01
McDonogh School																																
Mt. St. Mary's College			.39	.36	.13		†	.91	.21				.02	.38	.02	.37	.10	.04	.05	.27			†	†	.27							3.52
New Market			.17	.51				.97			†	.06	.04		.03		.55			.43				†	†			†	†			2.76
St. Charles College																																
Taneytown			.79	1.07				.72			.02		†		†	.21	.10	.07	.55					†	.42							3.95
Van Bibber			.09	.53			†	.03			.01		.81		.17	.04	.25		.13	.20					.04				†	†		2.31
Western Maryland College																																
Woodstock College			.68		.84			.45		†		†	.09			.75	.10	.25		.65												3.81
SOUTHERN MARYLAND.																																
Annapolis			.12	.91	.18		†	†	†			†					.14		†	.11				†	.27				†			1.73
Charlotte Hall School				1.25			†						.02		.12					†				1.30								2.69
Cherryfields			†	1.03	.09		.02	.09				†	.04		.36	.16	.13							.90		†		†				2.82
Distributing Reservoir, D. C.																																
Jewell			†	.40	†			†	†				†	.50	.05	†	1.05		.04	†				.25	†	†		†				2.29
Laurel			.38	.45				.25									.60		.35					.37								2.40
Maryland Agricultural College			.34	.26	.50		.01	.07				†		.01	.07	†	1.77							.31	.15							3.49
Receiving Reservoir, D. C.																																
Solomon's				1.25	.45			.31					.20		.15	.11	.30		†				†	2.92				†				5.69
Washington, D. C			.02	.26	.32		†	.18	†		†		.02		.15	†	1.12	.13		.32				.07				†	†	.01		2.60
EASTERN MARYLAND.																																
Chestertown			.14	1.94			.05	.03	†				1.12		.23		.51	†	.12	.21				.90	.10							5.35
Denton																																
Easton					1.40				.23							.35		.31		.19					.87							3.35
Mardela Springs				1.78	.05		.27					.18			.07		.02	.04						.25						.13		2.79
Pocomoke City					.30			.68									.15				.22											1.35
Port Deposit			.03			.28						.01	.05					.30	.10	.05												.82
Princess Anne				1.19	.08	.07		.27				.26	.08		.04	.05	.38				.08			†	.09					.03		2.62
DELAWARE.																																
Dover																																
Kirkwood																																
Milford					1.01			.18					1.06			.22	.06			.43				.31								3.27
Millsboro				.50	.15			.24	.03			.17	.20			.30	.03			.02				.32	.07				.32	.10		2.45
Newark (Delaware College)					.38			.11				.18	.17			.04	.01	.07		.06				.15								1.17
Seaford				2.25				.31				†	.25			.22			.07	†				1.43	.11				.20			4.84

†Trace, when precipitation is less than 0.01 inch.