

OCT 22 1900

U. S. DEPARTMENT OF AGRICULTURE.

REPORT FOR SEPTEMBER, 1900.

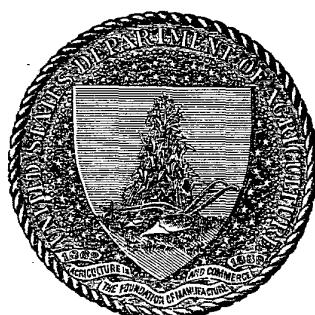
MARYLAND AND DELAWARE SECTION
OF THE
CLIMATE AND CROP SERVICE
OF THE
WEATHER BUREAU.

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

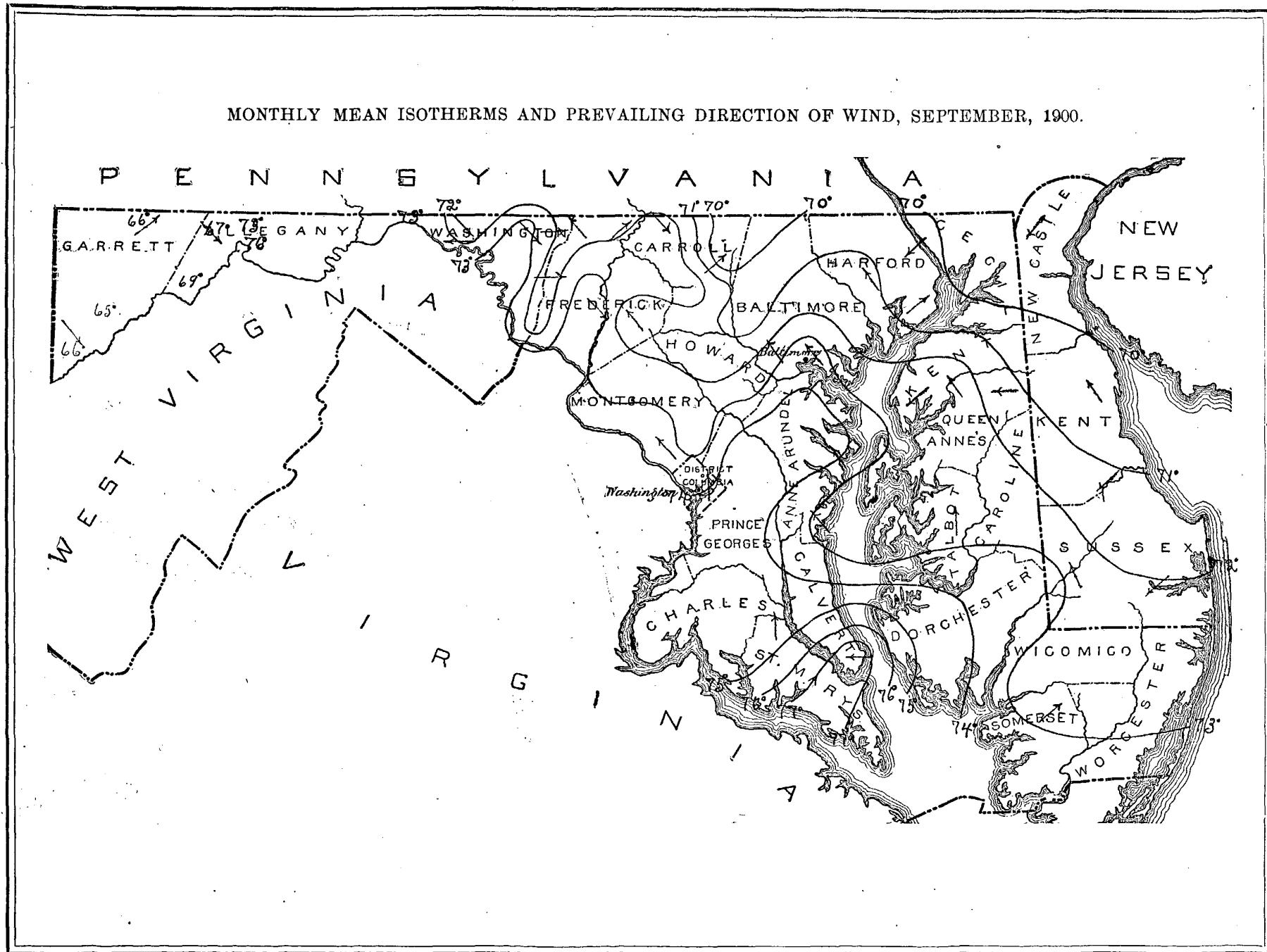
OLIVER L. FASSIG,
SECTION DIRECTOR.



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

1900.

MONTHLY MEAN ISOTHERMS AND PREVAILING DIRECTION OF WIND, SEPTEMBER, 1900.



U. S. DEPARTMENT OF AGRICULTURE,

CLIMATE AND CROP SERVICE

OF THE
WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

MARYLAND AND DELAWARE SECTION,
OLIVER L. FASSIG, Section Director.

Vol. V.

BALTIMORE, MD.

No. 9.

Climate and Crop Conditions. September has been warmer this year than usual in all parts of the section. Temperatures were continuously above normal except from the 17th to the 20th, which was the only cold period of the month. At that time frosts were general in Western Maryland, and formed at exposed places southward through Anne Arundel and Prince George's Counties, and at scattered points on the Eastern Shore and in Delaware. The warmest days were the 6th and 11th, considering the section as a whole. The rainfall for the month was in excess of the normal in the counties lying on either margin of the Bay, but was very light elsewhere, especially in the extreme west and southeast. Good showers fell over much of the Section on the 14th and from the 28th to the close of the month, and heavy rains occurred in the favored districts already defined on the 15th and 16th, but the remainder of the month was dry.

* *

The excess in temperature during the greater part of the month was not unfavorable to the growth of vegetation, and the frosts of the 19th seem to have been entirely without damage. The absence of sufficient rainfall, however, has been a serious drawback in the drier counties, and even in the districts reporting larger amounts the excess was due to one brief period of heavy rainfall, so that for the month in its entirety the whole Section may be said to have suffered for moisture. At the close of the month fall plowing and seeding were backward owing to repeated delays due to the hardened state of the soil, although the heavy rains of the 15th-16th permitted considerable progress in places, and the more prolonged and general showers of the 28th to 30th placed the ground in still better condition for working. The harvesting of crops still in the field—corn, fodder, and tobacco—made good progress during the month, under favorable weather conditions, but the yields of each have been below the average. Fall gardens suffered severely during the dry weather, but had revived somewhat towards the close of the month. Shipments of peaches decreased gradually as the month advanced, but pears continued to come to market in moderate quantities during the entire period. Apples dropped badly, and the yield had been reduced to almost nothing in many orchards. All fruit was more or less damaged by high winds that prevailed throughout the Section on the 12th.

A Siberian Crop Report. To THE SECTION DIRECTOR: I do not know how I can give you in fewer words an idea of the crops raised in Siberia, and the time of their maturing, than to give a sort of crop report from the Minusinsk region which I have just visited (September 1st). This section lies in the valley of the Yenisei River about latitude 53° north, and is one of the richest in all Siberia.

Hay and wheat are nearly all cut, and we are beginning on the oats. Fall pastures are good. Watermelons, six inches in diameter, are ripe. Cucumbers are still plentiful. The sugar beet crop promises well. Cabbage, potatoes, and onions are doing finely.

Here where the season is so short everything ripens at the same time and bunches the hard work in an inconvenient way, especially as practically everything is done by hand; the mowing, cradling, and binding of the grain being done by the men and women together.

Although the greater part of Siberia is worthless, agriculturally speaking, yet there is a vast amount of cultivatable soil along the 4,000 miles of its southern boundary. A narrow strip on both sides of the Great Siberian Post Route from the Mals to Lake Baikal and for 400 miles farther east is under cultivation. Also the upper valleys of the great rivers, the Obi, Yenisei, and Lena, are more or less cultivated. But by no means all of this good land is taken, while farther east the broad prairie region of the Amoor and Sungaree Rivers is hardly touched, in spite of the fact that thousands of peasants are crowding in every year.

The winter is very long, the rivers freezing over during the first of November and continuing so until May, but the short hot summer produces good wheat, oats, rye, and hemp, while table vegetables grow well. In some places even tobacco is raised.

Their great lack is in fruit. The winter is too severe for even the hardiest apples. There are but few berries; however, no attempt has been made to cultivate them. One of the principal products is the edible mushroom which the woods produce in large numbers. To take the place of fruit, apples for instance, the people eat green cucumbers. In some of the favored spots, as at Minusinsk, watermelons of a diminutive size, and musk melons, ripen.

Besides the Great Siberian Post Route, roads are few and the rivers serve as the channels to market. I have seen rafts loaded with hay, others with melons, or wheat, or oats, or live stock, being floated down stream to the larger cities or to mining centers. The best time for the farmers to get around is in winter when the rivers are frozen over. It is then that the great fairs, lasting for two or more weeks, are held.

On the whole the Siberian farmer does not have as hard a time as most people suppose. He dresses for cold weather, and builds his house for cold weather, and eats for cold weather. The Russian Government also sees that he does not starve before he gets his land cleared and in workable shape.

FRED. B. WRIGHT.

Krasnoyarsk, Siberia,
September, 2d, 1900.

**The Number of Hot Days
in Baltimore Since 1871.**

The unusual severity of the heat during the past summer led to a comparison of conditions at Baltimore during the past thirty years, based upon the number of hot days occurring during the warm season. The day has been considered hot when the maximum temperature reached 90° or above. The following table shows the number of such days recorded in each month of each year since 1871, together with the total number for the year, and the absolute maximum temperature, with time of occurrence:

Year.	Apr.	May	June	July	Aug.	Sept.	Oct.	Annual.	Absolute Maximum.
1871			2	5	2			9	92°, July 16.
1872			5	10	12	2		29	97°, July 2.
1873			2	15	4	2		23	96°, July 3.
1874			9	7	3	1		20	98°, June 9.
1875			7	7		2		16	97°, June 27.
1876			5	18	2			25	99°, July 9.
1877		2	4	8	3			17	95°, June 26.
1878			1	16	4			21	98°, July 18.
1879	1		4	10	5			20	99°, July 16.
1880		7	9	10	2	3		31	99°, July 13.
1881		3	3	11	8	6		31	101°, Sept. 7.
1882		6	8	1				15	97°, June 25.
1883		1	7	2				15	96°, July 22.
1884		4	3	3	3			13	95°, July 24.
1885		4	15	3				22	99°, July 21.
1886			4	4	2			10	92°, July 7, Aug. 27.
1887		2	10	3				15	102°, July 18.
1888	1		8	5	10			24	96°, Aug. 16.
1889	2		2	5	1			10	93°, July 9.
1890			4	8	2			14	98°, July 8.
1891			5		5	1		11	94°, June 16, Aug. 10, 11.
1892			6	10	3			19	99°, July 26.
1893			5	9	2			16	98°, June 20.
1894		8	11	2	2			23	98°, June 24.
1895		2	5	5	10	7		29	97°, June 1, 3.
1896	2	5	3	10	10	3		33	98°, Aug. 7.
1897		2	4	1	4	1		12	97°, Sept. 11.
1898	1	7	10	9	8	5		35	102°, July 3.
1899	1	8	8	8	2			27	98°, June 6.
1900		3	3	15	17	4		42	100°, (July 16, 17, Aug. 7, 9, 10, 11.)
Total...	3	27	134	264	141	52	1	622	
Average	0	1	4	9	5	2	0	21	

* *

In another column we print an interesting account, by an eye witness, of crop conditions about September 1st, near Krasnoyarsk, Siberia. The writer, Mr. F. B. Wright, is a graduate student of Johns Hopkins University, and was also until recently connected with the Baltimore office of the Weather Bureau; he is making a scientific journey into Siberia with his father, Prof. G. F. Wright, of Oberlin, Ohio. Passing through China on their way to Siberia at the time of the Boxer revolt, the travelers met with many an exciting incident. We quote the following from a letter just received:

"I have had all kinds of experiences this summer. Left Pekin one day before the Boxers tore up the railroad. Got in a crowd in the native city of Tientsin and had stones thrown at me. Went across Manchuria under a Cossack guard. Had to run the gauntlet to get into Blagowieschtschensk, where the Chinese were besieging that city, the capital of the Amoor Provinces. Spent one week in the place, eating, drinking, and sleeping to the tune of Chinese bullets, cannon, and shells. Sneaked out before the city was relieved, and within a week was safe beyond delays from the Chinaman, or Katieskies, as the Russians call them."

Mr. Wright expects to return to the University next spring.

CLIMATOLOGY OF THE MONTH.

ATMOSPHERIC PRESSURE.

Monthly mean at Washington, D. C., 30.08 inches; at Baltimore, 30.08 inches; average, 30.08 inches; highest, 30.33 inches, at Washington, D. C., on the 2d; lowest, 29.67 inches, at Baltimore, on the 12th.

TEMPERATURE.

The monthly mean (entire territory), 72.1°, is 4.6° above the normal.

The highest monthly mean was 77°, at Solomons.

The lowest monthly mean was 65°, at Deer Park.

The highest temperature recorded during the month was 103°, at Hancock, on the 11th.

The lowest temperature recorded during the month was 29°, at Deer Park, on the 19th.

The greatest local monthly range was 65°, at Hancock.

The least local monthly range was 42°, at Van Bibber and Chestertown.

The greatest daily range was 47°, at Hancock, on the 19th.

The least daily range was 3°, at Fallston, Frederick, and Johns Hopkins Hospital, on the 15th, 12th, and 17th respectively.

**PRECIPITATION,
in inches and hundredths.**

The monthly average (entire territory) 3.70, was 0.30 above the normal.

The greatest amount was 8.23, at Rock Hall.

The least amount was 0.40, at Deer Park.

The greatest amount in twenty-four hours was 3.80, at Van Bibber, on the 15th.

The average number of rainy days, 6.

WIND.

The prevailing direction was from the southeast.

The total movement was 3,176 miles, at Baltimore, and 3,768 miles, at Washington, D. C.

The maximum wind velocity was 30 miles per hour from the northwest, at Washington, D. C., on the 12th.

MISCELLANEOUS PHENOMENA.

Frost.—On the 19th at Bachman's Valley, Boonsboro, Deer Park, Grantsville, Harney, Laurel, Millsboro, Del., New Market, Princess Anne, Sunnyside, Taneytown, and Washington, D. C.; on the 18th at Van Bibber; on the 24th at Smithsburg; and on the 20th and 23d at Westernport.

Thunderstorms.—Baltimore, 4, 7, 16; Chestertown, 14, 15, 26; Chewsville, 27; Clear Spring, 3, 7; Fallston, 16, 18, 27, 28; Frederick, 27; Grantsville, 26, 27; Green Spring Furnace, 2, 7, 12, 15, 18, 23, 29; Hagerstown, 27; Jewell, 7, 15, 26, 27; Laurel, 7; Millsboro, 8; Newark, 4, 16; Princess Anne, 14, 27; Rock Hall, 7, 15, 27, 28; Smithsburg, 4; Solomons, 14, 16, 26, 27; Sudlersville, 14; Sunnyside, 8, 27, 29; Taneytown, 2, 7; Van Bibber, 26; Woodstock, 7.

Fog.—Clear Spring, 8, 9, 29; Princess Anne, 24, 30; Western Maryland College, 2.

Lunar Halo.—Jewell, 30.

Lunar Corona.—Millsboro, Del., 4, 7, 11, 29; Rock Hall, 3, 7.

ERRATA.

July, 1900, Report: Page 5.—Total precipitation at Cumberland, 3.09, should read 3.23; number of rainy days, 6, should read 7. Total precipitation at Woodstock, 1.78, should read 3.94; greatest amount in 24 hours, 0.62, should read 2.24, Page 8.—Total precipitation at Cumberland, 3.09, should read 3.23; amount on the 22d, blank, should read .14. Total precipitation at Woodstock, 1.78, should read 3.94; amount on the 23d, .22, should read 2.24.

August, 1900, Report: Page 5.—Total precipitation at Cumberland, 1.16, should read 1.66; number of rainy days 4, should read 6. Page 8.—Total precipitation at Cumberland, 1.16, should read 1.66; amount on the 3d, blank, should read .31; amount on the 12th, blank, should read .19.

Climatological data for Maryland and Delaware, September, 1900.

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	10	72.6	+7.6	101	11	37	19	45	0.78	-1.92	0.52	2	1	5	4	w.	F. F. Brown, C. E. Huntzberry. W. A. Henneberger.
Boonsboro	Washington	600	2	73.2	.....	99	11	42	19	38	2.18	.....	1.25	4	21	5	4	w.	E. I. Oswald W. W. Frantz. Howard Shriver.
Chewsville	Washington	530	2	72.4	.....	96	6	42	16	38	2.25	.....	1.01	5	13	12	5	w.	S. P. Specht.
Clear Spring	Washington	500	7	71.5	.....	94	12	43	19	33	1.09	.....	0.74	3	3	4	21	nw.	J. S. Miller. E. G. Kinsell. Clyde B. Stouffer. J. D. Stoltmeyer. R. L. Hilberger. Chas. K. Shank. Dr. D. W. Crowther. J. G. Knauer. Prof. O. H. Bruce.
Cumberland	Allegany	722	41	76.4	+7.3	93	6	47	19	31	1.00	-1.73	0.44	3	3	3	3	.....	.....
Deer Park	Garrett	2,457	9	65.0	+4.5	89	11	29	19	42	0.40	-2.55	0.12	4	8	17	0	13	.....
Frostburg*.....	Garrett	2,200	5	67.0	.....	94	10	40	18	37	1.67	.....	0.60	3	13	14	3	nw.	.....
Grantsville	Garrett	2,400	7	66.3	+3.2	91	11	33	19	39	0.87	-1.94	0.50	3	18	6	6	e.	.....
Green Spring Furnace	Washington	450	8	72.0	+4.0	97	11	40	19	39	2.16	.....	0.67	5	19	4	7	nw.	.....
Hagerstown	Washington	552	9	73.8	+5.8	99	11	40	19	39	1.55	-0.40	1.09	5	10	18	2	.....	.....
Hancock c.	Washington	455	2	73.0	.....	103	11	38	19	47	1.19	.....	0.55	4	10	18	2	.....	.....
Sharpsburg	Washington	420	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Smithsburg a.	Washington	750	2	71.8	.....	97	11	40	19	30	1.56	.....	0.80	6	19	9	2	e.	.....
Smithsburg b. c.	Washington	900	8	70.6	+4.4	93	9	30	19	32	2.08	.....	0.78	5	11	9	7	nw.	.....
Sunnyside	Garrett	2,440	6	69.2	+2.2	99	11	37	18	34	0.94	-0.35	1.05	10	13	10	7	.....	.....
Westernport	Allegany	1,000	6	69.2	+2.2	93	11	37	18	34	0.94	-1.46	0.50	4	.....	.....	.....	.....	.....
Average.....	.....	.....	.....	71.0	+4.9	.....	.....	.....	.....	.....	2.08	-1.38	.....	4	14	11	5	nw.	.....
NORTHERN-CEN. MD.																			
Bachman's Valley.....	Carroll	860	7	69.9	+4.9	94	11	37	19	32	2.21	-0.40	0.85	5	21	6	3	w.	J. M. Myers. U.S. Weather Bureau.
Baltimore.....	Baltimore	123	66	73.8	+5.8	95	11	50	19	27	4.26	+0.38	3.61	7	11	10	9	e.	W. L. Woods.
Baltimore, J. H. Hosp.	Baltimore	112	6	72.6	+3.0	93	6	46	19	31	5.28	.....	2.20	8	19	11	6	ne.	J. W. Crouch.
Chase	Baltimore	25	2	71.2	.....	93	6	40	19	30	5.74	.....	3.74	7	13	11	6	.....	.....
Darlington Academy.....	Harford	339	11	70.8	+4.1	92	6	45	19	32	4.36	+0.75	2.57	9	21	2	7	nw.	Prof. A. F. Galbreath.
Fallston School.....	Harford	450	32	71.2	+5.6	93	6	44	19	33	3.77	-0.55	2.53	9	18	17	5	se.	G. G. Curtiss, A. M. McClintock Young.
Frederick	Frederick	275	28	73.6	+7.0	97	11	45	19	30	1.98	-1.46	1.45	18	6	16	6	nw.	Washington Aqueduct.
Great Falls	Montgomery	200	12	73.6	+5.1	97	12	43	19	29	3.73	+0.66	1.40	8	22	0	8	.....	Daniel Bowersox.
Harney	Frederick .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.25	.....	1.45	5	16	11	3	.....	W. E. Byrd.
McDonogh	Baltimore .....	.....	70.9	+5.4	93	16	42	18	35	3.22	-0.27	1.80	6	21	7	2	sw.	J. A. Mitchell, Ph. D.	
Mt. St. Mary's Coll.	Frederick	720	40	72.6	+7.2	96	11	48	19	24	2.80	-0.80	1.10	5	19	3	8	se.	H. H. Hopkins, M. D.
New Market	Frederick	550	17	71.8	+5.7	96	11	41	19	33	1.84	-1.94	1.29	7	14	9	7	se.	Rev. George L. Harig.
St. Charles College	Howard	500	6	.....	.....	.....	.....	.....	.....	.....	2.94	-1.06	1.14	6	17	7	7	se.	G. A. Warren.
Takoma Park	Montgomery	1	72.9	.....	96	11	43	19	28	4.37	.....	2.02	7	12	12	5	nw.	Prof. H. Meier.	
Taneytown	Carroll	490	8	72.8	+3.9	97	11	39	19	32	2.72	-0.52	1.50	10	14	9	9	sw.	H. A. Wroth.
van Bibber	Harford	22	5	70.1	+3.1	89	12	47	19	31	6.78	+4.09	3.80	10	14	8	4	se.	Prof. Roland Watts.
West'n Maryland Coll.	Carroll	900	6	72.2	.....	90	11	43	19	29	2.99	.....	2.34	6	14	10	6	.....	James T. Dawson, S. J.
Woodstock College	Baltimore	392	31	71.0	+5.9	91	11	40	19	30	3.67	+0.10	2.34	6	14	10	6	.....	.....
Average.....	.....	.....	.....	71.9	+5.1	.....	.....	.....	.....	.....	3.64	-0.08	.....	7	16	8	6	se.	.....
SOUTHERN MARYLAND.																			
Annapolis	Anne Arundel	45	27	74.5	+5.0	94	6	53	19	22	6.16	+2.44	3.10	6	19	7	4	se.	W. M. Abbott.
Charlotte Hall Sch.	St. Mary's	167	7	74.3	+2.6	100	7	42	19	37	4.79	+3.54	2.40	6	18	8	4	s.	J. F. Coad.
Distrib'ng Reservoir+	Dist. of Columbia	120	10	74.0	+5.1	96	11	48	19	36	4.07	+1.90	2.63	5	22	3	5	se.	Washington Aqueduct.
Jewell	Anne Arundel	165	13	73.0	+3.5	96	11	47	19	26	5.88	+2.19	3.63	6	17	5	6	.....	J. Plummer.
Laurel	Prince George's	150	6	73.6	+4.1	100	11	39	19	36	5.23	+2.94	3.25	6	20	7	3	.....	Dr. T. M. Baldwin.
Md. Agricultural Coll.	Prince George's	170	9	74.1	+5.0	100	11	39	19	38	5.59	+3.15	3.04	5	10	7	3	.....	Prof. J. H. Patterson.
Prince Fredericktown	Calvert	160	10	73.6	+5.5	97	11	53	19	22	4.41	+1.88	2.57	5	12	7	11	e.	Alfred Presson.
Receiving Reservoir+	Dist. of Columbia	20	9	77.0	+4.7	97	11	45	19	29	4.05	+1.10	0.88	8	15	9	6	s.	Washington Aqueduct.
Solomon's	Dist. of Columbia	112	30	73.6	+5.8	97	11	45	19	29	4.61	+0.90	2.95	8	15	9	6	se.	W. H. Marsh, M. D.
Washington .....	.....	.....	.....	74.2	+4.6	.....	.....	.....	.....	.....	4.87	+2.23	.....	6	17	7	6	se.	U.S. Weather Bureau.
Average.....	.....	.....	.....	72.2	+3.5	.....	.....	.....	.....	.....	6.00	+2.54	.....	8	16	8	6	sw.	.....
DELAWARE.																			
Milford	Kent	20	21	72.2	+4.3	80	7	47	18	26	7.48	+4.09	2.66	8	15	11	4	sw.	Dr. E. J. Dirickson.
Millsboro	Sussex	23	8	72.0	+3.2	95	13	43	19	40	1.75	-1.93	0.66	7	15	9	6	ne.	J. A. Jordan.
Newark (Del. Coll.)	Newcastle	136	7	69.9	+2.2	89	11	43	19	28	3.77	+0.21	2.10	5	16	6	8	ne.	Hon. M. de K. Smith.
Seaford	Sussex	40	10	73.0	+4.1	95	7	46	19	30	2.89	-0.18	1.39	6	20	3	7	se.	James S. Harris.
Wyoming	Kent	2	2	72.6	.....	91	11	43	19	31	5.82	.....	2.68	6	19	6	5	se.	F. C. Ramsdell.
Average.....	.....	.....	.....	71.6	+3.2	.....	.....	.....	.....	.....	2.75	-1.14	.....	6	17	6	7	ne.	Henry Shreve.
General average .....	.....	.....	.....	72.1	+4.6	.....	.....	.....	.....	.....	3.70	+0.30	.....	6	16	8	6	se.	A. E. Eworth.

NOTE.—All records are used in determining State or district means, but State and district departures are determined by comparison of current data of only such stations as have normals. Letters of the alphabet indicate the number of days missing.

Not included in means. On other dates also.

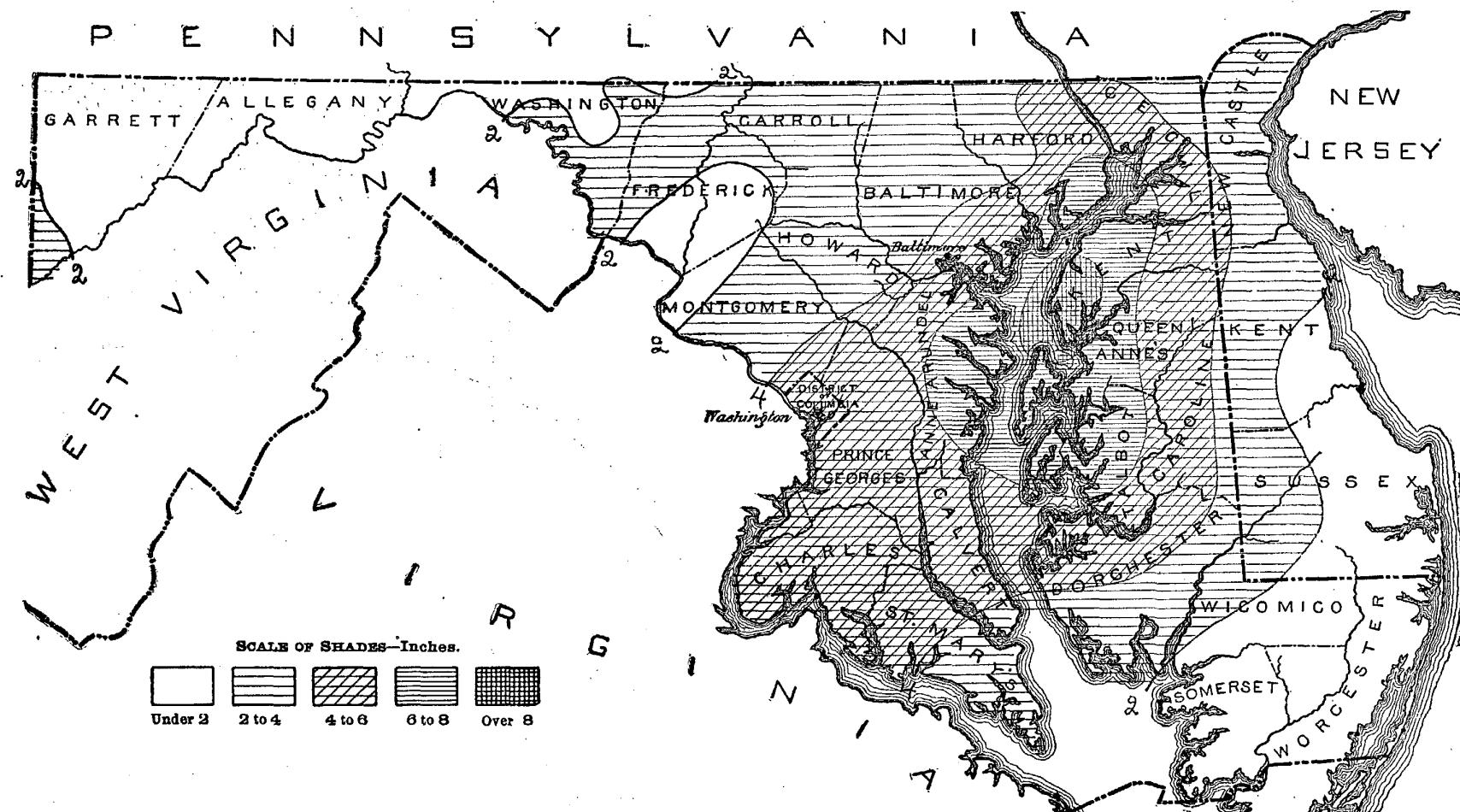
† Mean of 7 a.m. + 2 p.m. + 2. Incomplete record.

CLIMATE AND CROPS: MARYLAND AND DELAWARE SECTION.

SEPTEMBER, 1900

Maximum and minimum temperatures for Maryland and Delaware, September, 1900.

TOTAL PRECIPITATION, SEPTEMBER, 1900.



Daily precipitation for Maryland and Delaware, September, 1900.

[†] Trace, when precipitation is less than 0.01 inch.

¹ Incomplete record.

*Precipitation included in that of following day.