

JUN 27 1901

U. S. DEPARTMENT OF AGRICULTURE.

REPORT FOR MAY, 1901.

MARYLAND AND DELAWARE SECTION

OF THE

CLIMATE AND CROP SERVICE

OF THE

WEATHER BUREAU.

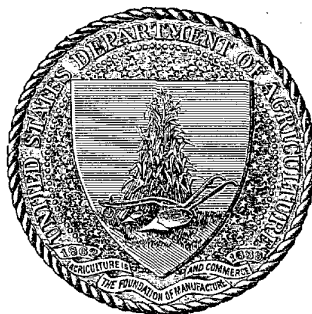
IN COOPERATION WITH THE

MARYLAND STATE WEATHER SERVICE.

PREPARED UNDER DIRECTION OF
WILLIS L. MOORE,
CHIEF OF WEATHER BUREAU.

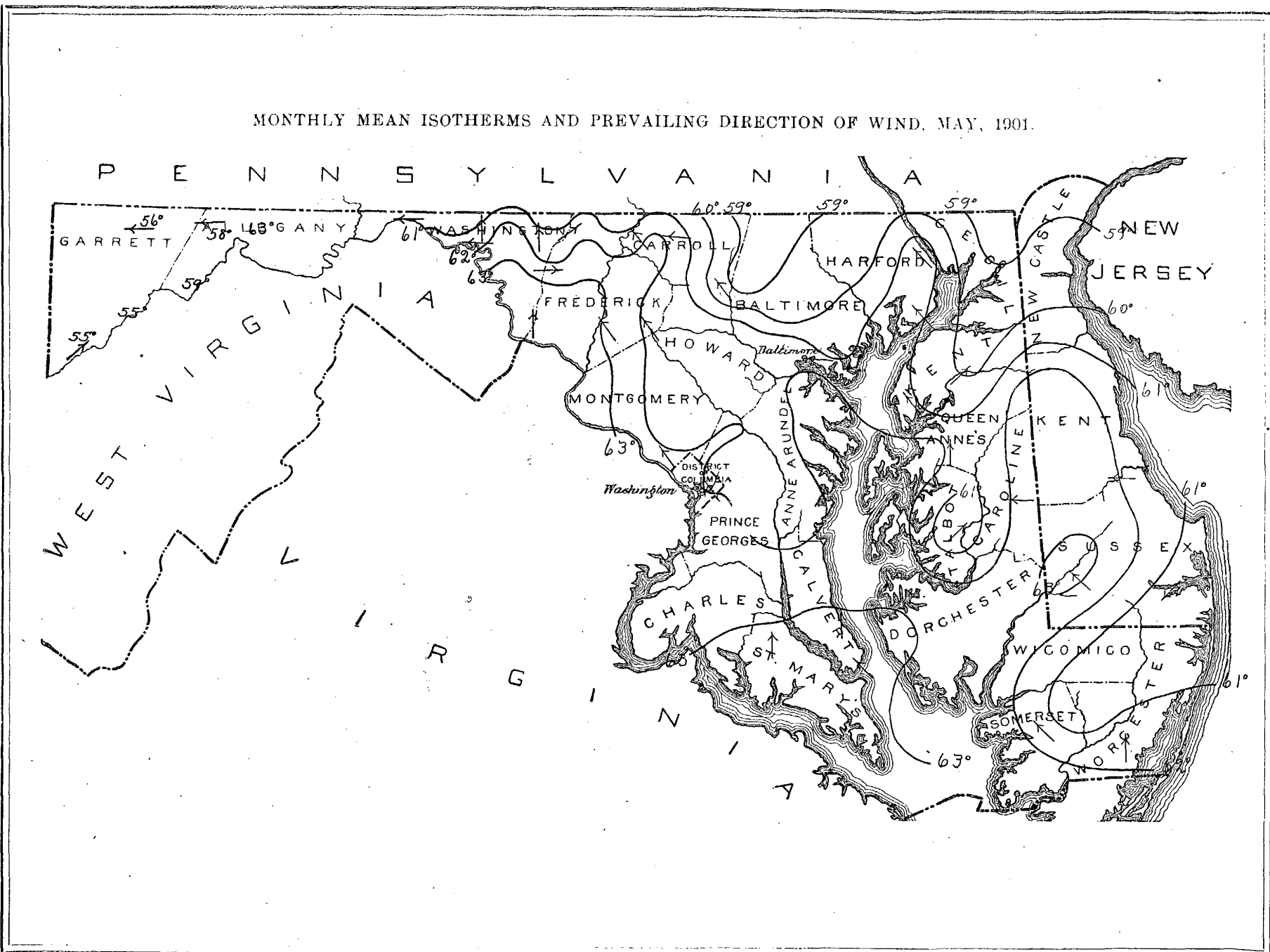
BY

OLIVER L. FASSIG,
SECTION DIRECTOR.



BALTIMORE, MD.:
WEATHER BUREAU OFFICE.
JOHNS HOPKINS UNIVERSITY.
1901.

MONTHLY MEAN ISOTHERMS AND PREVAILING DIRECTION OF WIND, MAY, 1901.



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.

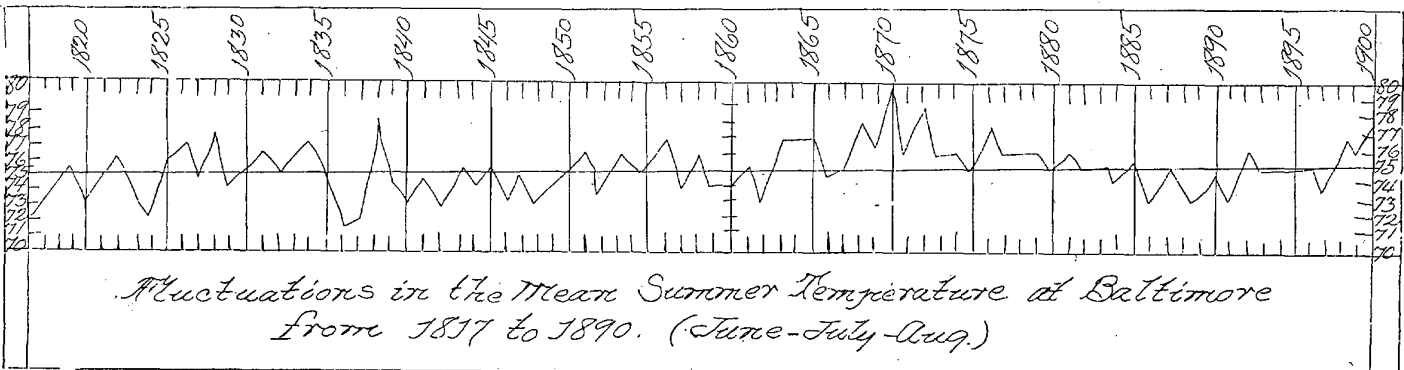
Vol. VI. BALTIMORE, MD. No. 5

Weather and Crop Conditions. The warmest days of the month of May just past were the 1st, 5th, 23d, and 24th, when the afternoon heat rose to 90° and above in the valley districts of Allegany and Washington counties, and lingered in the neighborhood of 80° in the cooler regions along the shores of the middle and upper Chesapeake. Marked temperature changes in short intervals of time were recorded during the month, and some of the warmest days were followed by quite cool nights; lowest temperatures were generally reported on the 3d to 7th, 13th and 14th, ranging on those dates between 25° to 47°, varying with locality. Light frosts occurred at a number of stations on the 4th, 6th, 12th, 13th, and 14th. The departures from normal May temperatures were slight until the 19th when a cool wave appeared, lasting until the 22d. A brief warm spell followed, but temperatures were again 4° to 16° below normal (Baltimore averages) from the 25th to the close of the month. The change to cooler weather was sudden and decided on both the 19th and the 26th.

Precipitation for the section as a whole was above normal, but the local distribution of the month's rainfall was very irregular, there being a margin of over seven inches between the driest and wettest places. The bulk of the rainfall occurred in northwestern Garrett County, and amounts in excess of the normal were general over all of the western districts. The amounts were fairly uniform to the east and south of Carroll and Baltimore counties, measuring usually between 2.50 and 4.00 inches. Early in the month only very light showers fell, but moderately heavy and general rains

were reported from the 8th to the 13th. Scattered showers occurred later on the 18th. On the 22d heavy flooding rains fell in the western districts, causing the excess for the month noted in that region, as the amounts at that time were only moderate in the central counties, and were light and scattered in the south and east. Rain fell on nearly every day in all sections from the 24th to the close of the month. Thunderstorms were frequently reported throughout the section, and, while many were light, those of the 2d, 11th, 22d, 24th, and 25th were accompanied by severe "gusts" at a number of stations. Foggy weather was prevalent over much of the section during the final rainy period of the month.

The weather conditions in their entirety were favorable to crops, although the large number of rainy days and the general surplus of moisture interfered considerably with farm work. The frosts were practically without damage, and while the low temperature periods had a retarding influence on growth the close of the month witnessed most crops up to a normal stage of development. Preparations for corn were delayed, and this crop was somewhat behind in growth, but by the end of May nearly all fields had been planted, and the stands were generally good except in Western Maryland where the excessive rains of the 22d were damaging. Wheat, ryè, and barley yellowed somewhat during the rainy periods, and were flattened in localities by the strong winds that accompanied the thunderstorms, but most of the crops straightened again afterwards. At the close of the month all winter grain was heading nicely, was heavy in straw, and gave promise of excellent yields. Oats were about all in early in the month except in the extreme west where seeding was not completed until the third decade; the growth was slow but satisfactory, and at the end of May the crop was in good condition. Tobacco plants were plentiful and healthy, and transplanting was well under way at the close of the month. Potatoes were in fine promise in all districts. Fruit prospects were favorable, except that apples were light in blossom in many localities; very little loss by dropping was reported. Gardens and minor crops did well, although warmth and sunshine were insufficient at times. The conditions were unusually favorable for transplanting tomatoes, cabbages, and sweet potatoes. Early strawberries and June peas were coming to market during the final ten days of the month, and large yields of both crops were in promise.



Baltimore Summer Temperatures. The curve at the bottom of the preceding page presents many interesting features. Without attempting an analysis of the curve at the present time, attention is drawn to what appears to be a long wave of temperature, largely hidden by the irregular and rapid fluctuations from year to year, but still discernible in a steady increase from 70° in 1836, the coldest summer on record, culminating in a maximum temperature of 80° in 1870, the warmest season in 84 years, then gradually decreasing to 1891, the whole period covering about 55 years.

The Natural Resources of Maryland. By the courtesy of the State Geologist, Dr. Wm. B. Clark, we are permitted to issue with this report a chart which will doubtless prove to be most acceptable to all who are at all interested in the natural products of Maryland. In each county of the State there is a plainly printed list of the chief mineral and agricultural products and industries of the county, while upon the Bay and principal inlets the larger oyster beds and the favorite haunts of fish and fowl are shown.

The chart was prepared for the Maryland Commission of the Pan-American Exposition by the State Geologist, with the assistance of the Bureau of Soils, U. S. Department of Agriculture and of the Maryland Agricultural College, and it accompanies an instructive little illustrated pamphlet of 38 pages entitled, "Maryland and its Natural Resources."

CLIMATOLOGY OF THE MONTH.

ATMOSPHERIC PRESSURE.

Monthly mean at Washington, D. C., 29.87 inches; at Baltimore, 29.87 inches; average, 29.87 inches; highest, 30.18 inches, at Washington, D. C., on the 4th; lowest, 29.55 inches, at Baltimore, on the 27th.

TEMPERATURE.

The monthly mean (entire territory), 61.3°, is 1.7° below the normal.

The highest monthly mean was 65.8°, at Sharpsburg.

The lowest monthly mean was 54.9°, at Sunnyside.

The highest temperature recorded during the month was 95°, at Boettcherville, on the 25th.

The lowest temperature recorded during the month was 25°, at Deer Park, on the 4th.

The greatest local monthly range was 59°, at Deer Park.

The least local monthly range was 36°, at Baltimore and Queenstown.

The greatest daily range was 48°, at Deer Park, on the 5th.

The least daily range was 2°, at several stations, and on a number of dates.

PRECIPITATION, in inches and hundredths.

The monthly average (entire territory) 4.47, was 0.52 above the normal.

The greatest amount was 9.56, at Frostburg.

The least amount was 2.17, at Distributing Reservoir, D. C.

The greatest amount in twenty-four hours was 5.00, at Green Spring Furnace, on the 22d.

The average number of rainy days, 12.

WIND.

The prevailing direction was from the southeast.

The total movement was 4,359 miles, at Baltimore, and 4,927 miles, at Washington, D. C.

The maximum wind velocity was 28 miles per hour from the northwest, at Washington, D. C., on the 3d.

MISCELLANEOUS PHENOMENA.

Thunderstorms.—Bachmans Valley, 11, 24; Boettcherville, 2, 9, 25; Baltimore, 11, 25, 29; Boonsboro, 11; Carmichael, 9, 11, 25, 29, 31; Cheltenham, 29; Chestertown, 9, 11, 24, 30; Chewsville, 11, 22, 24; Clear Spring, 24; Denton, 11, 12, 24; Fallston, 9, 24, 29; Frederick, 11, 24; Frostburg, 2, 8, 9, 18, 31; Grantsville, 2, 8, 9, 10, 11, 18, 19, 24, 30; Green Spring Furnace, 17, 18, 24; Hagerstown, 9, 24; Hancock, 2, 11; Harney, 24, 28; Jewell, 11, 25, 29, 31; Laurel, 11, 25; Millsboro, Del., 13, 14, 25, 29, 30, 31; Mount St. Marys, 3, 11, 24, 28; Newark, Del., 11, 18, 24; New Market, 24; Pocomoke City, 14; Prince Fredericktown, 9, 11, 24, 25, 29, 31; Princess Anne, 10, 13, 14, 29; Queenstown, 9, 11, 24, 30; Rock Hall, 9, 10, 11, 24, 29, 31; Sharpsburg, 9, 11, 25; Smithsburg, 3, 11, 18, 24, 25, 28; Solomons, 9, 10, 11, 21, 24, 25, 29, 31; Sudlersville, 9, 11, 24; Sunnyside, 2, 8, 9, 10, 11, 18, 19, 24, 31; Taneytown, 11, 17, 18, 25, 27; Washington, 11, 29, 31; Wyoming, Del., 9, 11, 12, 20, 23, 31; Western Maryland College, 9, 11; Woodstock College, 11, 24, 29.

Hail.—Clear Spring, 25; Grantsville, 30; Millsboro, Del., 25; Mount St. Marys, 11; New Market, 24; Sharpsburg, 11; Taneytown, 25.

Killing Frost.—Grantsville, 4.

Light Frost.—Chestertown, 5; Deer Park, 4, 5, 12, 13, 14; Green Spring Furnace, Laurel, Seaford, Del., 14; Sunnyside, 4, 6, 14.

Fog.—Baltimore, 22, 23, 24; Cheltenham, 22; Clear Spring, 27; Deer Park, 21; Frostburg, 21; Jewell, 16, 24; Laurel, 24; Millsboro, Del., 2, 10, 26, 27, 28; Prince Fredericktown, 2, 9, 10, 15, 16, 22, 24, 26, 27, 28, 31; Princess Anne, 1, 2, 16, 24, 26, 27; Queenstown, 26, 27, 30; Seaford, Del., 2, 16; Smithsburg, 26, 27; Woodstock College, 15, 22.

High Winds.—Boonsboro, 2; Clear Spring, 2, 25; Darlington, 2, 11, 24; Frostburg, 2; Green Spring Furnace, 24; Queenstown, 2, 11, 22; Woodstock College, 25.

Loss by Lightning.—Night of 9th, barn struck by lightning and destroyed near Hagerstown; on 24th, two colts killed by lightning near New Market.

Solar Halo.—Chewsville, 8; Green Spring Furnace, 3, 17; Jewell, 8, 17.

Lunar Halo.—Solomons, 22, 24; Washington, 23.

Lunar Corona.—Baltimore, 21, 23.

ERRATA.

March, 1901, Report: Page 5.—Total precipitation at Smithsburg a, 2.14, should read 3.39; number of rainy days, 9, should read 10. Mean temperature at Receiving Reservoir, 44.7, should read 44.2; highest temperature, 88 on 20th, should read 72 on 19th. **Page 8.**—Precipitation at Smithsburg a on the 21st, blank, should read 1.25; total precipitation, 2.14, should read 3.39.

Climatological data for Maryland and Delaware, May, 1901.

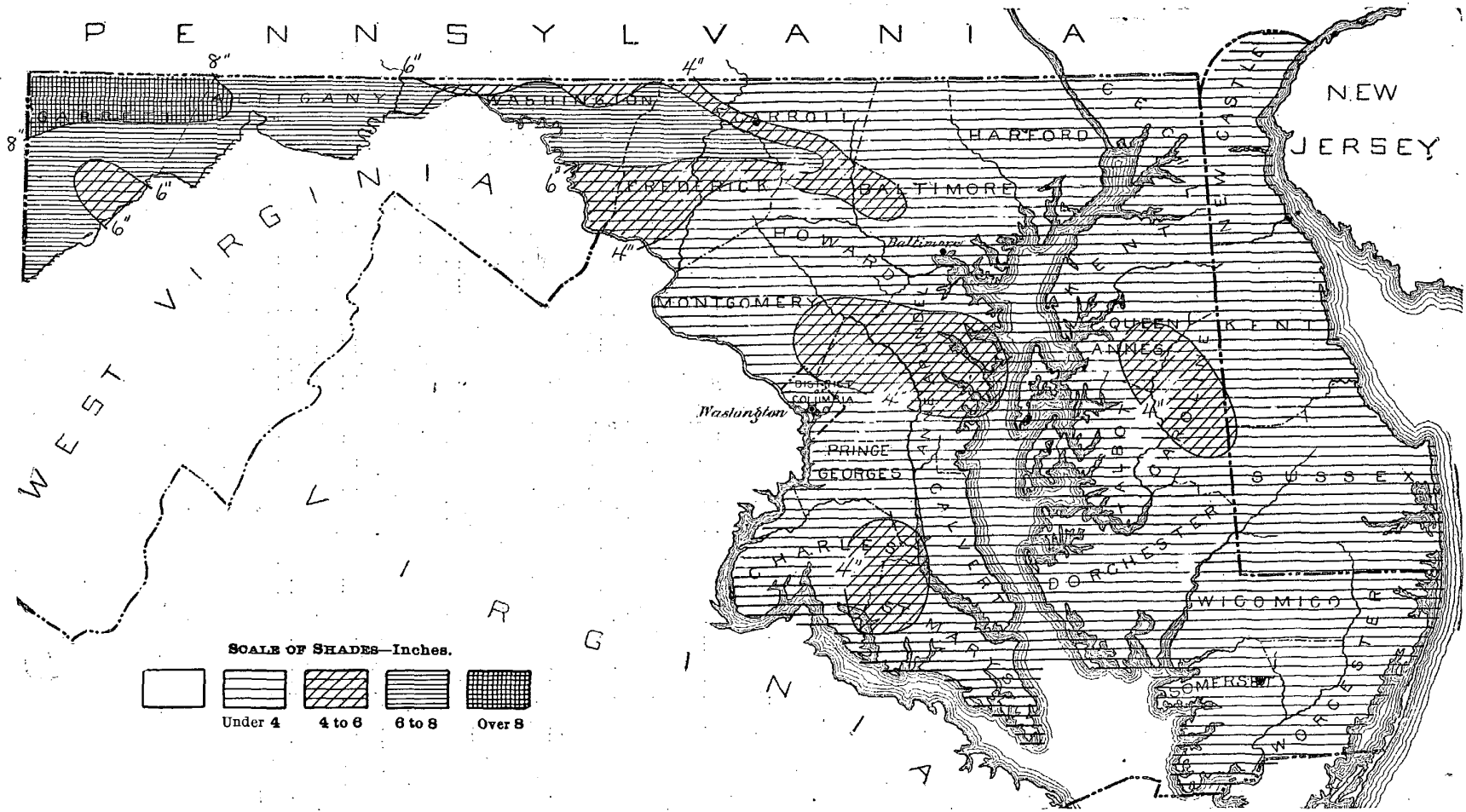
Table with columns: Stations, Counties, Elevation, Length of record, Temperature (Mean, Departure from normal, Highest, Date, Lowest, Date, Greatest daily range), Precipitation (Total, Departure from normal, Greatest in 24 hours, Total snow/fall, Number rainy days), Sky (Number clear days, Number partly cloudy days, Number cloudy days, Prevailing direction of wind), and Observers. The table is divided into sections for Western Maryland, Northern-Cen. Md., Southern Maryland, Eastern Maryland, and Delaware.

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—e.g. "d" denotes four days missing. † Mean of 7 a. m. + 2 p. m. + 2. † Incomplete record. * Not included in means. ‡ On other dates also.

New normals of temperature and precipitation have been computed for all stations having a record of three years or more, from the beginning of observations to include the year 1900. The use of the new normals began in the January report.

‡ Carmichael record finished at Longwoods, Talbot County, where observations were made after the 22d.

TOTAL PRECIPITATION, MAY, 1901.



Daily precipitation for Maryland and Delaware, May, 1901.

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.																																			
Boetherville.....	.15							1.40	1.00				.03	.04					.20			1.63		.92		.48	.75	.58	.27				7.45		
Boonsboro.....							T.	.31	.10		.19							.05			3.00		.42	.35	.65	.45	.43	T.	.06				6.01		
Chewsville.....	.22						.05	.34	.24		.04							.24			2.53		.56	.16			.78	.47		.11			5.71		
Clear Spring.....	.20						.55	.24	.19									.05			3.85		.55	.40	.10	.53	.10	.26		.10			7.12		
Cumberland.....		.08					.55	.93	.99		.11	T.						.07			2.48	.98	.01	.71	.80	.44	.46	.25					6.31		
Deer Park.....		.20					.95	.65	.10		.40						.20			.70		.15	.35	.82	.38	.50							5.40		
Frostburg.....		.37					.05	2.25	.94	.03	.07	.18					.08	.51		.05	1.34	.01	.93	.50	.83	.48	.79		.15				9.56		
Grantsville.....		.35					1.95	1.01		.40							.52	.53		.20	1.62		.20	.25	1.08	.35	.45	.27					8.32		
Green Spring Furnace.....		.15					.57	.20	.11	.02							.07			5.00		.33		.53	.31	.21		.13					7.63		
Hagerstown.....		.19					.10	.35	.10	.05		.01				.20			2.50		.50	.01	.31	.30	.66		.13						5.47		
Hancock.....	.14						T.	.53	.20	.15		.02					.07			1.96		.68	.14	.03	.36	.17	.28		.26				4.87		
Sharpsburg.....		.20					.30	.07	.22			.01					.09			2.84		.68	.14	.03	.36	.17	.28		.26				5.59		
Smithsburg.....		.18					.06	.27	.03	T.		.05					T.	.15	.08		2.37		.62	.03	.40	.88	.18		.10				5.37		
Smithsburg.....		.20					.13	.30	.06	.21	.02	.03					.16	.02		3.47		.65	.03	.44	.47	.26	.03		.08				6.56		
Sunnyside.....		.43					T.	.92	.62	.13	.39		.80				.50	T.	.09		.02	.50		.15	.09	.47	.51	.32	T.	T.			6.94		
Westernport.....		.21					1.50	1.95		.08	.07							.12			.62	.63		.15	.90	.43	.48						7.37		
NORTHERN-CENTRAL MARYLAND.																																			
Bachman's Valley.....							T.	.40	.48	.35										1.18		1.80	.42	.56	1.14	.39	.61		.13				7.47		
Baltimore.....	T.	.10					.11	.35	.29	.05	T.	T.					.01	.06	T.		.22	T.	.80	.02	.21	.20	.62		.63				3.67		
Baltimore, Johns Hopkins Hosp. Chase.....		.12						.40											.65		.39	.16	.30	.05	.35		.52		2.95				6.65		
Darlington Academy.....	.20						.19	.08	.08					T.					.30	.30	.80	.08		.32	.07	.27		.23		2.62					
Fallston School.....	T.	.21					T.	.50	.08	.23	T.	.01						T.		.20		.50	.07	.21	.13	.45		.29		2.88					
Frederick.....	.05	.06					.22	.30	.11	.32		.02	.22				.01			.86		.71	.12	.09	.60	.22	.21		.17		4.07				
Great Falls.....							.33			.17		.02						.03			.14	.57	.25	.58	.29	.35		.55		3.82					
Harney.....								.08		.08									.90			.75				1.15	.90				3.78				
McDonogh.....	.03						.30	.20	.45	.15	.02					.02		.03	.45		.15	1.38	.13	.25	.02	.34		.20		5.12					
Mt. St. Mary's College.....		.30					.80		.30										2.20		.40	.30	.70	.20	.90				6.10						
New Market.....		.14					.04	.38	.10	.25		T.					.02			.82		.68	.23	.06	.47	.10	.19		.28		3.86				
Takoma Park.....	T.	.06					.04	.63	.05	.04	.41						T.	.05		.03	.17		.05	.25	.33	.10	.07	.38	1.03	4.01					
Taneytown.....		T.					.07	.14	T.		.07						.31			.58		.05	.50		.13	.63	.66		.05		3.19				
Van Bibber.....		.15					.35	.12	.04	.31	.32	.12	.30				.02	.04	.02	.15		.52	.08	.25	.12	.30		.30		3.29					
Western Maryland College.....		.25					.18	.10	.15		.14	.05					.02	.04	.02	.43		.90		.23	.50	.18		.30		3.51					
Woodstock College.....		.12					T.	.17	.15	.18	.01	T.					.01	.03	T.	T.	.24		1.53	.11	.33	.17	.23		.22		3.50				
SOUTHERN MARYLAND.																																			
Annapolis.....							.60	.20	.30	.10							.20					.10	.05	.65	.04	.03		.60		1.40		4.27			
Charlotte Hall School.....																	.78	.03		.28		.30	.95	.75	T.	.25		.58		4.70					
Cheltenham.....							T.	.03	.40	.20	.05	.09	T.		T.				T.	.01	T.	.22		.16	.54	.15	.29	.01	.35		2.50				
Distributing Reservoir, D. C. Jewell.....							.08	.15			.02									.21		.16	.02	.35	.33	.02	.22	.60		2.17					
Laurel.....							.30	.49	.35	.08									T.	T.		.10	T.	T.	.50		.12		.50		2.35				
Maryland Agricultural College.....							.35	.05	.18	.20									.25		.70	.15	.42	.27	.20	.53		.75		4.05					
Prince Fredericktown.....							.30	.10	.50										.15		.45	.30	.25	.07	.75		.125		4.17						
Receiving Reservoir, D. C. Solomon's.....							.10	.40	.34	.02	T.	T.					T.	.01		.09	T.	T.	.03	.88	.48	.07	.24		.16		2.85				
Washington, D. C.....		.01					.15	.07	.95	T.		.04						.03		T.	T.	.11		T.	.12	.41	.26	.01	.29	T.	.21		2.65		
Washington, D. C.....							.11	.53	.06	.01	.01	T.							T.	T.	.13		.18	.03	.44	.19	.24		.87		2.81				
EASTERN MARYLAND.																																			
Cambridge.....																																			
Carmichael.....	T.							.64	.98	T.									T.	T.	T.		.01		.28	.87	.31	.01	.43		.50		4.03		
Chestertown.....	T.	.10					.05	.68	.33	.20							.45	T.		T.		.30	.14	.90	.08	T.	.30	.32	.13		3.95				
Coleman.....		.12					.15	.43	.16	.03									.15			.18	.35	.19	1.00	.09	.24		.50		3.53				
Denton.....							T.	.37	.68	.43	.13									.43		.46	.26	.50	.33	.72	.47		.30		5.08				
Easton.....							.43	.79		.12								.05				.05		1.14	.71	.10	.35		.19		3.63				
Mardela Springs.....																																			
Pocomoke City.....							.10		.57						.58				.20				.18			.74	.49	.01	.29		3.16				
Port Deposit.....																																			
Princess Anne.....							.18	.07	.53	.15	.01	.27	1.50	.13				.03	.08	.04		.02		.02	.15	.27		.30		.11		3.86			
Queenstown.....		T.					.07	.63	.10	.02									T.	T.	.03	.03	.15	.06	.60	.05	.31	.50	.15	3.34					
Rock Hall.....		.02					.07	.63	.10	.02									T.	T.	.10	T.	T.	.10	.30	.03	.22	.72	.03	.34		.50		3.22	
Sudlersville.....		.08					.10	.71	.25										.12				.30			.49	.39		.39		2.83				
DELAWARE.																																			
Milford.....												.86	.27	.37													1.39		.46		3.86				
Millsboro.....							.14		.20		.37			.26					.11					.11	.20	.32	.51	.05	.46		2.90				
Newark (Delaware College).....		.20					.61	.41	.21		.02							.16						.40		.45	.01	.61		.22		3.30			
Seaford.....	T.	T.					.12		.72	.48							.07					.06		.45		.63	.30		.19		3.02				
Wyoming.....							.26	.41	1.04	.19	.53							.12	.04			.24	.68	.52	.33		.48		.32		5.16				

"T" Trace, when precipitation is less than 0.01 inch. * Incomplete record.
 † Observations taken at Longwoods, Talbot County, after the 22d. ‡ Probably includes rainfall from g