

U. S. DEPARTMENT OF AGRICULTURE.

REPORT FOR JUNE, 1899.

MARYLAND AND DELAWARE SECTION

OF THE

CLIMATE AND CROP SERVICE

OF THE

WEATHER BUREAU.

IN COOPERATION WITH THE

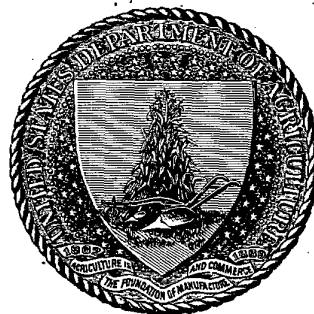
MARYLAND STATE WEATHER SERVICE.

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

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

BY

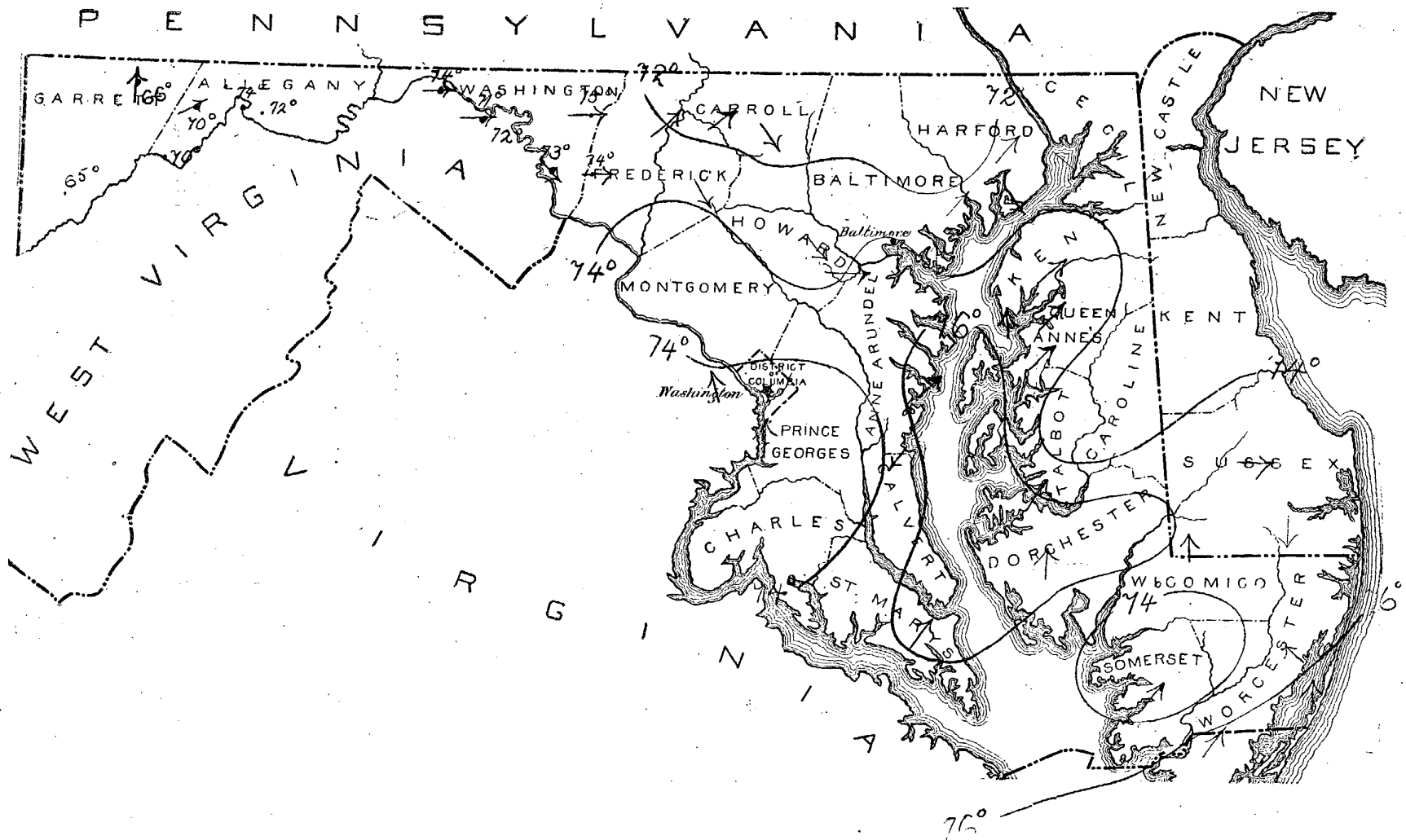
F. J. WALZ,
SECTION DIRECTOR.



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

1899.

MONTHLY MEAN ISOTHERMS AND PREVAILING WINDS, JUNE, 1899.



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

OF THE
WEATHER BUREAU.
 CENTRAL OFFICE: WASHINGTON, D. C.

BALTIMORE, MD.

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No. 6.

WEATHER AND CROP CONDITIONS DURING JUNE.

WEATHER. June temperatures were on the whole somewhat above the normal for the month in Maryland and Delaware; in Western Maryland the excess was about 1°, in the Northern-Central, Eastern Shore, and Southern Maryland counties, about 2°, and in Delaware over 3°. The month opened with warm and rainy weather. From the 5th to the 8th maximum temperatures of 100° were recorded at Hancock, Chase, and Millsboro, Del., and 101° at Laurel. On the 8th and 9th the warm spell was broken by a succession of thunderstorms followed by a fall of from 10° to 20° in the maximum temperatures. With the exception of high temperatures on the 14th and 15th and on the 23d and 24th, the weather continued cool to the close of the month. The highest temperature recorded during the month, 102°, occurred at Boettcherville, near Cumberland, on the 23d. A light frost occurred in Garrett Country during the night of the 30th.

There were three sharply defined periods of rainfall. The first began May 29th and ended June 2d; the second extended from June 8th to the 10th, and the third from June 25th to the 29th. From the 3d to the 7th and from the 16th to the 24th, no rainfall was reported from any portion of the Section, with two or three exceptions. The average rainfall for the Section was 2.69 inches, which is nearly half an inch below the normal value. In the Western Division, Garrett, Allegany, and Washington counties, the average rainfall was over four inches, exceeding the normal for the Division by 0.88 inch. Considerable damage was done in various parts of the Section, by the hailstorms of the 9th.

GENERAL RESULTS. The month was on the whole very favorable for the ripening of grain and for harvesting. Growing crops did not make rapid progress, though a steady improvement was generally noted at the close of each week. Fine harvest weather prevailed during the latter half of the month. While the total rainfall was below the average, it was well distributed and on the whole quite sufficient for the requirements of growing crops.

GRAIN AND GRASSES. During the first week of June wheat and rye were in head and some beginning to turn color. The prospects for a good yield were not encouraging; much of it was winter killed, and fields were thin. However reports indicated an improved condition with the close of each successive week; the heads filled out nicely and the quality appeared to be fine. Harvest began in Charles County before the close of the second week and by the end of the month most of the

wheat had been cut in all sections excepting in Garrett County, and much had been threshed. On the Eastern Shore and in the Southern Maryland counties average yields were the rule, while some of the counties reported yields far above the average and of excellent quality. In the Northern-Central counties the yields are reported considerably below the average. In Garrett County the heads are well filled and a good yield is expected.

Oats made steady growth during the month and at the close were beginning to ripen, with fair prospects for a good crop.

Corn made fair progress in growth during the first two weeks of June. At the close of the month it was generally in promising condition, considering the fact that the rainfall in the greater portion of the Section since March 1st was from two to three inches below the normal amount.

The early hay crop suffered much from dry weather in the early part of the season, especially in Southern Maryland the Eastern Shore and Delaware, where the crop is short. The harvest began early in the month. In Western Maryland, where the rainfall was greater than elsewhere, the crop is quite heavy; in the Northern-Central counties it is fair.

TOBACCO. Tobacco plants had been mostly set out by the first of June. The acreage is large. The plants have steadily improved. At the close of the month the fields were well filled and plants in excellent condition. The outlook was very encouraging for an abundant crop.

MINOR CROPS. Early potatoes were marketed in some counties by the middle of the month. The early dry weather caused a short crop in the eastern and southern counties; elsewhere the crop is fair. The later planted were much benefited by the June rains. Tomato plants were set out in large numbers during the month; the acreage is large. At the close of the month the early planted tomatoes were doing very well. In general all garden stuff made fair progress during the month and at the close was in good condition, though in need of more rain.

FRUIT. By the end of June a few early peaches were marketed. The crop will be extremely light, taking the Section as a whole. In most localities a total failure is reported. In some orchards along the Bay shore half to three-quarters of an average yield may be realized.

Apples and pear trees are for the most part well laden with fruit and the fruit is holding on very well. Plums and damsons are abundant. Cherries yielded well in most parts of the Section, and were of fair quality.

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CLIMATOLOGY OF THE MONTH.

ATMOSPHERIC PRESSURE—IN INCHES AND HUNDREDTHS.

Monthly mean at Washington, D. C., 30.05; at Baltimore, 30.04; average, 30.04; highest, 30.25 at Washington, D. C., on the 23d; lowest, 29.78 at Baltimore, on the 28th.

TEMPERATURE—IN DEGREES FAHRENHEIT.

The monthly mean (entire territory), 73.7, is 1.9 above the normal.

The highest monthly mean was 77.3, at Cambridge.

The lowest monthly mean was 64.9, at Deer Park.

The highest temperature recorded during the month was 102, at Boettcherville, on the 23d.

The lowest temperature recorded during the month was 36, at Deer Park, on the 17th.

The greatest local monthly range was 58, at Boettcherville.

The least local monthly range was 37, at Cambridge.

The greatest daily range was 46, at Boettcherville, on the 15th.

The least daily range was 1, at McDonogh, on the 12th.

PRECIPITATION—IN INCHES AND HUNDREDTHS.

The monthly average (entire territory) 2.69, was 0.42 below the normal.

The greatest amount was 6.24, at Deer Park.

The least amount was 1.05, at Coleman.

The greatest amount in twenty-four hours was 2.56, at Deer Park, on the 29th.

The average number of rainy days, 7.

WIND.

The prevailing direction was from the southwest.

The total movement was 3,489 miles, at Baltimore, and 4,239 miles, at Washington, D. C.

The maximum wind velocity was 30 miles per hour from the southwest, at Washington, D. C., on the 1st.

MISCELLANEOUS.

The following are dates on which miscellaneous phenomena occurred:

Thunderstorms.—Annapolis, 25; Baltimore, 1, 6, 7, 9, 15, 25; Boettcherville, 1, 8, 9, 20, 21, 25, 28; Boonsboro, 1, 8, 25, 28; Cambridge, 1, 2, 6, 8, 9, 15, 25; Chase, 1, 8, 9, 15; Chestertown, 6; Chewsville, 1, 9, 10, 15, 28; Cumberland, 1, 9, 24, 25, 28; Fallston, 5, 6, 7, 8, 9, 15, 20, 25, 28; Frederick, 1, 6, 9, 28; Frostburg, 1, 24, 28; Grantsville, 5, 6, 7, 8, 9, 20, 24, 25, 28; Green Spring Furnace, 1, 9, 15, 24; Harney, 1; Jewell, 1, 6, 8, 9, 25; Laurel, 1, 9, 25; Queenstown, 1, 6, 15, 25; Princess Anne, 1, 9, 15, 25; Rock Hall *a*, 1, 6, 9, 15, 25; Rock Hall *b*, 1, 6, 9; Millsboro, Del., 1, 8, 9, 15; Mt. St. Mary's, 1, 9, 10, 15, 28; Newark, Del., 7, 9, 15, 21, 25, 28; Parkton, 2, 7, 9; Pocomoke City, 9, 10, 16; Seaford, Del., 8, 9, 15; Sharpsburg, 9, 28; Smithsburg *a*, 1, 9, 15, 28; Smithsburg *b*, 1, 9, 28; Solomons, 1, 6, 8, 9, 10, 15, 25, 29; St. Charles College, 8; Sudlersville, 1, 9, 25; Taneytown, 2, 9, 20, 24, 28; Washington, 1, 7, 9, 15, 25; Woodstock, 1, 9, 15; Wyoming, Del., 8, 28.

Hail.—Boettcherville, 21; Cumberland, 24; Frostburg, 24; Harney, 1; Laurel, 9; New Market, 9; Queenstown, 6; Rock Hall¹, 1; Sharpsburg, 9; Taneytown, 2.

Frost, light.—Grantsville, 30.

Coronæ, lunar.—Harney, 25; Millsboro, Del., 20; Smithsburg *b*, 13.

Corona, solar.—Smithsburg *b*, 17.

Auroras.—Fallston, Laurel, and Millsboro, Del., on the 29.

REMARKS BY OBSERVERS.

Mr. H. H. Miller sends a most interesting account of the very severe thunder and hailstorm which passed across Montgomery and Howard counties on the afternoon of the 9th of June. The storm was the most severe of the season. One life was lost and much damage done to crops by the heavy fall of hail. The hailstones were reported to be very large and to have fallen in some places to the depth of several inches. In shape the stones were like a saucer, or as one witness reported "Just like a mushroom cracker".

The storm of the 9th was also very severe in portions of Frederick, St. Mary's, Caroline, Dorchester, and Somerset counties, where considerable grain was destroyed and many shade and fruit trees damaged.

Two persons were killed by lightning near Frankford, Del., during the storm of the 9th.

Near Pocomoke City a stable was set on fire and a horse killed by lightning on the 10th.

The barn of Rev. J. J. Brenneman in Garrett County was struck by lightning and destroyed with all its contents on the 28th. The building was constructed of wood and was not provided with a lightning rod. The estimated loss is between two thousand and three thousand dollars.

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Among the successful candidates for the degree of Doctor of Philosophy, at the Johns Hopkins University, at the close of the session just completed, we are most pleased to note Mr. Oliver L. Fassig, of the Local Weather Bureau force. Doctor Fassig has also the degree of B. S., from the Ohio State University, and has pursued advanced studies at Yale and the University of Berlin.

Climatology was the major study of Doctor Fassig, and his thesis is probably the first climatological paper presented for a Doctor's degree at any American university. His thesis was entitled: "March weather in the United States, with special reference to the Middle Atlantic States. A study of relations existing between the mean atmospheric pressure and the general character of the weather and storms during March."

It is here shown by Doctor Fassig that March weather in the Middle Atlantic States is, in the main, controlled by two types of high atmospheric pressure areas. The one has an average position to the north and west of the Upper Lakes; the other is an extension westward of the permanent area of high pressure over the North Atlantic Ocean. March is cold when the former area controls the winds over the region; it is warm when the winds are controlled by the latter. The paths of storms are also influenced by the relative position of these areas of high pressure.

We are also pleased to note that the Honorable Secretary of Agriculture, upon the recommendation of the Chief of the Weather Bureau, has promoted Doctor Fassig to the grade of Section Director in the Weather Bureau. This promotion will not change the relations of Doctor Fassig to the local office or to the University as Instructor in Meteorology.

TOTAL PRECIPITATION, JUNE, 1899.

