

Maryland State Weather Service

(INCLUDING MARYLAND AND DELAWARE).

CO-OPERATING WITH THE U. S. WEATHER BUREAU.

Central Office, Johns Hopkins University, Baltimore, Md.

MONTHLY SUMMARY.

SEPTEMBER, 1891.

Temperature (degrees).—Mean monthly, 70.0. Highest monthly mean, 72.6, at Kirkwood, Del. Lowest monthly mean, 66.6, at New Market. Highest temperature, 92, at Kirkwood on the 18th. Lowest temperature, 42, at Mt. St. Mary's on the 9th. Greatest local monthly range, 48, at Mt. St. Mary's. Least local monthly range, 20, at Jewell. Mean monthly range, 37.5. Mean maximum, 78.5. Mean minimum, 60.5.

Precipitation (in inches).—Average, 2.64. Greatest amount, 6.75, at Summit Hall. Least amount, .53, at Barron Creek Springs.

Wind.—Prevailing direction, northwest.

Thunderstorms.—At Baltimore, on the 5th and 6th; at Barron Creek Springs, on the 4th, 5th, 6th, 13th, 15th and 23d; at Cumberland (H. Shriver), on the 13th; at Jewell, on the 5th and 6th; at Leonardtown, on the 4th; at Summit Hall, on the 3d, 4th, 5th and 6th; at Woodstock, on the 5th.

Halos.—At Barron Creek Springs, on the 3d, 11th, 14th and 25th, and at Woodstock, on the 18th.

Meteors.—At Mt. St. Mary's, on the 28th.

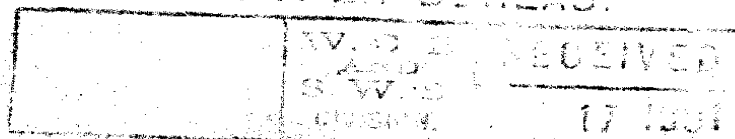
Aurora.—At Barron Creek Springs, on the 9th; at Cumberland (H. Shriver), on the 28th, and at Woodstock, on the 9th.

Average number of cloudless days, 21; partly cloudy days, 7; cloudy days, 3; rainy days (.01 of an inch or more), 5.

Verification of forecasts (signals displayed at Delaware City, and at Milford, Del.):

Weather,	92.3 per cent.
Temperature,	96.2 " "
Average,	94.2 " "

WEATHER BUREAU.



MONTHLY SUMMARY OF REPORTS, SEPTEMBER, 1891.

STATIONS.	COUNTIES.	Altitude above sea in feet.	Latitude.	Longitude.	† BAROMETER.				TEMPERATURE.										Total precipitation.	Clear days.	Fair days.	Cloudy days.	Number of rainy days (01 or more.)	Prevailing Wind.	OBSERVERS' NAMES.
					Monthly mean.	Maximum.		Minimum.		Monthly mean.	Mean of maxi- mum.	Mean of mini- mum.	Maxim.		Minim.		Monthly range.								
						Height.	Date.	Height.	Date.				Degrees.	Date.	Degrees.	Date.									
Baltimore.....		179	39° 17'	76° 36'	30.162	30.422	10	29.914	13	70.6°	79.0°	62.3°	90	18	51	9	39°	5.46	17	11	2	5	N.W.	{ G. N. Wilson, W. D. White, H. D. Steuart. Albert E. Acworth.	
Barron Cr'k } Springs.....	Wicomico.....	25	38° 30'	75° 39'	...	...	...	...	...	69.3°	76.1°	60.1°	88	19 23	51	9 15.16	37°	.53	18	10	2	5	S. E.	
Cumberland...	Alleghany.....	700	39° 39'	78° 45'	30.125	30.392	10	29.892	13	70.7°	81.5°	62.0°	90	18	49	9	41°	2.55	22	1	7	5	W.	H. Shriver.	
Cumberland...	Alleghany.....	700	39° 39'	78° 45'	...	...	...	...	...	67.1°	76.8°	58.1°	85	18	46	9 10	39°	2.46	22	3	5	5	...	E. T. Shriver.
Frederick.....	Frederick.....	...	...	...	...	...	...	...	...	71.2°	77.1°	61.3°	90	18	49	10	41°	2.17	...	...	...	3	...	McClintock Young.
Jewell.....	Anne Arundel	...	...	...	...	...	...	...	...	71.8°	...	...	80	18	60	9 10	20°	.88	...	...	...	3	...	Jos. Plummer.
Kirkwood.....	New Castle, } Del.....	...	...	...	...	...	...	...	...	72.6°	...	...	92	18	56	9	36°	...	...	...	...	...	...	W. C. L. Carnagy.
Leonardtwn.	St. Mary's.....	...	...	...	...	...	...	...	...	71.2°	...	...	89	18	53	9 10	36°	.74	26	...	4	2	S.W.	G. W. Joy.
McDonogh....	Baltimore.....	535	39° 23'	76° 44'	...	...	...	...	...	67.2°	77.5°	60.9°	86	26	50	9	86°	2.92	...	...	...	3	...	G. M. Carvill.
Mt. St. Mary's	Frederick.....	720	39° 41'	77° 21'	...	...	...	...	...	69.8°	79.9°	54.9°	90	26	42	9	48°	1.85	...	...	...	6	...	J. A. Mitchell, M. A.
New Market...	Frederick.....	500	29° 23'	77° 8'	30.162	30.357	10 11	29.995	7 13	66.6°	...	...	85	18	46	10	39°	2.38	23	5	2	5	S.W.	H. H. Hopkins, M.D.
Summit Hall..	Montgomery..	...	...	...	...	...	...	...	...	71.1°	...	...	85	18	59	9 30	26°	6.75	24	...	...	6	...	J. T. DeSellum.
Taneytown....	Carroll.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.91	...	...	...	4	...	C. W. Weaver, M. D.
Woodstock } College....	Howard.....	392	39° 20'	76° 49'	30.068	30.334	10	29.823	13	67.5°	76.9°	58.2°	87	18	45	10	42°	3.45	18	9	3	4	N.W.	T. J. A Freeman, S. J.	
Norfolk, Va....		43	36° 51'	76° 17'	30.151	30.399	10	29.894	7	73.3°	80.6°	66.0°	90	19	59	10	41°	2.43	20	7	3	8	N. E.	A. J. Davis.	
Wash'n, D. C..		112	38° 52'	77° 0'	30.170	30.430	10	29.940	13	70.0°	79.8°	60.8°	90	18	49	10	41°	3.12	20	7	3	5	S.	S. W. Beall.	
Averages.....					30.140					70.0°	78.5°	60.5°					37.5	2.64	21.0	6.6	3.4	4.6			

† Readings reduced to sea level.

S. W. S. Div., Dec 21, 1891

REPORT ON METEOROLOGICAL WORK.

TO THE PRESIDENT OF THE UNIVERSITY:—

Sir—In the early part of May, after consultation with Gen'l A. W. Greeley, then chief of the Weather Bureau, an organization known as the Maryland State Weather Service, was instituted under the joint auspices of the Johns Hopkins University, the Maryland Agricultural College, and the U. S. Weather Bureau. As the meteorological work was to be directly under the supervision of the chief of the Baltimore office of the U. S. Weather Bureau, it was deemed advisable to move that office to the University, and accordingly rooms were assigned in the Physical Laboratory, upon the roof of which building the instruments are now displayed. Two men were added to the corps of four, then in charge of the Baltimore office, and more elaborate apparatus supplied. Arrangements were immediately perfected by which the few scattered observers in Maryland and Delaware should report to the Central office at the Johns Hopkins University, and already the number has been largely increased, so that every county in the State is represented. It is the intention to continue to add to the number of observers until every locality shall have its reporting station. The observers are of three classes: 1st, those who report meteorological facts only; 2d, those who send crop notices; 3d, those who display signals.

In some instances the same man officiates in all three capacities. Upon the data obtained from these three classes of observers, two series of reports have been published: First, the monthly Meteorological Report, which began with May of this year, and second, the weekly Crop Bulletin, the first issue of which appeared on June 26, and was continued on every succeeding Saturday until September 25. These reports have been sent widely throughout the State and have elicited much favorable comment from the people and the press. A feature of the State Service, which has been started and will be much more fully developed in the future, is the establishment of signal stations at numerous points along the shores of the navigable waters of the State, by which warnings may be given to the masters of vessels.

The apparatus and methods of Weather Bureau work are introduced as part of the instruction in Physical Geography, and the system of weather prognostication explained. In this respect the establishment of the State Weather Service, outside of its great value to the agricultural and commercial interests of the State at large, has added an important feature in University study.

At the close of the last academic year, Prof. Milton Whitney of the Maryland Agricultural College, who had been stationed at the University to conduct investigations upon the physical properties of soils, was granted the use of such portion of the Clifton estate as was necessary for his observations. A laboratory was equipped with the requisite apparatus for more extended investigations upon the temperature and moisture of the soil.

Yours respectfully,

WILLIAM B. CLARK,
Director Maryland State Weather Service.

October 1, 1891.