

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU,
CO-OPERATING WITH THE
MARYLAND STATE WEATHER SERVICE



Established by an Act of the General Assembly of the State of Maryland, 1892,
and Maintained in Connection with

The Johns Hopkins University and the Maryland Agricultural College.
CENTRAL OFFICE, JOHNS HOPKINS UNIVERSITY, BALTIMORE, MD.

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U. S. WEATHER BUREAU,
Meteorologist in Charge.

VOL. II.

MONTHLY REPORT OF OBSERVATIONS, JULY, 1892.

No. 4.

Review of the Month.

RAINFALL.

Our table of daily precipitation for July (page 33) shows about the usual number of dry and wet periods. The month began with rain, the remains of the storm which passed down the St. Lawrence Valley on June 30th. The precipitation of the 1st was due, no doubt, more to the advent of the area of cold, heavy air from the west and the consequent uplifting of the warm, moist air in advance of it. There were evidences, however, of a secondary storm over Eastern Maryland, and this disturbance accounts, probably, for the scattered showers of the 2nd.

The general rains of the 3rd and the scattered showers of the 4th had a well-defined cause in the low-area storm which originated north of Montana on the 1st and swept southward into the United States, circling to the eastward over the Ohio Valley on the 2nd, and northeast down the St. Lawrence Valley on the 3rd and 4th. This storm was attended by an extensive rain area throughout its course, and was the most perfectly defined cyclone of the month.

Six days of dry weather followed the rains mentioned in the above paragraph, with the exception of a shower on the 7th, at Leonardtown, St. Mary's Co. This shower accompanied a thunderstorm. The long period of fair weather was distinctly due to a persistent area of high pressure which, appearing on the Pacific coast on the 2nd, gradually moved eastward to the Atlantic coast, where it remained nearly stationary from the 4th to the 7th, when it slowly receded to the southeast.

The local showers which fell from the 11th to the 13th were due to the flow of warm, moist air from the Ocean and Gulf down the northwest slope of

the receding area of high pressure, towards a "low" from the northwest. This "low" passed down the St. Lawrence Valley on the 13th, and the quite general showers of the 14th were caused by the influx of colder and heavier currents of air from the west. On the 15th and 16th another storm passed to the northward and a few scattered showers resulted. On the 19th a low-area storm passed eastward north of the Lake Region, and general showers occurred in Maryland. A few scattered resultant showers followed on the 20th. Another storm on the 21st and 22nd, following the path of its predecessor, caused local showers which continued until the 23rd.

The last appreciable rains of the month, from the 27th to the 31st, were due to a quite well-defined cyclonic storm which followed the usual track of the storms of the month, over the Lake Region and down the St. Lawrence Valley, and to a "secondary" of this storm which developed over Southern Pennsylvania and Northern Maryland on the 30th.

The distribution of the monthly rainfall is shown on the map (page 35). The greatest amount fell in Northern, Central, Southern and the northern portion of Eastern Maryland, while the least fell in Western Maryland. The totals varied from 5.96 inches at Fallston, Harford Co., to 1.10 inches at Boettcherville (near Cumberland), Alleghany Co.

TEMPERATURE.

From the table (page 33) it may be noted that the average mean temperature for Maryland, District of Columbia, and Delaware, during the month of July, was 75.8°; that the highest mean, 78.9°, was obtained at Kirkwood, Del.; the lowest, 72.9°, at Cumberland, Md. (E. T. Shriver).

The maximum temperature varied from 102° at Kirkwood, Del., to 94° at the Receiving Reservoir, D. C. In Maryland the maximum varied from 101° at Cumberland, Alleghany Co. (H. Shriver), to 95° at Jewell, Anne Arundel Co., and McDonogh, Baltimore Co. The minimum temperature of the month, 50°, was recorded at Boettcherville, near Cumberland.

The lines of equal monthly mean temperatures, as drawn on the map (page 35), show more graphically the variations in temperature. The influence of latitude is distinctly shown, as the line of lowest mean temperature, 74°, embraces a portion of the northern part of the State, and the line of highest mean temperature, 78°, crosses the southern portion.

The influence of the Bay upon the temperature of the surrounding country is shown in the southward bending of the lines. This depression in temperature, noticeable in the vicinity of large bodies of water, is due to the heat rendered latent in the process of evaporation.

The U. S. Weather Bureau records of Baltimore show the mean temperature of the month, 76.4°, to have been the warmest there since 1887, when a mean temperature of 80.3° was obtained. In that year a maximum temperature of 102° was recorded on the 18th. This is the highest temperature ever recorded at the station, the next highest being 101° on the 16th of the same month. The maximum of the present year, 99°, has been equaled a number of times during the past 20 years, but not surpassed, except in the year 1887, above mentioned. It was also 99° in 1885, 1880, 1879, and 1876. The lowest maximum temperature for July, at Baltimore, since the establishment of the Weather Bureau station, was 90°, in 1875.

At Washington, D. C., the mean temperature, 76°, was also reached in 1889, and in 1880 there was a mean of 80°. Since 1871 the mean of 76° has been reached or passed 16 times, and is, therefore, below the normal for July.

It will be seen from the above that the month was not unusually warm, and that, in certain portions of the territory embraced by the State Service, it was even cooler than usual. The succession of hot days, from the 24th to 30th, produced the general impression that the month was warmer than before experienced. This impression was, doubtless, heightened on account of the nearness of the hot days to the close of the month. The July Daily Weather Maps exhibit the immediate cause of the heated term.

During the week preceding the advent of the

hot wave in the Atlantic States, not a day passed that the maximum temperature in the Rocky Mountain region did not, in many places, rise to 100° and upwards. During and preceding this period, also, scarcely a drop of rain fell to relieve the almost absolute dryness of the air overlying the Great Plateau region and the eastern slope of the Rocky Mountains. This dry, highly heated mass of air, following the general law applying to masses of air in the region of the anti-trades, began an eastward movement, its course being marked by the travel of an area of low pressure with attendant high temperature. The decided eastward movement was inaugurated on the 21st, and the Atlantic coast states were reached on the 24th. The accompanying area of low pressure, passing along the northern boundary of the United States, divided and became two areas, following each other so closely that but the slightest ridge of high pressure intervened. The "advance guard" of the "hot wave" reached the coast on the 24th, and these succeeding areas of low pressure, or "aerial Maelstroms," on the north, with an overheated area of high pressure in the South Atlantic and Gulf State regions, caused the continuous indraught from the south and the southerly winds sweeping from the overheated areas over the Atlantic states.

On the evening of the 26th, signs of a "cool wave" appeared in the northwest, and 24 hours later a circular area, bounded by a line of black dots on the weather map, indicated that over an area 500 miles in diameter, embracing portions of the northern and middle slopes of the Rocky Mountains, the temperature had fallen 20° or more since the previous evening. This cool wave was the accompaniment of an area of high barometer, and moving eastward with it, became perceptible in the Atlantic States on the last day of the month.

CROPS.

On July 1st heavy storms accompanied by hail and high winds did considerable damage to crops and vegetables in northern central, eastern and southern parts of the State.

On July 4th, reports stated that harvesting was approaching completion and that threshing had commenced. It was estimated that the wheat yield would be about the average. Early planted tobacco was promising; fruit in eastern sections had been damaged by high winds; corn, grass, and clover were in a flourishing condition.

July 11th wheat harvesting was about finished except in Western Maryland. The outlook for the corn crop was, upon the whole, good. Reports of the tobacco crop were rather unfavorable. Cats

were poor, except in Western Maryland, where the outlook was good for an average crop. Hay was reported heavy in western sections, and fair elsewhere. Early potatoes were excellent. The fruit crop was light and few peaches were being shipped.

July 18th, the wheat harvest was over, except in Western Maryland. Threshing was in progress and nearly finished in eastern and southern sections. A full average yield was reported from most localities. Corn in Southern Maryland had been somewhat injured by rain, and in other portions of the State by drought and worms; but the general outlook for the crop was good. Hay was shorter than anticipated. All vegetation needed rain. Shipments of potatoes and fruit were light.

July 25th, the crops were suffering slightly from drought, though tobacco was reported to have improved during the preceding week. The weather was favorable for haying, threshing, and outdoor work generally. There was a general scarcity of fruit, and the prospects for the corn crop continued good.

July 31st, potatoes were being dug and the yield was reported light. Corn, oats, millet, tomatoes, clover, pasture, and fallow had improved, and tobacco was growing rapidly. It was thought that a full crop of buckwheat would be secured in Western Maryland.

Frost Warnings.

During the autumn, winter, and spring, frost warnings will be telegraphed by the Chief of the Weather Bureau to each weather signal display station which receives forecasts by telegraph at Government expense.

If the people of any portion of Maryland or Delaware, not already provided for in this respect,

will be benefited by the warning and desire to receive them, they may secure them by applying to the Director of the State Weather Service, who will, in all deserving cases, make the necessary recommendation to the Chief of the Weather Bureau.

Weather Proverbs.

The following circular letter has been issued by the Chief of the Weather Bureau:

U. S. DEPARTMENT OF AGRICULTURE,
WEATHER BUREAU,
WASHINGTON, D. C., Aug. 1, 1892.

It is desired to make a new collection of the Weather Proverbs of the United States, and to make it as complete as possible. For this purpose your co-operation is requested. Should you have the kindness to send me a list of such proverbs, please distinguish, when practicable, between those which are of American origin and those which have been imported, giving, when possible, the origin of each, whether Indian, Scotch, English, Irish, German, etc. By a prompt compliance with this request you will very much oblige,

Yours respectfully,

MARK W. HARRINGTON,
Chief of Weather Bureau.

If the readers of this report will send lists (no matter how short) to the central office of the Maryland Weather Service they will be forwarded to the Chief of the Weather Bureau, with the names and addresses of the senders, when given. Crop correspondents may enclose lists with their weekly reports.

A few years ago a list of weather proverbs was compiled by the Weather Bureau, and requests for the book were so many that the edition was quickly exhausted. It is understood that the new and old collections will be combined in another publication of the Bureau.

Monthly Summary.—July, 1892.

Temperature (degrees).—Mean monthly, 75.8. Highest monthly mean, 78.9, at Kirkwood, Del. Lowest monthly mean, 72.9, at Cumberland (b.) Highest temperature, 102, at Kirkwood, Del., on the 27th and 28th. Lowest temperature, 50, at Boettcherville, on the 19th. Greatest local monthly range, 50, at Boettcherville. Least local monthly range, 27, at Solomon's. Mean monthly range, 41.1. Mean maximum, 85.3. Mean minimum, 66.2.

Precipitation (in inches).—Average, 3.81. Greatest amount, 6.40, at the Distributing Reservoir, D. C. Least amount, 1.10, at Boettcherville.

Wind.—Prevailing direction, southwest. Total movement in miles, Baltimore, 4451; Norfolk, Va., 5457; Washington, D. C., 3521.

Thunderstorms.—At Baltimore, on the 3rd, 22nd, 27th, 30th, 31st; at Barron Creek Springs, on the 30th, 31st; at Cumberland a, on the 3rd, 13th, 22nd, 29th, 30th; at Darlington, on the 1st, 3rd, 14th, 22nd, 25th, 29th, 31st; at Dover, Del., on the 29th, 30th; at Frederick, on the 3rd, 21st, 27th, 31st; at Jewell, on the 14th, 22nd, 27th, 30th, 31st; at Leonardtown, on the 7th, 12th, 13th, 15th, 20th, 22nd, 27th; at Solomon's, on the 11th, 14th, 19th, 27th, 30th, 31st; at Taneytown, on the 1st, 3rd, 11th, 27th, 31st; at Norfolk, Va., on the 2nd, 3rd, 14th, 22nd, 27th, 30th, 31st.

Monthly Summary.—Continued.

Hail.—In vicinity of Cumberland (no date given); at Mt. St. Mary's, on the 22nd; at Taneytown, on the 1st.

Halos.—*Lunar*, at Barron Creek Springs, on the 5th, 6th; at Solomon's, on the 5th, 6th. *Solar*, at Barron Creek Springs, on the 5th, 10th.

Aurora.—At Baltimore, on the 16th; at Barron Creek Springs, on the 16th; at Cumberland (*a*), on the 16th, 20th; at Cumberland (*b*), on the 16th; at Darlington, on the 16th, 24th, 25th; at Dover, Del., on the 16th; at Fallston, on the 16th, 25th; at Frederick, on the 16th; at Jewell, on the 16th; at Mt. St. Mary's, on the 16th; at New Market, on the 16th; at Solomon's, on the 16th.

Meteors.—At Mt. St. Mary's, on the 13th, 21st, 25th.

Average number of cloudless days, 18; partly cloudy days, 9; cloudy days, 4; rainy days (.01 of an inch or more), 9.

Local verification of weather and temperature signals for July, reported by displaymen:

Weather	-	-	-	-	-	-	72.3 per cent.
Temperature	-	-	-	-	-	-	92.0 " "
Average	-	-	-	-	-	-	82.2 " "

Notes by Observers.

Baltimore.—3rd, falling barometer and high wind from S. W.; thunderstorm passed N. E. in afternoon; heavy rain. 16th, brilliant aurora, 10.30 to 11.30 P. M., appeared in red flashes radiating from a dark segment on the northern horizon. 24th, maximum temperature 94.8°; 25th, 96.9°; 26th, 99.2°, warmest day of season, and for several years. 27th, maximum temperature 97.2°; 28th, 94.9°; 29th, 96.7°. Much outdoor work suspended during this heated term; many prostrations from sunstroke.

Cumberland (*b*).—Average temperature for July in 21 years, 73.0°; mean maximum, 89.8°; mean minimum, 57.5°; average monthly rainfall, 3.55 inches. The maximum temperature, 97°, 26th instant, the highest in 21 years, excepting 1887, when the highest was 98°.

Darlington.—Seven thunderstorms from west to east, and all in afternoon or evening. Vivid lightning and loud thunder on the 31st; a house near here was struck, the lightning tearing off boards, but causing no loss of life. Two horses and a mule were killed on the 1st.

Dover, Del.—The aurora of the 16th was visible, due north, from 9 P. M. to midnight. A constant flashing was noticeable for about half an hour, when pink streams stretched from the horizon into space. Its appearance changed every few minutes, making a dazzling, beautiful spectacle.

Fallston.—Evening of the 16th, an aurora was seen from east to west on the northern horizon, flashing up about 25°, brightest at 10 P. M. Evening of the 25th, a glow on the northern horizon about 5° high at 9 P. M.

Frederick.—The following extract was received from Mr. G. Ernest Bantz:

A brilliant display of Northern Lights.—The Aurora Borealis was observable from Frederick, Md., Saturday night, July 16th, 1892. The light was first noticed by me at 10.50 P. M., and disappeared a few minutes after 11 P. M. It first made its appearance in the form of electric flashes, broad and with an upward radiation, growing gradually brighter, occasionally long streaks or waves flashing out over the sky. These streaks or streamers were white and appeared to be in constant motion, but as the aurora turned to a deep red they disappeared and faded away with the balance of the display. The illumination extended across the sky from northwest to north.

FOLGER MCKINSEY,
EDITOR FREDERICK NEWS.

Mt. St. Mary's.—13th, meteors. 14th and 15th, lightning. 16th, magnificent display of the Aurora Borealis from 8.30 to 11.30 P. M. 21st, meteors. 22nd, a violent thunderstorm accompanied by hail and rain, lasted nearly three hours; hailstones measured from one-half to one inch in circumference. The path of this storm, which was well marked by its effect on the corn fields, extended about three miles from S. E. to N. W., a quarter of a mile in width. Window-glass was broken and gardens injured; trees set afire by lightning. 25th, meteors.

Solomon's.—Thunderstorms passed in a general easterly direction. During that of the 31st the schooner "Southern City," lying about 30 yards from the island, was struck by lightning, shivering her mainmast and stunning the captain. High winds on the 3rd, 22nd, 27th (temperature fell 6° in 15 minutes), and 31st (temperature fell 8° in 10 minutes).

MONTHLY SUMMARY OF REPORTS, JULY, 1892.

STATIONS.	COUNTIES.	Altitude above Sea in feet.	Latitude.	Longitude.	† BAROMETER.				TEMPERATURE.										Total Precipitation.	Clear Days.	Fair Days.	Cloudy Days.	Rainy Days. (.01 inch or more.)	Prevailing Wind.
					Monthly Mean.	Maxi- mum.		Monthly Mean.	Mean of Maximum.	Mean of Minimum.	Maxi- mum.		Mini- mum.		Monthly Range.									
						Height.	Date.				Height.	Date.	Degrees.	Date.		Degrees.	Date.							
Baltimore.....	.....	179	39°17'	76°36'	30.070	30.509	7	29.780	3	76.4	85.4	67.3	99	26 58	5	41	4.07	16	12	3	9	N. W.	
Barron Ck. Springs.....	Wicomico.....	25	38°30'	75°39'	.....	.....	.....	.....	.....	74.9	83.6	66.2	97	26 51	5	46	3.37	8	16	7	11	S. W.
*Boettcherville.....	Alleghany.....	.....	39°39'	78°48'	.....	.....	.....	.....	.....	74.6	85.6	63.5	100	26 50	19	50	1.10	.....	.....	.....	4	.....	
Cumberland (a).....	Alleghany.....	650	39°39'	78°46'	30.108	30.460	7	29.820	3	75.6	87.3	64.0	101	26 52	18	49	1.22	11	18	2	7	W.		
Cumberland (b).....	Alleghany.....	700	39°39'	78°45'	.....	.....	.....	.....	.....	72.9	82.7	63.1	97	26 53	18	44	1.15	23	3	5	5	.....	
Darlington.....	Harford.....	300	39°39'	76°14'	.....	.....	.....	.....	.....	74.2	84.4	64.1	98	26 55	8	43	4.53	24	5	2	8	S. W.
*Distribut'g Res., D. C.	.....	.....	38°52'	77°00'	.....	.....	.....	.....	.....	76.5	.....	.....	97	26 61	18	36	6.40	.....	.....	.....	11	.....	
Dover, Del.....	Kent.....	.....	39° 9'	75°31'	.....	.....	.....	.....	.....	75.5	84.6	66.5	100	26 56	8	44	4.35	21	6	4	9	S. W.
Easton.....	Talbot.....	35	38°42'	76° 6'	.....	.....	.....	.....	.....	76.6	86.4	66.7	100	26 56	8	44	2.63	15	12	4	7	S. W.
*Fallston.....	Harford.....	450	39°31'	76°24'	.....	.....	.....	.....	.....	73.2	.....	.....	98	26 56	17	42	5.96	.....	.....	.....	12	.....	
Frederick.....	Frederick.....	280	39°24'	77°18'	.....	.....	.....	.....	.....	76.6	87.2	66.1	99	26 54	18	45	2.20	25	4	2	8	.....	
*Great Falls.....	Montgomery.....	.....	39°00'	77°14'	.....	.....	.....	.....	.....	76.2	.....	.....	96	26 58	18	38	4.19	.....	.....	.....	11	.....	
*Jewell.....	Anne Aru'del.....	.....	.....	.....	.....	.....	.....	.....	.....	76.0	.....	.....	95	26 66	17	29	4.62	22	7	2	6	.....	
*Kirkwood, Del.....	New Castle.....	.....	39°35'	75°40'	.....	.....	.....	.....	.....	78.9	.....	.....	102	27 60	23	42	.....	.....	.....	.....	.....	.....
Leonardtown.....	St. Mary's.....	.....	38°18'	76°40'	.....	.....	.....	.....	.....	78.4	86.0	70.7	99	26 64	11	35	4.38	.....	.....	.....	9	S. W.
McDonogh.....	Baltimore.....	535	39°23'	76°44'	30.105	30.470	7	29.890	3	74.6	83.2	65.9	95	26 56	5	39	4.67	.....	.....	.....	6	.....	
Mt. St. Mary's.....	Frederick.....	720	39°41'	77°21'	30.104	30.524	7	29.834	3	76.6	85.3	67.8	97	26 54	8	43	5.34	.....	.....	.....	9	N. W.
*New Market.....	Frederick.....	500	39°23'	77°18'	30.095	30.520	7	29.940	3	73.7	.....	.....	98	26 56	17	42	3.89	21	8	2	9	S. W.
*Receiving Res., D. C.	.....	.....	38°52'	77°00'	.....	.....	.....	.....	.....	76.2	.....	.....	94	26 61	8	33	4.86	.....	.....	.....	11	.....	
Seaford, Del.....	Sussex.....	.....	38°40'	75°35'	.....	.....	.....	.....	.....	75.8	85.7	65.8	100	26 53	8	47	2.90	.....	.....	.....	8	.....	
Solomon's.....	Calvert.....	20	38°19'	76°27'	.....	.....	.....	.....	.....	78.2	86.5	69.7	98	26 61	8	27	2.49	11	6	14	10	S. W.
Taneytown.....	Carroll.....	.....	39°40'	77° 9'	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.54	.....	.....	.....	10	.....	
Washington, D. C.....	.....	112	38°52'	77°00'	30.090	30.520	7	29.830	3	75.8	85.4	66.1	99	26 54	8	45	5.03	16	9	6	10	S.	
Woodstock.....	Howard.....	302	39°20'	76°49'	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
†Norfolk, Va.....	.....	43	36°51'	76°17'	30.104	30.449	7	29.898	13	76.4	84.5	68.2	99	27 57	9	42	8.27	10	15	6	14	S.	
Averages.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	75.8	85.3	66.2	.....	.....	.....	41.1	3.81	17.5	8.8	4.4	8.9	.....	

* Extremes of temperature from observed readings. † Readings reduced to sea-level. ‡ Omitted in computing means.

DAILY PRECIPITATION FOR JULY, 1892.

STATIONS.	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	Total.
Baltimore.....	.03		.81			T					.79			.58	T				.03			T	.42				T	.62		.15	.64	4.07
Barron Crk. Spr.....	.09		.16	T							.68			.25		.05			.55				*	.34					.12	.78	3.37	
Boettcherville.....			.70								T				T	.10							.10						T	.20		1.10
Cumberland (a).....			.62										.05						.25			.05					.15		.10			1.23
Cumberland (b).....			.66																.30			.07					.02		.10			1.15
Darlington.....	.48		2.15								.10			.54					T		.30						.21		.05	.70	4.53	
Dist. Res. D. C.....	.75			.44							.03	.35		.51	.27	.03				1.11			.23					1.88		.80	6.40	
Dover, Del.....	.29	.07	.27								.08			.06					.41								.04		2.35	.28	4.35	
Easton.....	T		.20								.28			.12					1.18								.44		.80	.11	2.63	
Fallston.....	.60	.10	.07	2.49							.10			.75					.03	.03		.18					.75		.10	.76	5.96	
Frederick.....		*	1.12								.69		T						.11			.45					.06			.35	2.20	
Great Falls.....	1.54	.05		1.53							.04		.10	.04	.06				.06			.16						.56		.05	4.19	
Jewell.....	T		.12								T			1.50					2.00			T					.80		.15	.05	4.62	
Leonardtown.....				.23			.71					.68	.54		.15					61		.53					.80		.08		4.88	
McDonogh.....			1.00								.70			.28					.09								1.98			.67	4.67	
Mt. St. Mary's....	.06	.01	.49								.92	T							.06			2.60				T	.85		.17	.18	5.34	
New Market.....		.03	1.70								.62			T	.03				.07			.63				T	.50		.18	.08	3.89	
Rec. Res. D. C.....	.60	.04		.51								.34		.37	.58	.20				.33			.18					1.00		.67	4.86	
Seaford, Del.....	.25	.08	T								.58								.78	.57			T				.20		.33	.11	2.90	
Solomon's.....	.07	.02	.05								.24			.12					.91			.07				T	.55		.30	.16	2.49	
Taneytown.....	1.20	.01	.80								.70								.03			*	1.25				.48		.05	.02	4.54	
Washington, D. C.	.13	T	.31								.19			1.46	.06				.99				.32					1.09	T	.18	.30	5.03
Woodstock.....																																
Norfolk, Va.....	1.05	.53	.10	1.86	.80	.05	T			.09	.59	1.54	T	.94						.10	.17									.70	.25	8.27

NOTE.—"T" indicates a trace of rain or snow.

* Amount included in next measurement.

Meteorological Stations reporting to the Maryland State Weather Service.

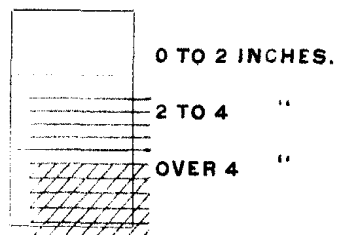
Stations of Observation.	County.	Observer.
Agricultural College	Prince George's	W. H. Zimmerman, A. M.
Annapolis.....	Anne Arundel	Walter Hay, M. D.
Baltimore.....		{ G. N. Wilson, W. D. White, A. T. Brewer.
Barron Creek Springs	Wicomico	Albert E. Acworth.
Boettcherville	Alleghany	F. F. Brown.
Charlotte Hall	St. Mary's	R. W. Silvester.
Cumberland (a)	Alleghany	Howard Shriver.
Cumberland (b).....	Alleghany	E. T. Shriver.
Darlington	Harford	A. F. Galbreath.
Denton	Caroline	F. C. Ramsdell.
Distributing Reservoir, D. C.		Lieut.-Col. Elliot.
Dover, Del.....	Kent	Jno. S. Jester.
Easton	Talbot	S. P. Minnick.
Edgemont	Washington.....	Chas. Feldman.
Fallston	Harford	G. G. Curtiss.
Frederick	Frederick.....	G. Ernest Bantz.
Great Falls	Montgomery	Lieut.-Col. Elliot.
Jewell	Anne Arundel	Jos. Plummer.
Kirkwood, Del.....	New Castle	W. C. L. Carnagy.
Leonardtown	St. Mary's	G. W. Joy.
McDonogh	Baltimore.....	W. W. Walker.
Mt. St. Mary's (Emmitsburg)	Frederick	J. A. Mitchell, A. M.
New Market	Frederick	H. H. Hopkins, M. D.
Receiving Reservoir, D. C.		Lieut.-Col. Elliot.
Seaford, Del.....	Sussex	H. L. Wallace.
Solomon's	Calvert	W. H. Marsh, M. D.
Taneytown	Carroll	C. W. Weaver, M. D.
Upper Marlborough	Prince George's	F. Sasscer.
Woodstock College	Howard	T. J. A. Freeman, S. J.
Norfolk, Va.....		A. J. Davis.
Washington, D. C.....		S. W. Beall.

Stations displaying Weather Signals.	County.	Displaymen.
Annapolis	Anne Arundel.....	W. M. Abbott.
Bel Air	Harford	N. N. Nock.
Bradshaw	Baltimore.....	B. F. Taylor.
Bridgeville, Del.....	Sussex	T. J. Gray.
Buckeystown	Frederick.....	A. W. Nicodemus.
Darlington	Harford	A. F. Galbreath.
Delaware City, Del.....	New Castle	W. E. Reybold.
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Easton	Talbot	G. W. Minnick & Son.
Emmitsburg	Frederick.....	J. A. Mitchell, A. M.
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Grantsville	Garrett	A. L. Gnagey.
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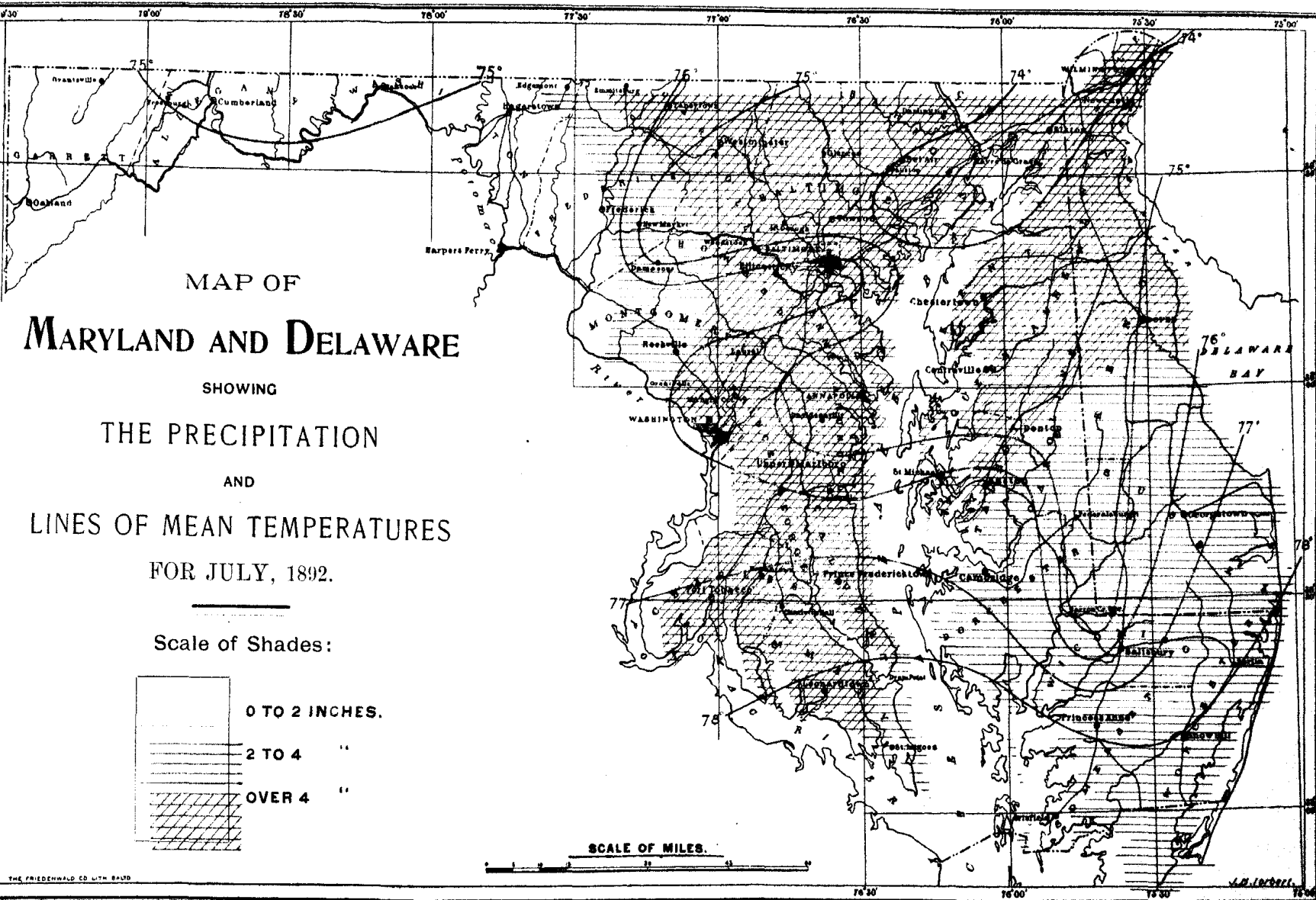
*Whistle Signals only.

MAP OF
MARYLAND AND DELAWARE
 SHOWING
 THE PRECIPITATION
 AND
 LINES OF MEAN TEMPERATURES
 FOR JULY, 1892.

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