

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

CHARLES F. MARVIN, Chief.

In Cooperation with Maryland State Weather Service.

CLIMATOLOGICAL DATA.

MARYLAND AND DELAWARE SECTION.

JAMES H. SPENCER, Meteorologist and Section Director.

VOL. XXIX. BALTIMORE, MD., JANUARY, 1924. No. 1.

GENERAL SUMMARY.

January was mostly mild and unusually sunshiny. The monthly amount of sunshine, 15 per cent above normal, was the greatest of record in this month since January, 1899, which was just as sunshiny. Temperature changes were frequent, but there was much pleasant weather. Rainfall was abundant, while snowfall was very light. Outstanding features were the cold waves of the 5-6th, 21st-22d, and 26-28th.

Monthly mean temperatures over the section were 1° to 2° above normal, except 1° to 2° below normal in the Allegany Mountain region. The night of December 31 was unusually mild, with temperature around 60°. Much colder weather followed on January 1 and 2. The 4-8th was a cold period, with a cold wave on the 5-6th. Cold waves occurred also on the 21st-22d and 26-28th. The 14-15th was moderately cold. Mild weather prevailed on the 3d, 9-13th, 16-20th, 23d-25th, and 29th-31st. The highest temperatures of the month were generally between 60° and 70° on the 11th. Minimum temperatures ranged between 10° below zero and 13° above zero during the first cold wave, between 7° below zero and 11° above zero during the second cold wave, and between 5° below zero and 12° above zero during the third cold wave, from the Allegany Mountain highlands to the southern boundary on the Eastern Shore.

Monthly precipitation averaged one and one-fourth times the normal. Monthly amounts were well above 4 inches in western and north-central Maryland, or 1 to 2 inches above normal, with a maximum of 6.10 inches at Woodstock; elsewhere they were between 3 and 4 inches generally, or less than 1 inch above normal, except less than 3 inches, or slightly below normal, in extreme southern Maryland.

Monthly rainfall averaged one-fifth of the normal. Monthly amounts were only a "trace" in southern Maryland and on the Eastern Shore, but increased from 0.5 inch at the western boundary of the Coastal Plain to 8 inches in the Allegany Mountain highlands. Light snow fell in the Allegany Mountain region on the 1st, 5th, 11th, 13th, 16th, 18th, 20th, and 26th, and in north-central Maryland in the evening of the 24th. Snowfall was moderate to heavy, 3 to 6 inches, in western Maryland during the 24-25th.

Except on rapidly flowing streams of the mountain region, the cold waves produced ice of varying thickness upon ponds, lakes, creeks, streams, and rivers, and enabled farmers to fill their ice houses. Skating was enjoyed part of the month on ponds and lakes.

For several days during the mild periods following the cold waves, ice floes from the Susquehanna River interfered with shipping in the upper Chesapeake Bay.

Wheat, rye, and cover crops were in good to excellent condition. During the third decade pastures turned brown over the entire section, and winter grains turned brown over the northern portion of the section. The snowfall of the 24-25th over western Maryland remained on the ground to the close of the month. During the mild periods fields were soft and dirt roads were bad; during the cold waves fields were frozen hard and dirt roads were frozen rough.—*J. B., jr.*

PRESSURE.

The monthly mean sea-level pressure at Washington, D. C., was 30.22 inches; at Baltimore, 30.21; and at Aberdeen, 30.20. The highest at Washington was 30.72 inches on the 28th; at Baltimore, 30.79 on the 2d; and at Aberdeen, 30.84 on the 2d; the lowest at Washington was 29.36 inches; at Baltimore, 29.38; at Aberdeen, 29.34; all on the 11th.

TEMPERATURE.

The monthly mean for the section, 33.7°, is 1.1° above normal. The highest monthly mean, 38.4°, occurred at Crisfield, and the lowest, 26.4°, at Grantsville. The highest temperature recorded was 67° at Dover, Milford, and Seafood on the 11th, and the lowest, -10°, at Frostburg on the 6th. The greatest local monthly range was 70° at Frostburg, and the least, 49°, at Crisfield. The greatest daily range was 43° at Cumberland and Western Port on the 9th.

PRECIPITATION.

The monthly average for the section, 4.06 inches, is 0.78 inch above normal. The greatest monthly amount was 6.10 inches at Woodstock, and the least, 2.45 inches, at Solomons. The greatest amount in 24 hours was 2.00 inches at Woodstock on the 11th. The average snowfall for the section, 1.6 inches, is 6.1 inches below normal. The average number of days with 0.01 inch or more of precipitation, 7, is 2 below normal.

WIND.

The prevailing direction of the wind was northwest. The total wind movement at Washington, D. C., was 5,564 miles; at Baltimore, 4,601 miles; at Aberdeen, 6,757 miles. The maximum velocity at Washington was 44 miles per hour from the northwest on the 5th; at Baltimore, 32 miles from the southeast on the 16th; and at Aberdeen, 42 miles from the southeast on the 11th.

SUNSHINE AND CLOUDINESS.

At Washington, D. C., 60 per cent of the possible sunshine was recorded; at Baltimore, 64 per cent. For the whole section the average number of clear days was 14; partly cloudy, 8; cloudy, 9.

MISCELLANEOUS PHENOMENA (WITH DATES).

Fogs, dense.—Coastal Plain, 9, 10.

Icestorm (rain freezing upon falling).—Northern half of section, night 2-3.

Sleet.—Entire section, 2; western Maryland, 3, 16; western and north-central Maryland, night 24. Heavy, western Maryland, 2-3.

Thunderstorms.—Clear Spring, 11; Costen and Princess Anne, 19.

Winds, high.—Westerly, 1, 5, 11, 17, 21, 25, 26; southeast, 11, 16.

Climatological Data for January, 1924.

Stations:	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.					Precipitation, in inches.				Number of days.				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).	With precip. 0.01 inch or more.	Clear.			Partly cloudy.	Cloudy.
<i>Maryland.</i>																				
Aberdeen	Harford	80	6	31.8		62	11	4	22	30	3.80		1.20	T	6	14	7	10	nw.	U. S. Army.
Annapolis	Anne Arundel	45	56	35.4	+1.2	59	11	7	22	35	3.67	+0.26	1.25	T	6	14	7	10	nw.	Joseph Stein.
Baltimore*		115	54	34.8	+0.8	60	11	7	22	28	4.33	+1.11	1.34	T	6	11	9	11	nw.	U. S. Weather Bureau.
Bell †	Prince Georges	161	4	34.0		64	11	0	22	40	3.64		1.16	0.5	7	11	15	5	nw.	Bureau Plant Industry.
Boys	Montgomery	424	6	33.4		61	11	3	22	37	3.29		1.15	2.0	6	11	10	10	w.	James L. Higgins.
Cambridge	Dorchester	25	27	36.9	+1.5	65	11	9	22	34	4.11	+0.60	1.20	T	9	20	5	6	sw.	Robert L. Hamill.
Cecilton ††	Cecil	85	6	35.0		64	11	6	22	32	3.89		1.30	T	7	13	5	13	nw.	Wm. F. Coale.
Cheltenham	Prince Georges	230	24	35.8	+1.6	65	11	0	22	38	3.92	+0.39	1.22	T	6	18	2	11	nw.	Geo. Hartnell.
Chesapeake City	Cecil	17	5								3.16		1.19	T	6	20	3	8	nw.	Harold Steele.
Chesville	Washington	530	27	31.4	+0.8	60	11	2	22	32	3.70	+0.68	1.09	2.5	5	13	10	8	nw.	D. Paul Oswald.
Clear Springs (a)	do	500	22	30.1	+0.3	55	11	3	22	33	5.86	+2.53	1.78	5.0	7	13	8	10	w.	Leo A. Cahill.
Clear Springs (b)	do	500	26								4.84	+1.51	1.75	5.0	7	11	6	14		E. G. Kinsell.
Coleman ††	Kent	80	25	35.0	+1.8	63	11	6	22	32				T	7	18	7	6		Walter B. Harris.
College Park	Prince Georges	87	38	34.4	+1.1	65	11	1	22	39	3.73	+0.55	1.20	0.5	6	15	11	5	nw.	Prof. Thos. H. White.
Costen ††	Somerset	21	3								3.64		1.27	T	10	15	6	10	nw.	Edward McD. Moore.
Crisfield	do	5	6	38.4		60	10	11	22	25	3.22		1.31	T	9	8	14	9	nw.	A. B. Cochran, P. M.
Cumberland	Allegany	623	51	29.5	-1.5	64	9	2	22	43	3.58	+1.63	1.30	8.0	8	13	7	11	nw.	Harry H. Weiss.
Darlington	Harford	300	34	32.0	+1.2	62	11	1	22	34	5.00	+1.66	1.40	0.5	6	16	7	8	w.	Fred C. Jones.
Easton	Talbot	35	34	37.0	+2.6	61	11	9	22	31	3.98	+1.11	1.21	T	7	20	2	9	sw.	Clement E. Bray.
Emmitsburg	Frederick	720	56	32.0	+1.4	56	11	2	22	36				2.5	5	15	7	9	w.	Mt. St. Mary's College.
Fallston ††	Harford	450	55	32.4	+1.5	57	1	2	22	32	5.19	+1.50	1.72	0.5	6	10	13	8	nw.	Miss Dora Curtiss.
Ferry Landing ††	do	45	8	36.2		63	11	4	22	37	3.58		1.03	T	5	11	11	9	nw.	Thos. J. Bourne.
Frederick	Frederick	275	50	32.7	+0.6	61	11	6	22	31	4.10	+0.90	1.39	2.3	6	18	4	9	nw.	Chas. S. Birely.
Freeland	Baltimore	681	5	30.3		54	11	0	22	37			1.80	1.0		16	7	8	w.	Isaac Shaver.
Friendsville	Garrett	1,501	6	29.3		62	11	0	5	41	4.83			6.5	14	9	9	13	w.	Jasper Guard.
Frostburg	Allegany	1,929	23	28.3	-1.6	61	9	-10	6	37	4.43	+0.75	1.80	6.5	9	17	10	4	nw.	J. D. Snyder.
Grantsville	Garrett	2,351	31	26.4	-0.6	58	10	-9	21	35	3.90	+0.24	1.07	7.7	10	13	5	13	w.	Rev. J. B. Miller.
Great Falls ††	Montgomery	200	35	33.6	+1.1	62	11	0	22	36	4.69	+1.62	1.33	1.5	7	15	7	9	nw.	Chas. E. Sullivan.
Hancock	Washington	455	14	30.6	+1.0	59	11	3	22	38	4.33	+1.60	1.48	3.0	7	22	3	6	w.	Theodore P. Jenkins.
Keedysville	do	400	21	31.9	-0.1	60	11	2	22	32	4.26	+1.04	1.37	3.0	6	14	9	8	n.	J. A. Miller.
La Plata	Charles	190	8	36.4		64	10	4	22	35	3.44		0.97	T	6	16	8	7	nw.	John P. Burdette.
Laurel	Prince Georges	320	29	33.6	+1.3	63	11	0	22	33	3.67	+0.28	1.13	0.5	7	17	6	8	nw.	Evan G. Chaney.
Millington	Kent	27	27	35.3	+1.6	58	11	6	22	33	4.55	+1.04	1.42	T	6	19	3	9	w.	Henry L. Higman.
Oakland	Garrett	2,461	25	28.8	-1.3	58	10	-9	6	40	5.18	+0.98	1.98	8.3	16	7	12	12	w.	R. E. Weber.
Princess Anne	Somerset	17	49	36.4	-0.6	64	11	7	22	33	3.98	+0.89	1.45	T	8	14	8	9	sw.	James B. Stewart.
Public Landing ††	Worcester	10	9	37.4		65	1	4	22	32	4.11		1.31	T	9	18	3	10	s.	Louis C. de Guibert.
Ridgely	Caroline	57	3	36.0	+1.8	66	11	7	22	36	3.72	+0.74		T	7	14	11	6	nw.	Albert White.
Rock Hall	Kent	25	9	35.2		61	11	8	22	31	3.61		1.32	T	7	14	11	6	nw.	Charles Judefind, P. M.
Salisbury	Wicomico	23	19	37.8	+0.9	65	11	3	22	33	3.70	+0.15	1.12	T	8	16	8	7		Fulton W. Allen.
Solomons	Calvert	20	33	37.6	+2.2	62	11	8	22	32	2.45	-0.31	0.95	T	7	9	6	16	nw.	Dr. W. H. Marsh.
State Sanatorium	Frederick	1,460	16	30.1	+0.3	57	11	0	6	33	4.42	+0.68	1.71	2.5	7	11	11	10	nw.	Dr. V. F. Cullen.
Takoma	Montgomery	320	26	33.0	+0.8	63	11	5	22	28	3.30	-0.32	1.01	0.5	7	12	9	10		L. M. Mooers.
Western Port	Allegany	1,000	31	31.4	+0.9	64	9	0	6	48	4.00	+1.52	1.30	4.5	5					Norris Bruce.
Westminster	Carroll	770	15	32.2	+1.1	59	11	1	22	39	4.71		1.59	2.0	7	16	6	9		Prof. S. P. Caltrider.
Woodstock	Baltimore	415	54	33.2	+1.3	61	11	2	22	37	6.10	+2.72	2.00	1.0	5	17	9	5	nw.	Rev. Henry M. Brock, S. J.
<i>Dist. of Columbia.</i>																				
Washington**		112	54	35.0	+1.6	63	11	6	22	28	3.21	-0.16	1.01	0.5	6	12	9	10	nw.	U. S. Weather Bureau.
<i>Delaware.</i>																				
Delaware City	Newcastle	10	38	34.5	+1.7	64	11	5	22	30	2.95	+0.17	0.99	T	6	16	10	5	sw.	H. C. Price.
Dover	Kent	34	35	36.4	+1.4	67	11	5	22	34	4.07	+0.32	1.43	T	7	21	5	5	nw.	Arthur G. Livingston.
Millford	do	20	42	37.4	+1.8	67	11	4	22	32	3.93	+0.49	1.27	T	8	19	5	7	nw.	Chas. J. Holzmuller.
Millsboro	Sussex	20	32	35.4	+0.4	65	11	2	22	39	4.37	+1.03	1.41	T	8	16	7	8	nw.	P. S. Wilgus.
Seaford	do	40	33	36.2	+1.5	67	11	1	22	33	3.35	-0.03	1.12	T	8	18	7	6	nw.	E. B. Brown.
Wilmington	Newcastle	86	31	33.5	+0.7	62	11	4	22	32	4.93	+1.58	1.47	0.2	6	20	2	9	nw.	Street and Water Depts.
For Maryland and District of Columbia				33.4	+1.1	66	11	-10	6	43	4.07	+0.79	2.00	1.8	7	14	8	9	nw.	
For Delaware				35.6	+1.3	67	11	1	22	39	3.93	+0.67	1.47	T	7	18	6	7	nw.	
For entire section				33.7	+1.1	67	11	-10	6	43	4.06	+0.78	2.00	1.6	7	14	8	9	nw.	

The departures from normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section or division means.

Reference letters, *, †, °, appearing in the table indicate number of days missing: for example, ° represents two days, etc.

† Also on other dates. †† Received too late to be included in means and summaries.

‡ Post-office addresses of these stations are as follows: of Bell, Glenndale; of Coleman, Worton; of Costen, Westover; of Fallston, Bagley; of Ferry Landing, Owings; of Great Falls, Bethesda; of Public Landing, Snow Hill.

T. Precipitation is less than 0.01 inch rain or melted snow.

* Custom House Building, Gay and Water Streets.

** Weather Bureau Building, 24th and M Streets.

Daily Precipitation for January, 1924.

Table with 31 columns for days of the month and rows for various stations in Maryland and Delaware. Each row shows daily precipitation values and a total for the month.

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation.
***Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight.
**Precipitation is for 24-hour period, midnight to midnight.
|||Precipitation measured in the morning; amount then recorded is for the preceding 24 hours.
*Precipitation included in the next following measurement.
T, Trace, or less than 0.01 inch.
Data in italics determined from surrounding stations.

COMPARATIVE DATA FOR MARYLAND AND DELAWARE FOR JANUARY.

Table with two main sections for Maryland and Delaware, each containing columns for Mean, Departure from normal, Highest, Lowest, Average, and Precipitation (Greatest local, Least local, Greatest in 24 hours, Snowfall, Number of days with 0.01 inch or more) for years 1895-1909.

Daily Temperatures for January, 1924.

Table with columns for Stations, days 1-31, and Mean. Rows list various locations in Maryland, District of Columbia, and Delaware, with their respective maximum and minimum temperatures for each day.

*, **, etc., indicate respectively 1, 2, 3, etc., days missing from the record. Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs. Data in italics determined from surrounding stations.