

## CLIMATOLOGICAL DATA.

## MARYLAND AND DELAWARE SECTION.

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## GENERAL SUMMARY.

The year was mild, with a mean temperature of  $55.0^{\circ}$ , or  $1.3^{\circ}$  above normal. Maximum temperatures of the year occurred in July and September, and the minimum temperatures in January and February.

Annual precipitation averaged 40.15 inches, or a deficiency of 1.75 inches. Annual precipitation, however, was 3 to 10 inches above normal over the southern half of the section, but deficient over the northern half; it was markedly deficient in the Great Valley between the Blue Ridge and Allegany Mountains, where the amounts were 10 to 12 inches below normal. Annual amounts were between 33 and 41.5 inches in the Allegany Mountain region; 24 to 33 inches in the Cumberland Valley; 32 to 42 inches in the Piedmont Plateau; and ranged in the Coastal Plain from 30.2 inches in the extreme northeastern portion to 55.6 inches in the extreme southern portion. Annual snowfall ranged from 19.4 inches on the Atlantic coast of Maryland to 58.6 inches in the Allegany highlands. Annual snowfall was nearly twice the normal amount to the eastward of the Blue Ridge Mountains, and about 10 inches below normal in the Allegany Mountain region.

The annual amount of sunshine was 58 per cent of the possible, or about normal.

January was moderately cold, with an unprecedented snowfall at the close of the month to the eastward of the Blue Ridge Mountains; the other months of the year were mild, except July and August, which were moderately cool. The summer was marked by an unusually large number of thunderstorms, and damaging hail fell during August in the southeastern portion of Baltimore County and in the interior of southern Maryland and the interior of the Eastern Shore. Precipitation averaged above normal in January, March, June, July, and December, and was deficient in February, April, May, and from August to November, inclusive. The semidrought extended from August to November, inclusive, and covered practically the entire section.

The season of safe plant growth, or the interval between the last general killing frost in spring and the first general killing frost in autumn, varied for the different portions of the section, as follows: 113 days in Garrett County, 166 days in Allegany and Washington Counties, 173 days in north-central Maryland, 176 days on the Eastern Shore, 181 days in southern Maryland, and 211 days in the Chesapeake Bay region.

The freezes of the third decade of April largely destroyed the tree fruit crop in western Maryland, and cut it decidedly short in north-central Maryland; elsewhere over the section tree fruit averaged a fair crop. The semidrought that lasted from August to November, inclusive, came too late in the season to materially cut short the staple crops of the section.—J. B., jr.

## SUMMARY BY MONTHS.

January was moderately cold. Precipitation averaged slightly above the normal, and was mostly in the form of snow. The monthly snowfall averaged three times the nor-

mal, but it was nevertheless 1.4 inches less than the greatest average of record for January, namely, 23.7 inches in 1918. A cold wave overspread the section from the 23d to the 28th, and, except in western Maryland, caused the lowest temperatures of the month, with minima between zero and  $10^{\circ}$ , except  $10^{\circ}$  to  $15^{\circ}$  along the Chesapeake Bay shores. The lowest temperatures in western Maryland occurred on the 13th or 17th, and, except at the foothills of the Allegany Mountains, were well below zero, with a minimum of  $-15^{\circ}$  at Oakland. A "northeaster" passed rapidly over the section on the 11th and was attended by heavy precipitation—rains in the Coastal Plain and snows to the westward—and by northeast gales. Snowfall in western Maryland ranged from 8 to 10 inches in the Blue Ridge Mountain region to 20 inches in the Allegany highlands; roads were blocked badly by drifted snow. Another "northeaster" of slow movement, however, passed over the section to the eastward of the Blue Ridge Mountains on the 27–29th, and was attended by strong northeast winds over the land and northeast gales along the coast, and by unusually heavy snowfall in the Chesapeake Bay region, where the 24-hour falls of 20 to 25 inches and the total falls of 22 to 28 inches during the storm were unprecedented. Roads became blocked badly by drifted snow and many of them remained so at the close of the month. The heavy fall of snow caused a tie-up of the steam railroads on the 28th between Baltimore and Washington, D. C.; to the northward of Baltimore steam railroad service was delayed, but not interrupted. A tie-up of electric car service and of business in general resulted on the 28th and 29th. The northeast gales produced unusually high tides along the Atlantic coast. The cold wave of the third decade caused the upper portion of the Chesapeake Bay and all tributaries to freeze over; small crafts were frozen in and a general tie-up of steam vessels northward from Baltimore resulted. Winter grains were snow-covered in the Piedmont Plateau and western Maryland during the second and third decades, except in the Allegany Mountain highlands, where snow disappeared generally under the influence of the warm rains of the 18th–21st. In the Coastal Plain winter grains turned brown during the cold wave of the 23d–28th. Ice-houses were filled during the third decade.

February was mild, with an average precipitation slightly below normal. The monthly snowfall was also slightly below normal. There was an unusually large number of days with precipitation. A pronounced cold wave from the 14th to the 18th gave a mean temperature for the period of about  $10^{\circ}$  below normal. The weather was markedly warm from the 19th to the 24th; the mean temperature during this period averaged about  $16^{\circ}$  above normal. Minimum temperatures of the month occurred on the 17th, and were below zero in the valley districts of northern Baltimore County and in western Maryland, except at the foothills of the Allegany Mountains; the lowest reading was  $-12^{\circ}$  at Chews-ville. The monthly snowfall was greatest over the southern half of the Eastern Shore, where it ranged from 8 inches along the Chesapeake Bay shore of Dorchester County to 13 inches on the Atlantic coast of Sussex County. It decreased to the northward and westward of this area to a minimum of between 4 and 5 inches along the western boundary of the Coastal Plain. In the Piedmont Plateau and over western Maryland the snowfall was fairly uniform, with an average depth of 8 inches. Ice from the Susquehanna River piled up in the upper Chesapeake Bay during the cold wave period

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## Climatological Data for the Year 1922.

Stations.	Counties.	Elevation, feet.	Temperature, degrees Fahrenheit.						Precipitation, in inches.						Sky.					Prevailing direction of wind.	
			Length of record, years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record, years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.	Total snowfall.	Number of rainy days.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Maryland.																					
Aberdeen	Harford	80	4	53.9	92	July 12*	3	Feb. 17	4	34.95	7.52	July	0.50	Nov.	34.0	128	108	103	154	nw.	
Annapolis	Anne Arundel	45	57	56.9	94	July 24	5	Feb. 17	51	44.98	7.94	July	0.51	Nov.	39.1	123	137	125	108	s.	
Baltimore (U. S. W. B.)		115	52	56.9	95	July 12	8	Feb. 17	52	42.51	7.23	July	0.44	Nov.	38.3	129	114	105	146	nw.	
Bell II	Prince Georges	151	2	54.6	94	July 12*	2	Jan. 31	2	46.84	7.62	July	0.71	Nov.	49.0	106	155	126	84	nw.	
Boysds	Montgomery	424	3	55.1	97	July 2	1	Jan. 13*	3	31.82	4.36	July	0.57	Nov.	33.2	84	186	94	95	sw.	
Cambridge	Dorchester	25	25	.....	95	July 24	9	Jan. 31	25	46.16	11.78	July	0.85	Nov.	38.5	110	198	93	74	sw.	
Cecilton	Cecil	85	4	55.2	94	July 12	4	Feb. 17	4	41.23	8.86	July	0.53	Nov.	31.5	122	137	61	167	sw.	
Cheltenham	Prince Georges	230	22	56.3	93	July 12	6	Jan. 13*	22	50.83	7.80	Sept.	0.73	Nov.	40.0	138	161	68	136	sw.	
Chesapeake City	Cecil	17	.....	.....	.....	.....	.....	.....	3	33.43	6.74	June	0.64	Nov.	30.7	90	192	59	114	sw.	
Chewsville	Washington	530	25	53.2	92	July 25*	-12	Feb. 17	25	33.06	7.02	July	0.61	Nov.	39.3	104	163	127	75	nw.	
Clear Spring	Washington	500	.....	.....	97	July 12	.....	.....	23	29.41	3.93	Mar.†	0.58	Nov.	32.1	96	195	80	90	.....	
Coleman II	Kent	80	21	56.4	94	July 12	4	Feb. 17	23	39.95	8.92	July	0.46	Nov.	31.7	114	189	76	100	nw.	
College Park	Prince Georges	170	35	55.4	95	July 12	0	Jan. 31	36	42.79	7.51	July	0.66	Nov.	40.3	110	188	75	102	nw.	
Costen II	Somerset	21	.....	.....	.....	.....	.....	.....	1	6.97	.....	July	1.00	Nov.	.....	.....	.....	.....	.....	nw.	
Crisfield	do	5	4	57.9	90	July 2	11	Feb. 17	4	55.59	9.22	Mar.	1.10	Nov.	20.4	97	126	133	106	nw.	
Cumberland	Allegany	623	33	54.3	99	July 11	1	Jan. 25*	49	24.39	3.47	Dec.	0.55	Nov.	34.3	101	138	91	136	w.	
Darlington	Harford	300	32	.....	95	Sept. 6	.....	.....	31	.....	5.23	July	0.62	Nov.	.....	.....	.....	.....	.....	w.	
Denton	Caroline	42	29	.....	.....	.....	2	Jan. 31	31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Easton	Talbot	35	32	56.2	92	July 13	6	Jan. 31	32	39.98	5.66	July	0.72	Nov.	36.3	106	193	81	91	sw.	
Emmitsburg	Frederick	720	54	54.4	92	July 12*	3	Feb. 17	54	.....	8.49	June	0.71	Nov.	38.1	108	188	104	73	sw.	
Fallston II	Harford	450	53	54.0	90	July 1*	0	Feb. 17	53	41.85	8.60	July	0.53	Nov.	34.9	123	131	155	79	nw.	
Ferry Landing II	Calvert	45	6	.....	93	July 12	8	Feb. 17	6	.....	9.55	July	0.46	Nov.	33.9	.....	.....	.....	.....	sw.	
Frederick	Frederick	275	48	55.7	98	July 12	3	Feb. 17	48	37.35	7.41	June	0.57	Nov.	38.4	123	208	69	98	nw.	
Freeland	Baltimore	681	3	52.1	95	Sept. 7	-6	Feb. 17	3	.....	6.20	July	0.50	Nov.	42.1	.....	201	77	87	sw.	
Friendsville	Garrett	1,501	4	50.7	91	Sept. 7	-5	Jan. 17	4	35.34	5.81	June	1.16	Nov.	50.5	103	129	105	131	w.	
Frostburg	Allegany	1,929	18	52.4	97	Sept. 7	-4	Jan. 25	21	32.58	4.45	May	0.72	Nov.	48.0	109	205	96	64	w.	
Grantsville	Garrett	2,351	29	.....	89	Sept. 7*	-13	Jan. 17	29	38.50	5.12	June	0.84	Nov.	53.1	124	139	130	96	w.	
Great Falls II	Montgomery	200	32	55.5	97	July 2*	6	Feb. 17*	33	36.62	5.63	Sept.	0.57	Nov.	37.6	97	123	133	109	nw.	
Hancock	Washington	455	11	53.8	100	Sept. 7	-10	Feb. 17	12	30.67	3.82	Mar.	0.60	Nov.	35.0	105	219	83	63	w.	
Keedysville	do	400	19	54.8	97	June 25*	-4	Feb. 17	19	33.86	5.13	June	0.61	Nov.	29.0	110	189	103	73	s.	
La Plata	Charles	190	6	56.5	95	July 2	8	Jan. 25*	6	42.51	5.82	Mar.	0.52	Nov.	38.0	119	175	98	92	nw.	
Laurel	Prince Georges	320	28	55.1	93	July 2	2	Jan. 31	23	36.20	5.22	June	0.56	Nov.	40.5	109	164	89	112	nw.	
Oakland	Garrett	2,461	23	48.4	89	July 12*	-15	Jan. 17	23	41.54	6.13	Dec.	1.27	Nov.	58.6	145	123	153	89	sw.	
Princess Anne	Somerset	17	47	55.9	90	June 11	7	Feb. 17	29	51.39	8.19	Aug.	1.07	Nov.	22.0	111	111	135	119	sw.	
Public Landing II	Worcester	10	7	56.3	93	July 3	5	Feb. 17	7	55.65	11.70	July	0.86	Nov.	19.4	122	176	81	103	s.	
Riderwood	Baltimore	370	3	53.0	94	Sept. 6	-2	Feb. 17	3	37.29	5.57	June	0.42	Nov.	38.4	116	180	80	105	sw.	
Ridgely	Caroline	57	1	.....	96	July 13	.....	.....	1	.....	.....	.....	0.67	Nov.	.....	.....	.....	.....	.....	.....	
Rock Hall	Kent	25	7	56.4	94	July 12	5	Jan. 31	7	41.65	7.00	July	0.50	Nov.	32.4	119	204	71	90	s.	
Salisbury	Wicomico	23	17	57.1	96	July 2	4	Feb. 17	17	.....	9.17	Aug.	0.85	Nov.	22.2	110	158	101	106	sw.	
Solomons	Calvert	20	31	57.9	92	July 24	10	Feb. 17	31	41.90	6.41	June	0.55	Nov.	30.2	119	78	89	138	nw.	
State Sanatorium	Frederick	1,460	14	53.1	89	Sept. 6	1	Feb. 17	14	.....	9.85	June	0.63	Nov.	36.1	100	210	74	81	nw.	
Sudlersville	Queen Annes	65	25	55.3	93	July 12	6	Jan. 31*	25	38.22	7.40	July	0.60	Nov.	30.5	132	193	57	115	w.	
Takoma	Montgomery	320	24	54.9	92	July 2*	6	Feb. 17	24	41.81	8.09	July	0.57	Nov.	40.0	112	113	132	120	.....	
Western Port	Allegany	1,000	29	54.9	99	July 11	-1	Jan. 25	29	28.10	4.52	Dec.	0.40	Nov.	34.1	90	.....	.....	.....	.....	
Westminster	Carroll	770	13	58.9	94	Sept. 6	0	Feb. 17	13	32.21	5.61	Mar.	0.60	Nov.	39.6	111	168	98	99	.....	
Woodstock	Baltimore	415	52	55.0	96	July 1*	1	Jan. 26	52	.....	6.64	July	0.47	Nov.	35.2	105	147	82	136	n.	
District of Columbia.																					
Washington (U. S. W. B.)		112	52	56.4	95	July 12	9	Feb. 17	52	46.96	9.59	July	0.55	Nov.	40.7	122	106	121	138	n.	
Delaware.																					
Delaware City	New Castle	10	36	55.4	91	July 13*	4	Feb. 17	32	30.16	5.69	June	0.60	Nov.	27.6	89	138	110	67	sw.	
Dover	Kent	34	33	55.5	93	July 12	3	Feb. 17	32	41.48	7.23	June	0.62	Nov.	30.6	123	214	82	69	nw.	
Milford	do	20	40	.....	92	July 12	3	Feb. 17	40	43.51	6.12	July	1.12	Nov.	27.6	120	169	121	75	nw.	
Millsboro	Sussex	20	30	56.2	96	July 12	3	Feb. 17	30	51.48	9.54	July	1.07	Nov.	26.0	109	200	74	91	se.	
Seaford	do	40	31	56.2	93	July 1*	5	Feb. 17	31	47.65	8.05	July	0.99	Nov.	28.5	119	171	82	112	s.	
Wilmington	New Castle	86	29	54.6	93	July 13	1	Feb. 17	29	34.63	5.61	July	0.53	Nov.	29.3	102	192	59	114	nw.	
For Maryland and District of Columbia.				54.9	100	Sept. 7	-15	Jan. 17	.....	39.97	11.78	July	0.40	Nov.	35.9	112	161	97	107	nw.	
For Delaware.				55.6	96	July 12	1	Feb. 17	.....	41.52	9.54	July	0.53	Nov.	28.2	108	188	89	88	nw.	
For entire section				55.0	100	Sept. 7	-15	Jan. 17	.....	40.15	11.78	July	0.40	Nov.	34.8	111	163	96	106	nw.	

\* Also on other dates. † Also in May.

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

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of the month, and interfered with the movement of vessels to and from Baltimore. Some heaving of winter grains occurred in the northern counties. During the third decade winter grains and grasses were becoming green in the southern counties.

March was mild and wet. It was characterized by an unusually large number of days with moderate to heavy precipitation during the first two decades and an unusually light monthly snowfall. Except for a warm wave from the 24th to the 28th, periods of moderately cold and moderately mild

weather alternated frequently during the month. Winter grains and grasses were green throughout the month in the southern half of the section, and after the first decade in the northern half. Fruit buds became swollen under the influence of the warm wave of the third decade. At the close of the month farming operations were about two weeks behind normal.

April was mild and unusually dry. Precipitation averaged slightly more than one-half the normal. Snowfall was very light. Fruit trees were forced into blossom by a hot wave,

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**Monthly and Annual Precipitation for the Year 1922, with Departures from the Normal.**

	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.		
Stations.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	
Maryland.																											
Aberdeen.....	3.35	.....	2.90	.....	4.09	.....	1.30	.....	3.42	.....	3.85	.....	7.52	.....	2.45	.....	2.12	.....	0.74	.....	0.50	.....	2.71	.....	84.95	.....	
Annapolis.....	5.27	+1.85	3.43	-0.04	5.91	+1.92	1.75	-1.87	2.78	-1.47	5.27	+0.89	7.94	+3.45	3.34	-1.99	2.73	-1.27	2.04	+1.84	0.51	-2.48	3.97	+0.28	44.98	-1.47	
Baltimore (U. S. W. B.).....	4.89	+1.66	2.91	-0.57	4.83	+0.95	0.88	-2.39	4.00	+0.44	4.45	+0.61	7.28	+2.46	4.11	-3.10	2.69	-1.16	5.58	+2.56	0.44	-2.48	3.43	+0.35	42.51	-0.67	
Bell.....	4.91	.....	3.26	.....	5.44	.....	1.84	.....	3.13	.....	5.67	.....	7.62	.....	4.91	.....	2.60	.....	1.73	.....	0.71	.....	3.82	.....	46.54	.....	
Boyd's.....	3.71	.....	2.04	.....	4.07	.....	1.30	.....	2.90	.....	2.42	.....	4.36	.....	3.92	.....	2.41	.....	1.33	.....	0.97	.....	3.09	.....	31.82	.....	
Cambridge.....	5.52	+2.52	3.14	-0.87	4.94	+1.34	2.20	-1.41	1.81	-1.73	5.44	+1.37	11.78	+7.00	2.89	-2.04	1.66	-1.37	1.76	-1.83	0.85	-1.85	4.17	+0.51	46.16	+2.15	
Cecilton.....	3.74	.....	3.46	.....	5.88	.....	2.38	.....	1.83	.....	7.67	.....	8.36	.....	1.60	.....	1.58	.....	1.45	.....	0.53	.....	2.95	.....	41.23	.....	
Cheltenham.....	5.63	+2.43	3.65	+0.45	6.22	+2.62	1.67	-2.35	4.17	+0.96	6.94	+2.88	5.08	+0.38	4.67	+0.28	7.30	+4.21	1.59	-1.37	0.73	-1.60	3.23	-0.41	50.83	+7.98	
Chesapeake City.....	3.22	.....	3.25	.....	4.13	.....	2.46	.....	1.76	.....	6.74	.....	8.42	.....	1.44	.....	2.08	.....	1.32	.....	0.64	.....	2.97	.....	33.43	.....	
Chewsville.....	2.61	-0.36	2.21	-0.18	3.44	+0.48	1.61	-1.23	2.98	-0.38	3.73	-0.33	7.02	+3.12	8.66	-0.20	1.20	-1.53	1.66	-0.87	0.61	-1.27	2.32	-0.52	33.05	-3.22	
Clear Spring.....	1.39	-1.94	2.32	-0.54	3.93	+0.34	1.31	-2.15	3.93	+0.29	3.83	-0.46	2.53	-1.66	2.65	-1.90	1.98	-1.46	2.47	-0.30	0.58	-1.53	3.09	-0.24	29.41	-11.55	
Coleman.....	3.85	+0.42	3.47	+0.33	4.26	+0.26	2.08	-1.48	2.61	-0.77	6.92	+3.42	8.92	+4.46	1.27	-3.60	1.39	-2.01	1.41	-1.47	0.46	-2.20	3.31	-0.73	39.95	-8.37	
College Park.....	4.91	+1.79	3.23	-0.24	4.43	+0.81	2.01	-1.52	4.45	+0.62	3.50	-0.62	7.51	+8.07	2.77	-1.15	2.34	+1.18	1.31	-1.19	0.66	-1.84	3.77	-0.68	42.79	-1.59	
Costen.....	.....	.....	.....	.....	5.72	.....	2.15	.....	1.92	.....	6.23	.....	6.97	.....	5.72	.....	2.68	.....	1.61	.....	1.00	.....	5.78	.....	.....	.....	
Crisfield.....	4.72	.....	6.35	.....	9.22	.....	1.77	.....	2.95	.....	6.99	.....	4.41	.....	5.72	.....	4.51	.....	2.25	.....	1.10	.....	5.75	.....	55.59	.....	
Cumberland.....	1.84	-0.60	2.10	-0.45	3.38	+0.37	1.37	-1.32	3.23	-0.22	2.41	-1.62	1.89	-1.27	1.71	-1.84	1.26	-1.41	1.18	-1.21	0.55	-1.60	3.47	+0.90	24.39	-10.27	
Darlington.....	.....	.....	.....	.....	2.28	-1.02	3.24	-0.24	2.84	.....	3.24	-0.75	5.28	+0.61	2.11	-2.92	1.36	-2.28	1.34	-1.85	0.62	-2.18	3.16	-0.68	.....	.....	
Denton.....	4.44	+1.55	4.92	-1.73	2.16	-1.07	1.93	-2.16	1.97	+2.75	1.97	+2.75	5.58	+0.62	3.17	-1.22	2.00	-1.02	1.94	-1.32	0.72	-1.89	4.58	+0.51	39.98	-0.85	
Easton.....	5.57	+2.70	3.50	+0.40	4.01	+0.45	1.83	-1.42	1.58	-1.85	5.42	+1.64	5.66	+1.27	3.17	-1.22	2.00	-1.02	1.94	-1.32	0.72	-1.89	4.58	+0.51	39.98	-0.85	
Emmitsburg.....	2.73	-0.59	.....	.....	5.25	+1.15	1.97	-1.42	4.39	+0.30	8.49	+4.39	5.24	+1.18	4.15	+0.11	1.35	-2.53	1.89	-1.69	0.71	-2.64	3.86	+0.63	.....	.....	
Fallston.....	3.91	+0.54	2.49	-0.81	3.87	-0.22	1.63	-1.84	4.92	+1.12	5.09	+1.00	8.60	+4.06	2.63	-2.27	2.15	-1.97	2.46	-1.00	0.53	-2.70	3.52	-0.19	41.85	-4.28	
Ferry Landing.....	.....	.....	3.41	.....	5.12	.....	1.50	.....	2.84	.....	5.59	.....	9.55	.....	5.98	.....	5.85	.....	5.12	.....	0.46	.....	3.54	.....	.....	.....	
Frederick.....	3.10	-0.10	2.51	-0.51	4.32	+1.08	1.50	-1.89	3.35	-0.40	7.41	+2.97	5.16	+1.02	2.59	-1.08	2.51	-0.74	1.19	-1.45	0.57	-2.00	3.13	-0.02	37.35	-3.12	
Freeland.....	3.93	.....	.....	.....	4.86	.....	3.20	.....	3.20	.....	6.20	.....	2.43	.....	0.80	.....	0.80	.....	2.76	.....	0.60	.....	3.87	.....	.....	.....	
Friendsville.....	3.29	.....	2.52	.....	5.65	.....	2.85	.....	3.07	.....	5.81	.....	3.28	.....	1.86	.....	0.96	.....	1.49	.....	1.16	.....	3.40	.....	35.34	.....	
Frostburg.....	2.80	-1.30	2.15	-0.58	3.38	-0.42	2.25	-1.51	4.45	+0.35	3.17	-1.76	2.21	-2.02	2.73	-1.69	4.00	+0.86	1.68	-1.33	0.72	-1.60	3.54	+0.51	32.58	-10.49	
Grantsville.....	2.85	-0.78	2.96	-0.81	4.68	+0.70	3.52	-0.09	3.50	+0.02	5.12	+0.85	4.29	-0.09	2.64	-1.39	1.37	-1.35	2.19	-0.54	0.84	-1.76	4.54	+1.11	38.50	-3.63	
Great Falls.....	4.03	+0.73	2.69	-0.07	3.41	+1.06	1.45	-1.53	2.58	-0.62	3.11	-0.61	3.69	-0.42	3.49	-0.34	5.63	+2.55	1.52	-1.18	0.57	-1.64	3.55	+0.42	36.62	-1.72	
Hancock.....	1.90	.....	2.09	.....	3.82	.....	1.96	.....	3.76	+0.33	2.76	-0.20	2.59	-1.50	1.91	-1.51	3.68	+0.86	2.88	+0.40	0.80	-1.63	2.82	-0.08	30.71	-6.12	
Keedysville.....	2.92	-0.08	2.04	-0.61	3.65	+0.71	1.46	-1.68	8.49	+0.37	5.13	+1.01	3.67	-0.27	3.58	-1.02	2.28	-0.48	2.41	-0.52	0.61	-1.26	2.62	-0.45	33.86	-4.28	
La Plata.....	4.75	.....	3.59	.....	5.82	.....	1.73	.....	3.99	.....	3.73	.....	4.59	.....	4.50	.....	3.28	.....	2.37	.....	0.52	.....	3.59	.....	42.51	.....	
Laurel.....	4.63	+1.19	2.61	-0.79	4.17	+0.87	1.65	-1.81	4.15	+0.70	5.22	+1.07	3.73	-0.97	2.29	-2.50	2.63	-0.64	1.33	-1.70	0.56	-1.82	3.25	+0.48	36.20	-7.38	
Oakland.....	3.62	-0.62	3.85	-0.71	4.12	+0.77	3.56	-0.46	2.91	-1.63	4.60	-0.12	4.33	-0.38	3.18	-0.98	1.89	-1.13	1.68	-1.60	1.27	-1.18	6.13	+2.38	41.54	-4.14	
Princess Anne.....	4.54	+1.45	5.24	+1.78	6.11	+2.37	1.75	-1.59	2.66	-0.42	5.18	+1.31	5.19	+0.75	8.19	+3.06	3.53	+0.75	2.04	-1.30	1.07	-1.38	5.89	+2.74	51.39	+9.62	
Public Landing.....	5.04	.....	4.72	.....	6.34	.....	2.31	.....	1.74	.....	2.84	.....	11.70	.....	7.68	.....	2.09	.....	2.61	.....	0.86	.....	7.72	.....	55.65	.....	
Riderwood.....	4.36	.....	2.27	.....	4.84	.....	1.24	.....	4.34	.....	5.57	.....	4.17	.....	1.80	.....	1.54	.....	2.95	.....	0.42	.....	3.79	.....	37.29	.....	
Ridgely.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rock Hall.....	4.57	.....	3.20	.....	6.01	.....	1.95	.....	2.18	.....	5.60	.....	7.00	.....	2.67	.....	3.18	.....	1.10	.....	0.50	.....	3.67	.....	41.65	.....	
Salisbury.....	4.41	+1.21	4.20	+0.75	.....	.....	2.08	-1.31	1.93	-1.13	3.52	-0.46	6.59	+2.09	9.17	+3.74	3.51	+0.26	1.97	-1.56	0.85	-1.72	5.09	+1.55	.....	.....	
Solomons.....	4.49	+1.74	3.50	+0.75	4.55	+1.80	1.66	-1.27	1.98	-1.03	6.41	+3.09	6.06	+1.89	4.21	+3.37	2.72	+0.11	1.31	-1.42	0.55	-1.45	3.86	+1.13	41.30	+5.14	
State Sanatorium.....	2.52	-0.73	.....	.....	.....	.....	1.80	-2.00	5.40	+1.97	9.35	+4.58	5.20	+1.20	2.66	-2.89	1.20	-2.65	2.06	-0.68	0.63	-1.62	2.81	-0.43	.....	.....	
Sudlersville.....	3.55	+0.25	3.83	+0.57	4.45	+0.45	1.99	-1.62	2.37	-1.12	5.35	+1.50	7.40	+2.68	1.94	-2.58	1.55	-2.05	1.42	-1.72	0.60	-2.04	3.77	-0.14	38.22	-5.82	
Takoma.....	5.25	+1.95	3.10	-0.03	4.08	+0.38	1.86	-1.67	4.41	+0.59	3.75	-0.76	8.09	+3.42	1.79	-2.70	4.29	+0.93	0.99	-1.74	0.57	-1.62	3.63	-0.21	41.48	-2.01	
Western Port.....	2.16	-1.95	2.83	-0.20	3.65	+0.85	1.86	-0.69	3.12	-0.28	2.05	-1.95	1.85	-1.96	2.17	-1.33	1.15	-1.35	2.35	+0.09	0.40	-1.28	4.52	+2.30	28.10	-6.12	
Westminster.....	3.18	+0.85	2.32	-0.87	5.61	+2.13	1.82	-1.05	2.81	-1.23	4.81	+0.81	3.23	-0.82	2.35	-2.53	0.99	-2.78	1.75	-1.40	0.60	-2.17	3.04	-0.09	32.21	-9.73	
Woodstock.....	4.05	+0.67	.....	.....	4.71	+0.99	1.56	-1.62	8.62	-0.04	5.34	+1.52	6.94	+2.60	2.17	-2.44	2.85	-0.20	1.93	-0.38	0.47	-1.64	3.08	-0.15	.....	.....	
District of Columbia.																											
Washington (U. S. W. B.).....	5.56	+2.19	2.86	-0.56	4.74	+0.89	1.05	-2.20	4.27	+0.44	4.10	-0.06	9.59	+4.94	3.88	-1.32	6.27	+2.63	1.41	-1.68	0.55	-2.16	3.48	+0.32	46.96	+3.46	
Delaware.																											
Delaware City.....	3.21	+0.31	2.52	-0.78	4.01	+0.77	2.08	-1.18	1.93	-1.44	5.69	+1.89	2.57	-1.09	2.02	-1.71	1.61	-1.56	1.39	-1.15	0.60	-1.54	2.53	-1.28	30.16	-8.76	
Dover.....	3.94	+0.70	2.94	-0.36	4.34	+0.19	1.93	-1.48	1.74	-1.85	7.23	+3.60	6.43	+2.06	4.73	+0.01	3.20	-0.28	0.99	-2.23	0.62	-2.68	3.44	+0.01	41.48	-2.01	
Milford.....	4.12	+0.90	3.50	-0.06	5.20	+1.12	2.59	-0.73	1.19	-2.64	5.61	+1.69	6.12	-1.90	5.67	+0.99	2.03	-1.48	1.42	-1.39	1.12	-1.97	5.04	+1.23	43.51	-1.33	
Millsboro.....	4.92	+1.56	3.71	+0.06	4.84	+0.87	2.34	-1.34	3.47	-0.23	6.20	+1.37	9.54	+5.01	6.12	+1.11	2.98	-0.02	1.58	-2.00	1.07	-1.51	5.71	+1.81	51.48	+6.71	
Seaford.....	4.33	+0.95	4.54	+1.12	4.39	+0.54	2.27	-1.27	2.01	-1.63	4.29	+0.50</															

(Continued from page 52.)

unprecedented in intensity and duration for the season of the year, with summer temperatures, from the 8th to the 11th. Maximum temperatures during this period ranged from 82° in the Alleghany highlands to between 90° and 93° in the Cumberland Valley and the valley districts of the Piedmont Plateau. A cold wave, with freezing temperatures and killing frosts, that followed within two weeks, from the 21st to the 24th, destroyed most of the tree fruit, including apples, peaches, and pears in western Maryland and in portions of north-central Maryland. There was also considerable damage to tree fruit in the interior of the Eastern Shore, but only

slight damage in southern Maryland, and little or none in the regions near and along the shores of Chesapeake Bay and the Atlantic Ocean. Cherries and plums were largely killed, about 75 to 90 per cent of early strawberries, and, except in southern Maryland, a large percentage of grapes. The loss for the entire section, however, was decidedly less than a year ago, and in southern and eastern counties was small by comparison. Peas and early garden truck that were up and early tomato plants were killed also, and wheat, young clover, and alfalfa in the northern counties were slightly injured. Plowing for corn made good progress. Rye headed in the

(Continued on page 54.)

Monthly and Annual Mean Temperatures for the Year 1922, with Departures from the Normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
Maryland.																										
Aberdeen	29.0		34.8		42.0		51.8		64.6		72.8		74.6		71.8		68.4		57.8		45.4		33.8		58.9	
Annapolis	33.2	-1.0	38.2	+3.7	45.1	+1.3	55.7	+2.1	66.6	+1.0	75.0	+1.5	77.2	-0.7	74.2	-0.3	71.2	+1.6	61.0	+2.9	48.2	+1.0	37.6	+0.4	56.9	+1.1
Baltimore (U. S. W. B.)	33.2	-1.2	38.4	+3.8	44.8	+2.9	55.8	+2.8	67.2	+3.0	75.1	+2.1	77.0	-0.3	74.1	-1.4	70.8	+2.3	60.6	+2.4	49.0	+2.7	37.4	+0.2	56.9	+1.6
Bell	29.6		37.0		44.2		54.5		64.5		73.3		75.6		71.4		68.0		57.0		44.6		35.5		54.6	
Boysd	29.4		37.6		44.4		54.2		65.6		74.0		75.6		72.8		69.4		57.6		45.2		35.4		55.1	
Cambridge					46.6	+2.2					75.2	+1.8	77.0	-0.8	74.4	-2.0	70.4	0.0	60.6	+1.0	48.9	+1.5	39.7	+2.0		
Cecilton	30.6		36.6		44.3		54.0		65.0		73.4		75.0		72.0		68.8		59.7		47.0		35.4		55.2	
Cheltenham	31.8	-2.4	39.0	+5.2	46.6	+3.3	56.0	+2.1	65.8	+2.0	74.0	+3.5	76.0	+0.5	72.7	-0.8	69.4	+1.7	59.3	+1.8	47.2	+2.0	37.9	+8.0	56.3	+1.7
Cheswille	26.4	-4.2	35.6	+6.0	42.4	+1.3	51.8	+1.1	63.8	+2.5	71.8	+2.6	73.7	-0.5	70.1	-2.2	67.4	+1.4	56.5	+1.5	44.6	+1.9	38.8	+1.7	58.2	+1.2
Coleman	31.4	-1.6	37.2	+4.6	44.8	+1.7	55.4	+2.2	66.6	+2.6	74.6	+3.1	76.4	+0.2	74.0	-0.6	70.4	+1.3	61.4	+2.9	48.6	+2.4	36.0	+0.3	56.4	+1.6
College Park	30.8	-2.5	38.2	+4.4	44.7	+2.4	54.7	+1.9	65.1	+2.8	73.5	+2.6	75.8	+0.7	72.2	-1.8	69.0	+1.5	58.0	+1.7	45.9	+1.6	36.5	+2.8	55.4	+1.5
Crisfield	34.8		40.0		47.8		56.3		66.0		74.6		76.7		74.0		70.9		62.8		49.4		41.1		57.9	
Cumberland	28.0	-3.0	36.0	+3.3	42.8	+3.3	53.8	+2.0	65.9	+3.1	73.0	+2.7	74.8	+0.9	71.4	-0.6	69.6	+4.6	56.6	+2.3	44.6	+1.1	35.2	+1.6	54.3	+1.8
Darlington							53.3	+1.7	64.9	+2.7	73.0	+3.2	75.0	+0.6	72.2	-0.3	68.6		58.0		46.4		38.7			
Denton	31.6	-2.6	37.6	+4.1			54.3	+1.1	65.0	+1.6	74.2	+3.1														
Easton	32.0	-2.4	38.2	+4.3	45.9	+2.1	55.0	+1.6	64.9	+1.2	73.8	+2.9	75.2	-0.9	72.6	-1.7	68.7	+0.4	60.0	+2.1	49.2	+1.5	39.4	+2.8	56.2	+1.2
Emmitsburg	29.0	-1.6	36.4	+4.4	43.0	+3.0	53.8	+2.1	64.4	+2.4	72.4	+2.6	74.2	-1.0	70.9	-1.8	69.0	+3.3	58.2	+3.2	46.6	+3.7	35.4	+2.4	54.4	+1.9
Fallston	29.4	-1.5	36.4	+4.0	43.0	+2.0	53.8	+2.0	64.1	+2.7	71.6	+2.1	73.8	-0.3	70.8	-1.3	67.8	+2.1	56.0	+2.8	46.0	+2.6	34.0	+0.3	54.0	+1.6
Ferry Landing			38.6		46.0		56.0		66.0		74.2		75.8		72.6		69.3		59.0		47.9		38.0			
Frederick	29.5	-2.6	37.4	+4.8	44.5	+2.7	55.1	+2.5	67.4	+3.9	74.8	+3.1	76.7	+0.5	73.1	-0.8	70.1	+3.0	58.8	+3.1	46.2	+2.3	35.1	+0.6	55.7	+1.9
Freeland			34.7		41.4		51.1		62.6		70.8		72.6		69.4		66.6		55.1		42.8		32.0		52.1	
Friendsville	27.8		35.7		40.0		49.0		59.2		66.7		69.0		64.2		62.2		53.2		46.5		35.1		50.7	
Frostburg	26.0	-3.7	33.7	+4.6	40.8	+2.2	51.0	+1.0	63.4	+3.0	69.8	+2.3	72.6	+0.8	69.2	-1.2	68.2	+3.9	57.2	+2.2	42.8	+0.8	34.4	+3.3	52.4	+1.6
Grantsville	23.6	-3.4	33.1	+7.5	39.0	+2.7			58.8	+1.8	65.2	+1.5	67.2	-0.8	64.0	-2.6	61.4	+0.3	50.9	+0.4	39.5	+0.5	32.4	+3.8		
Great Falls	30.2	-1.6	37.6	+5.6	44.8	+2.1	55.3	+2.3	66.0	+2.1	74.3	+3.0	76.4	+0.9	72.0	-2.0	69.3	+1.4	58.4	+2.6	46.6	+1.7	35.6	+1.7	55.5	+1.7
Hancock	27.2		36.9		43.2		53.5		64.3		72.3	+0.7	74.2	-1.0	71.2	-2.5	67.8		58.4		44.4		33.8		53.8	
Keedysville	27.3	-4.7	37.2	+5.8	43.8	+1.5	54.1	+1.0	65.8	+2.4	74.0	+3.3	76.1	+0.8	71.9	-1.7	69.2	+2.1	57.6	+1.2	45.7	+2.1	35.0	+2.0	54.8	+1.3
La Plata	32.4		39.2		46.4		56.0		65.7		74.6		76.2		73.0		69.5		59.4		47.5		38.4		56.5	
Laurel	30.4	-2.2	36.8	+4.8	44.2	+2.1	54.4	+1.8	64.7	+1.4	73.0	+2.1	75.0	-0.3	72.2	-1.2	69.2	+1.8	58.1	+2.4	46.8	+2.6	36.3	+2.7	55.1	+1.5
Oakland	24.6	-3.5	33.4	+6.8	39.8	+3.5	47.6	+1.7	58.1	+2.1	64.8	+1.3	66.2	-0.5	63.8	-2.4	61.4	+1.0	50.1	+0.5	38.7	+1.1	32.8	+3.9	48.4	+1.3
Princess Anne	33.0	-4.0	38.9	+2.2	46.6	+1.1	55.1	+0.7	63.7	+0.5	72.6	+1.5	74.4	-1.8	71.8	-2.9	68.2	-0.5	59.8	+2.0	47.2	-0.1	39.4	+0.8	55.9	0.0
Public Landing	33.7		39.4		45.8		54.6		63.4		72.8		75.2		72.8		68.8		60.3		48.0		41.2		56.3	
Riderwood	28.4		35.4		41.9		52.3		63.0		71.4		73.4		70.2		66.7		56.2		43.8		33.0		53.0	
Ridgely							54.8						76.0	-0.3	73.0	-1.0	69.2	+1.2	59.9	+2.2	47.7	+1.9	37.9	+2.6		
Rock Hall	32.0		37.7		44.9		54.8		65.7		74.8		76.4		74.2		70.0		60.6		48.4		36.8		56.4	
Sallsbury	33.4	-2.6	39.6	+3.0	47.2	+2.6	55.8	+1.4	65.8	+1.6	75.0	+3.6	76.2	-0.5	73.0	-2.9	69.9	+1.2	60.6	+1.7	47.6	+1.1	40.6	+3.0	57.1	+1.1
Solomons	34.4	-1.0	38.8	+3.9	46.5	+2.4	56.6	+2.6	66.7	+1.5	75.0	+1.8	77.2	-1.0	75.2	-2.0	72.0	+0.6	62.5	+2.0	50.0	+1.5	40.2	+1.9	57.9	+1.2
State Sanatorium	28.0	-1.8	34.8	+5.1	41.4	+1.5	52.1	+1.0	62.8	+1.1	71.0	+2.1	72.8	-0.6	70.0	-1.2	68.1	+3.5	57.2	+1.4	45.4	+2.6	33.6	+2.9	53.1	+1.5
Sudlersville	30.9	-2.8	37.4	+3.8	45.0	+2.0	54.5	+1.3	65.0	+1.4	73.5	+2.6	75.2	-1.0	72.6	-1.4	68.2	+0.2	58.6	+0.9	46.8	+1.5	36.2	+0.8	55.3	+0.8
Takoma	29.9	-2.3	36.2	+3.6	43.8	+1.3	54.3	+1.7	65.2	+2.2	72.9	+3.1	74.8	+0.1	72.0	-1.0	68.2	+1.5	58.2	+1.9	47.6	+3.2	36.0	+2.2	54.9	+1.5
Western Port	29.1	-1.4	37.6	+7.1	44.1	+2.4	54.2	+2.8	65.3	+3.1	73.0	+3.9	74.7	+1.4	71.5	-0.3	70.0	+3.9	57.8	+3.0	45.8	+3.2	36.0	+3.6	54.9	+2.7
Westminster	27.8	-3.3	35.7	+5.0	42.6	+0.9	52.5	+0.4	64.5	+1.5	72.2	+1.2	73.8	-1.4	70.8	-1.2	68.8	+3.0	58.0	+3.1	46.0	+2.9	34.6	+1.6	53.9	+1.1
Woodstock	29.5	-2.4	37.5	+5.5	45.0	+4.0	54.0	+1.8	65.8	+2.6	73.5	+2.7	75.6	+0.5	72.0	-0.7	69.0	+2.7	58.2	+1.8	45.0	+0.7	35.0	+0.7	55.0	+1.6
District of Columbia.																										
Washington (U. S. W. B.)	32.0	-0.9	38.6	+4.2	45.2	+3.0	55.6	+2.5	66.8	+2.6	74.5	+1.8	76.6	-0.3	73.1	-1.9	69.9	+1.7	59.4	+2.0	47.9	+2.6	37.6	+1.0	56.4	+1.5
Delaware.																										
Delaware City	30.8	-1.6	36.7	+4.1	44.0	+2.4	53.9	+0.9	65.8	+2.3	73.2	+1.8	75.8	-1.0	73.4	-1.6	69.1	+0.9	59.9	+2.1	46.8	+1.1	35.4	-0.4	55.4	+0.9
Dover	31.2	-3.6	38.4	+4.5	45.0	+2.7	54.0	+0.8	64.3	+0.8	73.2	+1.0	75.4	-1.3	72.4	-2.3	68.6	+0.4	59.2	+1.9	47.6	+2.3	36.8	+0.4	55.5	+0.6
Millford	32.7	-2.4	38.5	+3.8	45.4	+2.6	54.8	+1.0	64.8	+1.4			75.0	-1.7	72.6	-2.4	68.2	+0.2	58.8	+1.4	47.5	+1.4	38.2	+0.7		
Millsboro	32.3	-2.7	38.6	+4.3	45.6	+1.9	54.4	+1.8	64.4	+1.3	73.8	+3.0	75.6	-0.6	73.4	-1.2	69.6	+1.1	59.8	+1.9	47.0	+0.7	39.7	+2.6	56.2	+1.2
Seaford	32.1	-2.6	38.4	+4.3	46.3	+2.6	54.9	+1.9	65.0	+1.5	74.0	+3.1	74.9	-1.1	73.1	-1.3	69.2	+1.0	59.8	+2.5	48.0	+2.0	38.6	+1.7	56.2	+1.3
Wilmington	29.1	-3.7	36.2	+4.3	43.6	+1.8	53.8	+0.4	65.2	+1.4	73.4	+1.9	75.0	-1.8	72.6	-2.0	68.8	+0.6	58.4	+1.0	45.3	-0.1	34.0	-0.8	54.6	+0.2
For Maryland and District of Columbia.	30.1	-2.2	37.2	+4.5	44.2	+1.9	54.0	+1.5	64.7	+1.9	72.8	+2.9	74.7	-0.2	71.6	-1.8	68.6	+1.4	58.3	+2.0	46.2	+1.5	36.2	+1.8	54.9	+1.3
For Delaware.	31.4	-2.7	37.8	+4.3	45.0	+1.9	54.2	+1.0	65.0	+1.4	73.57															

## KILLING FROSTS, 1922.

Stations.	Last in spring.	First in autumn.	Stations.	Last in spring.	First in autumn.	Stations.	Last in spring.	First in autumn.
<i>Maryland.</i>			<i>Maryland—Continued.</i>			<i>Maryland—Continued.</i>		
Aberdeen.....	Apr. 24	Oct. 21	Fallston.....	Apr. 29	Oct. 19	Solomons.....	Apr. 24	Nov. 22
Annapolis.....	Apr. 24	Oct. 31	Ferry Landing.....	Apr. 24	Oct. 21	State Sanatorium.....	Apr. 24	Oct. 19
Baltimore.....	Apr. 24	Nov. 22	Frederick.....	Apr. 29	Oct. 19	Sudlersville.....	Apr. 29	Oct. 19
Bell.....	May 1	Oct. 13	Freeland.....	May 1	Sept. 26	Takoma.....	Apr. 24	Oct. 19
Boysds.....	May 1	Oct. 19	Friendsville.....	May 1	Aug. 21	Western Port.....	Apr. 29	Oct. 13
Cambridge.....	Apr. 24	Nov. 17	Frostburg.....	Apr. 30	Oct. 13	Westminster.....	Apr. 29	Oct. 19
Cecilton.....	Apr. 29	Oct. 19	Grantsville.....	May 1	Aug. 21	Woodstock.....	May 1	Sept. 26
Cheltenham.....	Apr. 29	Oct. 19	Great Falls.....	May 1	Oct. 19			
Chesapeake City.....	Apr. 29	Oct. 21	Hancock.....	May 1	Sept. 26	<i>District of Columbia.</i>		
Chewsville.....	May 1	Oct. 13	Keedysville.....	Apr. 30	Oct. 13	Washington.....	Apr. 22	Oct. 19
Clear Spring.....	Apr. 29	Oct. 13	La Plata.....	Apr. 24	Oct. 19	<i>Delaware.</i>		
Coleman.....	Apr. 24	Oct. 21	Laurel.....	Apr. 29	Oct. 13	Delaware City.....	Apr. 29	Oct. 21
College Park.....	May 1	Oct. 13	Oakland.....	May 1	Aug. 21	Dover.....	Apr. 29	Oct. 21
Costen.....	Apr. 24	Oct. 21	Princess Anne.....	May 1	Oct. 21	Millford.....	Apr. 29	Oct. 21
Crisfield.....	Apr. 24	Nov. 22	Public Landing.....	Apr. 24	Oct. 21	Millsboro.....	May 1	Oct. 21
Cumberland.....	Apr. 29	Oct. 13	Riderwood.....	May 1	Oct. 19	Seaford.....	May 1	Oct. 21
Darlington.....	May 1	Oct. 19	Ridgely.....	May 1	Oct. 19	Wilmington.....	Apr. 29	Oct. 19
Easton.....	Apr. 29	Oct. 21	Rock Hall.....	Apr. 29	Oct. 21			
Emmitsburg.....	Apr. 25	Oct. 19	Salisbury.....	Apr. 30	Oct. 21			

## COMPARATIVE DATA FOR MARYLAND AND DELAWARE.

Year.	Temperature.				Precipitation.						Year	Temperature.				Precipitation.							
	Mean.	Departure from the normal.	Highest.	Lowest.	Average.	Departure from the normal.	Greatest local.	Least local.	Greatest in 24 hours.	Snowfall.		Number of days with 0.01 inch or more.	Mean.	Departure from the normal.	Highest.	Lowest.	Average.	Departure from the normal.	Greatest local.	Least local.	Greatest in 24 hours.	Snowfall.	Number of days with 0.01 inch or more.
1895.....	52.6	-1.1	102	-18	34.47	-7.43	42.07	14.42	4.80	29.9	94	1909.....	54.0	+0.3	99	-5	37.47	-4.43	50.45	28.30	3.80	30.0	105
1896.....	54.0	+0.3	103	-13	37.11	-4.79	64.94	30.18	4.50	23.0	92	1910.....	53.8	+0.1	99	-15	37.42	-4.48	52.45	26.74	7.19	34.8	109
1897.....	53.6	-0.1	102	-12	44.97	+3.07	63.85	32.56	14.75	18.4	109	1911.....	54.9	+1.2	106	-5	48.61	+1.71	55.58	33.62	7.35	23.2	119
1898.....	54.9	+1.2	109	-20	42.11	+0.21	65.77	32.59	5.93	21.6	109	1912.....	53.3	-0.4	102	-40	48.42	+1.52	52.68	35.60	6.07	32.2	112
1899.....	53.5	-0.2	102	-26	40.84	-1.06	51.38	28.69	5.35	40.3	98	1913.....	56.1	+2.4	102	-6	39.98	-2.92	48.96	25.41	4.05	6.1	108
1900.....	55.0	+1.3	106	-15	36.65	-5.24	52.19	28.21	5.53	25.8	88	1914.....	53.4	-0.3	102	-21	35.97	-5.93	43.32	29.35	3.81	37.2	98
1901.....	52.6	-1.1	106	-15	45.08	+3.18	70.87	34.68	5.45	18.7	99	1915.....	54.1	+0.4	103	-6	43.58	+1.68	59.39	26.82	5.11	23.1	107
1902.....	53.6	-0.1	104	-17	49.20	+7.30	61.38	33.75	6.00	33.3	105	1916.....	53.2	-0.5	101	-11	40.47	-1.43	49.72	26.14	6.00	28.6	112
1903.....	53.3	-0.4	100	-12	46.94	+5.04	78.72	36.58	6.00	17.9	106	1917.....	51.3	-2.4	102	-32	40.65	-1.25	54.22	27.17	4.52	35.7	110
1904.....	51.2	-2.5	102	-20	36.49	-5.41	50.25	25.72	5.90	41.8	96	1918.....	53.8	+0.1	109	-30	37.96	-1.34	46.95	28.88	4.50	31.4	98
1905.....	53.3	-0.4	104	-20	43.84	+1.94	64.64	31.88	4.65	36.1	105	1919.....	54.9	+1.2	105	-19	47.62	+5.72	60.84	30.69	9.02	11.9	114
1906.....	54.6	+0.9	101	-15	48.01	+6.11	62.92	36.10	8.66	20.7	123	1920.....	53.3	-0.4	98	-10	44.95	+8.05	56.29	32.49	4.30	20.0	113
1907.....	52.2	-1.6	99	-29	48.86	+6.96	66.59	37.55	5.00	34.6	121	1921.....	55.6	+2.9	102	-15	37.72	-4.18	54.12	28.89	5.60	20.6	114
1908.....	54.1	+0.4	102	-21	40.01	-1.89	52.50	31.63	7.93	32.5	101	1922.....	55.0	+1.3	100	-15	40.15	-1.75	55.65	24.39	6.76	34.8	111

## Condensed Summary Climatological Data, 1922.

Months.	Temperature.				Precipitation.						Number of days.				Prevailing direction of wind.
	Mean.	Departure from the normal.	Maximum.	Minimum.	Average.	Departure from the normal.	Greatest local.	Least local.	Greatest in 24 hours.	Snowfall.	With 0.01 inch or more of precipitation.	Clear.	Partly cloudy.	Cloudy.	
January.....	30.3	-2.3	63	-15	3.96	+0.71	5.63	1.39	2.47	22.3	9	12	5	14	n.
February.....	37.3	+4.5	79	-12	3.18	-0.09	6.35	2.04	1.32	7.2	12	9	9	10	nw.
March.....	44.3	+1.9	80	11	4.67	+1.03	9.22	3.38	3.13	1.9	13	11	6	14	nw.
April.....	54.0	+1.4	93	17	1.90	-1.44	3.56	0.88	2.12	0.1	9	14	9	7	nw.
May.....	64.7	+1.8	93	25	3.08	-0.48	5.40	1.19	1.77	0.0	9	16	7	8	sw.
June.....	72.9	+2.7	97	38	5.14	+1.10	9.35	2.05	3.13	0.0	12	12	10	8	sw.
July.....	74.7	-0.4	99	43	5.90	+1.45	11.78	1.83	6.75	0.0	12	14	10	7	s.
August.....	71.8	-1.7	98	31	3.38	-1.06	9.17	1.11	3.24	0.0	10	14	10	7	sw.
September.....	68.6	+1.3	100	27	2.57	-0.53	7.80	0.69	5.85	0.0	4	18	8	4	se.
October.....	58.4	+2.0	94	15	1.87	-1.00	5.58	0.74	5.30	0.0	6	19	7	5	sw.
November.....	46.3	+1.4	75	14	0.66	-1.88	1.27	0.40	0.85	0.4	5	15	7	3	nw.
December.....	36.3	+1.7	71	3	3.84	+0.44	7.72	2.32	2.87	2.9	10	9	8	14	nw.
Year.....	55.0	+1.3	100	-15	40.15	-1.75	55.65	24.39	6.75	34.8	111	163	96	106	nw.

(Continued from page 54.)

the Blue Ridge Mountain region were attended by torrential rains. Crops were damaged; fields and roads were badly washed; and streams became raging torrents, overflowed their banks, and swept away foot bridges, fences, trees, etc. The warm, humid, and wet weather of the first decade caused some damage to crops. The sunny weather of the second and third decades was favorable for ripening of grains, maturing of truck crops, harvesting, haymaking, and general farming operations. Wheat and rye were harvested during

the second half of the month in the southern counties. During the third decade oats were headed and early potatoes were maturing in the southern counties; harvesting of wheat and rye was in progress and oats were heading in the northern counties, except in extreme western Maryland. Corn grew nicely, was in good to excellent condition, and was cultivated. Truck and gardens did well. Pastures, excellent during the first half of the month, were but fair to good thereafter. Picking of peas and strawberries was completed.

(Continued on page 56.)

(Continued from page 55.)

except in western Maryland. Early planted tomatoes were fruiting during the third decade, and haymaking was general.

July was moderately cool, except in the valley districts of western Maryland, where the mean monthly temperatures were between  $0.5^{\circ}$  and  $1^{\circ}$  above normal. The month was markedly wet in the Coastal Plain. Except in the Blue Ridge Mountain region, the rainfall was deficient, markedly so in the Cumberland Valley. The month was characterized by frequent temperature changes and by an unusually large number of thunder-storms. Lightning caused some damage, locally, over the section. A severe loss, estimated at \$4,800,000, caused by lightning on the 2d, was the burning of two grain elevators and two piers of the Baltimore and Ohio Railroad at Locust Point, Baltimore, Md. Crops and pastures were in good to excellent condition throughout the month, except in the Cumberland Valley, where they suffered from lack of rain during the third decade and became poor to fair. In the Coastal Plain the heavy rains caused grains in shock to sprout and to deteriorate, damaged tomato and tobacco plants and truck crops, caused fields to become grassy, and interfered with thrashing of grains and other farming operations. Peas and strawberries were picked in western Maryland. During the second and third decades oats were cut and thrashing of grains was in progress, except in western Maryland, where oats were ripening and wheat and rye were harvested. Corn tasseled during the second decade and eared well during the third. Digging of early potatoes began during the first decade in the southern counties and progressed northward thereafter. Harvesting of early tomatoes, sugar-corn, blackberries, and raspberries began during the second decade and of early peaches and cantaloups during the third. Haymaking was general, and planting of late potatoes was completed.

August was moderately cool. The month was markedly dry over the section, except in southern Maryland and Kent County, Del., where the rainfall totaled slightly above normal; and over the southeastern portion of the Eastern Shore, where the monthly rainfall averaged about one and one-half times the normal. Crops and pastures were in good to excellent condition, except in western Maryland and the extreme northeastern portion of the section, where they were poor to fair. During the third decade maturing of corn became general and late potatoes bloomed. Thrashing of grains and digging of early potatoes ended, except in western Maryland, where oats were cut during the first half of the month. Harvesting of tobacco, sweet potatoes, pears, and watermelons began. Haymaking was general. Fall plowing made good progress, except where the ground was too wet or too dry. Tree fruit and crops were damaged by hail, locally. Loss in tree fruit, however, was heavy in northern Talbot County.

September was moderately warm and deficient in rainfall. All the rainfall of the month occurred during the first 12 days. Crops and pastures improved in western Maryland and the extreme northeastern portion of the section, owing to the rains of the month, and were in fair to good condition during the first two decades. During the third decade late potatoes and truck crops deteriorated to fair and pastures to poor. Corn matured nicely and was cut; the crop was good. Harvesting of small fruits, cantaloups, watermelons, peaches, tomatoes, sugar-corn, and tobacco ended. During the first decade thrashing of grains and digging of early potatoes were completed in western Maryland and buckwheat was harvested in Garrett County. Digging of late potatoes began in the northern counties during the second decade. Tobacco in

barns during the first 12 days of the month was injured somewhat by the humid weather of that period; it cured nicely, however, during the second half of the month. At the close of the month much plowing remained to be done in southern Maryland and on the Eastern Shore; general sowing of grains was greatly delayed; and streams and wells were low in western Maryland and other northern counties.

October was dry and unusually sunshiny, as in 1920 and 1921. The month was mild. A warm wave, with summer-like temperatures, unusual for this season of the year, was experienced from the 3d to the 10th; maximum temperatures during this period ranged from  $82^{\circ}$  to  $94^{\circ}$ . The dry spell of unusual length that began on September 13 and continued for 24 days was terminated by light, general showers on the 7th. The monthly rainfall averaged two-thirds the normal. First general killing frost of the season occurred in western Maryland on the 13th; in north-central Maryland on the 19th; and in the Coastal Plain, with the exception of the Chesapeake Bay region, on the 21st. The weather of the month was especially favorable for maturing and harvesting of crops and for farming operations. During the first half of the month buckwheat was thrashed in Garrett County and harvested over the eastern portion of the section. Digging of sweet potatoes, picking of apples, and harvesting of late truck crops were nearing an end. The sweet potato crop was excellent; the apple crop was fair in Maryland and good in Delaware; and the pear crop was fair. Sowing of grains, which had been greatly delayed by dry weather, was accomplished, but germination was slow. Pastures were poor. Streams were low and water was scarce in western Maryland.

November was mild, dry, and sunshiny. It was the fourth successive month with deficient rainfall, and the second driest November of record. The third decade was cold and wintry. First general snow in western Maryland, light in amount, fell on the 27th. Weather of the month was unfavorable for winter grains; they were in good condition in the Allegany Mountain region, however, and only in fair condition, generally over the remainder of the section. Late sown grains came up poorly. Owing to the unusually dry weather grains did not stool well. Pastures continued poor. Digging of late potatoes and sweet potatoes, picking of apples, and harvesting of late truck crops ended. The late potato crop was fair. Buckwheat was thrashed over the eastern portion of the section. Husking of corn continued, and plowing was in progress. Streams were low and water was scarce in western and north-central Maryland.

December was mild, with precipitation well above the monthly normal in the southern counties and in the Appalachian region; over the northeastern portion of the section the mean monthly temperatures departed but slightly above or below normal and the monthly precipitation was deficient. An unusually long period of dense fog prevailed from the night of the 25th to the night of the 27th. It was the third successive mild December. The first cold wave of the winter was experienced on the 19-20th. The first general snowfall over the section, light in amount, occurred during the night of the 9-10th. Moderate rains of the 4-5th terminated the semi drought period of four months' duration. Winter grains were benefited by the rains and snows, and improved; they were in fair to good condition during the third decade. In western Maryland winter grains were snow-covered during the periods of low temperature. The water shortage over the western portion of the section was relieved. Husking of corn was completed; some plowing was done; stripping of tobacco made favorable progress; and building operations were practically uninterrupted.—J. B., jr.



Map Showing Climatological and Display Stations in Maryland and Delaware.

