CLIMATOLOGICAL DATA.

VIRGINIA SECTION.

EDWARD A. EVANS, Meteorologist.

Vol. XXXI. RICHMOND, VA., YEAR 1922.

No. 13.

GENERAL SUMMARY.

The weather for the year was characterized by excess of temperature and precipitation. Temperature averaged more than 1° above normal for the State, the greater part of the excess being in the Great Valley where abnormally warm weather was experienced in the spring and fall months. There was no unusually warm weather during the summer months and at only one station was a maximum temperature as high as 100° recorded. A cold spell, with freezing temperatures in the latter part of April, caused a great deal of damage to fruit which had become well advanced by warm weather preceding. A marked feature of the latter part of the year was the mild weather of the last three months which permitted practically all outdoor occupations to progress without interruption.

The principal part of the excess precipitation was due to abnormally heavy rains over Tidewater Virginia, particularly near the coast, in June and July, which was sufficient to offset the deficiency over the western counties, where droughty conditions obtained with only short periods of relief from September to the close of the year.

A heavy fall of snow, equaling any on record over the middle counties, occurred in January, delaying traffic, but without causing material damage, as no sleet accompanied the storm.

Considerable damage to trees and small buildings was caused by wind-storms in August in Albemarle and Augusta Counties.

Excepting the fruit crop, which was cut short by the freezing weather in April, agricultural interests were especially favored by the seasonable weather during the periods of growth and harvest, an abundance of practically all crops of good to excellent quality being the rule, although in the western counties droughty conditions reduced crop averages to some extent.—H. A. F.

ERRATA.

January.—Runnymede: Departure, precipitation from normal should be ± 2.06 ; total snowfall should be 24.5. Mean precipitation, Tidewater Virginia, should be 4.26; departure, ± 0.66 . Williamsburg: Precipitation departure from normal should be ± 0.94 .

February.—West Point: Temperature departure should be omitted.

March.—Richmond: Temperature departure should be +2.5.

May.—Richmond: Maximum temperature should be 87 on on the 11th.

August.—Marion: Number of rainy days should be 11. October.—Leeds Manor: Monthly mean temperature should be 59.7. Middle Virginia Section average temperature should be 59.4.

November.—Fredericksburg: Temperature departure should be +1.9.

CLIMATOLOGICAL DATA, 1922.

·	Ten	perat	ure.	ion.	Nι	ımber	of day	78.		
· Month.	Mean.	Highest.	Lowest.	Average.	Greatest 24- hour rain.	Average snow-fall.	Rainy.	Clear.	Partly cloudy.	Cloudy.
January February March April May June July August September October November December	33. 9 40. 9 47. 5 57. 0 65. 3 73. 3 75. 3 71. 9 69. 3 59. 4 47. 5 41. 0	72 78 86 93 92 100 99 95 98 95 87	- 5 -13 16 18 32 43 48 37 31 19 5	4.00 4.06 5.45 2.22 4.17 5.11 6.66 4.44 1.23 3.20 0.57 4.04	2. 47 1. 90 2. 84 2. 25 3. 28 3. 12 5. 76 11. 58 5. 16 6. 55 0. 80 2. 07	17. 5 6. 4 1. 1 T. 0. 0 0. 0 0. 0 0. 0 0. 0 0. 0 1. 5	9 12 12 8 11 12 12 11 2 6	10 7 12 13 13 11 11 13 17 19 16 9	7 8 5 8 8 10 11 10 8 6 8	14 11 14 16

COMPARATIVE ANNUAL DATA.

Year,	Mean tempera- ture.	Highest.	Lowest.	Average pre- cipitation.	Average snow-fall.	No. of rainy days.	No. of clear days.	No. of partly cloudy days.	No. of cloudy days.
1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1911 1911 1912 1913 1914 1915 1916 1917 1918 1918 1919 1920	54.8 55.1 57.0 56.4 56.4 56.5 56.5 56.5 56.5 56.5 56.5	106 104 106 107 105 108 107 106 108 107 106 108 109 102 102 102 102 102 103 101 103 101 103 103 101 103 103 104 105 106 107 108 108 109 109 109 109 109 109 109 109 109 109	- 8 - 8 - 26 - 11 - 12 - 12 - 12 - 12 - 12 - 12	40. 01 46. 83 85. 97 88. 99 42. 89 40. 81 44. 80 43. 18 39. 33 50. 17 51. 42 44. 85 36. 18 49. 56 44. 19 45. 21 39. 19 45. 21 39. 19 45. 21 39. 19 42. 75 39. 19 42. 44. 48 44. 49 46. 80 46. 80 47. 24 44. 72	23.1 17.0 38.8 12.3 11.8 8.7 7 18.6 7 9.5 14.9 18.5 24.9 11.5 2 17.4 24.9 20.3 9.2 24.6 24.9 9.2 24.6 23.7 24.7 24.7 24.7 24.9 39.8 13.5 24.7 24.7 24.9 39.8 13.6 24.9 39.8 13.6 24.9 39.8 13.6 24.9 39.8 13.6 24.9 39.8 13.6 24.9 39.8 13.6 24.9 39.8 13.6 24.9 39.8 39.8 39.8 39.8 39.8 39.8 39.8 39	95 103 88 94 92 92 108 98 98 98 95 95 111 112 110 101 115 103 104 105 107 107 108 109 109 109 109 109 109 109 109 109 109	163 156 166 167 174 163 171 162 176 181 167 170 155 170 155 171 151 151 168 169 165 168 169 161 162 161 162 163 164 165 165 165 165 165 165 165 165 165 165	101 100 104 103 106 99 101 109 95 91 101 112 120 115 108 104 116 98 98 90 101 116 99 101 117 108 109 109 109 109 109 109 109 109 109 109	102 2 113

Climatological Data for the Year 1922.

				empe	rature	, degrees	Fahre	nheit.		P	recipita	tion, in	inche	s.		rainy		Sky.		ioi
Stations.	Counties.	Elevation, feet.	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 radays.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing direction of wind.
Tidewater Virginia.																				
Ashland	Hanover	221 20 21 25 21	30 48 2 13 4	59.8 60.5	95 95 94	June 11* July 2 June 12	16 5 14 9	Feb. 17 Jan. 31 Feb. 17 Feb. 17	20 2 13 4	55.09 61.87	11. 83 11. 58	July Aug.	0.73	Nov. Sept.	13.3 18.1 6.0	136 95	110	103	152	sw. nw. sw.
Hopewell Langley Field ‡‡ Mount Moriah Farm Newport News Norfolk	Prince George Elizabeth City King George	40 5 100 13 91	6 8 4 19 52	61.0 57.4 58.9 60.7	98 93 95 93 92	July 12 July 2 July 1 July 2 July 2	3 13 10 8 . 13	Feb. 17 Feb. 17 Feb. 17 Feb. 17 Feb. 17	6 3 4 19 52	47. 46 48. 41 61. 86 54. 98	7. 26 7. 04 16. 25 11. 92	Mar. July July July	0.55 0.43 0.31 0.44	Sept. Nov. Sept. Nov.	22.5 21.2 20.0 13.7	124 103 145 130	35 147 156 104	185 73 92 116	145 145 117 145	sw. ne. ne.
Onley	Accomac Henrico. Surry Richmond King William. James City.	40 144 25 160 16 70	4 43 33 29 15 29	68.3 59.4	96 94 93 91 95	July 29 July 2 July 2 July 1 July 1	10 8 10 3 6 6	Feb. 16 Feb. 17 Feb. 17 Feb. 17 Feb. 17 Feb. 17	4 43 33 29 15 29	55. 27 51. 70 58. 09 54. 90	9. 37 8. 48 10. 10 9. 28	July July July June July	0.70 0.66 0.15 0.48 0.24 0.25	Nov. Sept. Nov. Nov. Sept. Sept.	17. 4 27. 7 33. 5 27. 0	97 136 115	129	106	130	s. ne. nw. s. sw. ne.
Means and extremes		.,,		59.5	98	July 12	3	Feb. 17		54.46	16.25	July	0, 15	Nov.	19.9	120	114	112	189	ne.
Middle Virginia.																				
Arcola Callaville Charlottesville (near) Clarksville Chatham	Loudoun	300 350 854 286	28 31 25	56. 0 57. 6 57. 5	96 94 95 92	July 1* July 18 July 1 July 2	- 4 - 1 8 6	Jan. 81 Feb. 17 Feb. 17 Feb. 17	28 81 25	33.66 58.58 42.21 52.43	4.40 10.81 5.97 8.24	June July Mar. May	0. 40 0. 20 0. 21 T.	Nov. Sept. Nov. Sept.	87. 5 25. 5 89. 1 25. 0	102 80 110 74	164 209 117	120 83 71	81 73 177	SW. W. S. W.
Columbia	Fluvanna Culpeper Pittsylvania Spottsylvania Buckingham	246 450 413 100	24 15 22 32 1	56. 9 55. 8 61. 3 57. 0	92 94 98 92	June 25* July 12 Sept. 7* July 12	3 2 13 2	Jan. 31 Jan. 13 Feb. 17 Feb. 17	24 15 22 32 1	47. 16 38. 06 47. 35 45. 56 45. 17	10. 20 6. 08 8. 44 7. 01 6. 56	July June July July Mar.	0.50 0.20 0.32 0.43 0.36	Nov. Nov. Nov. Nov. Nov.	26. 2 30. 3 23. 5 41. 0 36. 3	119 100 135	201 155 165 170	31 115 108 89	133 95 92 107	ne. s. s. s. s.
Hawfield‡‡	Orange	500 501 681	5 3 8 21 51	56. 0 58. 1	95 96 96	July 12 July 2 Sept. 8	5 4 0 8	Feb. 17 Feb. 17 Jan. 25	3 8 21 51	38.39 36.89 36.64	6. 15 5. 51 7. 50	Mar. May Mar.	0. 15 0. 56 0. 19	Sept. Nov. Nov.	26.5 38.0 27.8	96 79 136	161 129	106 118	98 118	6e. sw. s. w.
Manassas	Prince William Orange Louisa Loudoun Buckingham	317 500 800 1,726 300	8 7 7 18 28	57.8 55.3 57.3	96 94 87 94	July 2 July 11 July 12 June 25	7 - 3 - 2 - 2	Feb. 17 Jan. 31 Feb. 17 Feb. 17	8 7 7 18 28	39.06 87.26 42.81 44.91	5. 49 5. 45 6. 02 7. 92 7. 86	Jan. Aug. July July July	0. 67 0. 07 0. 32 0. 25 0. 34	Nov. Nov. Nov. Nov. Nov.	38. 7 38. 0 36. 5	87 97 124	213 188 118	80 144	95 97 102	8. 8. W. 8W.
Quantico	Prince William Charlotte Franklin Dist. Columbia	17 334 1,150 112	22 17 27 52	56. 6 56. 4	95 90 95	July 2 July 1 July 12	7 9	Jan. 31 Feb. 17	22 17 27 52	50. 51 49. 24 46. 96	8. 72 6. 32 9. 59	July June July	0.00 0.42 0.55	Sept. Nov. Nov.	21.0 40.7	100 99 122	106	121	138	s. s. nw. n.
Means and extremes The Great Valley.				57.1	98	Sept. 7	- 4	Jan. 31		43.89	10.81	July	0,00	Sept.	32. 4	103	161	96	108	8.
Blacksburg Buchanan Burkes Garden Catawba Sanatorium Dale Enterprise	Montgomery Botetourt Tazewell Roanoke Rockingham	2,170 820 8,250 2,100 1,350	31 21 27 12 43		89 95 82 91 96	June 25* June 25* July 11* June 25* July 12	6	Jan. 2 Jan. 31 Jan. 26 Feb. 17	31 21 27 12 43	42. 99 46. 82 35. 42	5. 88 5. 91 6. 31 6. 03 5. 51	July Mar. July Mar. July	0.65 0.74 0.59 0.18 0.31	Nov. Nov. Sept. Nov. Sept.	20.0 26.0 28.3 82.0	133 93 	123	108	134	w. w. w.
Dante Hot Springs Ivanhoe Lexington Marion	Russell. Bath Wythe Rockbridge Smyth.	2,000 2,195 2,028 1,060	5 30 16 45 0	55. 6 52. 5 55. 4	92 86 94	July 11* June 17* Sept. 7	5	Jan. 14 Jan. 13 Jan. 31	5 80 16 45	48.57 40.68 88.67 38.96	6, 62 5, 49 5, 19 6, 10	June July June Mar,	0.99 0.46 0.78 0.35	Nov. Nov. Nov. Nov.	6.1 81.5 14.6 25.5	122 124 117 122	138 128	84 174	143 63	
Mendota Narrows. Pulaski Radford Roanoke	Washington	1,919	17 8 8 27 18	54.7	89 92	June 26*	6	Jan. 26	17 8 3 27 18	53. 73 41. 25 45. 64 40. 17 36. 01	8.28 6.75 10.08 7.04 4.57	Dec. July July July Mar.	1.34 0.48 0.46 0.56 0.23	Sept. Oct. Nov. Nov. Nov.	2.8 17.5 18.0 21.0	128 73 128 102 114	160 181	118	 87 60	w.
Speers Ferry Staunton Winchester Wise Woodstock Wytheville	Scott	927	26 32 18 2 31 28	56. 4 54. 7 55. 6 53. 8	96 95 92 100 87	June 25 June 24* July 11 June 25 Sept. 7	3 2 0 - 5 10	Feb. 17 Jan. 13 Jan. 14 Jan. 13 Jan. 26	26 32 18 2 31 28	37. 48 35. 06 27. 86 27. 76 41. 51	5.30 6.04 4.74 4.09 7.00	Dec. July June July June	0.80 0.19 0.25 0.42 0.74	Oct. Nov. Nov. Nov. Sept.	8.0 80.5 21.7 27.0 20.6	105 119 99 85 135	144	122	99	w. sw. nw. w.
Means and extremes	remes	ļ		55. 4 57. 1	100	June 25 June 25	-13 -13	Feb. 17 Feb. 17		39. 92 44. 72	10. 08 16. 25	July July	0. 18 0. 00	Nov.	20. 7 24. 8	113 110	142 145	127 107	101 113	w. w.

Estimated and incomplete data not considered in means.

All other records are used in determining section and division means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Reference letters. *, b. *, appearing in the tables indicate number of days missing: for example, b represents two days, etc.

*Also on other dates.

† Post-office addresses of these stations are as follows: Diamond Springs, Norfolk: Runnymede, Elberon; Dry Bridge, Midlothian; Hawfield, Rapidan; Leeds Manor, Markham; Lincoln, Purcellville; Mayhurst, Orange; Mount Weather, Bluemont; Langley Field Norfolk.

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

Monthly and Annual Precipitation for the Year 1922, with Departures from the Normal.																										
	Jan	uary.	Febi	ruary.	Ma	rch.	Api	ril.	М	ay.	Ju	ne.	Jt	ıly.	Aug	rust.	Septe	mber	Octo	ober.	Nove	ember	Dece	mber	An	nual.
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.
Tidewater Virginia.																										
Ashland Cape Henry Dahlgren Diamond Springs Franklin	0.04		9. 19		0.02	•••••	2,40	• • • • • •	a, 00		9.00		13,00	••••	4, 59		• • • • • •	• • • • • •	0.21		0.56	• • • • • •	3.89	• • • • • •		
Hopewell Langley Field Mount Moriah Farm Newport News Norfolk	l .	1		1																						
Onley Richmond Runnymede (near) Warsaw (near) West Point Williamsburg	5. 26 3. 05 3. 86 4. 25	+2.06 -0.05 +0.70 +0.94	6. 70 4. 80 2. 69 5. 82	+2.74 +1.38 -0.33 +2.60	6. 98 5. 90 7. 16 6. 05		1 1				! 1									l .					1	+10.07 + 9.21 + 8.61
Means Middle Virginia.	4.33	+1.02	4. 79	+1.60	6. 22	+2.28	2. 18	-1.35	2.97	-0.76	7.50	+3.87	9.98	+4.89	6.48	+1.40	1.00	-2.44	3,53	+0.47	0.68	-1.70	8.91	+0.64	b4. 46	+10.54
Arcola Callaville Charlottesville Chatham Clarksville	4. 64 5. 82	+1.88 +2.54	4. 19 4. 84	+1.19 +1.54	5. 97 6. 44	+2.46 +2.68	1.73 2.97	-1.70 -0.30	3. 44 8. 24	-0.97 +4.21	4. 78	-0.93 -0.41	3.94 5.69 6.03	-0.91 +1.59	4. 87 3. 32 6. 15	-0.14 +1.34	1.00 1.18 T.	-2.90 -2.87	3.46 3.12 4.56	1+0.03	0.21	-2.34	4.03	+0.76	42, 21	+13.24 - 4.12 + 9.43
ColumbiaCulpeperDanvilleFredericksburgGuinea Mills	4. 47 3. 99 5. 25 5. 08 6. 20	+1.03 +0.77 +2.13 +1.85	2.80 4.04 4.52 3.73 4.28	+0.76 +1.57 +1.81 +0.74	6. 36 4. 73 6. 37 5. 84 6. 56	+2.93 +2.03 +2.94 +2.28	1. 77 1. 29 2. 24 2. 66 2. 63	-1.84 -2.05 -0.98 -0.91	2. 22 3. 81 3. 71 4. 67 5. 53	-1.44 +0.06 -0.21 +0.74	3.36 6.08 3.23 4.64 1.53	-1. 29 +0. 68 -1. 17 -0. 14	10. 20 2. 47 8. 44 7. 01 4. 72	+5.85 -1.48 +4.28 +2.71	5. 96 5. 04 2. 52 4. 93 4. 29	+1.52 +1.08 -2.41 +0.09	1. 36 . 76 1. 25 1. 29 1. 41	-1.80 -2.35 -1.70 -1.86	2, 73 2, 23 5, 27 3, 24 3, 39	-0.38 -0.41 +2.36 +0.16	0.50 0.20 0.32 0.43 0.36	-1. 78 -2. 30 -1. 92 -1. 88	4. 43 3. 42 4. 23 3. 04 4. 27	+1.03 +0.20 +0.86 -0.23	47, 16 38, 06 47, 35 46, 56 45, 17	+ 4.41 - 2.06 + 5.49 + 3.55
Hawfield Lawrenceville Leeds Manor Lincoln Lynchburg	4. 45 5. 87 3. 03 3. 17 3. 90	1 -	4 45	-0.06 +0.64 -0.17	6 15	l i	3 65		4 00		1 1 01		3 QR	+0, 13 -1, 78	2. 85 2. 10 2. 72 1. 18	-1.80 -3.07	0. 15 1. 68 1. 55 1. 42	-1. 21 -2. 21	4. 56 2. 65 2. 37 4. 19	-0.56 +0.81	0. 28 0. 55 0. 56 0. 19	-1.52 -2.60	2. 47 3.01 8. 73 3. 42	+1.87 +0.15	38. 39 36. 89 36. 64	- 2.38 - 6.78
Manassas Mayhurst Mineral (near) Mount Weather New Canton	5. 49 4. 23 4. 29 3. 19 5. 39	+0.97 +0.09 +1.98	3, 45 3, 79 3, 45 2, 34 3, 89	+0.83 +0.24 +0.81	4. 16 4. 98 5. 76 3. 14 6. 66	+1, 31 +0, 54 +2, 6 7	0.82 1.89 1.98 1.79 2.00	-1.36 -1.66 -1.24	4.85 3.03 3.69 4.95 3.38	-1.39 +1.50 -0.11	4. 56 4. 28 4. 84 5. 74 2. 73	-1. 25 +0. 28 -1. 27	2. 20 3. 45 6. 02 7. 92 7. 36	-1.35 $+4.11$ $+3.55$	3.30 5.45 5.40 4.77 5.38	+0.46 -0.41 +0.53	3. 52 0. 50 0. 35 0. 78	-2.69 	2. 23 1. 71 2. 76 2. 97 2. 50	-1. 67 -0. 63 -0. 61	0. 67 0. 07 0. 32 0. 25 0. 34	-2. 15 -1. 83 -1. 96	3.88 3.88 3.95 2.94 4.50	+0.31 +0.03 +1.40	39.06 37.26 42.81 44.91	- 7.98 + 3.10
Quantico		1	1								l í		i										i 1			
Means The Great Valley.																		-								
Blacksburg	2. 13	-0.63	3, 65	+0.67	4. 12	+2.00	1.20	-1.25 -1.83	4, 53	+2.61 +0.33	4.08	+0.28 -1.16	5.21 5.51	+0.32	4, 29	-1.94 +0.28	0.31	-1.47 -2.96	2.43	-0.91	0. 18	-2.18 -1.76	2,80	+0.10	35. 4 2	- 4.99
Dante	3. 92 2. 82 2. 52 2. 97	-0.55 -0.73 -0.27	4.58 3.75 3.11 4.06	+0.87 +0.72 +1.00	5. 78 4. 77 3. 98 6. 10	+0.84 +0.28 +2.72	3. 93 2. 81 2. 91 2. 14 4. 58	-0. 64 -0. 18 +0. 88	5. 18 4. 89 4. 73 4. 73 4. 69	+1.08 +1.24 +1.11	6. 61 4. 29 5. 19 4. 58 2. 41	-0, 55 +0, 60 +0, 39	5.84 5.49 4.80 3.68 5.00	+1.49 +0.4ŏ -0.39	2. 19 2. 96 2. 78 2. 58 2. 94	-0.64 -2.00 -1.21	1. 40 0. 84 1. 53 1. 00 0. 88	-2.48 -1.55 -2.47	2. 31 2. 20 3. 46 2. 99 3. 22	-0.86 +0.20	0. 99 0. 46 0. 73 0. 35 1. 47	-1. 79 -1. 06 -2. 24	5. 83 5. 40 2. 93 3. 78 5. 63	+2.38 -0.26 +0.88	48. 57 40. 68 38. 67 38. 96	-0.85 -2.29 -1.36
Mendota Narrows Pulaski Radford Roanoke	4. 88 4. 04 2. 25 2. 34 3. 20	+0.36 -0.84 +0.26	4. 31 3. 89 3. 33 3. 93 4. 18	+1.04 +1.23 +1.01	7. 14 3. 39 5. 45 5. 10 4. 57	+2.27 +1.44 +0.98	5.71 - 3.51 2.09 1.53 1.01	+1.87 -1.21 -1.79	5.31 4.32 4.88 3.73 4.14	+1.53 +0.30 +0.90	3. 17 3. 84 4. 85 4. 37 3. 27	-1, 76 +0, 54 -1, 67	6, 49 6, 75 10, 08 7, 04 4, 26	+1,57 +2,73 +0,09	2.89 2.68 2.62 3.06 3.48	-1.72 -0.38 -0.09	1, 34 1, 32 1, 10 1, 21 0, 32	-2. 24 -1. 77 -2. 58	2. 76 0. 48 4. 67 2. 85 3. 51	-0.56 -0.26 -0.17	1, 45 0, 97 0, 46 0, 56 0, 23	-0, 77	8. 28 6. 06 3. 86 4. 45 3. 84	+4.09 +1.28 +0.50	53. 78 41. 25 45. 64 40. 17 36. 01	+ 5.68 + 1.71 - 4.42
Speers Ferry Staunton Winchester Wise Woodstock Wytheville	4, 75 2, 40 1, 83 2, 90 2, 96	+0.66 -0.46 -0.96 +0.45 -1.34	3.33 4.04 1.86 6.27 3.15 3.12	-0.80 +1.32 -0.14 +0.90 -0.97	4. 85 4. 62 1. 87 7. 29 2. 27 4. 74	-1.32 +1.21 -0.83 	1.38 1.30 1.38	+0.69 -1.59 -2.54 -1.21 -1.15	2. 45 3. 65 3. 63 3. 69 4. 53	-1. 28 -0. 03 -0. 50 +0. 25 +0. 62	3. 60 2. 10 4. 74 2. 29 7. 00	-1.09 -2.43 +0.90 -2.12 +2.89	2. 95 6. 04 3. 89 4. 97 4. 09 4. 07	-2.17 +1.95 +0.43 +0.68 -0.37	2.80 4.22 1.63 3.88 2.57 2.52	$ \begin{array}{r} -2.05 \\ +0.42 \\ -2.47 \\ \hline -1.38 \\ -2.02 \end{array} $	1. 75 0. 24 1. 58 1. 23 0. 64 0. 74	-1.53 -3.07 -1.65 -2.04 -2.55	0.80 3.17 2.45 2.00 1.86 4.61	-1.78 +0.20 -0.19 -0.81 +1.47	1.00 0.19 0.25 1.19 0.42 0.86	-1.80 -2.01 -2.18 -1.39 -2.18	5.30 3.01 2.83 7.70 2.50 3.85	+0.82 +0.42 -0.24 +0.13 +0.11	37. 48 35. 06 27. 86 27. 76 41. 51	- 1.65 - 4.07 -10.87 - 7.22 - 5.20
Means	3. 17	-0.20	3.87	+0.73	4.92	+0.94	2. 63	-0.85	4.45	+0.63	4. 29	-0.30	5. 43	+0.67	2. 95	-1.15	1.15	-2.09	2.79	-0.20	0.72	—1 . 69	4. 67	+1.04	39. 92	- 2.10 + 3.61

	Mo	nthl	y an	d Ar	nua	Mea	n T	empe	ratu	res f	or th	e Y e	ar 1	922,	with	Der	artu	res f	rom	the I	Norm	al.				
	Jan	uary.	Febr	ruary.	Ma	rch.	Ar	oril.	М	ay.	Ju	ine.	Ju	ıly.	Au	gust.	Septe	mber	Oct	ober.	Nove	mber.	Dece	mber.	Anı	ıual.
Stations.	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.
Tidewater Virginia.	İ																				Ì					
AshlandCape HenryDahlgrenDiamond SpringsFranklin	32.3 39.9	-1.4 -2.2	43. 2 38. 1 44. 8° 44. 6°	+2.0	50.0 46.3 52.2 51.7	+3.4 +3.5	58. 1* 58. 6 56. 6 60. 2 60. 8*	+2.3 +4.0 +2.7	65.8 65.2 67.2	+1.4 +1.6 +1.1	75.0 74.4 74.2 75.6 75.1	+2.7 +1.5 +2.3		-0.1	13.2	-1.6 -2.2 -2.7	69.3	-0. Б	60.0 64.0 59.2 64.0 60.9 ^a	+0.7	47.8 51.6 47.0 51.6 50.2		41.3 46.3 37.2 47.4 47.2 ^a		59. 8 60. 5	
Hopewell Langley Field. Mt. Moriah Farm Newport News Norfolk	33.8	-2.9 -4.2 -1.2	45. 9 43. 6 39. 8 41. 8 44. 8	+2.0	47. 2 48. 8	+2.7 +0.9 +3.5	58.4	+4.1 +1.5 +3.7	66.3	+1.8 -1.2 +1.7	75.0	+1.6	76.8	-0.9 -1.2 -0.4	74.2	-2.1 -3.0 -1.7	70.8 71.1	-0.7	61.1	+3.3 +0.6 +3.0	50. 4 50. 2 46. 9 50. 2 51. 8		44.7 89.2 44.5 46.6	+3.0 +8.6	57.4 58.9 60.7	-0 +1
Onley Richmond Runnymede (near) Warsaw (near) West Point Williamsburg	35.0 37.4 33.6 35.1	-2.1 -3.1	38.3 41.9 44.2 40.3 41.8 44.6	+3.3	46. 2 49. 4 51. 0 47. 8 49. 0 50. 6	+2.1	55.8 58.6 60.4 55.6 59.7 60.6	+1.4 +4.2 +0.9 +3.8	64.4	-1.1	72.8 75.6			-2.6 +0.2 -2.6 -1.0.4	175.8	-4.2 -2.7 -4.1 -1.2	70.4 68.6 71.9		60.4	+1.0 +3.3 	49.4° 49.0 49.8 47.1 43.7 50.0	+1.0 +0.1	42.3 45.1 41.4	+1.3 +4.9 +3.8 +2.7	58. 3 59. 4	-0 +1
Means			42.5		49.6	1	1	!	66.6	1	1	+1.6	j		74.2		71.0	+0.8		+2.0	49.2			+3.4	59.5	+1
Middle Virginia.																										
Arcola	. 36. 9 . 32. 8 . 35. 7	-3.3	39.5 42.8	+5.1 +2.8	47.8 49.2	+1.3 +1.7 +0.3	58.0	+2.6 +1.2 +2.5	65.5	+0.9 +1.0	74.2 74.4 74.2 74.2 74.2	+1.9	76. 2 75. 9		76.5 75.4 ^b 72.7 72.6 72.1	-0, 6 -2, 0 -2, 3	68.8 71.6 69.1 68.8	+3.1 +1.0	61.4 58.5	<i>.</i>	46.4 47.4 49.8 46.5 47.4	+2.1	86.8 42.8 41.0 41.7 41.5	+2.8 +3.4 +4.6	56.0 57.6 57.5 56.9	+1 +1
Culpeper	. 37. 6 . 33. 3 . 30. 0		39.4° 45.8 40.2 37.1 37.9		45.9° 51.0 47.9 43.7 44.8	+1.7	61.9 57.3 53.2	+1.7 +2.8 +1.4		+0.4		+1.5	81. 3° 75. 5 74. 2	+0.5 -1.0 +0.2	76.4 72.0 70.6	-2. 2 -3. 1 -1. 3	73.8 69.5 69.4	+2.3 +0.7 +3.1	63. 2 60. 4 59. 7	+2.4	46. 2 50. 8 48. 6 47. 4 47. 2		38. 0 44. 7 40. 3 37. C ⁴ 86. 6		55.8 61.3 57.0 56.0	+1 +1 +2
Lynchburg	. 33. 4 . 32. 0 . 26. 8	-2.5 -3.5	42.0 40.4 89.8 34.8 42.4	+5.1 +6.3	140.2	+3.4 +1.2 +1.5 +2.3	57.8 ^b	+1.7	64.2	+1.8	71.6	+2.3	76. 2 74. 2* 70. 6	+0.1 -0.1	72.8 73.7 70.4 67.0 71.4	-1.2 -2.5	67. 4*	+1.9 +3.8 	56.8° 56.9	+3.0	48. 4 48. 3 46. 2 ^d 44. 6 47. 6	+3.0	42.8 41.2 39.2° 34.7 42.4	+8.4	58. 1 57. 8 55. 3	+0 +2 +1
Quantico	35. 2 ^d	-2.9 -0.9	42. 5 38. 6	+4.8	45, 8° 47, 6 42, 2	+0.3 +0.4 +3.0	55. 4 57. 0 55. 6	+1.8 +0.9 +2.5	66. 8 64. 4 66. 8	$^{+2.7}_{-1.0}_{+2.6}$	75. 5 72. 0 ^b 74. 5	+4.8 0.0 +1.8	74 9	+0.5 -1.1 -0.2	73.0 71.0 73.1	-1.3 -3.4 -1.4	69. 2 68. 4 69. 9	+1.1 -0.7 +1.8	60.2 57.5 59.4	+3.0 -0.2 +2.8	47.6 47.0 47.9	-0.8	38.9 42.3 37.6	+3.5 +3.7 +1.5	56.6 56.4	 0 +1
Means		-2.4	1	1	1	+1.6	Į.	1		1	1	1	75. 9	1	72.5	-2.1	1	+1.7	1				39.9	+8.6	57.1	+1
The Great Valley.									Ì																	
BlacksburgBuchananBurkes GardenCatawba SanatoriumDale Enterprise	35.2		39. 4 41. 8 . 36. 8 . 41. 6 38. 9	+6.1	45. 4 49. 0 42. 4 47. 0 45. 5	+1.7	58.1 51.0 56.0	+4.5 +3.9 +2.8	66. 5 57. 0 63. 2	-0. 4	73.8	0.0	. 76. 0 65. 8 73. 1	+1.1 +1.8 +0.1	72. 2 62. 0 69. 5	-1.9 -4.0 -2.2	70. 4 60. 0 69. 2	+1.0 +0.1 +2.4	59.6 49.0 59.2	-0.8	39.1 48.2	-0.9	39. 0 41. 6 37. 0 42. 3 ^d 38. 8	١	53.7 57.6 56.2 55.0	
Dante Hot Springs Lexington Marion Pulaski	29.8	$\begin{bmatrix} -1.6 \\ -2.2 \end{bmatrix}$	42. 0 38. 2 39. 0	+7.8 +4.1	. 48. 0 44. 0 46. 0	+2.0 +2.2	55.8	+4.0 +2.7	64.4	+1.5 +1.4		+1.6 +1.4		+1.2 +1.0	69. 4 66. 0 71. 3 67. 9 67. 8	-2.8 -1.8	68. 0 63. 9 68. 0 67. 6 65. 6	+1.8 +1.7	56.8 54.8 57.4 56.8 56.8	+2.3 +2.0	44.9 42.2 45.2 44.5 45.6	-0.5	40. 8 37. 9 38. 4 41. 2 41. 2	+3.3	55.6 52.5 55.4 54.7	
Roanoke Staunton Winchester Wise Woodstock Wytheyille	. 28. 0 . 32. 6 . 30. 1	—Б. О —3. 1	36.6 . 41.0	+8.0	47.3 44.5 47.2 46.4	+2.8 +2.6 +2.7	54.4	+3.4 +2.8 +1.5 +4.1 +1.8	64.4	+0.6	73.8	+1.8	74.5	+0.6 +0.5 -0.6	71. 2 68. 6 69. 9	-3.1 -4.1	68.6 67.4 66.0	+0.5		+2.6 +2.7 +1.6 +0.8 +1.9	44.3	+2.4 +3.2 +2.3	42.8 41.7 34.6 45.2 39.8 89.8	-0.9 +5.6	58. 4 56. 4 54. 7 55. 6 53. 8	+0
Means	1		1		1	+2.6	1	1	1	1	1			Į.		1	ŀ					+1.6		+4.3		
State means	1	1	1	+4.5		1	1		1		1	ł	1		1	1	1	1	J.	+1.9	1	1	1	+3.8	57.1	

KILLING FROSTS, 1922.

	Allima Lagran.														
Stations.	Last in spring.	First in autumn.		Last in spring.	First in autumn.	Stations.	Last in spring.	First in autumn.	Station.	Last in spring.	First in autumn.				
TIDEWATER VIRGINIA.			TIDEWATER VIRGINIA— Continued.			MIDDLE VIRGINIA-Con.			THE GREAT VALLEY— Continued.						
Ashland Cape Henry Dahlgren Diamond Springs. Franklin Hopewell Langley Field. Mount Moriah Farm Newport News. Norfolk Onley Richmond Runnymede Warsaw West Point	Mar. 1 Mar. 23 Mar. 23	Oct. 27 Nov. 22 Nov. 23 Nov. 23 Nov. 10 Nov. 17 Nov. 17	MIDDLE VIRGINIA. Arcola. Callaville. Charlottesville. Columbia. Culpeper Danville. Fredericksburg. Lawrenceville. Leeds Manor	Apr. 25 Apr. 30 Mar. 18 Mar. 23 Apr. 24 Mar. 23 Mar. 23 Mar. 30 Mar. 30	Oct. 81 Oct. 27 Nov. 22 Nov. 10 Oct. 27 Oct. 27 Nov. 22 Oct. 27 Nov. 22	Lynchburg Mayhurst Mineral Mount Weather New Canton Quantico Randolph Rocky Mount Washington, D. C. THE GREAT VALLEY. Blacksburg Buchanan Burkes Garden	Mar. 23 Apr. 25 Apr. 24 Apr. 23 Apr. 24 Mar. 23 Apr. 22 Apr. 22	Nov. 22 Oct. 27 Oct. 31 Oct. 27 Oct. 27 Nov. 10 Oct. 19 Oct. 19	Dale Enterprise Dante Hot Springs Guinea Mills Lexington Marion Pulaski Rosnoke Staunton Winchester Wise Woodstock	Apr. 29 Apr. 24 Apr. 30 Apr. 30 Apr. 24 Apr. 30 Apr. 24 Apr. 24 Apr. 24 Apr. 23 Apr. 29	Oct. 27 Oct. 19 Oct. 18 Nov. 10 Oct. 19 Oct. 13 Oct. 19 Nov. 10 Oct. 19 Nov. 10 Oct. 19				