

CLIMATOLOGICAL DATA

VIRGINIA SECTION

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GENERAL SUMMARY

The year was warmer and drier than usual, but the amount of cloudiness, and the number of days with precipitation, were near the normal. Considering the State as a whole, it was the warmest year since the beginning of state-wide records in 1891, with the exception of 1921, when the average annual temperature was 0.6° higher. The average temperature for the year was above the normal at all stations. However, maximum temperatures were not excessively high, the highest being only 104°, on July 1st and 30th, as compared with 109°, on July 20, 1930. Minima were not so low as usual, the lowest being -2°, on January 16th. The lowest temperature of record in Virginia was -29°, on February 10, 1899. The average temperatures for the State were above the normal in all months except March, April, and May. March was unusually cold, but November and December were the warmest of record.

Considering the State as a whole, the average annual precipitation has been less only six times in the last 40 years. The driest year of record was 1930, when the average for the State was only 24.86 inches. This unprecedented drought continued, and not until March, 1931, did the amount of precipitation approach the normal. Springs and deep wells began to flow generally near the end of March, and the flow of streams approximated the normal early in April. There was a large deficiency in rainfall in June, October, and November; the latter month being almost the driest November of record. The snowfall averaged less than 25 percent of the normal.

Notwithstanding the desiccated condition of the soil at the beginning of the year, and the deficient precipitation later, conditions were mostly favorable for agriculture and there was a good yield of most crops. The supply of food and feeds was abundant. In most sections the corn crop was the best ever grown. Peaches were a very heavy crop.

Notes on damaging hail, wind, and rain storms appeared in the January, March, April, May, June, and July issues of this bulletin.

MONTHLY STATE DATA, 1931

Month	Temperature			Precipitation			Number of days			
	Mean	Highest	Lowest	Average	Greatest 24-hour	Average snow-fall	Rainy	Clear	Partly cloudy	Cloudy
January	38.0	73	-2	1.57	1.81	1.6	5	16	7	8
February	40.2	74	6	1.87	1.50	0.2	7	13	6	9
March	40.7	69	15	3.56	1.90	1.6	11	8	9	14
April	53.6	90	22	3.55	2.20	0.5	10	14	7	9
May	53.5	97	30	5.13	2.60	T	13	12	10	9
June	72.3	103	34	3.24	3.75	0.0	8	16	9	5
July	78.2	104	45	5.28	3.22	0.0	13	14	12	5
August	78.8	102	41	6.04	5.71	0.0	14	12	10	9
September	72.8	101	30	2.47	2.70	0.0	6	19	8	3
October	60.3	95	18	1.10	2.02	T	11	15	8	8
November	53.8	87	14	0.65	1.23	T	11	16	8	8
December	46.1	82	14	2.94	1.93	0.4	9	11	8	12

KILLING FROSTS, 1931

Stations	Last in spring	First in autumn	Stations	Last in spring	First in autumn
<i>Tidewater Virginia</i>			<i>Middle Virginia Con't.</i>		
Cape Henry	Mar. 13	Dec. 3	New Canton	Apr. 13	Oct. 18
Christchurch	Mar. 24	Dec. 3	Pedlar Dam	Apr. 12	Oct. 30
Dahlgren	Mar. 21	Nov. 5	Powhatan	Mar. 24	Oct. 18
Diamond Springs	Apr. 13	Nov. 8	Quantico	Mar. 24	Nov. 7
Hopewell	Apr. 13	Nov. 6	Randolph		Oct. 18
Langley Field	Mar. 21	Dec. 8	Rocky Mount	Apr. 13	Oct. 19
Norfolk	Mar. 13	Dec. 3	Stuart	Mar. 22	Oct. 18
Onley	Apr. 13	Nov. 5	Washington	Mar. 21	Nov. 7
Richmond	Mar. 24	Nov. 3	<i>Great Valley</i>		
Rumynede	Apr. 13		Blacksburg	Apr. 23	Oct. 18
Tappahannock	Apr. 13	Nov. 2	Buchanan	Apr. 3	Oct. 18
Wallaceton	Apr. 17	Nov. 7	Burkes Garden	Apr. 30	Sept. 29
Williamsburg	Apr. 13	Nov. 7	Catawba Sanatorium	Apr. 7	Oct. 19
<i>Middle Virginia</i>			Clifton Forge	Apr. 30	Oct. 18
Callville	Apr. 28	Oct. 27	Dale Enterprise	Apr. 30	Oct. 19
Charlottesville	Mar. 31	Nov. 7	Dante	May 24	Oct. 17
Chatham	Apr. 28		Deerfield		Oct. 13
Clarendon	Apr. 13	Nov. 7	Emory	Apr. 12	Oct. 18
Clarksville	Apr. 13	Oct. 19	Hot Springs	Apr. 30	Oct. 15
Columbia	Apr. 13	Oct. 19	Lexington	Apr. 6	Oct. 19
Culpeper	Apr. 30	Nov. 3	Mendota		Oct. 18
Danville	Mar. 21	Oct. 18	North River Dam		Oct. 14
Farmville	Apr. 8	Oct. 18	Pennington Gap		Oct. 28
Fredericksburg	Apr. 3	Nov. 7	Radford		Oct. 19
Halifax	Apr. 8	Oct. 17	Roanoke	Apr. 3	Oct. 19
Kenbridge		Nov. 3	Saltville	Apr. 1	Oct. 18
Lincoln	Mar. 26	Nov. 7	Staunton	Apr. 7	Oct. 19
Lynchburg	Mar. 21	Nov. 3	Winchester	Apr. 30	Oct. 19
Martinsville	Mar. 12	Oct. 19	Woodstock	May 4	Oct. 19
Mineral	May 5	Oct. 18	Wytheville	Mar. 21	Oct. 18
Mount Weather	Apr. 27	Oct. 3			

COMPARATIVE ANNUAL DATA FOR THE STATE

Year	Mean temperature	Highest	Lowest	Average precipitation	Average snow-fall	No. of rainy days	No. of clear days	No. of partly cloudy days	No. of cloudy days
NORMALS OR EXTREMES.....	55.8	109	-29	41.67	17.0	103	162	102	101
1892	54.8	106	-8	49.01		95	163	101	102
1893	55.1	104	-26	46.83	23.1	108	156	100	103
1894	57.0	106	-11	35.97	17.0	88	166	104	95
1895	54.6	107	-15	38.09	38.5	94	174	103	88
1896	56.4	105	-10	42.89	12.3	83	163	106	97
1897	56.0	103	-15	40.81	11.8	92	171	99	95
1898	56.5	105	-9	44.80	8.7	108	162	101	102
1899	56.4	106	-29	43.18	36.7	98	176	95	94
1900	57.0	107	-8	39.33	18.6	86	181	91	98
1901	55.3	106	-14	50.17	9.5	100	167	94	104
1902	55.6	108	0	51.42	14.9	95	170	97	98
1903	55.1	105	-13	44.85	8.4	95	172	89	104
1904	63.8	100	-14	36.18	24.9	95	170	101	96
1905	54.8	98	-15	43.58	18.5	111	155	112	98
1906	56.3	102	-2	49.56	15.2	124	143	120	102
1907	54.3	97	-16	44.19	17.4	115	159	115	91
1908	55.4	102	-20	45.21	30.0	110	162	108	96
1909	55.5	102	-5	39.81	12.9	101	171	104	90
1910	54.7	102	-9	41.37	20.3	112	151	116	98
1911	56.8	104	0	41.50	9.2	115	149	110	106
1912	54.5	100	-25	39.19	24.6	103	165	106	95
1913	57.2	102	-3	42.75	4.0	100	178	98	89
1914	55.0	103	-17	37.17	39.8	101	168	100	97
1915	55.3	101	-5	39.72	18.5	97	180	116	89
1916	55.5	102	-11	39.36	18.6	103	165	106	95
1917	53.3	103	-27	40.82	23.7	114	158	107	100
1918	55.3	108	-22	44.43	24.7	105	159	97	109
1919	56.8	103	-16	41.66	7.4	102	161	99	105
1920	54.8	99	-9	46.30	7.1	106	162	89	115
1921	58.4	104	-12	34.94	13.8	97	161	102	102
1922	57.1	100	-13	44.72	24.8	110	145	107	113
1923	56.2	103	-1	40.84	10.3	104	168	96	101
1924	54.5	107	-12	47.41	12.8	105	165	90	111
1925	56.5	103	-14	32.55	9.5	98	160	99	106
1926	55.5	107	-6	41.60	16.5	112	157	97	111
1927	56.5	104	-7	41.95	10.4	113	148	103	114
1928	55.6	103	-5	42.99	9.2	110	151	112	103
1929	56.1	99	-8	45.92	16.7	115	155	97	113
1930	56.8	109	-13	24.86	23.4	86	165	99	101
1931	57.8	104	-2	37.99	3.7	105	163	106	96

Climatological Data for the Year 1931

Table with columns for Stations, Counties, Elevation, Temperature (Annual mean, Highest, Date, Lowest, Date), Precipitation (Length of record, 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, and Prevailing direction of wind.

Section and State averages are computed from monthly means. 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 10 or more years of observation.

Monthly and Annual Precipitation for the Year 1931, with Departures from the Normal

Stations	January		February		March		April		May		June		July		August		September		October		November		December		Annual				
	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			
<i>Tidewater</i>																													
Cape Henry	1.62	-1.53	2.32	-0.91	4.14	+0.27	3.49	+0.19	3.75	+0.18	3.43	-0.53	6.47	+1.10	6.14	+1.23	2.70	-0.16	0.57	-2.44	0.21	-2.15	2.05	-1.39	36.89	-6.09			
Christchurch	1.69	1.20	3.90	4.11	5.54	3.71	6.54	3.71	6.54	3.71	6.54	3.71	6.54	3.71	6.54	3.71	6.54	3.71	6.54	3.71	6.54	3.71	6.54	3.71	6.54	3.71	6.54	3.71	
Dahlgren	1.33	-1.55	1.21	-1.46	3.09	-0.11	2.55	-1.27	4.52	+1.80	2.44	-1.15	7.57	+3.31	6.19	+0.73	2.71	-0.14	1.02	-1.16	0.43	-1.99	1.72	-0.87	34.78	-8.86			
Diamond Springs	3.09	+0.62	2.62	-0.68	4.48	+0.91	4.49	+1.12	7.01	+4.07	4.49	-0.49	4.13	-1.24	5.99	+1.67	2.84	-1.00	0.70	-2.29	0.33	-2.00	2.30	-1.93	42.51	-2.24			
Emporia	1.52	3.59	2.67	3.29	7.92	1.98	2.69	7.88	3.92	1.54	0.33	2.71	1.64	0.83	2.71	1.64	0.83	2.71	1.64	0.83	2.71	1.64	0.83	2.71	1.64	0.83	2.71	1.64	
Hopewell	0.89	-2.08	1.15	-2.40	3.24	-1.11	4.26	+0.77	6.18	+2.02	5.65	+1.24	3.79	-0.88	8.78	+4.41	2.73	-0.99	1.65	-1.18	0.32	-1.93	2.41	-0.88	41.05	-3.01			
Langley Field	1.11	-1.62	1.46	-2.20	2.00	-1.89	2.72	-0.52	6.14	+2.57	2.49	-1.61	3.98	-0.71	7.81	+3.78	2.72	-0.43	1.23	-0.67	0.36	-1.85	2.26	-0.84	34.19	-5.89			
Norfolk	1.57	-1.53	1.70	-1.52	2.74	-1.03	3.24	+0.01	4.62	+0.81	5.13	+0.91	4.56	-1.19	4.25	-0.97	1.45	-1.78	0.74	-2.30	0.29	-1.87	1.71	-1.63	32.00	-12.99			
Onley	1.97	-1.06	1.64	-2.24	5.90	+2.02	3.70	+0.28	4.51	+1.44	2.27	-0.91	2.77	-1.76	7.60	+3.21	2.70	-0.04	0.59	-2.01	0.57	-1.77	1.75	-1.92	36.97	-4.76			
Richmond	1.88	-1.33	2.60	-0.57	2.94	-0.74	3.97	+0.48	5.64	+1.85	2.98	-0.92	4.47	-0.26	11.42	+7.00	1.92	-1.33	1.15	-1.73	0.24	-1.97	2.52	-0.77	41.73	-0.29			
Runnymede (near)	1.68	-1.72	1.52	-2.47	4.39	-0.25	5.05	+1.13	7.22	+3.10	2.39	-0.56	5.86	10.50	1.87	2.39	0.60	1.85	46.33										
Tappahannock	1.56	2.72	3.12	4.77	9.93	3.93	11.37	9.05	3.99	0.09	0.35	4.56	51.82																
Wallaceton (near)	1.87	2.53	4.38	4.77	9.93	3.93	11.37	9.05	3.99	0.09	0.35	4.56	51.82																
Williamsburg	1.98	-1.46	1.53	-1.79	4.12	+0.13	4.69	+0.96	5.76	+2.10	4.81	+0.17	6.35	-0.84	7.56	+2.41	4.79	+1.69	2.20	-0.60	0.22	-1.95	1.94	-1.38	44.95	-1.01			
Means	1.70	-1.33	1.98	-1.62	3.65	-0.18	3.77	+0.32	5.60	+1.89	3.77	-0.37	5.12	-0.27	7.67	+2.61	3.35	-0.46	1.39	-1.59	0.36	-1.94	2.31	-1.34	40.67	-4.28			
<i>Middle Virginia</i>																													
Bedford	1.38	-2.18	1.92	-1.70	4.95	+0.50	4.27	+0.64	6.26	+4.39	4.17	-0.07	2.51	-3.22	9.92	+5.11	2.09	-1.53	1.96	-1.11	0.40	-1.37	2.72	-0.89	44.55	-1.71			
Callaway	1.81	-1.61	2.05	-0.89	4.86	+1.37	2.75	-0.63	7.32	+4.39	4.17	-0.07	2.51	-3.22	9.92	+5.11	2.09	-1.53	1.96	-1.11	0.40	-1.37	2.72	-0.89	44.55	-1.71			
Charlottesville (near)	1.10	1.51	2.25	2.25	4.48	6.36	3.91	4.48	6.36	3.91	4.48	6.36	3.91	4.48	6.36	3.91	4.48	6.36	3.91	4.48	6.36	3.91	4.48	6.36	3.91	4.48	6.36	3.91	4.48
Chatham	1.53	1.11	3.83	2.74	3.20	4.21	4.04	9.08	1.61	1.09	0.95	2.07	35.46																
Clerendon	1.52	-1.79	1.55	-1.69	2.94	-0.85	3.70	+0.39	5.10	+1.11	4.55	+0.36	2.77	-1.65	10.64	+6.21	1.68	-1.44	0.99	-1.69	0.36	-1.87	3.79	+0.52	39.89	-2.39			
Columbia	1.88	-1.89	3.12	+0.25	4.89	+1.30	3.34	-0.11	7.23	+3.79	2.06	-2.02	4.7	+1.25	2.87	-1.77	1.95	-1.10	0.70	-2.50	0.50	-1.80	4.22	+1.06	38.23	-3.54			
Tappahannock	1.81	-1.61	2.24	-0.24	3.55	+0.76	2.85	-0.56	6.13	+2.32	2.02	-2.02	5.22	+1.69	4.82	+0.61	3.04	-0.20	1.33	-1.33	1.47	-0.90	1.71	-1.26	35.99	-3.42			
Culpeper	1.56	-1.87	1.37	-1.90	3.39	-0.14	4.65	+1.85	5.93	+2.33	3.81	-0.10	3.25	-0.95	8.67	+4.23	2.88	-0.18	0.63	-2.19	0.53	-1.80	4.16	+0.89	40.83	-0.30			
Farmville	2.12	-0.93	2.15	-0.64	3.76	-0.21	3.94	+1.20	7.92	+4.02	4.05	-0.34	6.11	+2.03	5.89	+1.35	3.98	+1.74	0.50	-3.42	0.15	-1.87	3.52	+0.37	44.09	+3.30			
Fredericksburg (near)	1.81	-1.69	1.27	-1.63	3.55	-0.06	2.16	-1.39	4.21	+0.39	2.59	-1.84	6.32	+2.08	5.46	+0.70	4.26	+1.13	1.14	-1.98	0.45	-1.69	1.94	-1.07	35.16	-6.95			
Halifax	1.71	2.36	2.86	3.64	5.66	3.95	6.35	7.38	2.51	0.23	0.22	3.49	37.66																
Kenbridge	1.50	-1.61	1.62	-0.77	4.31	+1.26	3.79	-0.52	4.46	+1.01	4.44	-0.45	5.13	+1.81	4.93	+0.83	3.73	+1.11	1.16	-1.90	0.63	-1.59	1.91	-0.92	37.61	-1.74			
Lynchburg	1.48	-1.95	1.81	-1.34	3.75	+0.21	3.11	+0.16	5.93	+2.30	2.49	-1.36	5.07	+1.16	5.16	+1.38	0.73	-2.58	0.67	-2.48	0.45	-1.88	2.74	-0.52	33.63	-6.90			
Manassas (near)	1.69	1.30	2.92	3.11	2.77	1.68	5.01	6.72	2.30	2.18	1.41	1.70	32.79																
Martinsville	1.69	2.20	4.43	3.45	6.81	3.65	8.37	8.41	0.65	0.76	0.58	2.09	4.92	43.44															
Mineral (near)	1.75	-1.82	1.61	-0.70	3.17	-0.94	2.50	-1.05	6.57	+3.22	2.80	-1.11	5.20	+0.73	5.63	+1.17	2.76	+0.04	1.04	-1.58	0.36	-1.91	2.38	+0.29	35.77	-4.24			
Mount Weather	2.03	-1.09	1.93	-0.14	4.88	+2.24	2.64	-0.63	2.61	-1.11	3.01	-1.75	4.24	+0.26	5.63	+1.02	3.33	+0.39	0.66	-3.14	3.30	-1.09	1.95	-0.69	34.21	-5.73			
New Canton	1.73	-1.89	1.98	-1.08	4.31	+0.28	3.38	+0.21	6.76	+3.45	2.59	-1.06	5.77	+1.87	3.62	-1.13	1.29	-1.89	0.81	-2.25	0.60	-1.72	2.68	-0.43	35.52	-5.64			
Orange	2.03	1.65	3.35	2.70	5.35	4.03	6.32	2.08	5.46	+0.70	4.26	+1.13	1.14	-1.98	0.45	-1.69	1.94	-1.07	35.16										
Pedlar Dam	1.49	2.10	3.37	3.39	2.89	1.80	5.49	6.39	2.30	0.63	0.35	3.29	37.50																
Powhatan	1.73	-1.42	1.23	-1.33	2.69	-0.76	2.03	-0.89	3.80	+0.71	0.70	-3.15	6.79	+2.90	6.62	+1.97	2.78	-0.19	1.83	-0.84	0.54	-1.48	1.83	-0.82	57.57	+5.33			
Quantico	1.95	-1.77	2.07	-1.03	3.07	-0.65	4.51	+1.82	5.40	+1.70	4.72	+1.10	1.99	-2.61	11.79	+7.71	2.19	-0.63	0.94	-1.86	0.27	-1.90	3.18	-0.18	42.08	+1.80			
Randolph	1.76	-1.65	0.81	-2.55	4.90	+0.89	4.32	+0.89	3.74	-0.02	3.83	-0.74	6.41	+1.46	8.34	+4.00	1.86	-1.72	0.79	-2.80	0.04	-2.54	1.60	-2.04	38.40	-6.82			
Rocky Mount	1.76	2.03	4.76	4.31	3.66	1.47	6.29	6.98	1.05	1.15	0.15	4.08	37.69																
Stuart	1.56	-1.99	1.36	-1.91	3.50	-0.25	2.87	-0.40	4.84	+1.14	2.12	-2.01	4.23	-0.48	5.92	+1.91	2.79	-0.45	1.28	-1.56	1.01	-1.36	2.03	-1.29	33.51	-8.65			
Washington, D.C.	1.56	-1.99	1.36	-1.91	3.50	-0.25	2.87	-0.40	4.84	+1.14	2.12	-2.01	4.23	-0.48	5.92	+1.91	2.79	-0.45	1.28	-1.56	1.01	-1.36	2.03	-1.29	33.51	-8.65			
Means	1.71	-1.68	1.77	-1.13	3.85	+0.29	3.37	+0.03	5.35	+1.86	3.19	-1.03	4.82	+0.40	6.85	+2.15	2.27	-0.57	1.00	-2.05	0.52	-1.76	2.77	-0.48	37.47	-3.97			
<i>Great Valley</i>																													
Afton	1.58	1.48	4.39	3.04	3.98	4.75	6.32	8.88	2.05	0.87	0.26	1.63	39.29																
Balcony Falls	2.50	1.59	4.97	4.53	4.03	4.39	3.57	8.83	2.39	1.02	1.10	3.40	42.32																
Berryville	1.39	-1.95	1.69	-1.48	3.05	-0.57	4.11	+1.08	5.11	+1.43	2.76	-1.56	6.53	+1.50	7.28	+3.36	1.78	-1.38	3.17	-1.63	0.47	-1.83	3.95	+0.77	39.49	-2.26			
Blacksburg	1.51	-2.18	1.53	-1.16	3.57	+0.75	3.51	-0.91	4.47	+0.87	3.36	-0.68	4.78	+0.84	11.22	+6.91	2.33	-0.95	1.31	-2.32	0.58	-1.66	3.12	-0.18	41.29	+1.15			
Buchanan	1.88	-1.76	2.63	-1.03	3.80	-1.06	3.91	-0.89	6.15	+1.96	1.86	-3.09	7.49	+3.16	4.55	+0.21	1.27	-2.18	0.85	-2.26	1.60	-1.25	4.24	+0.59	39.25	-7.47			
Burkes Garden	2.28	-0.97	1.75	-1.05	3.20																								

Monthly and Annual Mean Temperatures for the Year 1931, with Departures from the Normal

Table with columns for Stations, months (January-December), and Annual. Each month has two sub-columns: Temperature and Departure. Rows are categorized by region: Tidewater, Middle Virginia, and Great Valley.

For explanation of reference marks, see page 50

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