

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU  
 IN COOPERATION WITH CHESTER COUNTY DEVELOPMENT BOARD  
 CLIMATOGRAPHY OF THE UNITED STATES NO. 20 - 33-38

CLIMATOLOGICAL SUMMARY

STATION CHESTER  
 County Chester

LATITUDE 34° 42'N  
 LONGITUDE 81° 15'W  
 ELEV. (GROUND) 487 feet MSL

MEANS AND EXTREMES FOR PERIOD 1925-1954

Month	Temperature (°F)							** Mean degree days	Precipitation Totals (Inches)							Mean number of days					Month	
	Means			Extremes					Mean	Greatest daily	Year	Snow, Sleet				Precip. .10 inch or more or 90° and above	Temperatures					
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year					Mean	Maximum monthly	Year	Greatest daily		Year	Precip. .10 inch or more or 90° and above	32° and below	32° and below		0° and below
(a)	20	20	20	20		20		22	22		22	22		22	22	20	20	20	20			
Jan.	55.4	32.3	43.9	82	1949	2	1940	654	4.05	3.13	1936	0.6	6.2	1940	5.0	1940	7	0	*	16	0	Jan.
Feb.	58.5	33.5	46.0	82	1948	0	1936	532	3.63	2.50	1926	0.6	6.0	1936	3.0	1936	7	0	*	13	0	Feb.
Mar.	65.4	40.5	53.0	89	1935	12	1943	397	4.41	4.00	1944	0.3	2.0	1936+	2.0	1936+	7	0	0	7	0	Mar.
Apr.	74.0	48.4	61.2	96	1925	25	1944+	125	3.18	2.63	1936	0	0	-	0	-	5	0	0	2	0	Apr.
May	82.1	56.5	69.3	102	1941	33	1940	16	2.79	2.45	1940	0	0	-	0	-	6	4	0	0	0	May
June	90.1	65.5	77.8	105	1954+	43	1936	0	2.96	2.41	1948	0	0	-	0	-	5	17	0	0	0	June
July	90.6	68.1	79.4	106	1926	54	1951	0	5.62	5.62	1941	0	0	-	0	-	7	19	0	0	0	July
Aug.	90.1	66.5	78.3	104	1954+	49	1936	0	4.77	3.05	1953	0	0	-	0	-	6	18	0	0	0	Aug.
Sept.	85.4	61.1	73.3	105	1954+	39	1935	0	3.68	5.21	1936	0	0	-	0	-	5	10	0	0	0	Sept.
Oct.	76.9	49.3	63.1	100	1954	24	1952	105	2.25	3.31	1950	0	0	-	0	-	4	1	0	1	0	Oct.
Nov.	64.2	37.7	51.0	87	1950	12	1936	420	2.86	2.74	1938	T	T	1954+	T	1954+	5	0	*	16	0	Nov.
Dec.	54.7	31.0	42.9	80	1946	0	1935	685	3.91	4.40	1926	0.6	7.0	1935	5.0	1935	6	0	*	19	*	Dec.
Year	74.0	49.2	61.6	106	July 1926	0	Jan. 1936+	2934	4.41	5.62	July 1941	2.1	7.0	1935	5.0	1940+	70	69	*	74	*	Year

(a) Average length of record, years.

+ Also on earlier dates, months or years.

T Trace, an amount too small to measure.

\* Less than one half.

\*\* Base 65° computed from average monthly temperatures.

CLIMATE OF CHESTER, SOUTH CAROLINA:

Chester County is located in north-central South Carolina. The area is strategically located on a north-south ridge, which is actually an extension of the lower Piedmont, being bound to the east by the Wateree River and to the west by the Broad River. Both of these streams are major tributaries of the Santee River System. The soil is clay and sand-clay loams, being mostly well drained and fertile. Chester, the county seat, is centrally located and its climate is quite representative of conditions in the county, provided one allows for somewhat later spring frosts along the river lowlands, where air drainage is not as good as the central portion. The area is generally about 70 miles from the nearest mountain and about twice that distance from the nearest ocean.

The climate is temperate, with rainfall throughout the year (Cfa by Köppen; Johanson Continentiality Index 44%). The day to day weather is controlled largely by the eastward march of pressure systems across the continent. The biggest exception to this is during the summer when invasions of continental air become infrequent, and maritime tropical air persists for extended periods. The character of the rain during the warm half of the year is mostly of a showery nature connected with thunderstorm activity, while during the cold half of the year, it is usually steady connected with fall from overrunning moist air. The nearest relative humidity records are those of Charlotte, N. C. The average one p.m. values from this point range from a maximum of about 61 per cent in January to a minimum of about 49 per cent in May. The average wind direction for the area varies from the southwest direction during the winter, spring and early summer to northeasterly during the late summer and fall.

The summers are warm, relatively humid, as is characteristic of the South. However, the slight rise of elevation does offer some slight relief. The warm season usually begins in May and extends well into September. An average summer should have one to two days in June of 100 degrees or above, one in July, one in August and one in September. The highest temperature ever recorded was 110 on July 18, 1887. Since July and August comprise a substantial portion of the hurricane season, the rainfall averages are affected by the few downpours that have developed due to the proximity of hurricanes. This is the rainiest time of the year, with 30 per cent of the annual rainfall occurring during this season.

The fall season begins with summer-like temperatures and persists to about the middle of September, changing slowly through an "Indian Summer" period to the prewinter cold spells, which begin to be felt during the last of November. The "Indian Summer" period is the most pleasant time of the year with the sunshine at a relative maximum, rainfall at a relative minimum and few temperature extremes. September is the month of greatest hurricane frequency in the Gulf of Mexico and Atlantic Ocean and occasionally one may come close enough to cause excessive rain and squally weather. During the past 30 years this has happened about five times, but so far as is known, none have caused any significant damage from winds. Twenty-one per cent of the annual rainfall occurs during the fall.

Winters at Chester are usually mild, although there have been a few outstanding exceptions, such as 1899 and 1940. Two to five cold waves are likely during the winter with 50 per cent of the days without any freezing temperatures. Temperatures of 20 degrees or below occur on the average of ten times during the winter and days with a minimum of 15 degrees or below

are experienced two to three times, mostly in December and January. One or more snow flurries are observed during most winters, although it is unusual to have a heavy snow fall or a snow cover for more than a day. The winter rainfall accounts for 25 per cent of the annual total.

Spring is marked by rapid changes from windy and occasional cold in March to generally warm and pleasant in May. The annual maximum of local severe storm occurrences is during the spring. Chester County has been singularly fortunate in the past, with only six known tornado occurrences during the past 44 years. These resulted in unimportant damage and only mild casualties. Twenty-four per cent of the annual rainfall is during the spring season.

The average date of the last spring freeze in the Chester area is April 6th, while the average date of the first freeze in the fall is November 3rd. The interval between these average dates, the growing season, is 211 days. However, during the period of record, killing frost has been reported as late as April 21st in the spring and as early as October 7th in the fall.

There is no recording rain gage at Chester; however, records at Blackstock show the following maximum intensities for the period 1941-1946:

Duration	1 hour	2 hours	3 hours	6 hours	12 hours
Amounts	2.49	3.95	4.90	5.09	5.16
Date	8/4/41	9/4/41	9/4/41	9/4/41	9/4/41

Nathan Kronberg and John C. Purvis, Climatologists, Weather Bureau Airport Station, Columbia, S. C.

Station History:

The earliest known rainfall records for the Chester area are for the growing season April through October, 1882 to 1891. Unfortunately there is no record of the names of these early observers or the location of the rain gage. Weather observations were resumed in the Chester area August 1922, with the appointment of Mr. J. C. Cornwell. The meteorological instruments were exposed on the courthouse grounds about 500 feet southwest of the Post Office during Mr. Cornwell's service. There were several breaks in these early records. In November 1934, Mr. Anderson Weir was appointed observer. At this time the observation point was moved to the City Waterworks, located about two miles east of the Post Office. Mr. J. F. Atkinson followed, serving from November 1937 to May 1954; during his service, the instruments were exposed at his residence 3/4 of a mile north of the Post Office. On June 1, 1954, the current observer, Mr. Leonard A. Weir, was appointed. At this time the instruments were moved to the City Filter Plant, or about two and a quarter miles west-southwest of the Post Office.

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1925	43.0	51.2	54.9	64.7	67.2	80.9	81.4	79.4	81.2	62.9	49.5	43.0	63.3
1926	45.2	49.6	60.2	60.2	71.5	79.2	83.0	82.2	-	-	-	-	-
1927	-	-	-	-	-	-	79.8	75.3	64.5	-	-	-	-
1928	-	-	-	-	-	-	-	-	-	-	-	-	-
1929	-	-	-	-	-	-	-	-	-	-	-	-	-
1930	-	-	-	-	71.4	73.6	-	-	-	-	-	-	-
1931	-	-	-	-	-	-	-	-	-	-	-	-	-
1932	-	-	-	-	-	-	-	-	-	-	-	-	-
1933	-	-	-	-	-	-	-	-	-	-	-	-	-
1934	45.0	46.6	58.6	60.8	68.3	76.0	79.6	78.0	71.8	60.8	53.9	43.4	61.2
1935	38.0	41.0	54.4	57.6	70.0	75.8	79.8	78.4	73.5	63.3	46.4	44.0	60.2
1936	50.8	40.0	47.8	60.8	70.5	74.4	78.0	79.6	82.0	62.6	56.0	43.2	62.9
1937	44.6	52.0	58.4	60.8	68.6	80.4	79.0	77.5	75.3	67.0	44.4	44.4	62.9
1938	46.5	51.2	55.4	60.8	66.8	77.2	78.6	79.0	72.8	62.8	51.4	45.4	60.1
1939	42.8	45.4	49.7	59.6	66.8	77.2	80.0	80.2	75.6	69.4	51.8	47.2	60.1
1940	42.8	39.8	46.6	63.6	71.6	79.0	81.0	78.0	74.4	63.3	52.8	41.8	61.6
1941	42.2	39.4	52.8	63.4	70.6	79.0	81.0	78.0	74.4	63.3	52.8	41.8	61.6
1942	42.2	39.4	52.8	63.4	70.6	79.0	81.0	78.0	74.4	63.3	52.8	41.8	61.6
1943	44.8	45.4	48.6	58.4	70.2	80.6	78.7	79.8	69.6	59.3	49.2	43.0	60.6
1944	42.0	47.6	49.8	59.4	71.5	79.8	77.3	76.4	74.2	61.2	49.2	38.8	60.6
1945	41.5	46.4	60.1	63.8	65.2	78.2	79.3	76.6	74.6	60.6	52.8	37.8	61.4
1946	43.6	46.6	58.7	62.6	67.9	76.2	77.8	71.5	63.0	56.4	56.4	47.0	62.3
1947	46.2	38.1	44.0	62.7	69.6	76.0	75.8	79.4	74.0	65.8	48.4	42.8	60.3
1948	37.0	44.5	55.6	64.0	69.6	76.6	80.8	76.8	70.2	58.7	55.1	46.7	61.3
1949	52.8	51.3	53.0	59.2	69.6	76.6	80.6	76.9	70.0	66.1	50.3	45.0	62.5
1950	52.8	49.3	50.0	58.5	71.5	77.2	77.5	77.8	73.2	65.0	48.8	39.0	61.6
1951	43.8	45.5	52.6	60.0	68.4	77.2	79.8	80.5	73.5	65.0	47.8	45.8	61.7
1952	49.2	47.3	51.6	60.3	70.9	81.3	81.1	78.0	71.1	58.2	51.8	42.2	62.5
1953	46.2	45.6	52.9	60.5	73.8	78.1	80.8	79.0	72.1	63.7	51.9	43.4	62.5
1954	44.1	48.1	51.6	64.1	64.0	76.8	80.3	80.0	75.2	64.8	46.1	39.6	60.4

Total Precipitation (Inches)

Year	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1925	9.69	1.83	3.05	1.36	5.81	3.07	1.35	2.05	3.71	3.23	5.83	4.25	45.23
1926	6.61	6.05	6.09	2.23	1.06	3.31	9.84	3.61	0.93	0.36	2.35	7.51	49.95
1927	0.70	4.43	3.48	3.13	2.30	5.05	7.70	9.52	4.39	1.87	0.50	2.84	47.20
1928	-	-	-	-	-	-	-	-	9.90	1.87	0.93	2.80	-
1929	7.60	9.19	9.67	5.86	-	-	-	-	-	-	5.55	2.83	-
1930	6.26	1.03	3.65	2.35	2.88	6.00	6.10	-	-	-	-	-	-
1931	-	-	-	-	-	-	-	-	-	-	-	-	-
1932	-	-	-	-	-	-	-	-	-	-	-	-	-
1933	-	-	-	-	-	-	-	-	-	-	-	-	-
1934	2.46	2.87	2.59	3.61	1.82	0.86	4.13	7.11	4.29	0.53	2.62	3.98	36.87
1935	5.43	5.30	4.99	8.19	0.12	3.12	5.84	3.73	8.75	5.17	1.44	3.37	59.45
1936	5.53	3.65	1.91	5.71	2.92	6.77	8.24	1.87	3.10	0.92	3.62	3.37	39.83
1937	3.94	0.98	2.61	3.78	4.60	1.98	10.40	4.37	1.23	0.42	1.29	3.30	44.44
1938	4.15	3.00	3.81	1.87	4.50	2.49	1.71	5.28	0.02	2.52	5.92	2.29	36.66
1939	1.09	1.82	2.99	2.93	0.14	6.28	13.48	5.70	0.59	0.59	0.56	3.14	41.87
1940	2.06	3.91	7.85	0.93	3.02	4.43	6.63	6.52	2.49	2.79	2.50	3.14	46.27
1941	2.57	2.27	4.57	4.30	1.74	5.44	6.32	3.16	5.03	0.28	1.47	4.27	42.92
1942	3.56	6.07	9.00	4.98	2.63	1.52	4.52	6.57	6.57	3.51	1.99	1.72	47.53
1943	3.16	5.93	2.44	3.78	2.29	0.14	7.64	5.07	9.55	1.10	1.25	7.64	49.99
1944	3.50	3.23	3.39	3.40	3.74	2.05	6.29	6.61	2.88	5.28	1.91	1.22	43.50
1945	7.31	1.43	4.65	3.49	1.93	2.96	4.42	2.92	3.18	5.08	6.90	3.11	47.38
1946	4.78	4.21	5.93	1.60	4.44	3.94	2.56	7.28	4.52	1.67	9.52	4.53	54.98
1947	3.57	4.34	1.35	5.06	3.96	3.05	5.30	10.82	4.32	3.75	3.14	2.00	50.66
1948	1.70	1.42	3.45	2.04	3.05	2.75	3.10	3.56	2.37	3.87	1.44	3.00	31.73
1949	1.56	1.84	3.90	2.80	3.07	1.96	4.96	1.62	3.87	0.66	3.04	5.43	32.80
1950	2.50	4.27	7.94	4.21	3.93	2.31	4.33	1.87	3.87	0.58	1.25	3.78	47.34
1951	3.93	5.74	4.30	1.34	4.37	1.39	1.34	4.94	3.48	0.99	1.00	7.30	40.12
1952	7.17	1.06	6.41	4.14	2.47	0.75	3.61	1.30	1.89	1.89	2.32	2.88	34.00

