

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
 IN COOPERATION WITH SHELBY CHAMBER OF COMMERCE
 CLIMATOGRAPHY OF THE UNITED STATES NO. 20 - 31
CLIMATOLOGICAL SUMMARY

LATITUDE 35° 20' N
 LONGITUDE 81° 32' W
 ELEV. (GROUND) 915 Ft.

STATION SHELBY, N. C.

MEANS AND EXTREMES FOR PERIOD 1934 - 1963

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	Temperatures						
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year					Mean	Maximum monthly	Year		Greatest daily	Year	Max.			Min.	
																		90° and above	32° and below		32° and below	0° and below
(a)	27	27	27	27		27		27	30	30		30	30	30	30	30	27	27	27	27		
Jan.	52.0	30.4	41.2	81	1944	-3	1940	738	4.15	2.40	1954	1.5	13.5	1962	6.0	1962+	7	0	1	19	*	Jan.
Feb.	55.0	32.4	43.7	80	1948	-6	1958	596	4.23	2.54	1946	1.3	7.0	1958	5.5	1937+	7	0	*	16	*	Feb.
Mar.	62.9	37.7	50.3	91	1945	5	1960	470	4.77	3.72	1952	1.3	21.8	1960	10.0	1960	8	0	*	10	0	Mar.
Apr.	73.1	46.5	59.8	90	1960	25	1960	175	4.00	2.90	1958	0	0	0	0	0	6	1	0	2	0	Apr.
May	82.1	55.7	68.9	99	1941	29	1963	25	3.44	2.00	1955	0	0	0	0	0	7	5	0	*	0	May
June	88.7	64.1	76.4	105	1954	45	1954	0	4.09	2.50	1962+	0	0	0	0	0	7	15	0	0	0	June
July	90.1	66.9	78.5	107	1952	51	1963+	0	5.28	5.60	1949	0	0	0	0	0	8	18	0	0	0	July
Aug.	89.0	66.4	77.7	104	1948	51	1957	0	4.72	4.55	1940	0	0	0	0	0	7	17	0	0	0	Aug.
Sep.	83.3	60.1	71.7	104	1939	38	1962	21	3.61	4.70	1959	0	0	0	0	0	5	8	0	0	0	Sep.
Oct.	73.9	48.3	61.1	98	1954	19	1962	155	2.96	3.80	1937	0	0	0	0	0	4	1	0	1	0	Oct.
Nov.	62.3	37.3	49.8	84	1946	11	1950	456	3.12	2.75	1957	T	T	T	T	T	6	0	0	12	0	Nov.
Dec.	52.0	30.2	41.1	80	1955	-2	1962	741	3.82	3.00	1958	1.0	10.6	1945+	10.2	1935	7	0	*	20	*	Dec.
Year	72.0	48.0	60.0	107	1952	-6	1958	3377	48.19	5.60	1949	5.1	21.8	1960	10.2	1935	79	65	2	80	*	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°F

CLIMATE OF SHELBY, NORTH CAROLINA

SHELBY is the County Seat and principal city of Cleveland County, a roughly bell-shaped county whose base lies on the South Carolina border. The area of the County is nearly 300,000 acres, almost two-thirds of which is open land. The northwest corner of the County edges into the Mountains, with some elevations more than 2500 feet above mean sea level. In spite of this proximity to the Mountains, most of Cleveland County is only moderately rolling, with an elevation between 800 and 1100 feet. Shelby lies to the south of the center of the County, and the greater part of the city has an elevation between 800 and 900 feet. There is a slight upslope tendency toward the northern suburbs, where the present location of the weather station has an estimated elevation of 915 feet.

Shelby's location with reference to the Appalachian Mountains is particularly favorable. The Mountain Range extends in a northeast-southwest direction with its highest peaks only about fifty miles northwest of Shelby. Thus is provided an effective barrier to the outbreaks of cold air which frequently move down over the Central Plains from Canada in winter, sometimes causing piercing cold all the way into the Deep South. The shallower of such cold outbreaks are prevented from reaching Shelby at all by the high mountain barrier, and even the strongest surges are modified and softened in crossing the ridge. All of North Carolina east of the Mountains benefits from this protective barrier, and Shelby is in the area which benefits most.

Computations from temperature observations over a period of years indicate an average freeze-free growing season at Shelby of 208 days; the average last day in spring of a temperature as low as 32°F is April 7, and the average earliest occurrence in the fall November 1. For a temperature of 28°F the comparable dates are March 25 and November 11; for 20°F, February 17 and December 7. The growing season varies considerably from year to year, and also from place to place within relatively short distances; hence the above figures may require modification for other parts of Cleveland County, and even for some areas in or near Shelby.

Summer days are warm in Shelby, but nights cool rapidly, so that the average sunrise temperature is down to the middle sixties even at the warmest time of the year. Warm spells may occur occasionally at any time of the year, and temperatures as high as 80 degrees have been recorded in each of the calendar months at least once during the 27 year period of record. A little more than half the winter days, however, drop down to freezing at some time during the 24 hours, usually

around sunrise; it is extremely rare when the temperature does not rise above freezing during the day, and only about once in ten years, on the average, is there zero weather at any hour. Heating requirements are about the same as in the central Piedmont or extreme interior Coastal Plain.

Precipitation is usually abundant and well distributed throughout the year, with the most rainfall in the middle of the growing season and the driest months in the fall when harvesting is at its height. Snowfall is almost a novelty, with measurable accumulations on the ground occurring only about twice in an average year. Even when measurable snow does fall it usually melts rapidly.

Most winter precipitation comes as a result of moving low pressure storms, and thus is rather evenly distributed over Cleveland County. In summer, on the other hand, rain is mainly the result of thundershowers, and any given shower may fall more heavily on one portion of the County than on another area nearby. Occasionally these thunderstorms may produce strong winds or hail over very limited areas. Neither is likely to affect more than a few square miles; the likelihood of a given point in Cleveland County being struck by hail or high winds is very small, even smaller than in most other highly cultivated areas of North Carolina.

Prevailing winds are from the southwest at Shelby, with northeasterlies running a close second in some autumn months. Average wind speeds near the earth's surface are about eight miles per hour, a little higher in winter and early spring, and a little lighter in summer. Winds also average somewhat higher at midday and early afternoon, and lighter at night.

Sunshine is abundant in Shelby; more than half the daylight hours in winter are sunny, and more than two-thirds in summer and early fall. Relative humidity averages less than 70 percent around the clock, varying from around 50 percent at midafternoon to 85 percent at sunrise on a typical day.

Charles B. Carney
 Meteorologist in Charge

Albert V. Hardy
 State Climatologist

Weather Bureau Airport Station
 Raleigh-Durham Airport
 North Carolina



Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1934													
1935													
1936													
1937													
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STATION HISTORY

Precipitation records in Shelby date back to 1924, and temperature records to 1936, with some sporadic earlier records in each case. The earlier portion of the records used in this Summary were made by various members of the John R. Phifer family at the Phifer residence. Since 1954 the Observer has been Mrs. Libby M. Elam. The instruments are presently located at her home about three miles north of the Post Office. This location is slightly cooler than the earlier locations near the center of Shelby.

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1934													
1935													
1936													
1937													
1938													
1939													
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1963													

STATION HISTORY

A part of the falling trend shown in the table of Average Temperatures is due to difference in location, and a part due to somewhat lower temperatures which have been prevalent throughout the area both winter and summer for the past nine years. The latitude, longitude, and elevation given at the top of the Means and Extremes table are those of the present location.