U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

CLIMATOGRAPHY OF THE UNITED STATES NO. 20 - 40

LATITUDE 35° 22' N
LONGITUDE 86° 12' W
ELEV. (GROUND) 1072

CLIMATOLOGICAL SUMMARY

STATION TULLAHOMA, TENNESSEE

MEANS AND EXTREMES FOR PERIOD 1931-1965

Month	Temperature (°F) Means: Daily maximum	Daily minimum	Monthly	Extremes: Record highest	Year	Record lowest	Year	** Mean degree days	Precipitation Totals (Inches): Mean	Greatest daily	Year	Snow, Sleet: Mean	Maximum monthly	Year	Greatest daily	Year	Mean number of days: Precip. .10 inch or more	Temperatures Max.: 90° and above	32° and below	Min.: 32° and below	0° and below	Month
(a)	35	35	35	35		35		30	35	35		35	35		35		35	35	35	35	35	
J	50.4	31.1	40.8	78	1943	-13	1940	744	5.78	3.80	1949	2.4	7.9	1960	7.9	1960	8	0	2	18	*	J
F	53.4	32.2	42.8	80	1962	-9	1951	619	5.88	3.72	1948	1.3	10.0	1960	10.0	1960	8	0	1	15	*	F
M	60.5	38.1	49.3	85	1963	5	1960	505	6.19	3.51	1955	0.6	7.0	1951	6.0	1951	9	0	*	11	0	M
A	70.9	47.5	59.2	90	1957+	22	1940	195	4.59	4.03	1935	T	T	1952+	T	1952+	7	*	0	2	0	A
M	79.5	55.0	67.3	97	1941	32	1963	56	3.76	3.50	1960	0	0		0		6	2	0	*	0	M
J	86.4	62.7	74.6	102	1952	39	1956	0	3.89	4.31	1954	0	0		0		7	10	0	0	0	J
J	88.6	65.7	77.2	106	1952	47	1937	0	5.02	8.25	1936	0	0		0		7	14	0	0	0	J
A	88.4	64.7	76.6	104	1943	46	1946	0	3.51	3.15	1961	0	0		0		6	14	0	0	0	A
S	83.3	58.7	71.0	102	1954+	35	1942	36	3.32	3.00	1944	0	0		0		6	6	0	0	0	S
O	73.7	46.8	60.3	93	1941	19	1952	186	2.61	4.52	1932	T	T	1937	T	1937	4	*	0	2	0	O
N	60.6	37.2	48.9	83	1961	11	1938	495	4.12	4.77	1957	0.2	2.8	1938	2.8	1938	6	0	*	11	*	N
D	51.4	31.9	41.7	76	1956	-6	1962	713	5.30	4.41	1954	1.2	12.0	1963	10.0	1963	7	0	2	18	*	D
Year	70.6	47.6	59.1	106	July 1952	-13	Jan. 1940	3549	53.97	8.25	July 1936	5.7	12.0	Dec. 1963	10.0	Dec. 1963+	81	46	6	77	1	Year

(a) Average length of record, years.

T Trace, an amount too small to measure.

** Base 65°F Climatography of the United States No. 83-35, Tennessee.

+ Also on earlier dates, months, or years.

* Less than one half.

NARRATIVE CLIMATOLOGICAL SUMMARY

Tullahoma is located on the southeastern portion of the Highland Rim which surrounds and rises 400 to 500 feet above the Central Basin in which Nashville is situated. The Rim is quite different in physiographic features from the general area. Its eastern border is about 1000 feet lower than the Cumberland Plateau, while on the west the terrain decreases rather abruptly to the general level of the basin. The elevated position of the Highland Rim results in increased lifting of air currents and consequently increased cloudiness and precipitation compared to neighboring lower locations.

The prevailing climate is temperate, with pronounced seasonal variations in both temperature and precipitation. All seasons are marked by weather changes which come from passing weather fronts and associated centers of high and low pressure. This activity is least in the late spring and summer months, somewhat greater in the fall, and greatest in the winter and early spring. Temperatures depart least from the average during the period of minimum activity and vary from the average most during the period of greatest activity.

Tullahoma weather records represent fairly well the local climate of this part of the Rim, but does not portray too well conditions observed for the general area. While local topographic features appear to have only minor effects on major climatic elements, application of Tullahoma records to the surrounding terrain should make allowances for influences of hills and bluffs on precipitation, wind, cold air drainage, snowfall, etc. While the 53.97 inches of annual precipitation is not the greatest in the area, it is important to note that this is about 5 inches more than at lower locations in the immediate vicinity of the Central Basin.

Temperatures in this part of the State behave in a manner opposite to that of precipitation - mean daily temperatures in the Basin are about two degrees warmer in winter and summer than at neighboring higher locations. Temperatures reach 90° or higher along the Highland Rim on only a little over half as many days as in the Basin area. There are many mild periods in winter and occasional periods of mild, dry weather replace stretches of warm, humid weather in summer.

Precipitation at Tullahoma is fairly well-distributed, but varies greatly during the growing season from year to year. The greatest precipitation occurs from January to about mid-May. During the summer months local showers and thunderstorms are most frequent, with thunderstorms occurring on an average of about 10 days each month. On a yearly basis, the average number of days with thunderstorms is about 55. Lightest precipitation, observed in the fall, is brought about by the maximum occurrence of slow-moving, rain-suppressing high pressure areas. Moisture-laden winds originating in the Gulf of Mexico bring most of the moisture that falls in the area. During the warm season an average of one or more dry spells occur each year, and a more serious drought can be expected about every 6 or 7 years. On the other hand, there are sometimes wet periods, and periods of excessive rainfall rates. A rainfall of 4½ inches in 12 hours can be expected to occur about once every 7 or 8 years, 3 inches in 2 hours once every 25 years, and 1½ inches in 1 hour about every 2 years.

While the average snowfall is near 6 inches, most years have less than this amount and a few have considerable more. The greatest annual total recorded for the period of this summary was 21.0 inches in 1963; the least, a trace of snowfall in 1945, 1939 and 1934. Heavy snowstorms are infrequent and snow seldom remains on the ground for more than a few days.

Wind, relative humidity, sunshine and evaporation records are not available, but estimates for these elements are possible by using data from the surrounding area. Winds blow most frequently from the south. Wind speed is lowest from May through October, with monthly averages varying from 6 to 8 miles per hour; highest from November through April, with averages varying from 9 to 11 mph. Relative humidity rises and falls in a manner opposite to that of temperature during a typical day, with highest humidity usually occurring with the minimum temperature and lowest humidity usually with highest temperature of the day. Humidity readings in the mid-season months at 6 a.m. and noon, averages about: January, 82%, 62%; April, 80%, 49%; July, 86%, 53%; October, 88%, 52%. Possible sunshine for the mid-season months averages about 42% for January, 55% for April, 63% for July, and 65% in October. Annual free-water evaporation, i.e., from shallow lakes and farm ponds, averages about 38 inches, about 16 inches less than the average annual precipitation. About 73% of this evaporation occurs during the 6-month period from May-October each year.

Severe storms are infrequent at Tullahoma. During the period 1916-1966, only 3 tornadoes have been observed in Coffee County. Minor windstorms, usually associated with thunderstorms, sometimes cause scattered damage and hail occurs on an average, about twice a year. Storm hazard is no greater than in surrounding areas and less than in many other parts of the country.

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November 1, 1967

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	38.6	44.4	43.4	56.0	63.4	75.4	78.2	74.8	76.4	63.1	55.8	49.4	59.9
1932	46.4	50.6	44.4	58.3	65.4	75.4	78.4	77.5	70.8	57.1	45.2	43.3	59.3
1933	47.2	41.0	48.9	57.2	70.0	74.2	76.5	74.9	76.4	60.0	48.0	46.6	60.1
1934	42.6	34.5	46.7*	58.7+	68.2+	76.2+	80.5+	77.9+	69.9+	60.8+	51.6	38.8	58.9*
1935	40.6	42.0	56.3	58.0	66.1	70.4*	78.4	78.4*	71.0+	61.4	50.2	33.6	58.9*
1936	34.8	37.0*	53.2	55.0	69.1	77.7	79.3	79.6	74.8	60.5*	45.6	44.6	59.3*
1937	50.4	41.2	45.8	57.8	66.3*	75.8	76.2*	78.4	68.2	56.4	45.8	39.4	58.4*
1938	39.6	48.9	56.6	59.8	67.2	72.0	76.9	77.3*	69.8	61.2	49.8	41.0	60.0*
1939	43.1	44.2*	51.8	56.2	66.4	74.6	76.8	74.9	73.4	61.2	44.5	41.1	59.0*
1940	23.6	38.2	46.2	56.2	62.0	72.4	74.2	75.3	67.0	59.6	47.0	45.3	55.6
1941	40.4	35.8	43.0	62.2	69.8	76.1	77.9	78.6	75.1	68.0	48.6	45.0	60.0
1942	37.2	37.5	51.2	61.7	67.6	76.6	79.8	75.8	69.4	61.2	53.0	41.3	59.4
1943	42.7	44.3	46.8	58.4	70.8	80.6	80.5	80.7	67.6	57.1	47.4	40.5	59.8
1944	40.4	47.9	50.2	57.6	70.4	77.8	77.0	76.5	71.6	58.7	48.8	39.0	59.6
1945	38.9	44.2	60.7	61.0	63.4	73.2	77.2	76.2	73.8	58.3	51.9	36.4	59.6
1946	41.0	45.0	57.6	61.8	65.2	73.0	77.2	74.0	69.3	60.6	54.6	46.1	60.0
1947	43.6	33.4	41.0	61.1	63.8	72.6	72.2	79.0	72.8	65.6	47.2	42.6	57.9
1948	31.9	44.0	53.0	63.2	65.5	75.0	77.9	74.8	70.3	57.3	52.2	44.1	59.1
1949	49.1	47.6	50.5	57.6	68.1	75.6	78.8	75.8	67.2	65.1	47.9	44.0	60.6
1950	51.6	45.4*	46.9*	-	69.9	72.8*	74.4	72.4	67.9	62.4	42.4	35.2	-
1951	41.2	43.7	49.9	55.0	64.7	74.6	77.3	78.0	70.5	60.3	42.8	44.5	58.5
1952	47.2	46.1	49.6*	58.7	68.2	79.8	79.5	76.6	67.1	52.4	46.3	41.2	59.4*
1953	46.5	44.7	53.1	56.6	70.1	78.3	76.7	75.4	69.9	61.5	48.3	40.4	60.1
1954	41.7	49.0	48.7	64.6	61.6	74.7	79.7	79.1	74.8	60.6	47.9	40.3	60.2
1955	39.1	44.2	52.8	63.0	69.5	68.9	77.9	77.8	72.8	57.3	47.2	40.5	59.2
1956	36.8	48.7	50.2	57.8	69.7	73.4	77.1	76.9	68.1	62.5	48.0	51.5	60.1
1957	40.6	49.8	48.7	62.7	68.5	75.2	76.5	75.7	71.2	55.4	50.2	45.3	60.0
1958	35.8	31.5	44.9	59.7	67.4	74.1	77.1	75.0	70.3	58.3	50.5	36.6	56.8
1959	37.9	43.1	47.8	58.8	69.2	72.0	76.3	76.3	70.8	62.2	47.9	44.1	58.9
1960	40.4	37.9	37.3	61.5	64.5	74.6	77.4	77.7	72.0	61.7	49.5	37.2	57.7
1961	34.3	48.0	52.9	55.4	63.6	71.1	75.7	74.7	71.6	59.2	50.9	41.4	58.3
1962	36.3	48.5	45.2	56.0	73.5	73.2	77.2	77.8	70.0	62.0	47.7	36.9	58.7
1963	33.6	35.9	55.2	61.9	67.0	74.2	75.5	76.3	69.9	65.0	50.8	32.0	58.1
1964	39.4	38.0	50.6	62.7	69.1	76.2	76.6	75.4	71.0	57.0	53.2	44.2	59.5
1965	41.4	41.4	44.8	62.7	70.0	73.3	76.2	76.5	72.0	58.4	52.7	44.2	59.5

* Days Missing
\+ Interpolated or partly interpolated

STATION HISTORY

This study of local climate is possible because citizens of the community for many years have devoted a few minutes each day, seven days a week, reading and recording weather information from Government instruments. Observers, dates of service, and direction and distance from the local post office, if known, have been: E. S. Jones, 4/1/89 to 12/31/89, 0.8 mile north; G. W. Davidson, 3/1/93 to 10/31/02, 0.8 mile north; R. T. Moore, 1/1/03 to 1/31/29, 0.8 mile north; W. J. Davidson, 3/1/29 to 8/31/36; I. C. Stone, 9/1/36 to 6/10/43, 0.8 mile north; A. H. Sanders, 6/11/43 to 8/31/43, 0.8 mile north; A. C. Chilton, 9/1/43 to 9/30/44, 0.8 mile north; Cecil Cobbie, 10/1/43 to 2/28/45; L. H. Woodward, 3/1/45 to 5/31/52; P. L. Rogers, 6/1/52 to 8/31/52; B. Parker, 9/1/52 to 9/30/53; Tullahoma City Water Plant Personnel, 10/1/53 to present, 1.0 mile north. Station elevation above mean sea level has been at 1072 feet. Instruments were located over sod.

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	1.85	4.51	4.08	2.41	1.90	.51	4.79	3.86	.60	2.06	2.81	9.59	38.97
1932	6.77	5.81	4.78	6.44	1.09	4.06	5.97	3.52	1.94	9.87	3.79	6.83	60.87
1933	2.17	7.85	5.95	3.30	8.80	2.55	8.62	6.18	.91	.82	2.94	4.17	54.26
1934	3.88	2.50	11.17	2.23	2.19	5.95	4.83	3.97	4.59	1.77	3.42	3.65	50.15
1935	3.20	4.28	7.45	6.71	3.11	3.99	2.29	2.99	.89	2.16	3.92	2.76	43.75
1936	4.61	3.18	5.88	4.19	.82	.04	11.64	.78	3.03	5.21	3.52	7.86	50.76
1937	13.07	4.95	2.80	4.56	4.00	2.93	2.61	6.91	2.63	5.27	2.13	4.21	56.07
1938	5.35	1.62	4.99	6.86	7.49	5.43	6.86	3.96	3.71	.21	7.28	2.81	56.57
1939	4.81	14.10	6.17	3.88	1.97	7.11	4.13	4.91	1.50	.63	1.40	3.87	54.58
1940	1.57	7.24	6.22	4.53	2.84	2.69	4.99	3.13	1.17	3.02	2.97	2.53	42.90
1941	3.81	1.34	3.95	4.08	1.35	2.72	6.56	3.71	.50	2.85	2.37	3.52	36.76
1942	4.09	5.45	5.66	1.14	4.50	3.10	5.25	6.18	3.20	2.00	2.40	10.46	53.43
1943	1.99	3.90	5.56	5.62	2.44	3.55	6.03	2.60	8.77	.93	2.05	2.86	46.30
1944	3.32	11.05	9.74	5.78	3.07	2.43	1.95	5.24	8.85	.82	1.99	6.40	60.64
1945	4.46	9.99	3.83	4.74	6.62	5.82	3.58	3.48	3.28	3.55	6.65	6.55	62.55
1946	9.71	8.37	4.74	3.83	6.54	5.55	3.41	3.52	4.34	2.99	5.52	4.55	63.07
1947	9.19	2.28	3.75	3.14	3.31	3.93	5.12	2.67	1.30	1.47	5.52	3.01	44.69
1948	3.68	10.63	8.62	4.78	3.76	1.68	5.48	.54	1.64	2.33	11.30	6.13	60.57
1949	13.45	3.30	5.88	3.25	3.60	8.62	2.87	3.24	2.80	6.08	1.11	5.02	59.22
1950	18.13	5.33	6.45	1.62	3.27	2.58	8.60	4.97	5.19	1.18	6.20	2.11	65.63
1951	7.68	6.33	7.41	6.26	.52	6.18	3.02	1.52	4.28	3.02	5.16	10.95	62.33
1952	8.42	4.47	6.34	2.54	3.62	1.75	1.57	5.19	3.05	1.18	2.97	3.85	44.95
1953	6.31	7.70	6.52	5.54	3.95	.83	10.08	.51	5.49	.57	1.40	5.89	54.79
1954	10.43	3.24	3.46	4.08	4.13	6.50	4.97	2.36	3.00	1.82	2.89	10.49	57.37
1955	2.70	6.90	10.01	8.22	5.61	4.15	2.78	2.55	1.28	2.29	4.61	4.76	55.86
1956	4.47	10.83	3.99	7.39	4.10	2.57	5.05	2.45	2.27	3.31	1.24	10.12	57.59
1957	9.76	8.41	3.33	4.42	4.25	4.33	1.66	2.97	7.73	4.41	13.52	5.79	70.58
1958	2.84	3.54	3.07	7.25	4.78	2.92	9.06	2.31	4.37	.48	4.78	1.16	46.56
1959	4.50	3.93	4.36	3.49	4.79	6.06	5.45	5.02	2.74	3.70	3.62	7.98	55.64
1960	4.35	3.21	5.77	.98	4.38	4.47	2.77	2.28	5.74	2.18	3.63	4.37	44.13
1961	2.07	6.21	9.92	3.61	5.42	5.67	3.83	6.15	1.80	.88	3.76	8.48	57.80
1962	7.96	10.91	7.16	5.35	1.83	3.72	3.72	1.62	5.56	3.86	5.16	4.33	61.18
1963	2.72	3.85	10.42	5.58	3.85	5.95	6.05	1.94	.59	.00	3.60	3.28	47.80
1964	5.15	4.74	9.94	9.36	5.59	1.35	6.87	4.41	2.72	6.32	4.95	3.95	65.35
1965	3.83	3.95	7.26	3.63	2.25	4.41	3.36	5.24	4.58	1.94	3.57	1.06	45.08

PROBABILITY OF LOW TEMPERATURES IN SPRING AND FALL

Minimum Temp. (°F)	Percent of occurrence after the date in spring					Percent of occurrence before the date in fall				
	90%	75%	50%	25%	10%	10%	25%	50%	75%	90%
32	3/26	4/2	4/10	4/18	4/25	10/10	10/16	10/23	10/30	11/5
28	3/4	3/14	3/25	4/5	4/15	10/25	10/31	11/6	11/12	11/18
24	2/23	3/3	3/13	3/23	4/1	10/30	11/7	11/16	11/24	12/3
20	2/4	2/14	2/26	3/10	3/20	11/14	11/21	11/30	12/12	-
16	1/11	1/30	2/13	2/27	3/10	11/24	12/2	12/13	-	-

This table summarizes for a 30-year period the dates when low temperatures last occurred in the spring and first occurred in the fall at Tullahoma. The average date is given in the 50% column. In the spring the table shows that for a temperature 32° or lower, there is a 90% chance (9 chances out of 10) after March 26: a 10% chance (1 chance out of 10) after April 25. In the fall, there is a 10% chance of a freeze, 32° or lower before October 10, a 90% chance before November 5. It should be noted that all freeze data are based on temperatures in a standard U S Weather Bureau thermometer shelter at a height of approximately 5 feet above ground and in a representative exposure. Lower temperatures will exist at times nearer the ground and/or in local areas subject to extreme air drainage.