U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

CLIMATOGRAPHY OF THE UNITED STATES NO. 20 - 40

CLIMATOLOGICAL SUMMARY

LATITUDE 35° 41'
LONGITUDE 85° 48'
V. (GROUND) 940 Feet

STATION MC MINNVILLE, 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	51.1	31.2	41.2	79	1943	-19	1940	719	5.41	4.08	1949	2.5	11.1	1948	9.0	1948	9	0	2	17	*	J
F	54.1	32.7	43.4	79	1962	-5	1933	596	5.39	4.18	1948	1.7	10.4	1960	9.5	1960	8	0	1	15	*	F
M	61.2	38.6	49.9	84	1963	6	1960	490	5.71	3.29	1955	0.8	9.0	1960	5.9	1960	9	0	*	10	0	M
A	71.4	47.5	59.5	89	1965+	23	1957	186	4.08	3.03	1941	T	T	1956+	T	1956+	7	0	0	2	0	A
M	79.8	55.6	67.7	96	1941	31	1963	50	3.85	2.40	1960	0			0		7	2	0	*	0	M
J	86.3	63.5	74.9	104	1931	41	1956	0	4.30	5.37	1946	0			0		7	9	0	0	0	J
J	88.4	67.0	77.7	104	1952	49	1961+	0	4.82	7.37	1936	0			0		8	13	0	0	0	J
A	87.9	66.0	77.0	100	1951+	46	1964	0	4.04	3.70	1933	0			0		6	13	0	0	0	A
S	83.6	58.0	70.8	103	1954	36	1942	36	3.61	4.45	1944	0			0		5	6	0	0	0	S
O	74.0	47.8	60.9	93	1954+	23	1961+	167	2.34	2.55	1962	T	T	1957+	T	1957+	4	1	0	2	0	O
N	61.1	37.6	49.4	83	1961+	-1	1950	477	3.63	3.17	1957	0.3	3.0	1938	2.3	1950	6	0	*	11	*	N
D	52.1	32.0	42.1	77	1956	-10	1962	694	4.88	3.06	1936	1.7	12.8	1945	11.0	1945	7	0	1	17	*	D
Year	70.9	48.1	59.5	104	July 1952+	-19	Jan. 1940	3415	52.06	7.37	July 1936	7.0	12.8	Dec. 1945	11.0	Dec. 1945	83	44	4	74	*	Year

(a) Average length of record, years.

T Trace, an amount too small to measure.

** Base 65°F Climatography of the United States No. 83-85, Tennessee.

+ Also on earlier dates, months, or years.

* Less than one half.

NARRATIVE CLIMATOLOGICAL SUMMARY

Mc Minnville 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 spring and summer months, somewhat greater in the fall, and greatest in the winter and early spring.

Mc Minnville 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 Mc Minnville records to the surrounding terrain should make allowances for influence of hills and bluffs on precipitation, wind, cold air drainage, snowfall, etc. While the 52.06 inches of annual precipitation is not the greatest in the area, it is important to note that this is about 4 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 replaces stretches of warm, humid weather in summer.

Precipitation at Mc Minnville is normally 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.

While the average snowfall is 7 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 19.4 inches in 1960, the least, a trace of snowfall in 1959, 1957, 1955 and 1954. Heavy snowstorms are infrequent and snow seldom remains on the ground for more than a few days.

Wind, sunshine, and relative humidity records are not available but estimates for these elements are possible by using data from nearby locations. Winds blow most frequently from the south. Average wind speed ranges from 6 to 8 miles per hour from June through October and from 9 to 11 mph from November through May. Possible sunshine for the mid-seasonal months averages about 41% for January, 59% for April, 65% for July, and 65% in October. Relative humidity rises and falls in a manner opposite to that of temperature during a typical day, with the highest humidity usually occurring with the minimum temperature and the lowest humidity usually with the 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%, 53%; July, 90%, 60%; October, 84%, 49%.

Heating degree-days in the foregoing table provide a basis for computing heating requirements, fuel consumption being proportional to degree-day totals. Degree-days for any one day are obtained by subtracting the mean temperature for that day from 65 degrees.

This area has a favorable and moderate climate, with many days of the year being nearly ideal in temperature. On the whole, the fall season is the most pleasant time of the year. Rainfall is at a minimum, sunshine at a relative maximum and temperature extremes are practically non-existent.

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(Summary prepared May, 1968)

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	39.8	44.9	44.0	57.2	64.8	76.9	80.4	74.9	76.2	64.6	57.1	51.0	61.0
1932	48.8	51.6	46.0	58.6	66.2	76.4	79.0	77.5*	69.6*	57.7	46.6	44.0	60.2*
1933	47.8	42.8	49.2	58.1	71.2	74.7	77.1	75.8	75.8	60.6	48.9	51.0	61.1
1934	44.2	37.8	47.6	59.4	68.7	76.1	80.4	79.1	71.4	61.8	52.8	40.3	60.0
1935	42.2	44.0	57.6	59.4	68.0	71.9	78.0	78.3	71.4	61.0	50.8	33.3*	59.7*
1936	36.0	37.6	53.5	55.3	68.4*	77.2*	79.8	79.6	75.4	61.8	46.8	46.1	59.8*
1937	51.6	41.5*	47.4	58.8	66.8	76.3	76.4	78.4*	69.4	58.2	46.2	40.1	59.3*
1938	41.0	50.6	58.4	61.0	67.4	72.0	77.3	78.4	71.2	62.8*	50.2	41.8	61.0*
1939	44.0	46.3	52.8	56.7	66.8	75.6	77.8	75.3	74.5	63.2	45.6	42.4	60.1
1940	25.4	40.1	48.2	57.6	62.8	74.4	75.0	74.5	67.3	58.7	48.6	46.0	56.6
1941	39.3	36.5	44.6	62.5	69.5	75.8	78.6	78.6	75.2	68.0	48.7	45.3	60.2
1942	37.0	37.6	50.9	61.2	68.2	76.6	78.8	75.4	69.6	61.2	53.3	41.0	59.2
1943	42.4	44.0	47.4	57.8	70.2	78.8	78.4	79.0	68.2	57.4	46.6	39.8	59.2
1944	40.7	47.6	50.1	58.0	70.5	78.0	77.3	77.4	71.7	59.2	48.9	38.8	59.8
1945	38.8	45.1	60.4	61.6	63.9	73.8	77.6	77.2	75.0	58.8	51.6	36.2	60.0
1946	41.9	45.1	58.4	61.8	66.0	73.6	77.8	74.4	69.0	61.6	55.2	45.8	60.9
1947	44.8	33.4	41.2	62.0	65.0	73.8	73.2	80.4	74.4	67.0	48.0	42.5	58.8
1948	32.7	44.9	54.1	63.9	66.3	75.4	78.6	76.0	71.4	57.8	53.0	45.2	59.9
1949	49.5	48.5	51.2	57.6	68.6*	76.2	79.7	76.8	68.7	65.6	48.0	46.0	61.4*
1950	53.1	47.0	48.8	55.7	71.0	74.5	75.7	74.2	69.9	64.8	44.6	36.1*	59.6*
1951	43.1*	45.8	52.1	56.9	66.8	75.6	79.1	79.7	72.3	63.0	44.6	45.1*	60.4*
1952	48.2	45.7	49.5	58.2	68.4	80.1	79.9	77.9	69.3	53.7	48.4*	42.6	60.2*
1953	46.8	45.3	53.2*	57.0	70.9	78.8	77.2	76.2	70.1	62.1	47.2	40.4	60.4*
1954	42.4	48.3	48.9	64.6	62.0	75.2	80.9	79.3	74.8	59.9	47.4	40.5	60.4
1955	39.8	44.5	52.8	63.2	69.8	69.3	79.2	78.6	74.3	58.9	47.6	40.3	59.8
1956	36.3	49.5	51.1	57.5	69.5	73.2*	77.6*	77.0	69.2	62.8*	48.3	51.6	60.3
1957	41.2	49.9	49.0	63.0	68.9	75.0	77.6	76.4	71.8	56.6	50.8	45.7	60.5
1958	36.2	31.9	45.1	59.2	67.3	74.1	77.8	75.9	71.2	59.3	51.3	37.0	57.2
1959	38.3	44.3	48.3	59.4	70.5	73.3	77.2	78.2	72.7	62.6	47.5	44.2	59.7
1960	40.6	38.1	37.3	61.1	64.2	74.1	77.1	77.1	72.1	61.6	48.9	36.5	57.4
1961	34.2	47.0	52.1	54.8	62.9	70.1	74.5	73.7	72.2	58.9	51.2	41.8	57.8
1962	37.2	48.7	45.8	56.2	73.5	73.7	77.2	78.0	69.8	61.1	47.4	36.2	58.7
1963	34.0	36.1	55.2	61.2	66.5	73.7	75.2	75.4	68.9	62.7	49.6	30.6	57.4
1964	39.5	37.1	49.9	61.9	68.4	75.4	75.9	75.0	70.2	56.0	53.1	44.3	58.9
1965	41.0	40.5	44.2	62.6	69.3	72.5	75.6	75.4	71.6	57.2	51.7	43.4	58.8

* Days Missing

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	1.79	4.06	4.07	2.41	2.71	.65	3.59	5.22	2.62	2.94	2.82	9.82	42.70
1932	5.10	6.64	3.92	5.25	2.10	4.48	7.20	3.63	3.14	8.13	3.10	6.24	58.93
1933	2.26	6.37	4.51	3.41	6.45	2.26	4.30	8.24	1.51	1.46	2.15	3.88	46.80
1934	3.45	2.53	10.50	1.83	3.72	6.89	3.87	2.61	5.34	2.31	2.17	3.10	48.32
1935	3.22	4.02	6.88	5.19	3.07	3.98	5.15	3.14	.75	2.35	3.70	3.22	44.67
1936	4.08	3.27	7.10	4.95	1.80	.29	10.12	2.30	2.26	3.97	3.44	6.85	50.43
1937	14.34	5.29	2.27	3.97	6.04	1.94	4.93	5.80	3.19	4.62	1.50	2.57	56.46
1938	5.82	2.52	5.16	3.79	6.39	3.73	4.88	5.66	3.78	.50	4.69	2.30	49.19
1939	4.32	13.14	5.42	3.76	2.47	7.05	2.22	5.17	1.68	.64	1.37	4.10	51.34
1940	1.94	6.15	9.50	3.33	3.41	3.90	4.05	4.88	.49	2.71	2.21	2.16	44.73
1941	2.88	1.06	3.03	5.88	.41	5.33	3.42	6.32	.73	2.48	2.34	3.89	37.77
1942	3.50	4.55	5.79	1.38	3.41	3.87	8.79	6.75	3.44	3.14	2.45	10.68	57.75
1943	1.98	4.48	5.98	4.06	4.21	5.05	5.65	3.40	4.44	1.20	2.18	3.35	45.98
1944	2.78	11.18	8.84	4.76	2.55	.75	1.77	1.89	10.57	.54	2.17	5.54	53.34
1945	3.67	9.06	3.12	5.13	8.50	2.82	3.41	2.82	2.72	3.67	7.47	7.30	59.69
1946	7.76	7.28	3.11	3.07	5.89	9.39	3.54	2.38	5.50	2.26	4.86	4.19	59.23
1947	8.51	2.07	3.24	2.55	2.24	2.77	4.37	1.26	1.47	1.18	4.52	3.12	37.30
1948	4.75	10.76	6.76	2.48	2.08	6.67	2.92	2.65	2.72	2.76	10.62	6.55	61.72
1949	12.12	3.54	4.85	3.78	2.53	6.34	4.15	6.55	1.57	5.09	1.04	3.99	55.55
1950	15.10	5.98	6.10	1.98	4.54	3.64	6.37	6.41	2.73	.66	5.15	2.19	60.85
1951	8.49	6.40	6.47	5.27	2.52	5.77	2.04	3.20	4.81	3.58	4.91	9.46	62.92
1952	5.82	2.81	5.47	1.80	4.30	5.73	1.66	4.36	3.69	1.00	3.03	4.02	43.69
1953	5.32	6.70	4.44	5.77	5.31	2.68	4.75	1.77	3.74	.23	1.28	4.95	46.94
1954	11.95	3.57	5.56	3.61	4.51	4.63	1.96	2.25	4.96	2.33	2.41	8.78	56.52
1955	2.65	7.01	8.52	4.94	4.57	5.37	3.95	4.99	2.69	2.41	5.99	3.86	56.95
1956	E 5.40	E10.08	3.54	5.99	4.38	2.54	6.92	3.08	2.14	2.53	.99	8.39	55.98
1957	11.36	7.44	3.27	2.23	4.75	5.17	3.02	3.87	8.07	3.20	9.89	5.76	68.03
1958	2.74	2.42	2.93	7.56	4.42	4.07	6.51	3.83	4.82	.26	4.54	1.14	45.24
1959	4.04	4.32	4.52	3.24	4.57	2.93	6.15	5.80	3.47	2.87	4.02	7.33	53.26
1960	3.82	3.63	5.41	1.56	3.22	2.98	7.84	3.38	5.87	2.15	3.31	3.85	47.02
1961	2.57	5.21	9.24	3.25	3.65	7.70	4.30	4.86	5.88	2.14	2.95	6.96	58.71
1962	8.60	9.18	5.82	6.19	1.60	6.61	3.36	2.44	5.17	4.59	4.67	3.02	61.25
1963	2.31	3.18	9.59	3.39	3.23	3.06	6.31	2.69	2.82	.00	3.00	3.08	42.66
1964	4.71	4.35	6.99	9.24	3.30	2.74	5.02	4.69	2.96	6.22	3.61	4.58	58.41
1965	3.89	2.94	8.02	5.72	5.98	6.77	10.36	2.85	4.09	1.55	2.67	.93	55.77

E Estimated. In some cases precipitation values were estimated from snowfall or were interpolated from nearby stations.

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: J. T. Sparkman, 5/1/02 to 3/31/12, 0.5 mile west; Horace H. Stiles, 8/1/12 to 10/1/27, 1.0 mile south; J. T. Sparkman, 11/1/27 to 10/30/32, 0.5 mile south; B. M. Downs, 10/31/32 to 11/27/55, 0.5 mile west; Mc Minnville City Filtration Plant Personnel, 11/28/55 to present, 1 mile southwest. Station elevation above mean sea level has been between 900 and 1011 feet.

THE PROBABILITY OF UNUSUAL HEAVY RAINS IN JUST A FEW HOURS IS INDICATED BY A STATISTICAL STUDY FOR THE AREA

Frequency in 100 years	Inches in 1 hour	6 hours	12 hours
1	3.0	5.0	6.0
4	2.5	4.2	4.9
20	1.9	3.2	3.8
100	1.3	2.2	2.6

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	3/21	3/29	4/8	4/18	4/26	10/12	10/20	10/28	11/5	11/13
28	3/10	3/19	3/28	4/6	4/15	10/27	11/2	11/9	11/16	11/22
24	2/21	3/1	3/10	3/19	3/27	11/5	11/13	11/21	11/30	12/9
20	2/4	2/15	2/28	3/13	3/24	11/18	11/24	12/3	12/12	12/31
16	1/10	1/29	2/14	3/1	3/13	11/25	12/4	12/16	-	-

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 Mc Minnville. 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 21, a 10% chance (1 chance out of 10) after April 26. In the fall, there is a 10% chance of a freeze, 32° or lower before October 12, a 90% chance, before November 13. 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.