U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

CLIMATOGRAPHY OF THE UNITED STATES NO. 20 - 40

CLIMATOLOGICAL SUMMARY

LATITUDE 35° 18' N
LONGITUDE 87° 48' W
ELEV. (GROUND) 753 Feet

STATION WAYNESBORO, 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	50.0	26.6	38.3	79	1943	-21	1940	794	5.92	3.67	1946	3.8	17.1	1948	15.5	1964	9	0	3	21	1	J
F	53.6	28.8	41.2	84	1963	-20	1951	664	5.76	5.32	1948	2.1	17.8	1960	6.5	1960	8	0	1	18	*	F
M	60.8	35.4	48.1	87	1935	6	1943	527	6.06	2.85	1933	1.1	9.0	1951	6.0	1934	9	0	*	14	0	M
A	71.7	44.9	58.1	94	1937	19	1940+	210	5.13	4.49	1948	T	T	1956+	T	1956+	8	*	0	4	0	A
M	79.7	52.6	66.2	96	1942	27	1944	65	4.12	3.02	1933	0	0		0		7	2	0	1	0	M
J	87.0	61.1	74.2	106	1936	38	1933+	0	4.31	5.24	1960	0	0		0		7	11	0	0	0	J
J	89.8	64.3	77.1	108	1952	41	1947	0	4.58	6.37	1938	0	0		0		7	17	0	0	0	J
A	89.9	62.9	76.4	106	1954	41	1946	0	3.73	2.88	1931	0	0		0		6	17	0	0	0	A
S	84.4	56.0	70.2	107	1954	29	1949+	45	3.10	4.78	1944	0	0		0		5	9	0	*	0	S
O	74.8	43.4	59.1	95	1954	16	1952	214	2.64	5.30	1932	T	0.1	1954	0.1	1954	4	1	0	5	0	O
N	61.3	33.6	47.5	85	1935	-5	1950	531	4.62	5.00	1948	0.4	6.6	1950	6.6	1950	7	0	*	15	*	N
D	51.9	27.9	39.9	75	1964	-8	1962	760	5.09	6.90	1956	1.5	11.0	1945	9.5	1963	7	0	2	21	*	D
Year	71.2	44.8	58.0	108	July 1952	-21	Jan. 1940	3810	55.06	6.90	Dec. 1956	8.9	17.8	Feb. 1960	15.5	Jan. 1964	84	57	6	99	2	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

Waynesboro, county seat of Wayne County, is located in the southwestern portion of the Highland Rim in Middle Tennessee. The Highland Rim is a ring-shaped, hilly upland, completely encircling the Central Basin in which Nashville is situated. Its surface, 400 to 500 feet above the Basin, stretches from the western margin of the Cumberland Plateau southward and westward to the Tennessee River. With an area of 12,000 square miles, the Highland Rim is the largest physiographic region in Tennessee. Its elevated position results in increased lifting of air currents and consequently increased cloudiness and precipitation compared to neighboring lower elevations.

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.

Waynesboro 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 Waynesboro records to the surrounding terrain should make allowances for influences of hills and valleys on precipitation, wind, cold air drainage, snowfall, etc. While the 55 inches of annual precipitation is not the greatest in the area, it is important to note that this is about 6 inches more than at lower locations in the vicinity of the inner Central Basin area.

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 Waynesboro is normally well-distributed, but varies greatly during the growing season from year to year. The months of September and October have the least rainfall, making these months especially suitable for outdoor activities. Annual free-water evaporation i.e., from shallow lakes and farm ponds, averages about 40 inches, about 15 inches less than the average annual precipitation. About 73% of this evaporation occurs during the 6-month period from May-October each year.

A statistical study of heavy precipitation in just a few hours in this area indicates the probability of occurrence of totals at least as great as those listed below:

Frequency in 100 years	Inches in 1 hour	6 hours	12 hours
1	3.2	5.3	6.2
4	2.6	4.4	5.1
20	2.1	3.3	3.9
100	1.4	2.3	2.8

Snowfall is quite variable from year to year. Some winters have little or none. The average year has about four days with snow on the ground of 1 inch or more in depth. Waynesboro's greatest annual snowfall occurred in 1960, when 40.6 inches were measured. Heavy snowstorms are infrequent and snow seldom remains on the ground for more than a few days.

Relative humidity records are not available for Waynesboro, but estimates are possible by using data from the surrounding area. Early morning averages range from 75 percent in March to 90 percent in August and September. In early afternoon the range is from 48 percent in March to 65 percent in December.

Heating degree-days in the summary 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 September 1968)

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	39.4	44.0	43.8	56.2	62.2	75.4	77.5	73.2	75.6	63.2	56.5	48.9	59.7
1932	46.0	50.3	45.8	60.4	65.0	75.5	78.9	78.0	69.1	56.8	44.2	39.6	59.1
1933	44.4	39.4	47.0	55.6	69.0	74.4	76.7	75.8	75.8	59.2	48.4	48.6	59.5
1934	43.1	37.2	46.5	57.9	68.3+	76.7+	80.6+	77.1+	70.0*	59.2	51.0	39.4	58.9
1935	39.9	42.7	57.3	57.2	64.7	70.3	76.8	78.2	67.4	60.2	47.4	34.0	58.0
1936	34.0*	36.2	51.0+	53.4	67.4	75.7	78.3	78.2	75.0	58.6+	46.5+	43.5+	58.2
1937	48.1+	41.6+	45.9+	58.2+	67.2+	75.8+	74.7	78.2	68.8	58.3	46.4	40.0+	58.6
1938	38.8+	48.5	56.7	60.5	66.4	71.3	77.5	78.8	70.2	61.2	49.2	41.3	60.0
1939	43.4	43.8	52.7+	56.6+	65.6*	74.8	77.3	74.2	72.7	61.6	43.8	41.2	59.0
1940	24.4	39.4	48.8	57.4	60.8	73.8	76.1+	75.8*	67.5	59.7	46.9	45.6*	56.4
1941	40.2	36.8	44.2	62.2	68.2	75.6	78.6	77.8	73.4+	67.0+	46.2	42.5	59.4
1942	33.7	34.4*	52.6*	61.2	67.6	76.5	79.7	76.0	70.5	61.9+	54.0	41.0	59.0
1943	41.3	44.5	47.5	60.0	70.8	79.8	81.0	81.9	67.6	56.8	46.4	39.8	59.8
1944	39.0	45.0	51.1	58.4	70.0	-	78.4	76.8	71.9	-	-	-	-
1945	38.5	43.2	59.5	60.6	62.8	71.7	75.4	75.5	73.2	56.6	51.4	35.5	58.7
1946	40.6	44.2	57.7	62.2	63.0	73.0+	76.8	72.0	68.6	58.6	52.8	44.9	59.5
1947	42.4	31.6	40.4	59.7	63.5	72.8	72.6	80.6	72.0	65.4	45.8	40.2	57.2
1948	29.6	39.8	50.9	61.3	63.9	74.6	78.0	75.0	68.9	55.1	48.7	43.1	57.7
1949	45.9	43.8	48.0	56.4	66.9	74.5	78.4	75.1	66.3	62.3	45.3	41.6	58.7
1950	50.4	43.7	45.2	53.8	69.1	72.6	74.3	72.5	67.6	61.4	41.5	34.1	57.1
1951	39.3	39.8	49.0	55.0	64.0	74.0	77.7	78.0	69.7	59.9	41.8	41.9	57.5
1952	45.6	43.7	47.5	56.2	67.2	80.1	79.4	78.0	66.9	50.7	45.3	39.5	58.3
1953	43.5	42.0	51.1	55.1	68.9	77.9	77.0	75.5	68.5	59.8	45.7	36.5	58.5
1954	38.3	45.3	46.8	62.3	60.7	74.6	80.3	80.0	73.3	60.6	45.0	38.6	58.8
1955	36.2	39.6	49.9	61.3	68.3	68.4	78.2	77.0	72.5	57.4	45.9	37.7	57.7
1956	34.0	45.9	47.6	56.7	69.0	72.8	77.8	77.9	67.8	60.8	45.4	47.2	58.6
1957	36.8	47.7	46.1	61.3	67.8	75.1	75.8	74.7	69.7	54.3	47.9	42.7	58.3
1958	33.2	28.4	42.6	57.0	65.4	73.0	77.3	74.5	70.3	56.6	49.8	34.1	55.2
1959	36.2	40.7	45.5	57.3	68.7	71.3	76.0	76.9	70.9	60.4	43.2	41.2	57.4
1960	37.5	35.3	34.9	59.6	62.1	72.4	75.6	76.6	70.4	59.4	46.1	32.8	55.2
1961	32.0	44.8	52.0	53.9	62.1	70.0	74.6	73.7	70.3	57.3	48.8	40.3	56.6
1962	34.0	46.7	44.2	53.8	71.4	73.2	77.9	77.0	69.0	61.4	45.6	35.0	57.4
1963	29.9	32.3	51.2	60.5	65.0	73.0	75.0	75.4	68.0	62.7	48.3	28.3	55.8
1964	34.8	35.2	46.5	59.8	67.0	74.0	75.8	74.6	68.8	54.0	51.0	41.0	56.9
1965	38.4	37.4	41.0	61.4	68.6	72.3	75.9	75.3	71.0	56.4	51.2	41.3	57.5

*Days Missing
+Interpolated or partly interpolatd.

STATION HISTORY

Waynesboro is one of the older weather stations in Tennessee. Records of rainfall and temperature are continuous from October 1884. No major breaks have occurred in either the temperature or rainfall record.

It is believed the weather station has been within the city limits of Waynesboro, although the exact locations in earlier years are not known. Early observers include: Dr. C. Buchanan, October 1884 to December 1902; M. L. Gower, January 1903 to December 1904; Dr. H. C. Boyd, February 1905 to April 1934; J. L. Bondrant, September 1934 to April 1936; C. H. Prater and H. D. Bailey, May 1936 to February 1939; Mack Copeland, May 1939 to August 1941; Harris Fielder, October 1941 to Bebruary 1942; H. S. Trammell, March 1942 to October 1944; C. A. Galloway, February 1945 to July 1946. Since August 1946, the station has been located at C. Harold Edwards' residence in Waynesboro. All exposures have been at ground level and were considered good.

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	2.58	5.89	4.43	1.89	2.41	1.15	5.87	6.57	1.16	1.18	4.94	9.87	47.94
1932	7.99	5.83	4.59	5.10	1.98	4.55	8.74	3.65	8.32	8.35	2.81	6.43	68.34
1933	3.45	7.49	8.35	3.71	7.86	1.50	4.46	2.31	3.06	2.96	2.44	4.51	52.10
1934	3.33	2.39	7.86	3.36	2.58	5.98	4.35	4.30	4.54	1.25	4.25	3.29	47.48
1935	4.13	4.16	7.52	5.33	6.59	5.65	2.77	2.71	1.85	6.06	3.91	1.53	52.21
1936	2.80	1.84	5.96	5.97	.50	2.88	6.83	.69	3.38	6.45	3.66	8.00	48.96
1937	15.50	2.70	2.30	4.05	6.40	2.73	5.96	6.08	3.16	4.97	3.66	4.56	62.07
1938	7.70	1.65	8.73	4.00	6.42	8.29	14.19	5.37	.60	.40	4.62	2.70	64.67
1939	9.03	9.92	4.90	7.05	7.60	7.62	3.04	2.71	.73	1.35	1.50	3.69	59.14
1940	2.61	5.14	6.06	4.99	4.04	5.45	2.30	7.80	.35	2.98	7.96	3.89	53.57
1941	2.49	.95	3.88	4.15	.66	2.08	6.03	4.35	.23	3.36	3.34	2.77	34.29
1942	2.00	4.66	3.75	3.51	1.18	2.98	2.99	7.70	2.99	4.22	2.63	8.76	47.37
1943	2.24	.93	7.15	4.37	3.03	3.86	1.92	2.25	8.48	.91	3.43	5.19	43.76
1944	2.15	15.64	8.36	8.02	4.67	1.79	1.66	7.52	8.77	2.02	1.95	7.79	70.34
1945	5.10	8.72	5.02	6.44	5.78	6.49	3.16	2.06	5.38	2.31	8.60	6.20	65.26
1946	7.00	6.96	6.09	3.52	5.20	2.87	1.07	3.97	3.77	2.72	8.22	3.51	54.90
1947	8.78	1.89	4.19	6.24	5.99	2.17	1.49	2.74	1.75	.56	3.88	3.05	42.73
1948	4.96	13.59	5.96	6.65	3.70	1.48	5.61	1.54	3.10	1.04	14.81	7.30	69.74
1949	8.71	3.09	6.90	2.66	3.12	7.44	5.93	4.55	.70	6.72	1.53	4.27	55.62
1950	15.09	7.44	6.35	2.30	4.35	5.72	5.63	5.12	3.89	1.07	6.77	3.35	67.08
1951	11.61	8.96	6.07	4.70	.47	6.01	4.94	.67	3.02	1.76	6.53	10.43	65.17
1952	7.67	3.96	6.43	4.40	3.73	.74	3.39	5.36	2.13	1.61	3.34	3.04	45.80
1953	7.63	7.43	7.25	8.00	4.71	3.98	4.72	1.66	1.43	.39	.95	E 5.18	53.33
1954	10.08	4.84	3.55	4.43	3.10	4.24	3.15	1.96	2.42	1.43	1.86	5.87	46.93
1955	2.19	7.32	9.78	8.31	5.66	3.26	4.79	4.03	1.81	1.52	6.03	2.86	57.56
1956	4.26	9.78	3.32	4.71	4.27	6.42	2.02	2.51	.47	3.05	2.26	10.18	53.25
1957	9.04	7.63	3.26	4.31	7.96	10.01	2.69	1.35	5.01	3.36	12.41	4.62	71.65
1958	3.18	2.46	3.32	6.24	5.44	3.59	8.14	1.81	4.82	.84	4.29	1.18	45.01
1959	5.79	5.70	4.54	3.85	4.71	4.71	5.44	4.65	3.73	4.59	4.45	6.35	58.51
1960	4.73	4.15	6.69	3.70	2.59	7.77	2.81	3.97	3.72	3.64	3.01	4.10	50.88
1961	3.06	6.56	7.35	3.59	4.73	3.20	6.03	4.09	1.41	1.36	6.41	7.66	55.45
1962	9.01	8.93	5.48	6.81	2.02	3.30	2.15	3.30	5.56	2.61	2.67	2.39	54.23
1963	1.70	2.06	8.04	5.43	5.02	4.37	3.55	3.45	1.39	.00	4.63	3.35	42.99
1964	5.44	5.14	7.59	13.03	2.47	2.16	7.13	5.33	3.46	2.71	5.05	8.30	67.81
1965	4.06	5.75	11.15	4.63	3.54	4.37	5.35	2.28	1.75	2.57	2.95	2.06	50.46

E Estimated. Precipitation value partly estimated from nearby stations.

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	4/1	4/9	4/18	4/27	5/5	10/1	10/8	10/15	10/22	10/29
28	3/18	3/27	4/5	4/14	4/23	10/15	10/21	10/29	11/6	11/12
24	2/28	3/11	3/24	4/6	4/17	10/25	10/31	11/7	11/14	11/20
20	2/11	2/23	3/8	3/21	4/2	11/5	11/13	11/22	12/1	12/10
16	2/1	2/13	2/24	3/8	3/18	11/15	11/24	12/5	12/22	-

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 Waynesboro. 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 April 1, a 10% chance (1 chance out of 10) after May 5. In the fall, there is a 10% chance of a freeze, 32° or lower before October 1, a 90% chance, before October 29. 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.