

# Climatography of the United States

## No. 20

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: WAYNESVILLE 2 W, MO

1971-2000

COOP ID: 238777

Climate Division: MO 5

NWS Call Sign:

Elevation: 890 Feet

Lat: 37°49N

Lon: 92°14W

### Temperature (°F)

Mean (1)				Extremes										Degree Days (1) Base Temp 65		Mean Number of Days (3)					
Month	Daily Max	Daily Min	Mean	Highest Daily(2)	Year	Day	Highest Month(1) Mean	Year	Lowest Daily(2)	Year	Day	Lowest Month(1) Mean	Year	Heating	Cooling	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
Jan	42.3	20.2	31.3	79+	1965	7	39.4	1989	-23	1985	20	20.0	1977	1047	0	.0	.0	11.7	6.4	26.9	2.8
Feb	48.2	24.7	36.5	85	1962	13	47.0	1976	-23	1951	2	25.2	1978	800	0	.0	.0	14.6	3.6	22.1	1.5
Mar	58.5	34.2	46.4	87	1956	6	53.1	1974	-14	1960	5	38.6	1996	579	0	.0	.0	24.9	.4	16.4	.2
Apr	68.0	43.0	55.5	99	1965	24	63.2	1981	13	1989	11	49.7	1983	297	12	.0	.4	29.0	.0	6.6	.0
May	75.3	53.0	64.2	94+	1953	31	69.5	1977	24	1960	1	59.6	1997	117	90	.0	.5	30.9	.0	1.0	.0
Jun	82.5	62.1	72.3	104+	1954	26	76.4	1971	35	1972	1	68.7	1982	9	229	.1	5.0	30.0	.0	.0	.0
Jul	88.1	66.9	77.5	115	1954	14	85.0	1980	42	1972	6	73.7+	1996	0	388	1.3	15.5	31.0	.0	.0	.0
Aug	87.5	65.1	76.3	107	1962	19	82.1	1983	36	1986	29	70.0	1992	5	355	1.3	13.7	31.0	.0	.0	.0
Sep	79.4	56.6	68.0	104+	1954	4	73.4	1978	24	1989	24	62.8	1989	66	156	.1	5.1	30.0	.0	.4	.0
Oct	70.5	44.7	57.6	97	1963	10	64.7	1971	11	1952	29	51.7	1987	253	25	.0	.4	30.6	.0	6.3	.0
Nov	56.7	34.0	45.4	85+	1989	11	53.7	1999	-3	1951	8	38.8	1996	591	0	.0	.0	22.0	.4	15.7	.0
Dec	45.9	24.9	35.4	79+	1955	24	42.7	1984	-25	1989	23	20.9	1983	918	0	.0	.0	14.3	3.8	24.0	1.4
Ann	66.9	44.1	55.5	115	Jul 1954	14	85.0	Jul 1980	-25	Dec 1989	23	20.0	Jan 1977	4682	1255	2.8	40.6	300.0	14.6	119.4	5.9

+ Also occurred on an earlier date(s)

@ Denotes mean number of days greater than 0 but less than .05

Complete documentation available from: [www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1949-2001

(3) Derived from 1971-2000 serially complete daily data

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**NWS Call Sign:**

**Elevation: 890 Feet Lat: 37°49N**

**Lon: 92°14W**

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	2.26	1.95	2.29	1982	30	5.02	1982	.08	1986	8.0	4.9	1.3	.5	.37	.57	.89	1.21	1.53	1.88	2.27	2.76	3.41	4.46	5.47
Feb	2.40	2.25	4.86	2001	24	5.88	1985	.54	1995	7.7	4.9	1.7	.6	.63	.85	1.20	1.51	1.81	2.13	2.48	2.90	3.45	4.31	5.12
Mar	3.98	3.48	3.17	1977	28	8.54	1973	1.45	1986	9.5	7.2	2.8	.9	1.30	1.67	2.23	2.70	3.16	3.63	4.15	4.75	5.53	6.73	7.85
Apr	4.09	3.67	4.35	1979	11	11.78	1994	.65	2000	10.9	7.8	2.6	1.0	1.12	1.50	2.09	2.61	3.11	3.64	4.23	4.92	5.83	7.25	8.57
May	4.71	4.02	4.12	1956	31	11.12	1981	1.71	2000	11.8	8.3	3.3	1.1	1.57	2.02	2.67	3.23	3.76	4.31	4.92	5.62	6.52	7.93	9.22
Jun	4.19	3.30	4.52	1985	17	14.78	1985	1.33	1980	10.0	7.1	2.7	1.1	1.08	1.47	2.08	2.62	3.15	3.70	4.32	5.06	6.02	7.54	8.96
Jul	3.74	3.12	4.14	1958	16	8.08	1993	.62	1980	8.0	5.6	2.5	1.1	.75	1.09	1.64	2.14	2.65	3.20	3.81	4.55	5.53	7.10	8.59
Aug	3.54	3.14	3.23	1989	21	9.07	1975	.63	1983	7.7	5.5	2.3	1.0	.84	1.17	1.69	2.15	2.61	3.10	3.64	4.29	5.14	6.49	7.75
Sep	4.06	3.12	3.95	1993	25	12.72	1993	1.33	1976	7.9	5.7	2.8	1.3	.96	1.34	1.93	2.46	2.99	3.55	4.17	4.92	5.90	7.45	8.91
Oct	3.88	3.43	4.06	1949	11	9.35	1983	.75	1989	8.8	6.4	2.7	1.2	1.14	1.51	2.06	2.54	3.01	3.49	4.02	4.65	5.47	6.74	7.92
Nov	4.36	3.34	4.05	1972	1	10.35	1985	.87	1976	9.5	6.4	2.8	1.3	.98	1.38	2.02	2.59	3.17	3.78	4.47	5.29	6.37	8.09	9.72
Dec	3.33	2.77	5.27	1982	3	10.58	1982	.69	1976	8.7	5.3	2.2	.9	.63	.93	1.42	1.87	2.32	2.82	3.38	4.05	4.95	6.39	7.76
Ann	44.54	45.74	5.27	Dec 1982	3	14.78	Jun 1985	.08	Jan 1986	108.5	75.1	29.7	12.0	30.09	32.83	36.37	39.08	41.50	43.85	46.29	49.00	52.30	57.11	61.29

+ Also occurred on an earlier date(s)

# Denotes amounts of a trace

@ Denotes mean number of days greater than 0 but less than .05

\*\* Statistics not computed because less than six years out of thirty had measurable precipitation

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1949-2001

(3) Derived from 1971-2000 serially complete daily data

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**Climate Division: MO 5**

**NWS Call Sign:**

**Elevation: 890 Feet**

**Lat: 37°49N**

**Lon: 92°14W**

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										Snow Fall >= Thresholds					Snow Depth >= Thresholds			
Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year	0.1	1.0	3.0	5.0	10.0	1	3	5	10
Jan	7.9	4.0	1	1	16.0	1982	31	42.5	1979	17	1979	15	7	1979	2.3	1.9	1.0	.3	.1	5.8	3.4	2.1	.6
Feb	5.4	3.5	1	#	14.0	1984	27	18.0	1980	16	1984	28	4	1982	1.5	1.2	.7	.3	.1	4.0	2.7	1.6	.3
Mar	3.2	.0	#	#	16.0	1989	6	16.0	1989	16	1989	6	2	1989	.8	.7	.3	.2	@	.9	.6	.2	.1
Apr	.4	.0	#	0	4.0	1980	14	4.0	1980	2	1980	14	#+	1993	.2	.2	.1	.0	.0	@	.0	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	#	.0	#	0	#	1997	27	#	1997	#+	1997	27	#+	1997	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	2.4	.0	#	0	10.0	1975	26	10.0+	1975	9	1975	26	1	1975	.6	.5	.2	.2	@	.7	.4	.1	.0
Dec	3.0	1.5	1	#	9.5	1995	19	19.8	1973	10+	2000	15	3+	2000	1.2	.9	.2	.2	.0	2.1	.6	.4	.1
Ann	22.3	9.0	N/A	N/A	16.0+	Mar 1989	6	42.5	Jan 1979	17	Jan 1979	15	7	Jan 1979	6.6	5.4	2.5	1.2	.2	13.5	7.7	4.4	1.1

+ Also occurred on an earlier date(s) #Denotes trace amounts

@ Denotes mean number of days greater than 0 but less than .05

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

(1) Derived from Snow Climatology and 1971-2000 daily data

(2) Derived from 1971-2000 daily data

Complete documentation available from:

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**Climate Division: MO 5**

**NWS Call Sign:**

**Elevation: 890 Feet**

**Lat: 37° 49N**

**Lon: 92° 14W**

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (thru Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/25	5/20	5/16	5/13	5/10	5/07	5/03	4/29	4/24
32	5/15	5/10	5/06	5/02	4/29	4/26	4/22	4/18	4/13
28	5/05	4/28	4/24	4/20	4/16	4/12	4/08	4/04	3/28
24	4/17	4/12	4/09	4/05	4/02	3/30	3/27	3/24	3/19
20	4/10	4/04	4/01	3/28	3/25	3/22	3/19	3/15	3/09
16	4/04	3/27	3/21	3/15	3/10	3/05	2/28	2/22	2/14
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/10	9/16	9/19	9/22	9/25	9/28	10/02	10/05	10/10
32	9/25	9/29	10/01	10/04	10/06	10/08	10/10	10/13	10/16
28	10/01	10/06	10/10	10/14	10/17	10/20	10/23	10/27	11/02
24	10/11	10/18	10/23	10/28	11/01	11/05	11/09	11/14	11/22
20	10/26	11/02	11/06	11/10	11/14	11/18	11/22	11/26	12/03
16	11/02	11/09	11/14	11/18	11/22	11/25	11/30	12/04	12/11
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	160	152	147	142	138	134	129	124	116
32	180	173	167	163	159	155	151	146	138
28	208	200	193	188	183	178	173	166	158
24	239	230	223	217	212	206	200	193	184
20	258	250	244	238	233	228	223	217	208
16	289	278	269	262	256	249	242	233	222

\* Probability of observing a temperature as cold, or colder, later in the spring or earlier in the fall than the indicated date.

**0/00** Indicates that the probability of occurrence of threshold temperature is less than the indicated probability.

Derived from 1971-2000 serially complete daily data

Complete documentation available from:

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**NWS Call Sign:**

**Elevation: 890 Feet Lat: 37° 49N Lon: 92° 14W**

Degree Days to Selected Base Temperatures (° F)													
Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1047	800	579	297	117	9	0	5	66	253	591	918	4682
60	892	661	434	177	51	1	0	0	24	143	448	765	3596
57	799	582	350	121	26	0	0	0	11	92	365	678	3024
55	737	530	298	89	16	0	0	0	6	66	313	621	2676
50	594	404	188	34	4	0	0	0	0	23	201	480	1928
32	178	92	11	0	0	0	0	0	0	0	14	125	420

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	154	217	455	705	996	1210	1411	1373	1081	794	414	230	9040
55	1	11	29	105	299	520	698	660	397	147	23	13	2903
57	0	6	19	76	247	460	636	598	342	112	14	8	2518
60	0	2	10	42	179	371	543	505	264	69	7	2	1994
65	0	0	0	12	90	229	388	355	156	25	0	0	1255
70	0	0	0	2	33	113	242	219	78	6	0	0	693

Growing Degree Units (2)																								
Base	Growing Degree Units (Monthly)												Growing Degree Units (Accumulated Monthly)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	50	113	266	492	749	965	1148	1108	836	546	237	80	50	163	429	921	1670	2635	3783	4891	5727	6273	6510	6590
45	23	58	171	353	595	815	993	953	687	399	145	38	23	81	252	605	1200	2015	3008	3961	4648	5047	5192	5230
50	3	23	95	229	441	665	838	798	539	266	82	17	3	26	121	350	791	1456	2294	3092	3631	3897	3979	3996
55	0	10	51	135	296	516	683	643	395	158	33	5	0	10	61	196	492	1008	1691	2334	2729	2887	2920	2925
60	0	1	22	69	170	366	528	488	266	74	12	0	0	1	23	92	262	628	1156	1644	1910	1984	1996	1996
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	50	100	205	339	490	652	770	741	552	371	168	69	50	150	355	694	1184	1836	2606	3347	3899	4270	4438	4507

(1) Derived from the 1971-2000 Monthly Normals

(2) Derived from 1971-2000 serially complete daily data

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
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## Notes

- a. The monthly means are simple arithmetic averages computed by summing the monthly values for the period 1971-2000 and dividing by thirty. Prior to averaging, the data are adjusted if necessary to compensate for data quality issues, station moves or changes in station reporting practices. Missing months are replaced by estimates based on neighboring stations.
- b. The median is defined as the middle value in an ordered set of values. The median is being provided for the snow and precipitation elements because the mean can be a misleading value for precipitation normals.
- c. Only observed validated values were used to select the extreme daily values.
- d. Extreme monthly temperature/precipitation means were selected from the monthly normals data.  
Monthly snow extremes were calculated from daily values quality controlled to be consistent with the Snow Climatology.
- e. Degree Days were derived using the same techniques as the 1971-2000 normals.  
Complete documentation for the 1971-2000 Normals is available on the internet from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)
- f. Mean "number of days statistics" for temperature and precipitation were calculated from a serially complete daily data set.  
Documentation of the serially complete data set is available from the link below:
- g. Snowfall and snow depth statistics were derived from the Snow Climatology.  
Documentation for the Snow Climatology project is available from the link under references.

## Data Sources for Tables

Several different data sources were used to create the Clim20 climate summaries. In some cases the daily extremes appear inconsistent with the monthly extremes and or the mean number of days statistics. For example, a high daily extreme value may not be reflected in the highest monthly value or the mean number of days threshold that is less than and equal to the extreme value. Some of these difference are caused by different periods of record. Daily extremes are derived from the station's entire period of record while the serial data and normals data were for the 1971-2000 period. Therefore extremes observed before 1971 would not be included in the 1971-2000 normals or the 1971-2000 serial daily data set. Inconsistencies can also occur when monthly values are adjusted to reflect the current observing conditions or were replaced during the 1971-2000 Monthly Normals processing and are not reconciled with the Summary of the Day data.

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
|---|---|

## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html)  
Eischeid, J. K., P. Pasteris, H. F. Diaz, M. Plantico, and N. Lott, 2000: Creating a serially complete, national daily time series of temperature and precipitation for the Western United States. J. Appl. Meteorol., 39, 1580-1591,  
[www1.ncdc.noaa.gov/pub/data/special/serialcomplete\\_jam\\_0900.pdf](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)