

Climatology of the United States

No. 20 1971-2000

Station: NEW MADRID, MO

COOP ID: 236045

Climate Division: MO 6

NWS Call Sign:

Elevation: 310 Feet

Lat: 36° 35N

Lon: 89° 31W

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	41.5	24.9	33.2	71	1987	30	41.5	1989	-14	1982	17	20.7	1977	986	0	.0	.0	7.8	6.5	23.5	1.0
Feb	47.5	29.2	38.4	77	1981	27	45.8	1976	-4+	1996	4	24.2	1978	747	0	.0	.0	12.7	3.9	17.4	.3
Mar	57.6	38.3	48.0	84	1986	31	55.9	1973	8+	1980	3	42.0+	1996	529	1	.0	.0	23.5	.4	9.8	.0
Apr	68.6	47.5	58.1	94	1987	28	63.8	1981	25+	1990	8	49.8	1983	234	25	.0	.2	28.9	.0	1.4	.0
May	78.0	57.3	67.7	94+	1998	25	74.4	1987	35	1978	2	61.4	1983	81	164	.0	1.6	31.0	.0	.0	.0
Jun	86.9	65.8	76.4	104+	1988	27	79.6	1971	47+	1993	1	71.6	1974	2	342	.3	11.5	30.0	.0	.0	.0
Jul	91.1	69.8	80.5	106+	1980	17	84.9	1993	52	1968	4	77.6	1971	0	478	1.4	20.4	31.0	.0	.0	.0
Aug	89.4	67.1	78.3	107	1964	4	83.7	1983	42	1986	29	74.1	1992	2	412	1.1	16.4	31.0	.0	.0	.0
Sep	82.6	58.9	70.8	101	1983	12	76.8	1998	35	1989	24	65.3	1974	31	203	.1	6.1	30.0	.0	.0	.0
Oct	71.7	47.2	59.5	92+	1986	1	66.5	1971	25	1988	5	53.6	1988	213	40	.0	.2	30.8	.0	1.8	.0
Nov	57.4	38.3	47.9	85	1987	5	53.9	1999	13+	1977	26	39.1	1976	517	1	.0	.0	22.0	.1	8.7	.0
Dec	46.0	29.0	37.5	74+	1998	7	45.7	1971	-11	1989	22	26.2	1989	854	0	.0	.0	12.2	3.6	19.5	.3
Ann	68.2	47.8	58.0	107	Aug 1964	4	84.9	Jul 1993	-14	Jan 1982	17	20.7	Jan 1977	4196	1666	2.9	56.4	290.9	14.5	82.1	1.6

+ 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

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1963-2001

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

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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	3.34	3.39	5.76	1966	2	6.41	1982	.66	1983	9.5	5.4	2.3	.9	1.01	1.33	1.80	2.21	2.61	3.02	3.47	4.01	4.69	5.77	6.76	
Feb	3.72	3.22	3.51	1989	14	11.66	1990	1.08	1973	8.1	5.5	2.3	1.1	.93	1.28	1.83	2.30	2.78	3.28	3.83	4.49	5.36	6.72	8.00	
Mar	4.72	4.28	6.65	1964	9	11.43	1975	1.46	1974	10.8	7.8	3.1	1.4	1.81	2.24	2.87	3.39	3.89	4.39	4.94	5.57	6.37	7.61	8.74	
Apr	5.23	4.65	3.70	1979	2	12.96	1973	2.06	1987	10.1	7.7	3.6	1.6	1.93	2.42	3.12	3.71	4.27	4.85	5.47	6.19	7.12	8.54	9.84	
May	5.06	4.86	9.76	1986	15	14.42	1986	1.20	1994	10.9	7.4	3.3	1.5	1.62	2.11	2.82	3.42	4.01	4.61	5.27	6.05	7.05	8.61	10.05	
Jun	4.21	4.57	3.00	1997	14	7.41	1997	.46	1988	8.8	6.4	3.0	1.4	1.34	1.74	2.33	2.84	3.33	3.83	4.39	5.04	5.87	7.18	8.38	
Jul	4.05	3.52	4.82	1972	28	11.39	1981	.14	1999	8.2	6.1	2.7	1.0	.38	.67	1.22	1.79	2.40	3.09	3.91	4.94	6.35	8.69	10.99	
Aug	2.62	2.39	3.65	1978	30	5.83	1982	.01	1999	6.2	4.4	1.8	.7	.25	.44	.79	1.16	1.55	2.00	2.53	3.20	4.11	5.63	7.12	
Sep	3.47	3.54	7.15	1966	19	7.24	1996	.15	1978	7.1	4.9	2.1	1.3	.50	.79	1.29	1.77	2.27	2.82	3.46	4.23	5.28	6.99	8.63	
Oct	3.65	3.27	4.59	1985	20	9.33	1984	.52	2000	7.5	5.1	2.3	1.0	.96	1.31	1.84	2.30	2.76	3.24	3.77	4.40	5.23	6.53	7.74	
Nov	4.67	3.81	4.27	1988	19	11.23	1988	1.17	1999	9.4	7.0	3.3	1.5	1.29	1.73	2.41	2.99	3.57	4.17	4.84	5.63	6.65	8.26	9.76	
Dec	4.69	3.73	4.20	1978	3	11.80	1990	.90	1976	9.9	7.0	3.4	1.3	1.01	1.44	2.13	2.75	3.38	4.04	4.80	5.70	6.89	8.79	10.58	
Ann	49.43	50.22	9.76	May 1986	15	14.42	May 1986	.01	Aug 1999	106.5	74.7	33.2	14.7	35.55	38.25	41.70	44.32	46.64	48.88	51.19	53.74	56.83	61.31	65.18	

+ 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: 1963-2001

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

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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	2.6	.4	#	0	6.0	1977	10	13.1	1977	11	1985	4	6	1985	1.4	.8	.1	.1	.0	-9.9	-9.9	-9.9	-9.9
Feb	2.1	.0	#	0	6.0	1989	27	8.5	1985	6	1979	7	6	1979	1.1	.5	.2	.1	.0	.1	.1	.1	.0
Mar	.4	.0	#	0	2.5	1971	3	2.5	1971	2	1971	3	#+	1996	.3	.2	.0	.0	.0	.1	.0	.0	.0
Apr	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.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	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	#	.0	0	0	#	1980	28	#	1980	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.6	.0	#	0	2.5	1988	28	4.0	1989	#+	1995	9	#+	1995	.4	.3	.0	.0	.0	.0	.0	.0	.0
Ann	5.7	.4	N/A	N/A	6.0+	Feb 1989	27	13.1	Jan 1977	11	Jan 1985	4	6+	Jan 1985	3.2	1.8	.3	.2	.0	-9.9	-9.9	-9.9	-9.9

+ 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

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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	4/24	4/19	4/16	4/13	4/11	4/08	4/05	4/02	3/28
32	4/15	4/10	4/07	4/04	4/01	3/30	3/27	3/24	3/19
28	4/06	3/31	3/27	3/23	3/20	3/17	3/13	3/09	3/03
24	3/21	3/14	3/09	3/05	3/01	2/25	2/21	2/16	2/09
20	3/13	3/06	3/01	2/24	2/20	2/16	2/12	2/07	1/31
16	3/05	2/24	2/18	2/12	2/07	2/02	1/27	1/20	1/10
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	10/03	10/08	10/12	10/15	10/17	10/20	10/23	10/27	11/01
32	10/12	10/18	10/22	10/25	10/28	11/01	11/04	11/08	11/14
28	10/22	10/29	11/03	11/07	11/11	11/15	11/19	11/24	11/30
24	11/06	11/13	11/18	11/22	11/26	11/30	12/04	12/08	12/15
20	11/15	11/22	11/28	12/03	12/07	12/11	12/16	12/22	12/29
16	11/18	11/29	12/07	12/14	12/21	12/27	1/04	1/12	1/26
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	211	204	198	193	189	185	180	175	167
32	230	223	218	213	209	205	201	196	189
28	262	253	246	240	235	230	224	218	208
24	294	285	279	274	269	264	259	253	244
20	320	310	302	295	289	283	276	269	258
16	>365	>365	326	316	308	301	294	286	275

* 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

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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
65	986	747	529	234	81	2	0	2	31	213	517	854	4196
60	831	611	385	129	33	0	0	0	8	115	375	699	3186
57	740	533	304	81	17	0	0	0	3	73	296	613	2660
55	685	481	255	56	11	0	0	0	1	51	248	555	2343
50	541	358	154	17	2	0	0	0	0	17	147	416	1652
32	158	72	7	0	0	0	0	0	0	0	5	84	326

Cooling Degree Days (1)

Base	Cooling Degree Days (1)												
	Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
32	195	248	502	781	1106	1329	1501	1434	1162	850	479	254	9841
55	10	14	37	147	404	639	788	721	473	189	32	11	3465
57	3	10	24	112	348	579	726	659	415	148	20	8	3052
60	0	4	12	69	271	489	633	566	330	98	10	0	2482
65	0	0	1	25	164	342	478	412	203	40	1	0	1666
70	0	0	0	6	84	202	323	268	106	12	0	0	1001

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	54	111	293	546	862	1096	1262	1195	933	613	278	95	54	165	458	1004	1866	2962	4224	5419	6352	6965	7243	7338
45	26	55	184	403	707	946	1107	1040	783	463	172	43	26	81	265	668	1375	2321	3428	4468	5251	5714	5886	5929
50	3	18	99	272	552	796	952	885	633	318	96	10	3	21	120	392	944	1740	2692	3577	4210	4528	4624	4634
55	0	2	47	162	401	646	797	730	483	199	43	2	0	2	49	211	612	1258	2055	2785	3268	3467	3510	3512
60	0	0	15	83	259	496	642	575	344	106	12	0	0	0	15	98	357	853	1495	2070	2414	2520	2532	2532
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	30	66	166	328	560	752	863	814	619	389	156	46	30	96	262	590	1150	1902	2765	3579	4198	4587	4743	4789

(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
- 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 are 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.

- a. Temperature/ Precipitation Tables
 1. 1971-2000 Monthly Normals
 2. Cooperative Summary of the Day
 3. National Weather Service station records
 4. 1971-2000 serially complete daily data
- b. Degree Day Table
 1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
 2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data
- c. Snow Tables
 1. Snow Climatology
 2. Cooperative Summary of the Day
- d. Freeze Data Table
1971-2000 serially complete daily data

References

- U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html
Snow Climatology Project Description, 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