U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

Climatography of the United States No. 20 1971-2000

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

Station: LAKESIDE, MO **COOP ID: 234694**

Climate Division: MO 3 **NWS Call Sign:** **Elevation: 592 Feet** **Lat: 38˚12N** **Lon: 92˚37W**

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	40.6	20.1	30.4	79+	1967	24	40.4	1990	-15	1982	11	16.7	1977	1075	0	.0	.0	8.0	8.3	27.3	1.8
Feb	46.5	24.1	35.3	81	1982	24	43.6	1999	-13	1951	2	23.0	1979	832	0	.0	.0	11.3	4.8	21.8	1.3
Mar	56.9	33.1	45.0	85+	1986	30	49.7	1991	-6	1960	5	38.1	1978	619	0	.0	.0	21.6	.7	15.6	.2
Apr	67.7	43.0	55.4	94	1987	21	62.6	1981	18	1954	1	48.9	1983	299	9	.0	.3	28.1	.0	3.5	.0
May	76.0	52.3	64.2	95	1953	27	70.6	1998	30+	1961	2	59.3	1976	122	95	.0	.6	31.0	.0	.2	.0
Jun	84.0	61.7	72.9	103+	1988	25	76.2	1971	41+	1972	2	68.9	1974	7	243	.1	6.2	30.0	.0	.0	.0
Jul	89.7	66.4	78.1	114	1954	15	82.1	1980	45+	1972	7	74.8	1971	0	405	1.4	17.1	31.0	.0	.0	.0
Aug	88.6	64.8	76.7	105	1970	1	82.2	1983	45+	1986	29	71.3	1992	2	365	1.5	14.9	31.0	.0	.0	.0
Sep	80.5	57.0	68.8	103	1954	5	74.8	1998	33	1989	25	62.4	1974	44	156	.2	5.0	30.0	.0	.0	.0
Oct	70.3	45.4	57.9	94+	1963	11	63.8	1971	19	1952	29	51.4	1976	246	25	.0	.4	30.3	.0	1.8	.0
Nov	56.8	35.7	46.3	87	1950	1	55.0	1999	6+	1991	8	38.6	1976	563	1	.0	.0	20.7	.5	11.3	.0
Dec	45.1	25.6	35.4	78	1948	14	42.2	1971	-15+	1989	24	20.6	1983	919	0	.0	.0	11.1	4.6	23.5	.7
Ann	66.9	44.1	55.5	114	Jul 1954	15	82.2	Aug 1983	-15+	Dec 1989	24	16.7	Jan 1977	4728	1299	3.2	44.5	284.1	18.9	105.0	4.0

\+ 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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1948-2001

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

Issue Date: February 2004

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	1.72	1.20	2.60	1996	18	4.14	1995	.08	1986
Feb	1.90	1.60	3.34	1985	23	5.54	1985	.19	1991
Mar	3.20	2.66	2.45	1968	30	8.80	1973	1.01	1995
Apr	4.09	3.60	4.60	1994	11	16.88	1994	.57	2000
May	4.82	4.32	4.78	1990	26	13.64	1995	1.29	1980
Jun	4.01	3.63	3.32	1974	7	12.93	1985	.49	1984
Jul	3.89	3.47	5.08	1968	25	11.86	1998	.59	1999
Aug	3.76	3.22	3.86	1980	5	10.17	1982	.63	1999
Sep	3.87	3.37	4.70	1993	14	14.04	1986	.69	1976
Oct	3.49	3.12	3.05	1969	12	8.07	1986	1.07	1989
Nov	3.80	3.12	4.54	1948	2	10.23	1983	.25	1989
Dec	2.45	2.23	2.27+	1982	3	7.05	1982	.28	1976
Ann	41.00	40.85	5.08	Jul 1968	25	16.88	Apr 1994	.08	Jan 1986

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	6.9	4.5	1.1	.3
Feb	6.4	4.2	1.4	.3
Mar	9.3	6.4	2.2	.6
Apr	10.2	7.2	2.5	1.0
May	11.2	7.9	3.5	1.1
Jun	9.0	6.5	2.8	1.1
Jul	7.6	5.6	2.4	1.1
Aug	7.5	5.1	2.2	1.3
Sep	7.4	5.0	2.2	1.0
Oct	7.7	5.7	2.4	1.0
Nov	8.8	6.0	2.5	1.0
Dec	6.8	4.5	1.6	.7
Ann	98.8	68.6	26.8	10.5

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.25	.39	.64	.88	1.13	1.40	1.72	2.11	2.63	3.48	4.30
Feb	.34	.51	.78	1.04	1.31	1.60	1.92	2.32	2.84	3.69	4.50
Mar	.98	1.28	1.74	2.13	2.51	2.90	3.33	3.84	4.49	5.52	6.46
Apr	.80	1.17	1.77	2.32	2.88	3.48	4.16	4.98	6.06	7.81	9.46
May	1.36	1.82	2.51	3.11	3.70	4.32	5.00	5.80	6.84	8.47	9.99
Jun	.76	1.12	1.71	2.25	2.80	3.40	4.07	4.88	5.96	7.69	9.34
Jul	.56	.89	1.45	1.99	2.55	3.17	3.88	4.75	5.92	7.83	9.67
Aug	.59	.91	1.46	1.97	2.51	3.09	3.77	4.59	5.68	7.47	9.18
Sep	.69	1.03	1.59	2.12	2.66	3.24	3.91	4.71	5.79	7.52	9.17
Oct	1.22	1.55	2.03	2.43	2.82	3.22	3.65	4.15	4.80	5.80	6.71
Nov	.56	.87	1.42	1.95	2.50	3.10	3.79	4.64	5.78	7.65	9.44
Dec	.52	.75	1.11	1.43	1.76	2.11	2.51	2.98	3.60	4.60	5.54
Ann	26.61	29.30	32.79	35.48	37.90	40.25	42.70	45.43	48.76	53.65	57.91

\+ 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: 1948-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	3.3	1.5	1	#
Feb	2.5	1.0	1	#
Mar	1.4	.0	#	0
Apr	.1	.0	#	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.0	.0	0	0
Nov	.8	.0	#	0
Dec	2.2	.0	#	#
Ann	10.3	2.5	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	10.0	1995	19	12.7	1985	8	1979	8	4	1979
Feb	8.0	1975	22	8.5	1978	14	1975	24	3	1979
Mar	6.0	1989	6	6.0+	1989	6	1989	6	1	1989
Apr	3.0	1980	14	3.0	1980	3	1980	14	#+	1980
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	.0	0	0	.0	0	0	0	0	0	0
Nov	5.0	1974	30	8.0	1975	8	1975	27	1	1975
Dec	8.0	1973	31	11.1	1973	8	1973	31	2	1989
Ann	10.0	Jan 1995	19	12.7	Jan 1985	14	Feb 1975	24	4	Jan 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.6	1.2	.4	.1	@
Feb	1.1	.9	.5	.2	.0
Mar	.4	.4	.2	.1	.0
Apr	@	@	@	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.3	.2	.1	@	.0
Dec	.9	.6	.3	.1	.0
Ann	4.3	3.3	1.5	.5	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	4.9	2.0	.4	.0
Feb	3.5	1.4	.5	.0
Mar	.5	.3	.2	.0
Apr	@	@	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	.4	.3	.1	.0
Dec	2.6	1.4	.4	.0
Ann	11.9	5.4	1.6	.0

+ 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	5/11	5/06	5/02	4/28	4/25	4/22	4/18	4/14	4/09
32	4/25	4/20	4/16	4/13	4/10	4/07	4/04	3/31	3/26
28	4/12	4/07	4/04	4/01	3/30	3/27	3/25	3/22	3/17
24	4/03	3/29	3/25	3/21	3/18	3/14	3/11	3/07	3/01
20	3/24	3/16	3/11	3/06	3/02	2/25	2/21	2/15	2/07
16	3/15	3/08	3/02	2/26	2/22	2/17	2/13	2/07	1/31

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	9/24	9/30	10/04	10/07	10/10	10/13	10/17	10/21	10/26
32	10/16	10/20	10/23	10/25	10/28	10/30	11/02	11/05	11/09
28	10/23	10/29	11/02	11/06	11/09	11/12	11/16	11/20	11/26
24	11/01	11/07	11/12	11/15	11/19	11/22	11/26	11/30	12/06
20	11/12	11/19	11/23	11/27	12/01	12/04	12/08	12/13	12/19
16	11/23	11/29	12/03	12/07	12/11	12/14	12/18	12/23	12/29

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	192	183	177	172	167	163	157	151	143
32	219	213	208	204	200	196	192	188	181
28	245	237	232	228	224	219	215	210	202
24	271	262	256	250	245	240	235	229	220
20	305	294	286	280	273	267	260	253	242
16	323	312	304	298	292	285	279	271	260

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1075	832	619	299	122	7	0	2	44	246	563	919	4728
60	920	693	469	175	55	1	0	0	12	138	422	764	3649
57	828	617	382	116	29	0	0	0	4	89	341	676	3082
55	769	564	327	83	18	0	0	0	2	64	291	619	2737
50	626	438	208	29	5	0	0	0	0	23	185	478	1992
32	213	118	14	0	0	0	0	0	0	0	11	119	475

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	161	210	418	700	996	1226	1428	1386	1102	802	439	224	9092
55	5	12	18	93	302	536	715	673	414	154	29	11	2962
57	1	9	11	66	251	476	653	611	356	117	19	6	2576
60	0	1	4	35	183	387	560	518	274	72	10	0	2044
65	0	0	0	9	95	243	405	365	156	25	1	0	1299
70	0	0	0	1	37	120	251	223	72	6	0	0	710

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	34	86	229	479	757	991	1192	1151	868	564	243	69	34	120	349	828	1585	2576	3768	4919	5787	6351	6594	6663
45	9	42	136	339	602	841	1037	996	718	421	150	33	9	51	187	526	1128	1969	3006	4002	4720	5141	5291	5324
50	2	15	73	215	448	691	882	841	570	278	79	13	2	17	90	305	753	1444	2326	3167	3737	4015	4094	4107
55	0	4	36	119	299	542	727	686	422	163	34	3	0	4	40	159	458	1000	1727	2413	2835	2998	3032	3035
60	0	0	10	61	174	393	572	531	287	80	9	0	0	0	10	71	245	638	1210	1741	2028	2108	2117	2117
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	32	71	160	291	481	670	804	771	564	356	153	51	32	103	263	554	1035	1705	2509	3280	3844	4200	4353	4404

(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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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