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: POMME DE TERRE DAM, MO **COOP ID: 236777**

Climate Division: MO 3 **NWS Call Sign:** **Elevation: 900 Feet** **Lat: 37˚54N** **Lon: 93˚19W**

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	40.0	19.7	29.9	74+	1967	24	41.6	1990	-17	1985	20	16.5	1977	1089	0	.0	.0	7.2	8.0	27.6	2.5
Feb	46.1	24.0	35.1	79+	1996	27	44.6	1976	-21	1979	1	22.2	1978	839	0	.0	.0	11.0	5.1	22.7	1.4
Mar	56.9	32.9	44.9	86	1995	23	49.7	2000	-3	1978	4	37.5	1978	624	0	.0	.0	21.4	.9	15.3	.1
Apr	67.1	43.1	55.1	92+	1987	21	62.2	1981	18	1975	3	48.1	1983	308	11	.0	.1	28.0	.0	3.5	.0
May	75.5	53.1	64.3	94	1987	22	71.4	1987	30+	1992	6	59.6	1981	122	101	.0	.5	31.0	.0	.3	.0
Jun	83.7	62.6	73.2	106	1988	24	77.2	1971	41	1999	17	68.1	1982	13	256	.3	7.1	30.0	.0	.0	.0
Jul	89.6	67.3	78.5	111	1986	31	85.4	1980	46	1970	21	74.4	1971	0	418	2.4	17.8	31.0	.0	.0	.0
Aug	89.2	65.2	77.2	107	1980	1	83.9	1980	44	1967	13	69.3	1992	6	384	2.4	16.2	31.0	.0	.0	.0
Sep	80.9	56.6	68.8	105+	2000	2	75.2	1998	30+	1995	23	61.5	1974	57	168	.3	5.3	30.0	.0	.2	.0
Oct	70.4	45.0	57.7	94+	1963	11	64.0	1971	20	1993	31	51.5	1976	247	21	.0	.3	30.1	.0	2.8	.0
Nov	55.9	34.9	45.4	87	1968	1	54.8	1999	4+	1991	9	37.7	1976	587	0	.0	.0	19.8	.6	12.6	.0
Dec	44.5	24.7	34.6	72+	1996	11	41.4	1984	-22	1989	23	18.5	1983	943	0	.0	.0	10.5	4.8	24.2	1.2
Ann	66.7	44.1	55.4	111	Jul 1986	31	85.4	Jul 1980	-22	Dec 1989	23	16.5	Jan 1977	4835	1359	5.4	47.3	281.0	19.4	109.2	5.2

\+ 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: 1961-2001

(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	1.63	1.42	2.12	1985	1	4.00	1975	.04	1986
Feb	2.04	1.94	3.80	1986	3	5.40	1986	.10	1996
Mar	3.32	2.52	2.40	1985	30	10.24	1973	1.14	1972
Apr	3.95	3.19	3.05	1983	29	13.18	1994	.59	1989
May	4.88	4.82	3.16	1970	15	10.18	1995	1.66	1980
Jun	4.04	3.25	4.72	1990	15	9.18	1995	.90	1988
Jul	3.98	3.58	3.40	1988	1	7.74	1987	.24	1980
Aug	3.14	2.82	3.81	1975	26	8.78	1982	.20	1973
Sep	4.21	3.31	4.91	1969	16	15.18	1993	.99	1995
Oct	3.70	3.14	5.90	1965	16	11.48	1986	.54	1999
Nov	3.48	3.33	3.15	1979	21	9.39	1992	.22	1989
Dec	2.54	2.13	2.84	1985	11	6.01	1982	.32	1976
Ann	40.91	41.93	5.90	Oct 1965	16	15.18	Sep 1993	.04	Jan 1986

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	6.0	3.8	.8	.2
Feb	5.4	3.7	1.3	.4
Mar	8.8	6.5	2.2	.7
Apr	9.9	7.1	2.5	1.1
May	10.8	7.6	2.9	1.4
Jun	10.3	7.0	2.8	.7
Jul	8.2	5.8	2.8	1.2
Aug	7.0	5.1	2.0	.9
Sep	8.6	5.9	2.5	1.3
Oct	8.4	5.7	2.5	1.0
Nov	6.8	4.9	1.9	.9
Dec	5.6	3.7	1.8	.6
Ann	95.8	66.8	26.0	10.4

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	.20	.32	.55	.78	1.02	1.29	1.61	2.00	2.52	3.39	4.24
Feb	.33	.50	.80	1.08	1.37	1.69	2.05	2.49	3.09	4.05	4.96
Mar	.93	1.24	1.72	2.13	2.54	2.97	3.44	4.00	4.72	5.86	6.91
Apr	.85	1.21	1.79	2.31	2.84	3.40	4.04	4.79	5.79	7.39	8.90
May	1.69	2.16	2.83	3.39	3.93	4.49	5.10	5.80	6.71	8.11	9.40
Jun	.98	1.36	1.95	2.47	3.00	3.55	4.16	4.89	5.85	7.37	8.80
Jul	.60	.93	1.51	2.06	2.63	3.25	3.97	4.86	6.04	7.97	9.82
Aug	.38	.63	1.07	1.51	1.98	2.49	3.10	3.84	4.85	6.51	8.12
Sep	.77	1.14	1.76	2.33	2.92	3.55	4.27	5.13	6.29	8.14	9.92
Oct	.85	1.19	1.73	2.22	2.71	3.22	3.80	4.49	5.40	6.84	8.20
Nov	.53	.82	1.32	1.81	2.31	2.85	3.48	4.25	5.29	6.97	8.59
Dec	.41	.63	1.00	1.35	1.71	2.10	2.55	3.10	3.83	5.01	6.15
Ann	26.99	29.61	33.01	35.61	37.95	40.22	42.58	45.21	48.42	53.11	57.20

\+ 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: 1961-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	.0	1	0	5.0	1985	31	5.0	1985	9	1977	23	3	1978	.6	.5	.2	.1	.0	.0	.0	.0	.0
Feb	3.0	1.0	1	#	8.0	1984	27	8.0	1984	12	1980	8	8	1985	1.2	.8	.3	.1	.0	.9	.5	.3	.0
Mar	1.1	.0	#	0	7.0	1975	10	9.0	1975	7	1975	10	1	1978	.5	.3	.1	.1	.0	.4	.3	@	.0
Apr	.2	.0	#	0	4.0	1980	14	4.0	1980	4	1980	14	#	1980	.1	.1	.1	.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	.8	.0	#	0	5.0	1988	20	6.0	1975	2	1984	19	#+	1984	.3	.3	.1	.1	.0	.2	.0	.0	.0
Dec	2.0	.5	#	0	7.0	1981	23	10.3	1973	10	2000	14	2+	2000	.9	.6	.2	.1	.0	.7	.3	.2	.0
Ann	7.8	1.5	N/A	N/A	8.0	Feb 1984	27	10.3	Dec 1973	12	Feb 1980	8	8	Feb 1985	3.6	2.6	1.0	.5	.0	2.2	1.1	.5	.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	5/13	5/07	5/03	4/30	4/27	4/24	4/21	4/17	4/11
32	5/02	4/26	4/22	4/18	4/15	4/12	4/08	4/04	3/29
28	4/15	4/10	4/07	4/04	4/02	3/30	3/28	3/24	3/20
24	4/07	4/01	3/27	3/24	3/20	3/16	3/12	3/08	3/02
20	3/29	3/23	3/18	3/15	3/11	3/07	3/03	2/27	2/21
16	3/23	3/15	3/08	3/03	2/26	2/21	2/16	2/09	2/01

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

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	184	177	172	167	163	159	155	150	143
32	208	200	194	188	184	179	174	168	159
28	240	232	226	220	216	211	205	199	191
24	264	255	248	243	238	233	227	221	212
20	283	273	267	261	256	251	245	238	229
16	315	304	295	288	281	274	267	258	247

***** 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	1089	839	624	308	122	13	0	6	57	247	587	943	4835
60	934	705	478	187	55	2	0	0	19	136	446	788	3750
57	842	626	392	129	30	0	0	0	8	86	364	701	3178
55	784	574	338	96	19	0	0	0	4	60	312	644	2831
50	641	450	222	38	5	0	0	0	0	20	203	503	2082
32	225	132	19	0	0	0	0	0	0	0	15	138	529

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	160	218	418	693	1002	1234	1441	1401	1101	797	418	219	9102
55	5	16	24	99	308	544	728	688	415	144	25	12	3008
57	2	12	16	72	257	484	666	626	359	108	16	7	2625
60	0	6	8	40	189	396	573	534	280	65	8	1	2100
65	0	0	0	11	101	256	418	384	168	21	0	0	1359
70	0	0	0	2	42	140	270	247	87	4	0	0	792

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	33	84	239	478	773	1019	1222	1178	882	564	229	66	33	117	356	834	1607	2626	3848	5026	5908	6472	6701	6767
45	11	44	146	339	618	869	1067	1023	732	416	137	30	11	55	201	540	1158	2027	3094	4117	4849	5265	5402	5432
50	2	15	80	218	466	719	912	868	583	282	74	12	2	17	97	315	781	1500	2412	3280	3863	4145	4219	4231
55	0	5	36	128	322	569	757	713	438	170	32	2	0	5	41	169	491	1060	1817	2530	2968	3138	3170	3172
60	0	1	10	63	192	423	602	558	306	86	10	0	0	1	11	74	266	689	1291	1849	2155	2241	2251	2251
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	28	67	156	292	491	690	827	793	580	355	138	45	28	95	251	543	1034	1724	2551	3344	3924	4279	4417	4462

(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.
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