

Climatology of the United States

No. 20

1971-2000

Station: CLINTON, MO

COOP ID: 231711

Climate Division: MO 3

NWS Call Sign:

Elevation: 770 Feet

Lat: 38° 24N

Lon: 93° 43W

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	38.3	16.0	27.2	78	1950	25	36.0	1990	-22+	1959	5	13.9	1979	1174	0	.0	.0	6.7	9.5	28.7	2.7
Feb	44.8	20.7	32.8	83	1930	24	42.0	1976	-21	1951	2	19.5	1978	903	0	.0	.0	10.8	6.0	23.3	2.2
Mar	55.9	30.7	43.3	91	1929	24	49.3	1991	-12	1960	5	35.9	1984	673	0	.0	.0	20.5	1.1	16.9	.2
Apr	66.6	40.6	53.6	96	1930	11	61.1	1981	10	1920	5	46.3	1983	352	9	.0	.1	27.6	.0	4.7	.0
May	75.5	51.4	63.5	105	1934	30	70.3	1987	28+	1989	7	55.1	1990	148	100	.0	.5	30.9	.0	.3	.0
Jun	84.3	61.7	73.0	111	1936	28	76.4	1971	40	1956	2	68.2	1982	10	250	.1	6.9	30.0	.0	.0	.0
Jul	90.1	66.5	78.3	118	1936	15	86.2	1980	45	1972	5	74.4	1971	0	411	2.1	17.3	31.0	.0	.0	.0
Aug	89.0	63.9	76.5	116	1936	16	83.4	1983	43+	1988	30	69.9	1992	7	363	1.8	15.8	31.0	.0	.0	.0
Sep	80.5	54.8	67.7	107	1936	6	73.5	1998	29+	1989	25	60.9	1974	65	145	.2	5.3	30.0	.0	.2	.0
Oct	69.8	42.9	56.4	97+	1963	8	62.3	1971	4	1998	21	49.1	1987	287	18	.0	.2	29.9	.0	4.2	.0
Nov	54.6	32.1	43.4	87	1950	1	52.0	1999	0+	1991	9	35.5	1976	650	0	.0	.0	18.7	.8	15.7	.1
Dec	42.7	21.2	32.0	77	1948	13	38.0	1994	-31+	1989	24	15.0	1983	1025	0	.0	.0	9.2	5.8	25.9	1.7
Ann	66.0	41.9	54.0	118	Jul 1936	15	86.2	Jul 1980	-31+	Dec 1989	24	13.9	Jan 1979	5294	1296	4.2	46.1	276.3	23.2	119.9	6.9

+ 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

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1918-2001

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

025-A

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: CLINTON, MO

COOP ID: 231711

Climate Division: MO 3

NWS Call Sign:

Elevation: 770 Feet Lat: 38°24N

Lon: 93°43W

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	1.57	1.29	2.02	1971	3	3.29+	1982	.04	1986	6.1	4.2	.8	.3	.26	.40	.63	.84	1.06	1.31	1.58	1.91	2.36	3.08	3.77
Feb	2.04	1.77	3.30	1985	23	5.32	1997	.10	1991	6.0	3.9	1.4	.5	.36	.55	.84	1.12	1.41	1.72	2.07	2.49	3.06	3.97	4.84
Mar	3.22	2.88	3.11	1920	25	9.18	1973	.86	1971	8.7	6.5	2.4	.8	.91	1.22	1.68	2.08	2.48	2.89	3.34	3.88	4.57	5.66	6.68
Apr	4.03	3.50	4.10	1973	21	14.46	1994	.67	2000	10.0	6.8	2.7	1.0	.86	1.24	1.83	2.36	2.90	3.47	4.12	4.90	5.92	7.55	9.09
May	5.51	5.36	5.46	1943	17	13.91	1995	1.04	1992	10.9	7.9	3.8	1.9	1.68	2.21	2.99	3.66	4.31	4.99	5.73	6.60	7.73	9.49	11.12
Jun	5.11	3.93	7.00	1943	3	17.17	1981	.15	1972	10.0	6.7	3.2	1.7	.90	1.35	2.10	2.80	3.51	4.28	5.17	6.23	7.66	9.95	12.15
Jul	3.83	3.44	6.00	1993	7	17.89	1993	.41	1976	6.8	5.1	2.4	1.4	.54	.86	1.41	1.94	2.50	3.11	3.82	4.68	5.85	7.76	9.59
Aug	4.08	3.29	4.80	1955	30	12.36	1985	.63	1971	7.1	5.3	2.6	1.3	.67	1.03	1.62	2.18	2.76	3.39	4.10	4.98	6.14	8.04	9.85
Sep	4.57	3.56	6.30	1986	23	19.07	1986	1.08	1980	7.4	5.6	2.8	1.5	.76	1.15	1.82	2.45	3.10	3.80	4.60	5.58	6.89	9.01	11.04
Oct	3.76	2.91	6.21	1986	3	10.94	1986	.86	1988	7.9	5.7	2.4	1.1	.97	1.32	1.87	2.35	2.82	3.32	3.88	4.54	5.40	6.76	8.03
Nov	3.69	3.48	3.45	1958	17	10.73	1985	.02	1989	7.3	5.3	2.5	1.1	.51	.81	1.34	1.86	2.39	2.98	3.67	4.51	5.64	7.49	9.28
Dec	2.16	1.77	2.76	1968	27	6.22	1982	.20	1996	6.8	4.5	1.6	.4	.30	.47	.78	1.08	1.40	1.75	2.15	2.64	3.31	4.40	5.45
Ann	43.57	43.55	7.00	Jun 1943	3	19.07	Sep 1986	.02	Nov 1989	95.0	67.5	28.6	13.0	27.34	30.33	34.25	37.28	40.01	42.67	45.46	48.57	52.38	57.99	62.90

+ 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: 1918-2001

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

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Station: CLINTON, MO

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Climate Division: MO 3

NWS Call Sign:

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Lat: 38°24N

Lon: 93°43W

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	7.1	3.4	1	#	7.5	1997	9	30.6	1979	8	1997	9	3	1997	3.0	2.2	.8	.2	.0	2.6	1.4	.9	.0
Feb	3.8	2.4	#	#	8.0	1980	8	14.0	1980	13	1980	12	4	1980	1.9	1.3	.6	.2	.0	1.8	1.2	.6	.2
Mar	1.9	.3	#	0	6.0	1975	10	8.1	1978	6+	2000	11	5	1978	.9	.6	.3	.1	.0	.8	.4	.1	.0
Apr	.1	.0	#	0	.5	1975	3	.5+	1994	1	1994	6	#+	1996	.1	.0	.0	.0	.0	.1	.0	.0	.0
May	.0	.0	#	0	.0	0	0	.0	0	#	1996	10	#	1996	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jun	.0	.0	#	0	.0	0	0	.0	0	#	1996	16	#	1996	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	#	0	.0	0	0	.0	0	#	1996	22	#	1996	.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	#	1980	28	#	1980	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	1.4	.0	#	0	9.0	1972	19	10.0	1975	8	1975	26	#+	2000	.5	.4	.1	.1	.0	.4	.2	@	.0
Dec	2.2	1.0	#	#	10.0	1973	31	17.0	1973	11	1987	15	3	2000	1.6	.9	.3	.1	@	1.4	1.1	.6	.0
Ann	16.5	7.1	N/A	N/A	10.0	Dec 1973	31	30.6	Jan 1979	13	Feb 1980	12	5	Mar 1978	8.0	5.4	2.1	.7	@	7.1	4.3	2.2	.2

+ 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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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	5/12	5/07	5/04	5/01	4/28	4/26	4/23	4/19	4/15
32	5/02	4/27	4/24	4/21	4/18	4/15	4/12	4/08	4/03
28	4/20	4/14	4/11	4/07	4/04	4/01	3/29	3/25	3/20
24	4/11	4/06	4/02	3/29	3/26	3/23	3/19	3/15	3/09
20	4/02	3/26	3/21	3/17	3/13	3/09	3/05	2/27	2/21
16	3/24	3/16	3/10	3/04	2/28	2/23	2/18	2/12	2/03
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	9/23	9/27	9/30	10/02	10/05	10/07	10/10	10/13	10/17
32	10/01	10/07	10/11	10/14	10/17	10/21	10/24	10/28	11/03
28	10/13	10/18	10/22	10/25	10/28	11/01	11/04	11/08	11/13
24	10/23	10/30	11/03	11/07	11/11	11/15	11/19	11/24	12/01
20	11/03	11/09	11/13	11/16	11/20	11/23	11/27	12/01	12/07
16	11/11	11/17	11/21	11/25	11/28	12/02	12/05	12/10	12/15
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	178	171	167	163	159	155	151	146	140
32	204	196	191	186	182	178	173	167	160
28	230	222	216	211	207	202	197	191	183
24	258	248	241	235	230	224	218	211	201
20	280	270	263	257	251	245	239	232	222
16	304	294	286	279	273	267	260	252	242

* 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	Ann
65	1174	903	673	352	148	10	0	7	65	287	650	1025	5294
60	1019	767	520	224	77	2	0	1	22	170	503	870	4175
57	926	688	435	159	47	0	0	0	10	114	420	783	3582
55	865	636	378	122	32	0	0	0	5	84	365	726	3213
50	720	509	252	53	11	0	0	0	0	33	243	583	2404
32	270	169	25	0	0	0	0	0	0	0	23	193	680

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	119	190	375	647	974	1230	1434	1379	1070	755	362	191	8726
55	1	13	15	79	293	540	721	666	385	126	15	11	2865
57	0	9	10	56	246	480	659	604	330	94	9	6	2503
60	0	4	3	31	183	392	566	512	252	56	2	0	2001
65	0	0	0	9	100	250	411	363	145	18	0	0	1296
70	0	0	0	2	43	129	263	229	69	4	0	0	739

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	20	76	214	441	748	1004	1199	1150	848	527	199	48	20	96	310	751	1499	2503	3702	4852	5700	6227	6426	6474
45	6	34	131	307	593	854	1044	995	698	383	119	23	6	40	171	478	1071	1925	2969	3964	4662	5045	5164	5187
50	1	15	70	194	441	704	889	840	551	252	61	8	1	16	86	280	721	1425	2314	3154	3705	3957	4018	4026
55	0	3	34	110	299	554	734	685	407	151	26	1	0	3	37	147	446	1000	1734	2419	2826	2977	3003	3004
60	0	0	7	53	176	406	579	530	279	74	6	0	0	0	7	60	236	642	1221	1751	2030	2104	2110	2110
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	24	63	151	281	475	680	809	763	554	345	129	39	24	87	238	519	994	1674	2483	3246	3800	4145	4274	4313

(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.
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 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">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. 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