

Climatology of the United States

No. 20

1971-2000

Station: SUMMERSVILLE, MO

COOP ID: 238184

Climate Division: MO 5

NWS Call Sign:

Elevation: 1,180 Feet Lat: 37° 11N

Lon: 91° 39W

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	41.9	19.7	30.8	75	1986	21	41.8	1990	-19	1985	20	16.6	1977	1061	0	.0	.0	9.8	7.1	25.9	1.7
Feb	47.9	23.9	35.9	80	1972	29	44.6	1976	-11	1981	11	22.7	1978	815	0	.0	.0	14.1	4.2	20.1	.8
Mar	58.1	31.8	45.0	88	1967	13	50.3	1973	-2	1978	4	38.0	1996	622	0	.0	.0	24.2	.5	13.7	.1
Apr	67.5	41.1	54.3	90	1987	26	60.5	1981	21+	1989	11	47.6	1983	329	7	.0	@	28.6	.0	3.9	.0
May	75.4	51.0	63.2	94	2000	23	69.0	1987	28	1966	10	57.9	1981	134	78	.0	.1	31.0	.0	.2	.0
Jun	83.2	59.8	71.5	100	1988	26	75.7	1987	40	1972	1	66.7	1974	12	207	@	4.2	30.0	.0	.0	.0
Jul	88.8	64.8	76.8	107	1980	19	83.8	1980	44	1972	6	73.7	1972	0	365	.9	15.0	31.0	.0	.0	.0
Aug	87.8	62.8	75.3	104	1969	9	81.9	1980	39	1986	29	68.5	1992	8	327	.9	13.0	31.0	.0	.0	.0
Sep	79.9	54.8	67.4	99+	1995	1	72.7	1998	30+	1995	24	61.8	1974	64	134	.0	3.6	30.0	.0	.1	.0
Oct	70.2	43.6	56.9	94	1963	7	62.7	1971	19+	2000	9	51.1	1976	265	15	.0	.1	30.4	.0	3.2	.0
Nov	56.2	33.6	44.9	83	1980	7	52.1	1999	4	1976	30	37.9	1976	604	0	.0	.0	20.9	.6	12.5	.0
Dec	45.3	24.6	35.0	75	1970	3	43.0	1984	-10+	1983	30	21.6	1983	931	0	.0	.0	11.3	3.9	23.3	.8
Ann	66.9	42.6	54.8	107	Jul 1980	19	83.8	Jul 1980	-19	Jan 1985	20	16.6	Jan 1977	4845	1133	1.8	36.0	292.3	16.3	102.9	3.4

+ 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: 1948-2001

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

098-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: SUMMERSVILLE, MO

COOP ID: 238184

Climate Division: MO 5

NWS Call Sign:

Elevation: 1,180 Feet Lat: 37°11N

Lon: 91°39W

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	2.10	1.99	4.30	1966	1	5.51	1975	.07	1986	6.2	4.7	1.4	.5	.23	.39	.69	.98	1.29	1.65	2.06	2.57	3.26	4.41	5.53
Feb	2.29	1.82	4.99	1966	9	6.48	1985	.21	1992	4.5	3.7	1.4	.6	.39	.58	.92	1.23	1.56	1.91	2.31	2.79	3.45	4.50	5.51
Mar	4.18	3.75	3.95	1977	28	9.22	1973	.77	1972	7.5	6.7	2.8	1.2	1.03	1.43	2.03	2.57	3.11	3.67	4.30	5.05	6.03	7.58	9.03
Apr	4.28	4.33	3.03	1972	16	9.48	1994	.30	2000	7.7	6.6	3.1	1.1	.81	1.19	1.82	2.40	2.99	3.62	4.34	5.21	6.37	8.22	9.99
May	4.95	4.18	4.87	1963	17	12.08	1990	.32	1977	7.9	7.2	3.5	1.5	1.65	2.12	2.80	3.39	3.95	4.53	5.16	5.90	6.85	8.32	9.68
Jun	4.22	3.82	3.86	1982	10	10.01	1985	1.20	1984	7.2	6.3	3.3	1.5	1.49	1.89	2.46	2.95	3.42	3.89	4.41	5.02	5.79	6.99	8.09
Jul	3.70	3.65	4.25	1979	26	9.63	1979	.67	1985	5.3	4.7	2.6	1.2	.83	1.17	1.71	2.20	2.69	3.20	3.79	4.49	5.40	6.86	8.24
Aug	3.40	2.93	5.00	1974	29	11.85	1974	.31	1983	4.7	4.2	2.4	1.2	.45	.73	1.22	1.69	2.19	2.73	3.37	4.15	5.21	6.95	8.62
Sep	3.91	3.35	4.85	1984	23	11.61	1993	.53	1981	5.9	5.5	3.0	1.1	.49	.80	1.35	1.89	2.47	3.11	3.85	4.77	6.02	8.07	10.05
Oct	3.44	2.91	4.90	1998	5	10.59	1984	.00	1992	5.7	5.0	2.5	1.0	.48	.93	1.51	1.99	2.48	2.98	3.55	4.23	5.12	6.53	7.86
Nov	3.91	3.74	3.39	1972	2	9.45	1983	.30	1976	6.3	5.6	3.0	1.3	.66	1.00	1.57	2.11	2.66	3.26	3.94	4.77	5.88	7.67	9.38
Dec	3.30	2.84	3.25	1982	3	11.31	1982	.84	1976	6.0	5.0	2.4	.9	.71	1.01	1.50	1.93	2.37	2.84	3.37	4.00	4.84	6.17	7.43
Ann	43.68	44.21	5.00	Aug 1974	29	12.08	May 1990	.00	Oct 1992	74.9	65.2	31.4	13.1	27.43	30.43	34.34	37.37	40.09	42.76	45.54	48.64	52.45	58.04	62.95

+ 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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Station: SUMMERSVILLE, MO

COOP ID: 238184

Climate Division: MO 5

NWS Call Sign:

Elevation: 1,180 Feet

Lat: 37° 11N

Lon: 91° 39W

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	6.5	3.3	1	#	6.3	1997	9	23.0	1985	14	1977	24	6	1977	2.2	1.8	.6	.3	.0	4.5	2.8	1.5	.1
Feb	3.6	2.0	1	#	12.0	1980	8	17.5	1980	16	1980	8	5	1978	1.4	1.0	.4	.2	.1	4.7	3.4	1.9	.1
Mar	1.9	.0	#	0	12.0	1999	13	15.0	1975	12	1999	13	1	1999	.4	.4	.3	.1	@	1.0	.6	.2	@
Apr	.1	.0	#	0	3.0	1980	14	3.0	1980	3	1980	14	#+	1995	.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	#	1993	30	#	1993	#	1993	30	#	1993	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.8	.0	#	0	6.0	1975	27	6.0+	1980	6	1975	27	#+	1997	.3	.3	.1	@	.0	.4	.1	@	.0
Dec	1.0	.0	#	0	6.0	1985	13	7.5	1973	8+	2000	14	4	2000	.6	.3	.2	.1	.0	.6	.3	.2	.0
Ann	13.9	5.3	N/A	N/A	12.0+	Mar 1999	13	23.0	Jan 1985	16	Feb 1980	8	6	Jan 1977	5.0	3.8	1.6	.7	.1	11.2	7.2	3.8	.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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Climate Division: MO 5

NWS Call Sign:

Elevation: 1,180 Feet

Lat: 37° 11N

Lon: 91° 39W

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	5/16	5/10	5/06	5/03	4/30	4/26	4/23	4/19	4/13
32	4/29	4/24	4/20	4/17	4/14	4/11	4/07	4/03	3/29
28	4/15	4/10	4/07	4/05	4/02	3/30	3/28	3/25	3/20
24	4/10	4/03	3/30	3/26	3/22	3/19	3/15	3/10	3/04
20	3/27	3/21	3/17	3/13	3/10	3/07	3/03	2/27	2/22
16	3/22	3/14	3/08	3/03	2/27	2/22	2/17	2/11	2/04
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	9/29	10/02	10/04	10/06	10/09	10/11	10/14	10/18
32	9/28	10/03	10/07	10/10	10/13	10/16	10/20	10/23	10/29
28	10/13	10/18	10/22	10/25	10/28	10/31	11/03	11/06	11/11
24	10/22	10/29	11/02	11/06	11/09	11/13	11/17	11/21	11/27
20	10/28	11/04	11/09	11/14	11/18	11/22	11/26	12/01	12/09
16	11/12	11/18	11/23	11/27	12/01	12/05	12/09	12/14	12/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	179	172	167	163	159	155	151	146	139
32	201	195	190	186	182	178	174	169	162
28	229	222	217	212	208	204	199	194	187
24	255	247	241	236	231	226	221	215	207
20	273	266	261	256	252	248	243	238	230
16	308	297	290	283	277	271	264	257	246

* 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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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	1061	815	622	329	134	12	0	8	64	265	604	931	4845
60	906	675	470	202	62	2	0	1	21	148	459	776	3722
57	814	599	385	139	34	0	0	0	9	95	376	687	3138
55	760	546	329	104	21	0	0	0	4	67	324	631	2786
50	614	419	209	41	5	0	0	0	0	23	209	488	2008
32	208	103	13	0	0	0	0	0	0	0	14	124	462

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	170	212	413	668	967	1185	1388	1343	1060	773	400	215	8794
55	9	11	17	82	275	495	675	630	374	127	20	10	2725
57	2	8	11	57	225	436	613	568	319	93	12	4	2348
60	0	0	3	29	160	347	520	475	241	53	5	0	1833
65	0	0	0	7	78	207	365	327	134	15	0	0	1133
70	0	0	0	1	27	96	219	196	61	3	0	0	603

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	56	114	266	496	759	978	1167	1122	853	562	233	75	56	170	436	932	1691	2669	3836	4958	5811	6373	6606	6681
45	25	61	166	355	604	828	1012	967	703	410	144	36	25	86	252	607	1211	2039	3051	4018	4721	5131	5275	5311
50	4	29	90	231	451	678	857	812	553	271	74	15	4	33	123	354	805	1483	2340	3152	3705	3976	4050	4065
55	0	8	43	135	306	528	702	657	410	165	28	0	0	8	51	186	492	1020	1722	2379	2789	2954	2982	2982
60	0	1	14	64	176	378	547	502	275	78	6	0	0	1	15	79	255	633	1180	1682	1957	2035	2041	2041
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	38	79	175	314	485	659	795	756	558	355	142	49	38	117	292	606	1091	1750	2545	3301	3859	4214	4356	4405

(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