

Climatography of the United States

No. 20

1971-2000

Station: SALEM, MO

COOP ID: 237506

Climate Division: MO 5

NWS Call Sign:

Elevation: 1,200 Feet Lat: 37° 38N

Lon: 91° 32W

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	42.6	22.7	32.7	79	1943	24	42.5	1990	-22	1918	12	19.0	1977	1002	0	.0	.0	9.2	7.2	25.5	2.0
Feb	48.5	27.7	38.1	85	1962	13	47.4	1976	-23	1929	10	26.6	1978	753	0	.0	.0	13.3	4.2	19.9	.9
Mar	59.2	35.6	47.4	91	1929	24	52.7	1973	-8+	1960	5	41.1	1984	547	1	.0	.0	23.5	.6	13.8	.1
Apr	69.5	44.8	57.2	93	1989	27	64.6	1981	13	1920	5	50.2	1983	256	20	.0	.3	28.6	.0	3.9	.0
May	77.1	53.0	65.1	95	1926	29	71.8	1991	29+	1976	4	60.1	1976	107	109	.0	.6	31.0	.0	.3	.0
Jun	84.5	61.2	72.9	105	1936	28	75.6	1987	38	1972	1	67.9	1974	6	241	.1	4.9	30.0	.0	.0	.0
Jul	89.6	66.0	77.8	111	1934	24	85.6	1980	44+	1972	6	74.2	1971	0	396	1.2	15.9	31.0	.0	.0	.0
Aug	88.6	64.3	76.5	112	1934	8	83.1	1983	39	1950	21	71.4	1992	6	361	1.2	12.6	31.0	.0	.0	.0
Sep	81.1	56.7	68.9	104+	1947	8	75.2	1998	27	1989	24	62.6	1974	47	164	.1	4.1	30.0	.0	.1	.0
Oct	71.3	46.1	58.7	93+	1963	10	64.0	1971	16	1925	31	52.5	1976	222	27	.0	.2	30.5	.0	3.6	.0
Nov	57.3	36.7	47.0	86	1950	1	57.0	1999	-2	1950	25	36.1	1996	545	5	.0	.0	20.9	.6	12.0	.0
Dec	45.9	26.7	36.3	79	1928	28	44.5	1984	-21	1989	23	23.3	1983	890	0	.0	.0	11.8	4.4	22.9	1.0
Ann	67.9	45.1	56.6	112	Aug 1934	8	85.6	Jul 1980	-23	Feb 1929	10	19.0	Jan 1977	4381	1324	2.6	38.6	290.8	17.0	102.0	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/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

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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: SALEM, MO

COOP ID: 237506

Climate Division: MO 5

NWS Call Sign:

Elevation: 1,200 Feet Lat: 37°38N

Lon: 91°32W

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	2.19	2.05	3.15	1993	4	5.64	1982	.04	1986	8.8	4.6	1.3	.5	.30	.48	.79	1.09	1.41	1.76	2.17	2.67	3.34	4.45	5.51
Feb	2.37	2.25	3.30	1946	13	5.54	1990	.21	1996	7.9	4.4	1.8	.5	.59	.82	1.16	1.47	1.77	2.09	2.44	2.86	3.41	4.28	5.09
Mar	4.02	3.63	3.35	1995	7	8.46	1973	1.01	1986	9.5	6.8	2.6	.9	1.42	1.80	2.35	2.81	3.25	3.71	4.20	4.78	5.51	6.65	7.69
Apr	4.39	4.19	3.53	1983	29	12.94	1994	.50	2000	11.0	7.4	2.9	1.2	.92	1.33	1.97	2.56	3.15	3.78	4.49	5.34	6.47	8.27	9.97
May	4.55	4.01	3.69	1927	24	11.56	1990	1.57	2000	11.0	7.0	3.2	1.3	1.52	1.96	2.59	3.12	3.64	4.17	4.75	5.43	6.30	7.65	8.89
Jun	3.64	2.70	4.17	1985	17	11.95	1985	.66	1988	10.0	6.4	2.6	.9	.83	1.17	1.70	2.18	2.66	3.17	3.73	4.41	5.31	6.73	8.06
Jul	3.56	3.00	4.40	1979	28	11.48	1998	.77	1991	8.3	5.4	2.4	.9	.75	1.07	1.59	2.07	2.55	3.06	3.64	4.33	5.24	6.70	8.09
Aug	4.14	3.74	5.79	1939	12	12.92	1982	.74	1995	8.1	5.5	3.0	1.3	.96	1.34	1.95	2.49	3.03	3.61	4.26	5.03	6.04	7.65	9.16
Sep	3.80	3.41	4.34	1949	13	11.42	1993	.53	1976	8.3	5.6	2.8	1.1	.58	.90	1.45	1.97	2.52	3.11	3.80	4.64	5.76	7.58	9.34
Oct	3.48	3.10	4.10	1986	1	7.99	1991	.00	1992	7.9	5.0	2.4	1.0	.81	1.31	1.88	2.34	2.76	3.20	3.68	4.23	4.94	6.05	7.06
Nov	4.36	3.86	3.92	1993	14	11.46	1985	.73	1976	10.2	6.2	3.1	1.3	1.01	1.41	2.05	2.62	3.19	3.80	4.48	5.29	6.35	8.05	9.64
Dec	3.40	2.99	5.70	1942	27	10.80	1987	.71	1976	8.9	5.3	2.3	.7	.66	.96	1.46	1.92	2.39	2.89	3.46	4.14	5.05	6.52	7.91
Ann	43.90	44.66	5.79	Aug 1939	12	12.94	Apr 1994	.00	Oct 1992	109.9	69.6	30.4	11.6	28.57	31.44	35.17	38.03	40.60	43.11	45.72	48.62	52.17	57.36	61.90

+ 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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No. 20 1971-2000

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

Station: SALEM, MO

COOP ID: 237506

Climate Division: MO 5

NWS Call Sign:

Elevation: 1,200 Feet

Lat: 37°38N

Lon: 91°32W

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	4.9	.5	1	0	18.0	1982	31	19.0	1979	18	1982	31	6	1979	1.2	1.2	.4	.3	.1	.9	.2	.1	.1
Feb	2.4	.0	#	0	6.0	1980	8	11.0	1980	8	1980	8	7	1980	.6	.6	.2	.1	.0	.1	.0	.0	.0
Mar	.1	.0	#	0	.5	1983	9	.5	1983	12	1999	14	1	1999	.1	.0	.0	.0	.0	.0	.0	.0	.0
Apr	#	.0	0	0	#	1994	6	#	1994	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	#	1993	30	#	1993	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.3	.0	#	0	4.0	1972	19	4.0	1972	3	1997	14	#+	1997	.1	.1	.1	.0	.0	@	.0	.0	.0
Dec	.5	.0	#	0	3.0	1978	31	3.0	1978	5	1975	26	1	1995	.2	.1	.1	.0	.0	.1	.0	.0	.0
Ann	8.2	.5	N/A	N/A	18.0	Jan 1982	31	19.0	Jan 1979	18	Jan 1982	31	7	Feb 1980	2.2	2.0	.8	.4	.1	1.1	.2	.1	.1

+ 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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No. 20
1971-2000**

Station: SALEM, MO

COOP ID: 237506

Climate Division: MO 5

NWS Call Sign:

Elevation: 1,200 Feet

Lat: 37°38N

Lon: 91°32W

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	5/18	5/13	5/09	5/06	5/03	4/30	4/27	4/24	4/18
32	5/05	4/29	4/25	4/21	4/18	4/15	4/11	4/07	4/01
28	4/16	4/12	4/09	4/06	4/04	4/02	3/30	3/27	3/23
24	4/15	4/09	4/04	3/31	3/27	3/23	3/19	3/15	3/08
20	3/31	3/25	3/21	3/17	3/13	3/10	3/06	3/01	2/23
16	3/19	3/11	3/05	3/01	2/24	2/20	2/15	2/10	2/02
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	9/22	9/26	9/29	10/01	10/04	10/06	10/08	10/11	10/15
32	9/28	10/03	10/06	10/09	10/12	10/14	10/17	10/21	10/25
28	10/10	10/16	10/21	10/25	10/28	11/01	11/05	11/09	11/15
24	10/23	10/30	11/03	11/08	11/11	11/15	11/19	11/24	12/01
20	10/30	11/05	11/10	11/14	11/17	11/21	11/25	11/30	12/06
16	11/08	11/15	11/20	11/24	11/29	12/03	12/07	12/12	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	170	164	160	156	153	149	145	141	135
32	198	190	185	180	176	172	167	162	154
28	229	221	216	211	207	202	197	192	184
24	251	244	238	233	229	224	219	214	206
20	272	264	258	253	248	244	239	233	225
16	310	299	290	283	277	270	263	255	243

* 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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Climate Division: MO 5

NWS Call Sign:

Elevation: 1,200 Feet Lat: 37°38N Lon: 91°32W

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	1002	753	547	256	107	6	0	6	47	222	545	890	4381
60	847	616	403	146	46	1	0	0	14	118	408	739	3338
57	756	538	322	96	24	0	0	0	5	74	331	653	2799
55	701	486	272	68	15	0	0	0	2	51	285	595	2475
50	556	363	169	23	4	0	0	0	0	17	186	457	1775
32	166	73	9	0	0	0	0	0	0	0	15	114	377

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	187	244	486	754	1025	1225	1419	1378	1107	828	465	247	9365
55	9	13	36	132	327	535	706	665	419	167	44	15	3068
57	2	9	24	100	274	475	644	603	362	127	31	11	2662
60	0	3	12	60	203	385	551	510	281	78	17	4	2104
65	0	0	1	20	109	241	396	361	164	27	5	0	1324
70	0	0	0	4	45	118	249	225	81	5	0	0	727

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	52	116	277	511	777	989	1183	1133	864	581	257	78	52	168	445	956	1733	2722	3905	5038	5902	6483	6740	6818
45	25	62	176	373	622	839	1028	978	714	433	164	38	25	87	263	636	1258	2097	3125	4103	4817	5250	5414	5452
50	5	29	100	248	470	689	873	823	564	295	92	17	5	34	134	382	852	1541	2414	3237	3801	4096	4188	4205
55	0	9	50	148	325	539	718	668	419	185	44	3	0	9	59	207	532	1071	1789	2457	2876	3061	3105	3108
60	0	1	23	73	198	391	563	513	288	93	15	0	0	1	24	97	295	686	1249	1762	2050	2143	2158	2158
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	36	80	179	323	507	674	801	769	567	368	158	51	36	116	295	618	1125	1799	2600	3369	3936	4304	4462	4513

(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/normal/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