

**Climatography  
of the United States  
No. 20**

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

**Station: LEES SUMMIT REED WLR, MO**

**1971-2000**

**COOP ID: 234850**

**Climate Division: MO 1**

**NWS Call Sign:**

**Elevation: 1,000 Feet Lat: 38° 53N**

**Lon: 94° 20W**

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	34.2	14.9	24.6	71+	1989	31	34.7	1990	-19	1982	10	10.4	1979	1254	0	.0	.0	6.6	10.2	28.4	3.4
Feb	41.5	21.1	31.3	80	1972	29	41.5	1976	-15+	1982	6	18.2	1979	944	0	.0	.0	11.2	6.2	22.0	1.6
Mar	53.2	31.8	42.5	87	1972	11	47.0	1986	-5	1978	4	32.6	1993	698	0	.0	.0	21.6	1.0	15.8	.2
Apr	63.4	42.3	52.9	91+	1989	26	60.5	1981	11	1975	3	45.4	1983	376	9	.0	.2	28.1	.0	4.4	.0
May	73.5	52.5	63.0	91+	1998	31	69.9	1998	28	1976	3	57.6	1990	138	76	.0	.4	31.0	.0	.2	.0
Jun	82.2	61.4	71.8	103	1988	24	75.5	1988	35	1993	5	66.6	1992	14	218	.2	6.8	30.0	.0	.0	.0
Jul	87.2	66.0	76.6	108	1980	20	85.1	1980	48	1975	13	73.1	1971	1	361	1.8	16.4	31.0	.0	.0	.0
Aug	85.6	63.7	74.7	107	1984	29	82.8	1983	43	1992	28	65.3	1992	20	320	1.4	13.4	31.0	.0	.0	.0
Sep	77.9	55.2	66.6	105	2000	3	73.1	1998	29	1993	27	58.0	1993	94	140	.2	4.9	30.0	.0	.4	.0
Oct	67.9	44.2	56.1	95	1963	5	60.9	1973	7	1993	31	50.5	1992	290	13	.0	.2	29.7	@	3.8	.0
Nov	51.4	31.2	41.3	82+	1980	8	52.4	1999	-3	1991	8	31.7	1992	711	0	.0	.0	18.4	1.3	15.1	.1
Dec	39.3	20.8	30.1	73	1966	7	36.4	1999	-25+	1989	23	14.6	1983	1083	0	.0	.0	8.3	6.6	26.4	1.7
Ann	63.1	42.1	52.6	108	Jul 1980	20	85.1	Jul 1980	-25+	Dec 1989	23	10.4	Jan 1979	5623	1137	3.6	42.3	276.9	25.3	116.5	7.0

+ 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](http://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: 1962-2001

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

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**Station: LEES SUMMIT REED WLR, MO**

**COOP ID: 234850**

**Climate Division: MO 1**

**NWS Call Sign:**

**Elevation: 1,000 Feet Lat: 38°53N**

**Lon: 94°20W**

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	1.30	1.33	2.09	1971	3	3.45	1982	.03	1986	5.9	3.2	.6	.2	.15	.25	.43	.61	.80	1.02	1.27	1.59	2.02	2.72	3.41
Feb	1.51	1.24	2.40	1988	10	3.98	1985	.06	1991	5.6	3.4	.7	.2	.24	.36	.58	.79	1.01	1.24	1.51	1.84	2.28	3.00	3.69
Mar	2.81	2.22	1.88	1973	31	11.12	1973	.72	1971	8.9	5.9	2.1	.6	.81	1.07	1.48	1.83	2.17	2.52	2.92	3.38	3.98	4.92	5.80
Apr	3.78	3.23	3.10	1994	28	10.17	1994	.34	2000	10.5	6.9	2.4	1.1	.89	1.24	1.79	2.29	2.78	3.30	3.89	4.58	5.50	6.95	8.32
May	5.06	4.74	4.84	1990	15	12.38	1995	1.38	1992	12.5	7.9	3.5	1.3	1.58	2.06	2.77	3.38	3.98	4.59	5.27	6.06	7.08	8.68	10.15
Jun	5.47	5.29	5.30	1984	9	10.53	1981	1.42	1991	9.9	7.0	3.8	1.6	1.67	2.19	2.96	3.63	4.28	4.95	5.68	6.55	7.67	9.42	11.04
Jul	4.19	4.01	3.96	1968	25	13.20	1993	.55	1975	9.1	6.5	2.9	1.4	.96	1.35	1.97	2.52	3.06	3.65	4.30	5.08	6.10	7.73	9.26
Aug	3.82	3.13	8.02	1982	13	16.72	1982	.42+	1973	8.8	6.0	2.6	1.0	.37	.65	1.17	1.70	2.28	2.93	3.70	4.66	5.97	8.16	10.30
Sep	4.89	3.68	7.50	1998	14	16.12	1986	.58	1990	8.3	5.9	3.0	1.5	.70	1.10	1.81	2.48	3.19	3.97	4.87	5.98	7.47	9.89	12.23
Oct	3.54	3.43	5.00	1998	5	7.34	1998	.22	1988	8.5	5.7	2.7	1.0	.69	1.01	1.53	2.00	2.49	3.01	3.60	4.31	5.25	6.76	8.19
Nov	2.95	2.71	3.00	1964	15	8.64	1992	.00	1989	7.9	5.3	2.1	.9	.55	.96	1.45	1.86	2.25	2.65	3.09	3.62	4.29	5.36	6.35
Dec	1.86	1.68	2.93	1971	15	5.12	1971	.01	1976	6.7	3.5	1.2	.3	.13	.24	.48	.73	1.02	1.35	1.75	2.25	2.96	4.15	5.33
Ann	41.18	39.09	8.02	Aug 1982	13	16.72	Aug 1982	.00	Nov 1989	102.6	67.2	27.6	11.1	27.80	30.34	33.62	36.13	38.37	40.55	42.80	45.31	48.36	52.82	56.69

+ 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: 1962-2001

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

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COOP ID: 234850

Climate Division: MO 1

NWS Call Sign:

Elevation: 1,000 Feet

Lat: 38°53N

Lon: 94°20W

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	5.4	5.8	1	#	6.8	1993	10	17.5	1979	13	1979	30	10	1979	2.3	1.9	.9	.3	.0	9.8	7.1	5.2	.9
Feb	5.6	4.9	1	#	10.0	1978	13	15.0	1978	13	1993	26	8	1979	2.0	1.7	.6	.4	@	7.2	4.9	3.1	.8
Mar	2.4	.2	#	0	6.0	1990	24	10.0	1978	9	1978	4	3	1978	.8	.6	.4	.1	.0	1.1	.7	.4	.0
Apr	.3	.0	#	0	4.0	1979	4	4.0	1979	2	1973	9	#+	1983	.1	.1	@	.0	.0	.1	.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	.3	1980	28	.3	1980	0	0	0	0	0	@	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.8	.0	#	0	6.0	1975	26	7.0	1975	7	1975	27	1	1975	.5	.4	.1	@	.0	.2	.1	.1	.0
Dec	3.1	1.5	#	#	7.0	1973	30	11.5	1987	9	1987	15	3	1983	1.4	.9	.2	.1	.0	2.8	1.1	.8	.0
Ann	17.6	12.4	N/A	N/A	10.0	Feb 1978	13	17.5	Jan 1979	13+	Feb 1993	26	10	Jan 1979	7.1	5.6	2.2	.9	@	21.2	13.9	9.6	1.7

+ 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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**Climate Division: MO 1**

**NWS Call Sign:**

**Elevation: 1,000 Feet**

**Lat: 38° 53N**

**Lon: 94° 20W**

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	5/02	4/29	4/25	4/22	4/18	4/12
32	5/02	4/26	4/22	4/18	4/14	4/11	4/07	4/03	3/28
28	4/20	4/15	4/12	4/09	4/06	4/03	3/31	3/28	3/23
24	4/13	4/07	4/02	3/29	3/26	3/22	3/18	3/14	3/08
20	4/06	3/29	3/24	3/19	3/14	3/10	3/05	2/28	2/20
16	3/29	3/20	3/14	3/09	3/04	2/27	2/21	2/15	2/06
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	9/20	9/25	9/29	10/03	10/06	10/09	10/12	10/16	10/22
32	9/24	9/30	10/05	10/09	10/13	10/17	10/21	10/26	11/02
28	10/11	10/16	10/21	10/24	10/27	10/31	11/03	11/07	11/13
24	10/21	10/27	11/01	11/05	11/09	11/12	11/17	11/21	11/28
20	10/31	11/07	11/12	11/16	11/20	11/24	11/28	12/03	12/10
16	11/09	11/15	11/20	11/23	11/27	11/30	12/04	12/08	12/14
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	187	178	171	165	159	154	148	141	131
32	211	201	193	187	181	175	169	162	151
28	227	219	213	208	203	199	194	188	179
24	258	248	240	233	227	221	214	207	196
20	284	272	264	257	250	243	236	227	216
16	303	291	282	274	267	260	253	244	232

\* 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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**NWS Call Sign:**

**Elevation: 1,000 Feet    Lat: 38°53N    Lon: 94°20W**

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	1254	944	698	376	138	14	1	20	94	290	711	1083	5623
60	1099	810	545	248	65	2	0	6	39	170	567	928	4479
57	1006	731	460	183	37	0	0	2	21	113	484	836	3873
55	945	679	403	145	23	0	0	1	13	83	430	777	3499
50	800	551	275	72	6	0	0	0	2	33	307	633	2679
32	334	203	32	0	0	0	0	0	0	0	49	214	832

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	104	183	357	623	961	1194	1383	1322	1036	746	327	153	8389
55	1	15	15	78	271	504	670	610	359	115	19	4	2661
57	0	11	10	56	223	444	608	549	307	84	13	1	2306
60	0	5	3	31	158	356	515	460	236	48	6	0	1818
65	0	0	0	9	76	218	361	320	140	13	0	0	1137
70	0	0	0	2	27	108	219	200	72	2	0	0	630

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	27	81	228	468	762	998	1176	1128	846	540	189	43	27	108	336	804	1566	2564	3740	4868	5714	6254	6443	6486
45	7	41	140	331	607	848	1021	973	697	395	105	16	7	48	188	519	1126	1974	2995	3968	4665	5060	5165	5181
50	0	18	76	213	455	698	866	818	550	266	53	5	0	18	94	307	762	1460	2326	3144	3694	3960	4013	4018
55	0	4	34	120	309	548	711	663	405	153	19	1	0	4	38	158	467	1015	1726	2389	2794	2947	2966	2967
60	0	1	9	59	179	399	556	509	280	74	4	0	0	1	10	69	248	647	1203	1712	1992	2066	2070	2070
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	24	61	155	290	483	674	796	756	552	341	116	35	24	85	240	530	1013	1687	2483	3239	3791	4132	4248	4283

(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.  
Complete documentation for the 1971-2000 Normals is available on the internet from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://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"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
|---|---|

## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)