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: MOSCOW, TN **COOP ID: 406274**

Climate Division: TN 4 **NWS Call Sign:** **Elevation: 335 Feet** **Lat: 35˚04N** **Lon: 89˚25W**

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	49.4	29.6	39.5	80	1952	1	48.3	1990	-9	1985	21	26.9	1979	793	1	.0	.0	15.3	3.0	19.7	.3
Feb	55.5	33.4	44.5	82	1986	20	52.3	1976	-14	1951	2	31.1	1978	579	3	.0	.0	18.6	1.6	14.2	.0
Mar	64.6	41.3	53.0	86+	1963	31	58.6	1973	10	1978	5	46.1	1978	380	7	.0	.0	27.7	.1	7.4	.0
Apr	73.4	48.5	61.0	94	1987	21	67.7	1981	19	1966	6	55.7	1997	157	36	.0	.2	29.8	.0	1.6	.0
May	79.8	57.8	68.8	97	1951	31	74.0	1987	33	1976	4	61.3	1976	47	165	.0	1.1	31.0	.0	.0	.0
Jun	86.8	65.4	76.1	105	1952	28	80.7	1998	44+	1966	1	71.2	1974	2	334	.1	9.8	30.0	.0	.0	.0
Jul	90.2	69.0	79.6	110	1952	28	84.3	1986	50	1971	31	75.0	1976	0	452	.4	18.2	31.0	.0	.0	.0
Aug	89.4	66.9	78.2	105+	1954	17	84.1	1983	48	1986	29	73.4	1976	2	409	.6	16.1	31.0	.0	.0	.0
Sep	83.9	59.7	71.8	105	1954	5	77.6	1998	33	1949	30	63.9	1974	30	234	@	6.8	30.0	.0	.0	.0
Oct	74.1	47.4	60.8	95+	1951	5	67.8	1984	21+	1952	22	53.4	1976	192	61	.0	.2	30.9	.0	2.2	.0
Nov	63.2	40.3	51.8	85+	1950	1	58.4	1985	5	1950	25	40.8	1976	404	6	.0	.0	25.9	.1	9.1	.0
Dec	52.9	32.9	42.9	80+	1951	31	53.8	1984	-12	1963	24	33.4	1989	686	0	.0	.0	18.9	1.6	16.5	.1
Ann	71.9	49.4	60.7	110	Jul 1952	28	84.3	Jul 1986	-14	Feb 1951	2	26.9	Jan 1979	3272	1708	1.1	52.4	320.1	6.4	70.7	.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/normals/usnormals.html

(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

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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	4.07	3.89	4.00	1965	9	9.10	1974	.65	1986
Feb	4.18	3.95	4.00	1954	16	9.20	1989	.55	1978
Mar	5.54	4.85	4.00	1980	17	12.77	1975	2.02	1974
Apr	5.21	4.47	4.25	1973	20	14.57	1991	2.07	1996
May	5.18	5.09	3.90	1958	9	10.90	1991	1.51	1988
Jun	4.23	3.96	4.05	1981	6	9.61	1989	.27	1988
Jul	4.15	3.19	6.53	1989	19	11.65	1989	.44	1978
Aug	3.22	2.39	4.40	1995	5	8.22	1998	.40	1983
Sep	3.66	3.21	5.10	1964	28	8.69	1979	.50	1995
Oct	3.27	3.00	4.20	2001	11	9.50	1984	.07	2000
Nov	5.21	5.00	4.00+	1948	5	10.07	1986	.33	1998
Dec	5.21	3.93	3.75	1978	3	14.14	1982	1.13	1980
Ann	53.13	53.12	6.53	Jul 1989	19	14.57	Apr 1991	.07	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.6	6.3	3.2	1.3
Feb	7.3	5.6	2.9	1.3
Mar	8.9	7.1	3.6	1.7
Apr	7.4	6.1	3.3	1.7
May	8.1	6.7	3.4	1.9
Jun	6.7	5.7	2.9	1.6
Jul	6.6	5.1	2.3	1.3
Aug	5.8	4.6	2.0	.9
Sep	6.2	4.9	2.1	1.2
Oct	5.7	4.5	2.4	1.2
Nov	8.3	6.0	3.8	2.1
Dec	8.4	6.1	3.5	2.0
Ann	88.0	68.7	35.4	18.2

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	1.26	1.65	2.22	2.72	3.19	3.69	4.23	4.87	5.69	6.98	8.17
Feb	1.16	1.55	2.16	2.68	3.19	3.73	4.33	5.03	5.95	7.38	8.73
Mar	2.19	2.70	3.43	4.03	4.60	5.17	5.80	6.52	7.44	8.84	10.13
Apr	1.52	2.02	2.76	3.41	4.03	4.69	5.41	6.26	7.36	9.08	10.68
May	2.06	2.54	3.22	3.78	4.31	4.84	5.42	6.09	6.94	8.24	9.43
Jun	.89	1.28	1.90	2.47	3.03	3.64	4.32	5.14	6.23	7.95	9.59
Jul	.81	1.18	1.79	2.35	2.92	3.53	4.22	5.06	6.16	7.93	9.62
Aug	.55	.83	1.30	1.74	2.20	2.69	3.25	3.93	4.84	6.32	7.72
Sep	.72	1.05	1.59	2.08	2.58	3.12	3.73	4.46	5.43	6.99	8.46
Oct	.56	.84	1.32	1.77	2.23	2.73	3.30	3.99	4.91	6.40	7.82
Nov	1.12	1.60	2.37	3.06	3.76	4.50	5.33	6.33	7.65	9.76	11.75
Dec	1.15	1.63	2.39	3.08	3.77	4.51	5.33	6.32	7.63	9.70	11.66
Ann	39.40	42.10	45.54	48.13	50.42	52.63	54.90	57.40	60.42	64.78	68.54

+ 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

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	.4	.0	#	0
Feb	.2	.0	#	0
Mar	.1	.0	#	0
Apr	.0	.0	0	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	#	.0	0	0
Nov	.1	.0	#	0
Dec	.1	.0	#	0
Ann	.9	.0	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	3.0	1997	10	3.0	1997	8	1988	8	1	1988
Feb	1.0	1986	10	1.0+	1987	6	1988	12	1	1988
Mar	.8	1987	30	.8	1987	2	1995	3	#+	1995
Apr	.0	0	0	.0	0	0	0	0	0	0
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	#	1993	30	#+	1993	0	0	0	0	0
Nov	2.0	1976	14	2.0	1976	#	1995	15	#	1995
Dec	.5	1982	11	.5	1982	1	1989	17	#+	2000
Ann	3.0	Jan 1997	10	3.0	Jan 1997	8	Jan 1988	8	1+	Feb 1988

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.2	.1	.1	.0	.0
Feb	.2	.1	.0	.0	.0
Mar	.1	.0	.0	.0	.0
Apr	.0	.0	.0	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.1	.1	.0	.0	.0
Dec	.1	.0	.0	.0	.0
Ann	.7	.3	.1	.0	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.2	.1	.0	.0
Feb	.1	.0	.0	.0
Mar	@	.0	.0	.0
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	.0	.0	.0	.0
Dec	.0	.0	.0	.0
Ann	.3	.1	.0	.0

+ Also occurred on an earlier date(s) #Denotes trace amounts

(1) Derived from Snow Climatology and 1971-2000 daily data

@ Denotes mean number of days greater than 0 but less than .05

(2) Derived from 1971-2000 daily data

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

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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	4/26	4/21	4/18	4/15	4/13	4/11	4/08	4/05	3/31
32	4/18	4/14	4/10	4/08	4/05	4/03	3/31	3/28	3/23
28	4/05	3/30	3/26	3/22	3/19	3/16	3/12	3/08	3/02
24	3/21	3/13	3/07	3/02	2/26	2/21	2/16	2/10	2/02
20	3/10	3/03	2/26	2/21	2/17	2/13	2/09	2/04	1/28
16	3/03	2/22	2/16	2/11	2/06	2/01	1/26	1/19	1/09

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	10/01	10/05	10/08	10/10	10/12	10/14	10/16	10/19	10/23
32	10/10	10/15	10/19	10/23	10/26	10/29	11/02	11/06	11/12
28	10/14	10/22	10/28	11/02	11/07	11/11	11/16	11/22	11/30
24	10/31	11/08	11/13	11/17	11/22	11/26	11/30	12/06	12/13
20	11/10	11/19	11/26	12/02	12/08	12/13	12/19	12/26	1/05
16	11/27	12/09	12/17	12/25	12/31	1/07	1/15	1/24	2/07

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	199	193	188	185	181	178	174	170	164
32	226	218	213	208	203	199	194	189	181
28	262	252	244	238	232	226	220	212	202
24	303	291	283	275	268	261	254	245	233
20	326	313	305	298	291	285	278	270	260
16	>365	>365	346	333	324	315	307	298	285

***** 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	793	579	380	157	47	2	0	2	30	192	404	686	3272
60	650	449	244	71	13	0	0	0	8	104	272	541	2352
57	565	375	177	36	5	0	0	0	3	66	203	455	1885
55	509	328	140	21	2	0	0	0	1	46	164	400	1611
50	382	226	68	4	0	0	0	0	0	15	85	278	1058
32	83	26	0	0	0	0	0	0	0	0	1	34	144

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	315	374	651	869	1141	1323	1475	1430	1194	892	593	371	10628
55	28	32	77	200	430	633	762	717	505	225	66	25	3700
57	21	23	53	155	371	573	700	655	447	183	45	17	3243
60	14	14	27	100	286	483	607	562	362	128	24	10	2617
65	1	3	7	36	165	334	452	409	234	61	6	0	1708
70	0	0	0	8	78	195	298	264	132	22	0	0	997

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	124	206	411	630	899	1085	1234	1191	958	647	360	177	124	330	741	1371	2270	3355	4589	5780	6738	7385	7745	7922
45	65	124	281	483	744	935	1079	1036	808	496	238	100	65	189	470	953	1697	2632	3711	4747	5555	6051	6289	6389
50	32	64	175	342	590	785	924	881	658	350	146	50	32	96	271	613	1203	1988	2912	3793	4451	4801	4947	4997
55	12	30	92	218	436	635	769	726	509	223	79	23	12	42	134	352	788	1423	2192	2918	3427	3650	3729	3752
60	0	8	39	118	289	485	614	571	363	120	34	2	0	8	47	165	454	939	1553	2124	2487	2607	2641	2643
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	76	132	255	401	596	751	853	818	640	426	222	104	76	208	463	864	1460	2211	3064	3882	4522	4948	5170	5274

(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