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: CHEROKEE, OK **COOP ID: 341724**

Climate Division: OK 3 **NWS Call Sign:** **Elevation: 1,180 Feet** **Lat: 36˚46N** **Lon: 98˚22W**

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	44.9	19.6	32.3	84	1967	22	40.2	1990	-15	1988	8	19.0	1979	1015	0	.0	.0	14.8	5.0	27.2	.6
Feb	51.7	24.1	37.9	91	1996	22	47.7	1976	-15	1982	6	24.8	1978	759	0	.0	@	17.4	2.8	20.0	.6
Mar	60.5	32.5	46.5	93	1994	17	52.2	1972	-1	1948	11	39.0	1984	574	0	.0	.2	26.3	.4	11.8	.0
Apr	70.3	42.5	56.4	100+	1953	22	63.9	1981	18	1975	3	50.4	1984	277	20	@	.8	29.5	.0	2.8	.0
May	79.8	54.7	67.3	105+	1953	31	74.4	1998	30	1954	3	61.6	1995	74	144	.3	4.7	31.0	.0	.0	.0
Jun	90.2	64.7	77.5	115	1953	15	82.9	1990	44	1954	4	72.5	1992	5	379	3.9	18.7	30.0	.0	.0	.0
Jul	96.0	70.0	83.0	111+	1970	2	88.6	1980	50+	1952	9	79.6	1989	0	557	11.6	27.0	31.0	.0	.0	.0
Aug	94.1	67.9	81.0	112	1951	6	87.8	2000	50	1967	27	75.1	1992	1	498	9.7	24.4	31.0	.0	.0	.0
Sep	85.2	59.3	72.3	109	2000	12	79.0	1998	30	1984	30	63.6	1974	27	244	2.4	13.2	30.0	.0	@	.0
Oct	73.7	45.9	59.8	101	1954	4	65.1	1979	14	1993	31	54.5	1976	189	28	.0	2.3	30.7	.0	1.4	.0
Nov	57.7	32.5	45.1	90	1980	8	51.6	1999	6+	1975	26	40.1	1991	597	0	.0	@	23.5	.4	12.4	.0
Dec	46.8	23.2	35.0	85	1955	24	39.8	1988	-12	1989	23	20.7	1983	929	0	.0	.0	15.7	2.9	25.1	.6
Ann	70.9	44.7	57.8	115	Jun 1953	15	88.6	Jul 1980	-15+	Jan 1988	8	19.0	Jan 1979	4447	1870	27.9	91.3	310.9	11.5	100.7	1.8

\+ 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

Issue Date: February 2004

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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	.97	.73	1.80	1988	7	2.69	1999	.00+	1996
Feb	1.17	1.01	1.82	1948	27	3.64	1985	.00+	1996
Mar	2.96	2.15	3.45	1984	18	10.18	1984	.00+	1997
Apr	2.67	2.14	6.00	1999	14	11.29	1999	.00	1996
May	4.51	3.99	4.35	1955	11	14.42	1993	.58	1971
Jun	3.99	2.96	4.20	1958	25	12.45	1989	.26	1998
Jul	3.16	3.03	3.90	1998	8	7.67	1998	.00	1983
Aug	3.39	2.27	6.00	1995	3	12.18	1989	.00	1988
Sep	3.00	2.02	5.60	1997	23	10.63	1997	.00+	2000
Oct	2.40	1.60	4.12	1973	11	7.88	2000	.00+	1993
Nov	1.83	1.53	4.05	1991	16	5.57	1992	.00+	1989
Dec	1.22	1.08	1.37	1960	10	4.26	1984	.00+	1996
Ann	31.27+	31.40+	6.00+	Apr 1999	14	14.42	May 1993	.00+	Sep 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	2.8	1.9	.9	.2
Feb	3.5	2.3	1.0	.3
Mar	5.4	4.1	1.9	1.1
Apr	5.4	4.3	1.8	.6
May	7.5	6.1	3.4	1.6
Jun	6.7	5.3	3.1	1.4
Jul	5.0	4.0	2.0	.9
Aug	6.0	4.3	2.1	1.0
Sep	5.2	4.1	1.8	1.0
Oct	4.5	3.4	1.8	.8
Nov	3.7	2.9	1.2	.5
Dec	3.3	2.8	1.1	.3
Ann	59.0	45.5	22.1	9.7

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	.00	.00	.19	.38	.56	.75	.97	1.23	1.59	2.16	2.72
Feb	.00	.00	.11	.35	.58	.83	1.13	1.49	1.99	2.80	3.64
Mar	.00	.00	.79	1.31	1.81	2.36	2.99	3.76	4.75	6.40	7.99
Apr	.27	.59	1.03	1.42	1.81	2.24	2.72	3.29	4.06	5.30	6.48
May	.82	1.22	1.88	2.49	3.12	3.80	4.57	5.50	6.74	8.73	10.64
Jun	.47	.77	1.33	1.89	2.48	3.15	3.92	4.88	6.18	8.33	10.42
Jul	.27	.63	1.15	1.61	2.08	2.60	3.19	3.91	4.87	6.42	7.91
Aug	.07	.28	.71	1.19	1.73	2.36	3.13	4.12	5.50	7.85	10.19
Sep	.00	.00	.58	1.08	1.60	2.19	2.88	3.75	4.91	6.88	8.80
Oct	.00	.09	.38	.72	1.12	1.59	2.16	2.90	3.95	5.75	7.55
Nov	.00	.14	.43	.72	1.02	1.36	1.77	2.26	2.95	4.10	5.22
Dec	.00	.00	.24	.45	.66	.90	1.18	1.53	2.00	2.79	3.57
Ann	20.46	22.49	25.12	27.14	28.95	30.71	32.55	34.59	37.09	40.74	43.93

\+ 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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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	2.8	3.0	#	#
Feb	4.6	.0	#	0
Mar	.9	.0	#	0
Apr	.1	.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	1.0	.0	#	0
Dec	2.7	1.0	#	0
Ann	12.1	4.0	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	7.0	1984	18	9.5	2000	10	2000	28	1+	2000
Feb	14.0	1982	2	23.0	1982	16	1971	22	3	1971
Mar	13.0	1999	14	15.0	1999	5	1983	22	#+	2000
Apr	2.5	1979	3	2.5	1979	3	1973	8	3	1973
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	.0	0	0	.0	0	0	0	0	0	0
Nov	6.0	1972	18	6.5	1972	6	1972	18	1	1972
Dec	7.0	1989	7	11.0	1989	5+	1997	24	1	2000
Ann	14.0	Feb 1982	2	23.0	Feb 1982	16	Feb 1971	22	3+	Apr 1973

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.0	.9	.2	.1	.0
Feb	1.0	.9	.5	.4	.1
Mar	.2	.1	.1	.1	@
Apr	@	@	.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	.3	.2	.1	.1	.0
Dec	1.0	.8	.3	.1	.0
Ann	3.5	2.9	1.2	.8	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	2.6	.7	.1	.1
Feb	2.6	2.1	1.3	.4
Mar	.1	.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	.4	.3	.1	.0
Dec	1.2	.3	.0	.0
Ann	6.9	3.4	1.5	.5

+ 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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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	5/04	4/29	4/26	4/23	4/20	4/18	4/15	4/12	4/07
32	4/20	4/17	4/14	4/12	4/10	4/08	4/06	4/04	4/01
28	4/10	4/06	4/03	4/01	3/29	3/27	3/25	3/22	3/18
24	4/06	3/31	3/26	3/22	3/18	3/15	3/11	3/06	2/27
20	3/28	3/20	3/14	3/09	3/04	2/27	2/22	2/16	2/08
16	3/18	3/08	3/01	2/23	2/18	2/13	2/07	1/31	1/21

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	9/27	10/03	10/07	10/11	10/14	10/17	10/21	10/25	10/31
32	10/13	10/18	10/21	10/25	10/28	10/31	11/03	11/06	11/12
28	10/20	10/26	10/31	11/04	11/08	11/11	11/15	11/20	11/26
24	10/26	11/03	11/08	11/12	11/16	11/21	11/25	11/30	12/08
20	11/09	11/15	11/20	11/24	11/28	12/02	12/06	12/10	12/17
16	11/15	11/22	11/28	12/02	12/07	12/11	12/16	12/21	12/28

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	198	191	185	180	176	171	167	161	153
32	217	211	206	203	199	196	192	188	182
28	243	236	231	226	222	218	214	209	201
24	271	261	254	248	242	237	231	223	214
20	297	287	280	274	268	262	256	249	239
16	329	316	307	298	291	283	275	266	253

***** 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	1015	759	574	277	74	5	0	1	27	189	597	929	4447
60	860	629	426	166	28	0	0	0	7	87	448	774	3425
57	768	551	340	112	13	0	0	0	2	47	362	681	2876
55	708	501	286	83	7	0	0	0	0	29	309	621	2544
50	563	382	174	32	1	0	0	0	0	6	189	477	1824
32	156	96	8	0	0	0	0	0	0	0	8	99	367

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	165	261	457	733	1092	1364	1580	1520	1207	862	401	194	9836
55	3	22	22	126	387	674	867	807	517	179	12	2	3618
57	2	16	14	96	330	614	805	745	459	135	5	0	3221
60	0	10	7	59	252	524	712	652	374	82	1	0	2673
65	0	0	0	20	144	379	557	498	244	28	0	0	1870
70	0	0	0	5	68	245	402	350	142	6	0	0	1218

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	63	147	340	581	896	1165	1369	1323	1025	688	258	81	63	210	550	1131	2027	3192	4561	5884	6909	7597	7855	7936
45	25	80	219	434	741	1015	1214	1168	875	536	158	35	25	105	324	758	1499	2514	3728	4896	5771	6307	6465	6500
50	1	34	127	299	586	865	1059	1013	725	388	80	8	1	35	162	461	1047	1912	2971	3984	4709	5097	5177	5185
55	0	10	65	184	433	715	904	858	577	256	33	1	0	10	75	259	692	1407	2311	3169	3746	4002	4035	4036
60	0	1	29	95	288	565	749	703	437	145	10	0	0	1	30	125	413	978	1727	2430	2867	3012	3022	3022
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	63	127	239	380	581	767	885	859	668	440	173	73	63	190	429	809	1390	2157	3042	3901	4569	5009	5182	5255

(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