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: GUTHRIE 5 S, OK **COOP ID: 343821**

Climate Division: OK 5 **NWS Call Sign:** **Elevation: 1,110 Feet** **Lat: 35˚49N** **Lon: 97˚24W**

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	47.0	22.1	34.6	82+	1950	24	43.6	1990	-12	1984	19	23.7	1978	944	0	.0	.0	15.9	4.0	23.3	.5
Feb	53.7	26.7	40.2	93	1996	22	49.4	1976	-14	1996	4	26.8	1978	697	0	.0	@	18.6	2.4	16.4	.3
Mar	62.6	34.7	48.7	93+	1974	31	53.2	1974	-8	1948	12	42.6	1996	507	0	.0	.2	27.3	.3	9.0	.0
Apr	72.2	44.9	58.6	101	1972	12	65.4	1981	20	1997	13	51.2	1983	226	32	@	.9	29.7	.0	1.6	.0
May	80.2	55.7	68.0	104	1985	30	73.1	1996	32	1954	4	62.9	1976	49	140	.1	4.2	31.0	.0	.0	.0
Jun	88.2	64.4	76.3	108	1953	14	81.4	1990	43	1998	6	70.9	2000	4	342	1.2	15.0	30.0	.0	.0	.0
Jul	94.5	68.8	81.7	113	1996	6	88.1	1998	51+	1970	23	77.1	2000	0	516	7.3	26.1	31.0	.0	.0	.0
Aug	94.3	66.7	80.5	112+	1964	5	85.7	1980	50+	1956	20	73.5	1992	2	481	9.1	25.3	31.0	.0	.0	.0
Sep	85.6	58.6	72.1	112	1998	2	81.1	1998	32	1984	30	63.5	1974	35	249	1.9	12.1	30.0	.0	@	.0
Oct	74.7	46.8	60.8	99	1951	4	65.4	2000	17	1993	31	54.1	1976	169	37	.0	1.6	30.7	.0	1.2	.0
Nov	60.4	34.8	47.6	89	1980	8	56.4	1999	7	1976	29	40.9	1976	524	0	.0	.0	24.9	.2	9.0	.0
Dec	50.0	25.6	37.8	88	1955	25	44.6	1982	-13	1989	23	24.2	1983	844	0	.0	.0	17.8	2.2	19.8	.3
Ann	72.0	45.8	58.9	113	Jul 1996	6	88.1	Jul 1998	-14	Feb 1996	4	23.7	Jan 1978	4001	1797	19.6	85.4	317.9	9.1	80.3	1.1

\+ 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

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: GUTHRIE 5 S, OK **COOP ID: 343821**

Climate Division: OK 5 **NWS Call Sign:** **Elevation: 1,110 Feet** **Lat: 35˚49N** **Lon: 97˚24W**

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	1.33	1.06	1.95	1982	30	3.97	1993	.00+	1994
Feb	1.85	1.48	2.30	1997	21	6.80	1987	.00	1991
Mar	3.30	2.85	4.90	1990	11	12.48	1990	.10+	1997
Apr	3.13	3.01	3.87	1993	29	7.20	1993	.14	1989
May	5.48	5.29	6.55	1993	9	11.92	1993	.62	1988
Jun	4.46	3.99	5.08	1963	23	12.18	1995	.69	1976
Jul	2.29	1.97	3.52	1996	30	8.15	1996	.00	1983
Aug	2.42	2.28	3.27	1995	2	7.01	1992	.00+	2000
Sep	3.63	2.74	6.42	1965	21	8.88	1986	.19	2000
Oct	3.30	2.40	4.30	1959	2	10.66	1998	.02	1982
Nov	2.80	2.44	3.16	1994	20	9.28	1992	.17	1989
Dec	2.06	1.81	2.50	1991	20	6.65	1991	.00	1996
Ann	36.05	34.70	6.55	May 1993	9	12.48	Mar 1990	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	3.8	2.7	1.0	.4
Feb	4.7	3.7	1.5	.5
Mar	6.2	5.2	2.4	1.0
Apr	6.6	4.8	2.1	1.1
May	8.7	6.7	3.5	1.9
Jun	7.5	6.3	3.3	1.5
Jul	4.4	3.6	1.6	.7
Aug	5.4	3.9	1.7	.7
Sep	6.5	4.9	2.3	1.0
Oct	5.4	4.1	2.0	1.1
Nov	5.3	4.0	1.9	.9
Dec	5.1	3.8	1.7	.5
Ann	69.6	53.7	25.0	11.3

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	.21	.45	.69	.97	1.28	1.67	2.21	3.08	3.95
Feb	.08	.23	.50	.77	1.06	1.39	1.79	2.28	2.95	4.07	5.17
Mar	.27	.49	.93	1.39	1.89	2.46	3.15	4.01	5.21	7.21	9.18
Apr	.51	.77	1.23	1.66	2.11	2.59	3.15	3.82	4.73	6.19	7.60
May	1.27	1.78	2.59	3.30	4.02	4.78	5.63	6.64	7.98	10.09	12.09
Jun	1.07	1.49	2.14	2.72	3.30	3.91	4.59	5.41	6.47	8.16	9.74
Jul	.19	.45	.82	1.16	1.50	1.88	2.31	2.83	3.54	4.67	5.77
Aug	.00	.00	.54	.95	1.37	1.84	2.38	3.05	3.94	5.42	6.87
Sep	.51	.81	1.33	1.84	2.36	2.94	3.61	4.43	5.54	7.35	9.09
Oct	.26	.47	.90	1.36	1.86	2.44	3.13	4.01	5.22	7.25	9.26
Nov	.32	.54	.93	1.32	1.74	2.20	2.74	3.41	4.33	5.83	7.30
Dec	.11	.30	.61	.91	1.23	1.59	2.01	2.54	3.25	4.42	5.56
Ann	23.81	26.11	29.10	31.39	33.44	35.44	37.51	39.82	42.64	46.76	50.35

\+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Services

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: GUTHRIE 5 S, OK **COOP ID: 343821**

Climate Division: OK 5 **NWS Call Sign:** **Elevation: 1,110 Feet** **Lat: 35°49N** **Lon: 97°24W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	2.5	.2	#	#
Feb	1.7	.5	#	0
Mar	.6	.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	.3	.0	#	0
Dec	1.1	.0	#	0
Ann	6.2	.7	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	10.5	1988	7	15.0	1988	10	2000	29	1+	2000
Feb	5.0	1986	7	10.5	1978	6	1996	4	1	1996
Mar	7.3	1994	8	7.3	1994	7	1999	14	#+	1999
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	.0	0	0	.0	0	0	0	0	0	0
Nov	3.0	1980	17	3.0	1980	3	1980	17	#+	2000
Dec	6.0	1995	19	6.0	1995	6	1995	20	1+	2000
Ann	10.5	Jan 1988	7	15.0	Jan 1988	10	Jan 2000	29	1+	Dec 2000

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.8	.6	.2	.1	@
Feb	1.0	.7	.1	@	.0
Mar	.3	.2	.1	@	.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
Dec	.8	.5	.2	@	.0
Ann	3.0	2.1	.6	.1	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	1.4	.3	.0	.0
Feb	1.2	.4	.0	.0
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	.2	.1	.0	.0
Dec	.8	.1	.1	.0
Ann	3.7	.9	.1	.0

+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: GUTHRIE 5 S, OK **COOP ID: 343821**

Climate Division: OK 5 **NWS Call Sign:** **Elevation: 1,110 Feet** **Lat: 35˚49N** **Lon: 97˚24W**

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	5/03	4/27	4/23	4/20	4/17	4/14	4/10	4/06	4/01
32	4/18	4/14	4/12	4/09	4/07	4/05	4/03	3/31	3/27
28	4/12	4/06	4/02	3/29	3/26	3/23	3/19	3/15	3/09
24	4/03	3/27	3/22	3/18	3/14	3/09	3/05	2/28	2/21
20	3/24	3/15	3/09	3/04	2/27	2/22	2/16	2/10	2/01
16	3/09	3/01	2/22	2/17	2/12	2/07	2/02	1/27	1/18

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	9/30	10/06	10/10	10/14	10/18	10/22	10/25	10/30	11/05
32	10/13	10/19	10/23	10/26	10/29	11/01	11/05	11/09	11/14
28	10/22	10/28	11/02	11/06	11/10	11/13	11/17	11/22	11/28
24	10/28	11/05	11/10	11/14	11/18	11/22	11/27	12/02	12/09
20	11/05	11/13	11/18	11/23	11/28	12/02	12/07	12/13	12/20
16	11/16	11/25	12/01	12/06	12/11	12/16	12/21	12/27	1/04

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	211	202	195	189	184	178	172	165	156
32	224	217	212	208	204	200	196	191	184
28	253	244	238	233	228	223	218	212	203
24	276	267	260	254	249	244	238	231	222
20	307	296	287	280	273	267	259	251	239
16	338	325	316	308	301	294	286	277	264

***** 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: GUTHRIE 5 S, OK **COOP ID: 343821**

Climate Division: OK 5 **NWS Call Sign:** **Elevation: 1,110 Feet** **Lat: 35˚49N** **Lon: 97˚24W**

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	944	697	507	226	49	4	0	2	35	169	524	844	4001
60	790	567	361	126	13	0	0	0	11	75	383	690	3016
57	699	490	279	81	5	0	0	0	5	40	303	601	2503
55	640	441	229	58	2	0	0	0	2	25	255	544	2196
50	497	327	129	19	0	0	0	0	0	5	155	404	1536
32	122	67	4	0	0	0	0	0	0	0	7	72	272

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	201	295	520	796	1114	1328	1539	1503	1204	891	474	251	10116
55	6	25	32	164	404	638	826	790	516	203	32	10	3646
57	3	19	20	127	344	578	764	728	459	156	20	5	3223
60	1	12	9	82	259	488	671	635	375	98	10	1	2641
65	0	0	0	32	140	342	516	481	249	37	0	0	1797
70	0	0	0	9	58	209	363	334	150	9	0	0	1132

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	96	200	400	640	926	1143	1346	1326	1040	723	323	131	96	296	696	1336	2262	3405	4751	6077	7117	7840	8163	8294
45	44	122	273	498	771	993	1191	1171	890	569	212	65	44	166	439	937	1708	2701	3892	5063	5953	6522	6734	6799
50	16	66	169	360	616	843	1036	1016	740	419	125	28	16	82	251	611	1227	2070	3106	4122	4862	5281	5406	5434
55	4	27	93	233	463	693	881	861	591	286	60	8	4	31	124	357	820	1513	2394	3255	3846	4132	4192	4200
60	0	8	47	130	313	543	726	706	445	170	22	1	0	8	55	185	498	1041	1767	2473	2918	3088	3110	3111
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	79	148	265	418	611	773	889	867	685	464	203	92	79	227	492	910	1521	2294	3183	4050	4735	5199	5402	5494

(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.
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