

Climatography of the United States

No. 20

1971-2000

Station: CUSHING, OK

COOP ID: 342318

Climate Division: OK 5

NWS Call Sign:

Elevation: 950 Feet Lat: 35° 59N Lon: 96° 46W

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	45.8	24.6	35.2	81	1950	25	44.6	1990	-5+	1949	29	23.2	1979	924	0	.0	.0	13.2	5.3	24.6	.5
Feb	52.2	29.8	41.0	91	1996	23	51.3	1976	-6	1996	4	28.4+	1979	680	0	.0	@	16.4	3.3	16.8	.2
Mar	61.2	38.6	49.9	93	1997	22	54.9	1974	-2+	1948	10	44.0	1996	471	2	.0	.1	24.5	.5	8.7	.0
Apr	71.0	48.1	59.6	101+	1955	23	66.3	1981	22+	1975	3	53.5	1983	199	36	@	.4	29.2	.0	1.2	.0
May	78.4	58.2	68.3	100	1953	31	72.9	1974	32	1954	3	63.9	1976	46	148	.0	1.7	31.0	.0	.0	.0
Jun	86.5	66.7	76.6	108	1953	14	80.7	1980	45	1955	11	72.0	1992	3	351	.3	10.8	30.0	.0	.0	.0
Jul	92.7	71.3	82.0	117	1954	14	88.2	1980	53	1970	21	78.8	1989	0	526	3.7	22.8	31.0	.0	.0	.0
Aug	92.4	69.9	81.2	112+	1956	6	86.7	1980	51	1949	31	73.6	1992	1	502	4.3	21.8	31.0	.0	.0	.0
Sep	83.6	61.5	72.6	109	1951	1	80.5	1998	35	1984	30	65.3	1974	26	253	.8	9.2	30.0	.0	.0	.0
Oct	73.4	49.7	61.6	99+	1953	1	65.3	1971	20	1993	31	55.9	1976	150	43	.0	.9	30.5	.0	.6	.0
Nov	59.4	38.1	48.8	85	1950	1	58.3	1999	10+	1950	24	42.5	1993	492	4	.0	.0	23.1	.6	9.0	.0
Dec	49.0	28.3	38.7	82	1948	13	43.4	1984	-9+	1989	23	23.0	1983	817	0	.0	.0	15.9	3.4	20.6	.4
Ann	70.5	48.7	59.6	117	Jul 1954	14	88.2	Jul 1980	-9+	Dec 1989	23	23.0	Dec 1983	3809	1865	9.1	67.7	305.8	13.1	81.5	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/normal/usnormals.html

Issue Date: February 2004

(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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No. 20
1971-2000**

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

Station: CUSHING, OK

COOP ID: 342318

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NWS Call Sign:

Elevation: 950 Feet Lat: 35°59N

Lon: 96°46W

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	1.24	.99	2.50	1998	5	4.41	1998	.00	1976	3.4	2.4	.9	.3	.01	.05	.17	.33	.52	.76	1.06	1.46	2.05	3.07	4.12
Feb	1.89	1.39	2.10	1985	23	5.91	1985	.00+	1995	4.0	3.4	1.3	.5	.00	.22	.56	.86	1.17	1.51	1.90	2.36	2.99	4.03	5.03
Mar	3.21	3.04	2.50	1988	29	8.36	1990	.00	1971	5.9	5.2	2.4	1.1	.40	.81	1.35	1.81	2.27	2.75	3.30	3.96	4.83	6.21	7.52
Apr	3.73	3.61	4.20	1998	27	7.90	1980	.17	1989	6.5	5.2	2.4	1.1	.69	1.02	1.57	2.08	2.59	3.15	3.78	4.54	5.56	7.19	8.74
May	5.83	5.35	5.23	2001	30	15.22	1982	1.50	1988	8.9	7.3	4.1	2.1	1.86	2.41	3.23	3.93	4.60	5.30	6.07	6.97	8.12	9.92	11.59
Jun	4.37	3.75	4.65	1948	21	11.28	1985	.34	1976	7.5	6.0	3.0	1.3	.98	1.39	2.03	2.60	3.18	3.79	4.48	5.31	6.39	8.11	9.74
Jul	2.89	2.99	4.24	1959	27	5.74	1988	.02	1983	5.3	4.0	1.9	1.0	.18	.36	.71	1.11	1.55	2.07	2.70	3.50	4.62	6.52	8.40
Aug	2.70	2.30	3.32	1966	19	6.55	1992	.35	2000	5.3	4.0	1.8	.8	.44	.67	1.06	1.43	1.82	2.23	2.71	3.30	4.07	5.34	6.55
Sep	4.07	3.62	5.52	1974	2	8.87	1974	.34	2000	7.2	5.6	2.8	1.2	.72	1.08	1.68	2.23	2.80	3.41	4.11	4.96	6.09	7.91	9.65
Oct	3.40	2.45	5.10	1998	5	10.75	1998	.66	1987	5.4	4.2	2.3	1.3	.61	.91	1.41	1.87	2.34	2.85	3.44	4.14	5.08	6.60	8.04
Nov	2.93	2.88	5.40	1974	3	7.38	1994	.00	1989	5.1	3.8	1.7	.9	.15	.42	.86	1.29	1.75	2.27	2.87	3.61	4.62	6.30	7.93
Dec	1.91	1.45	2.88	1982	2	6.49	1984	.10	1989	4.4	3.4	1.4	.5	.15	.27	.52	.78	1.07	1.41	1.81	2.32	3.03	4.22	5.39
Ann	38.17	36.93	5.52	Sep 1974	2	15.22	May 1982	.00+	Feb 1995	68.9	54.5	26.0	12.1	28.34	30.28	32.74	34.59	36.24	37.82	39.44	41.23	43.39	46.51	49.20

+ 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

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Station: CUSHING, OK

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Climate Division: OK 5

NWS Call Sign:

Elevation: 950 Feet

Lat: 35°59N

Lon: 96°46W

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	3.0	.5	#	#	7.0	1989	14	10.0	1979	9	1988	8	2	1979	1.0	.9	.3	.1	.0	1.7	.9	.1	.0
Feb	1.8	.0	#	0	5.5	1982	12	10.5	1982	7	1993	16	2	1979	.8	.6	.3	@	.0	.7	.4	.2	.0
Mar	.6	.0	#	0	9.0	1989	5	9.0	1989	9	1999	14	6	1994	.3	.1	.1	@	.0	.1	.0	.0	.0
Apr	.0	.0	0	0	.0	0	0	.0	0	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	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.3	.0	#	0	2.0	1972	19	3.5	1972	3	1980	18	#+	1991	.2	.1	.0	.0	.0	@	.0	.0	.0
Dec	.8	.0	#	0	10.0	1987	15	10.0	1987	7	2000	14	2	2000	.6	.4	.3	.1	@	.1	.1	.0	.0
Ann	6.5	.5	N/A	N/A	10.0	Dec 1987	15	10.5	Feb 1982	9+	Mar 1999	14	6	Mar 1994	2.9	2.1	1.0	.2	@	2.6	1.4	.3	.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

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Lat: 35° 59N

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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	4/18	4/14	4/11	4/09	4/07	4/05	4/02	3/30	3/27
32	4/13	4/09	4/06	4/04	4/02	3/31	3/29	3/26	3/22
28	3/30	3/25	3/22	3/19	3/16	3/13	3/10	3/07	3/02
24	3/26	3/19	3/14	3/09	3/06	3/02	2/25	2/20	2/13
20	3/20	3/10	3/03	2/25	2/20	2/14	2/08	2/01	1/23
16	3/11	2/28	2/21	2/14	2/08	2/02	1/27	1/19	1/08
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	10/09	10/15	10/19	10/22	10/26	10/29	11/01	11/05	11/11
32	10/22	10/27	10/31	11/04	11/07	11/10	11/14	11/18	11/24
28	10/28	11/04	11/09	11/13	11/17	11/21	11/25	11/30	12/06
24	11/08	11/14	11/19	11/23	11/27	11/30	12/04	12/09	12/16
20	11/16	11/23	11/28	12/03	12/07	12/11	12/16	12/21	12/28
16	11/17	11/27	12/05	12/11	12/17	12/23	12/29	1/06	1/16
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	222	215	210	205	201	197	192	187	180
32	240	233	227	223	218	214	210	204	197
28	269	261	255	250	245	241	236	230	222
24	290	282	276	270	266	261	255	249	241
20	327	314	305	297	289	282	274	265	252
16	360	338	326	317	308	300	292	282	268

* 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	924	680	471	199	46	3	0	1	26	150	492	817	3809
60	770	550	329	105	12	0	0	0	7	64	356	667	2860
57	680	474	251	64	4	0	0	0	2	34	281	580	2370
55	621	426	206	43	2	0	0	0	0	20	237	523	2078
50	479	317	116	13	0	0	0	0	0	4	146	388	1463
32	111	66	4	0	0	0	0	0	0	0	8	73	262

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	210	317	558	827	1125	1339	1549	1524	1217	917	510	279	10372
55	7	33	47	181	414	649	836	811	527	224	49	16	3794
57	3	25	30	141	354	589	774	749	469	176	33	11	3354
60	1	16	15	92	269	499	681	656	384	113	18	5	2749
65	0	0	2	36	148	351	526	502	253	43	4	0	1865
70	0	0	0	10	63	215	372	353	149	11	0	0	1173

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	75	167	336	586	875	1099	1304	1278	981	676	303	111	75	242	578	1164	2039	3138	4442	5720	6701	7377	7680	7791
45	34	96	221	440	720	949	1149	1123	831	524	195	53	34	130	351	791	1511	2460	3609	4732	5563	6087	6282	6335
50	8	46	129	304	565	799	994	968	681	376	111	19	8	54	183	487	1052	1851	2845	3813	4494	4870	4981	5000
55	1	19	66	188	412	649	839	813	536	242	53	4	1	20	86	274	686	1335	2174	2987	3523	3765	3818	3822
60	0	4	26	99	271	499	684	658	395	134	23	0	0	4	30	129	400	899	1583	2241	2636	2770	2793	2793
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	62	117	214	360	564	755	883	858	647	418	187	84	62	179	393	753	1317	2072	2955	3813	4460	4878	5065	5149

(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.
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