

Climatography of the United States

No. 20

1971-2000

Station: ELK CITY, OK

COOP ID: 342849

Climate Division: OK 4

NWS Call Sign:

Elevation: 1,970 Feet Lat: 35° 23N

Lon: 99° 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	46.8	22.1	34.5	83	1967	22	42.9	1990	-12	1984	19	22.3	1979	948	0	.0	.0	16.0	4.1	25.5	.2
Feb	53.1	26.5	39.8	90	1996	22	48.2	1999	-4+	1989	3	26.7	1978	706	0	.0	@	18.7	2.2	17.3	.2
Mar	61.3	34.0	47.7	97	1971	27	52.4	1986	-3	1948	11	43.1	1975	539	0	.0	.2	27.3	.3	9.4	.0
Apr	70.7	43.8	57.3	100	1972	12	61.7	1981	21+	1957	13	51.5	1973	250	17	@	.6	29.5	.0	1.7	.0
May	78.5	54.0	66.3	106	1953	23	72.9	1996	31	1954	3	61.4	1976	70	110	.3	4.4	30.9	.0	.0	.0
Jun	87.5	63.8	75.7	111	1980	24	81.0	1990	42	1964	1	71.6	1982	5	325	1.5	15.3	30.0	.0	.0	.0
Jul	92.6	68.0	80.3	111	1954	25	85.6	1998	50	1950	14	76.1	1975	0	475	5.8	25.0	31.0	.0	.0	.0
Aug	91.3	66.7	79.0	110	1951	6	84.5	2000	45	1956	21	73.4	1992	2	436	4.2	22.9	31.0	.0	.0	.0
Sep	83.7	59.3	71.5	108	2000	5	79.6	1998	28	1984	30	63.4	1974	29	223	.8	10.7	30.0	.0	.1	.0
Oct	73.2	47.4	60.3	103	2000	4	64.5	1979	17	1993	30	51.0	1976	177	32	@	1.2	30.6	@	1.2	.0
Nov	58.7	34.5	46.6	87+	1980	7	55.4	1999	9	1959	17	39.9	1972	552	0	.0	.0	24.2	.2	10.7	.0
Dec	48.7	25.4	37.1	88	1955	24	41.9	1999	-9	1989	23	24.2	1983	865	0	.0	.0	17.4	2.4	22.6	.3
Ann	70.5	45.5	58.0	111+	Jun 1980	24	85.6	Jul 1998	-12	Jan 1984	19	22.3	Jan 1979	4143	1618	12.6	80.3	316.6	9.2	88.5	.7

+ 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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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: ELK CITY, OK

COOP ID: 342849

Climate Division: OK 4

NWS Call Sign:

Elevation: 1,970 Feet Lat: 35°23N

Lon: 99°24W

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	.85	.86	1.40	1998	4	1.99	1973	.00+	1986	3.8	2.1	.6	@	.00	.08	.22	.36	.50	.65	.83	1.05	1.36	1.86	2.35
Feb	1.20	.84	2.17	1997	21	4.04	1997	.00+	1991	4.2	2.4	.8	.1	.00	.05	.22	.39	.59	.82	1.11	1.47	1.97	2.83	3.69
Mar	2.43	2.13	3.96	1989	28	6.39	2000	.00	1971	5.7	3.8	1.8	.6	.06	.22	.55	.89	1.28	1.73	2.27	2.96	3.93	5.56	7.18
Apr	2.45	1.87	3.40	1957	19	11.00	1997	.00	1989	5.9	4.0	1.7	.6	.10	.30	.65	1.01	1.39	1.83	2.35	3.00	3.90	5.39	6.85
May	4.86	4.23	5.22	1959	26	13.06	1977	.67	1984	8.4	6.6	3.2	1.5	.98	1.42	2.14	2.79	3.45	4.16	4.96	5.92	7.19	9.23	11.17
Jun	4.02	3.90	3.76	1961	4	11.42	2000	.07	1998	7.5	5.5	2.4	1.1	.47	.78	1.35	1.91	2.50	3.17	3.95	4.91	6.22	8.38	10.48
Jul	2.18	1.83	5.58	1960	22	7.17	1975	.00+	1983	4.7	3.1	1.5	.6	.00	.29	.70	1.05	1.40	1.78	2.22	2.72	3.42	4.55	5.64
Aug	2.88	2.64	5.47	1968	17	8.71	1995	.00	2000	6.9	4.3	1.9	.8	.16	.43	.87	1.30	1.75	2.25	2.83	3.55	4.53	6.15	7.72
Sep	2.98	2.43	5.70	1988	19	10.87	1988	.00+	2000	6.5	4.4	1.9	.8	.00	.00	.61	1.11	1.62	2.21	2.89	3.74	4.88	6.79	8.67
Oct	2.24	1.60	5.15	1986	3	9.13	1986	.00	1992	5.2	3.3	1.5	.7	.03	.14	.39	.69	1.04	1.47	2.00	2.69	3.67	5.37	7.08
Nov	1.65	1.73	2.09	1994	20	5.35	1992	.00	1989	5.0	2.9	1.2	.4	.07	.21	.45	.69	.95	1.25	1.59	2.02	2.62	3.60	4.57
Dec	1.05	.75	2.04	1959	15	3.54	1997	.00	1976	4.2	2.4	.6	.2	.02	.09	.22	.37	.53	.73	.97	1.27	1.70	2.44	3.16
Ann	28.79	28.54	5.70	Sep 1988	19	13.06	May 1977	.00+	Sep 2000	68.0	44.8	19.1	7.4	18.84	20.71	23.13	24.99	26.66	28.29	29.98	31.86	34.16	37.52	40.46

+ 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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Station: ELK CITY, OK

COOP ID: 342849

Climate Division: OK 4

NWS Call Sign:

Elevation: 1,970 Feet

Lat: 35°23N

Lon: 99°24W

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	1.9	.5	#	#	6.0	1988	6	9.5	1997	7	1988	9	3	1988	.8	.7	.3	.1	.0	.4	.1	.1	.0
Feb	1.0	.0	#	0	4.0	1993	15	6.5	1997	5	1971	22	#+	1998	.7	.4	.1	.0	.0	.3	.1	.1	.0
Mar	.2	.0	#	0	2.0	1988	3	2.0	1988	3	1982	27	#+	2000	.2	.1	.0	.0	.0	@	.0	.0	.0
Apr	.2	.0	0	0	3.5	1973	8	4.0	1973	0	0	0	0	0	.1	@	@	.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	.1	.0	0	0	1.6	1991	31	1.6	1991	0	0	0	0	0	@	@	.0	.0	.0	.0	.0	.0	.0
Nov	.1	.0	#	0	1.0	1976	13	1.0	1976	4	1972	21	#+	2000	.1	.1	.0	.0	.0	.1	.0	.0	.0
Dec	2.6	1.0	#	#	7.0	1987	13	15.0	1987	8	2000	27	1+	2000	1.2	1.0	.2	.1	.0	.5	.1	.1	.0
Ann	6.1	1.5	N/A	N/A	7.0	Dec 1987	13	15.0	Dec 1987	8	Dec 2000	27	3	Jan 1988	3.1	2.3	.6	.2	.0	1.3	.3	.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

Complete documentation available from:

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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	5/02	4/27	4/24	4/21	4/18	4/16	4/13	4/10	4/05
32	4/18	4/13	4/10	4/07	4/05	4/02	3/31	3/27	3/23
28	4/09	4/05	4/01	3/30	3/27	3/24	3/22	3/18	3/14
24	4/04	3/29	3/24	3/20	3/16	3/12	3/08	3/03	2/24
20	3/24	3/16	3/10	3/05	2/28	2/24	2/19	2/13	2/04
16	3/10	3/01	2/23	2/18	2/13	2/08	2/03	1/28	1/19
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	10/17	10/21	10/25	10/29	11/04
32	10/10	10/16	10/20	10/24	10/27	10/30	11/03	11/07	11/13
28	10/18	10/25	10/30	11/03	11/07	11/11	11/15	11/20	11/27
24	10/28	11/04	11/09	11/13	11/17	11/21	11/25	11/30	12/07
20	11/09	11/17	11/22	11/27	12/01	12/05	12/10	12/15	12/22
16	11/15	11/26	12/04	12/11	12/18	12/24	12/31	1/08	1/19
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	202	195	190	185	181	177	173	168	161
32	223	216	212	208	204	201	197	192	186
28	247	239	233	229	224	220	215	210	202
24	270	262	255	250	245	240	235	229	220
20	307	296	288	281	275	268	262	254	242
16	348	329	319	310	303	296	289	280	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	948	706	539	250	70	5	0	2	29	177	552	865	4143
60	793	576	386	140	22	0	0	0	7	81	409	710	3124
57	702	498	300	89	9	0	0	0	2	45	328	618	2591
55	643	447	246	62	4	0	0	0	0	28	278	558	2266
50	499	331	135	19	0	0	0	0	0	7	171	414	1576
32	119	65	3	0	0	0	0	0	0	0	8	63	258

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	195	283	488	757	1063	1310	1498	1457	1184	878	446	221	9780
55	5	21	18	129	354	620	785	744	494	193	26	3	3392
57	3	15	10	96	296	560	723	682	436	148	16	1	2986
60	1	10	3	57	217	470	630	589	351	91	7	0	2426
65	0	0	0	17	110	325	475	436	223	32	0	0	1618
70	0	0	0	4	42	196	320	290	124	7	0	0	983

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	83	176	359	591	881	1108	1298	1254	985	679	280	104	83	259	618	1209	2090	3198	4496	5750	6735	7414	7694	7798
45	32	97	230	445	726	958	1143	1099	835	524	172	46	32	129	359	804	1530	2488	3631	4730	5565	6089	6261	6307
50	7	44	133	307	571	808	988	944	685	379	92	14	7	51	184	491	1062	1870	2858	3802	4487	4866	4958	4972
55	0	12	65	186	420	658	833	789	538	243	39	0	0	12	77	263	683	1341	2174	2963	3501	3744	3783	3783
60	0	1	25	93	273	508	678	634	397	133	13	0	0	1	26	119	392	900	1578	2212	2609	2742	2755	2755
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	81	135	240	378	570	742	857	826	645	428	184	83	81	216	456	834	1404	2146	3003	3829	4474	4902	5086	5169

(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.

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| <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 |
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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