

Climatology of the United States

No. 20

1971-2000

Station: WEATHERFORD, OK

COOP ID: 349422

Climate Division: OK 4

NWS Call Sign:

Elevation: 1,618 Feet Lat: 35° 31N

Lon: 98° 42W

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	45.9	24.3	35.1	81+	1950	24	42.6	1990	-7+	1984	19	21.6	1979	927	0	.0	.0	14.9	4.5	25.4	.2
Feb	52.7	29.0	40.9	89	1996	23	49.8	1976	-4+	1951	1	27.9	1978	682	0	.0	.0	18.2	2.6	17.2	.2
Mar	62.0	36.8	49.4	93	1991	6	54.3	1972	-2	1948	11	43.7	1998	483	0	.0	.2	26.3	.3	9.0	.0
Apr	71.4	46.0	58.7	100	1972	12	64.6	1981	22+	1957	13	52.3	1997	225	37	@	.8	29.1	.0	1.5	.0
May	81.0	57.1	69.1	114	2000	25	74.4	1974	32	1954	3	63.9	1995	43	169	.5	5.2	31.0	.0	.0	.0
Jun	90.3	66.5	78.4	112	1988	9	82.9	1980	45+	1955	11	73.0	1997	3	405	2.5	17.1	30.0	.0	.0	.0
Jul	95.7	71.2	83.5	110+	1954	12	89.2	1980	53	1952	9	80.2	1987	0	572	8.2	26.5	31.0	.0	.0	.0
Aug	93.8	70.1	82.0	111	1951	6	86.9	2000	51+	1956	21	75.0	1992	0	526	7.2	24.0	31.0	.0	.0	.0
Sep	84.5	62.1	73.3	109	1990	2	81.5	1998	33+	1984	30	65.6	1974	24	273	1.7	11.6	29.9	.0	.0	.0
Oct	73.1	50.2	61.7	99+	1977	1	66.8	1979	18+	1993	30	55.7	1976	150	46	.0	1.2	30.5	@	.9	.0
Nov	58.1	37.2	47.7	89	1980	7	54.8	1999	9	1991	3	41.6	1991	521	0	.0	.0	23.7	.4	10.3	.0
Dec	47.9	27.5	37.7	89	1955	24	41.9	1980	-10+	1989	22	23.9	1983	847	0	.0	.0	16.8	2.7	22.4	.5
Ann	71.4	48.2	59.8	114	May 2000	25	89.2	Jul 1980	-10+	Dec 1989	22	21.6	Jan 1979	3905	2028	20.1	86.6	312.4	10.5	86.7	.9

+ 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

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: WEATHERFORD, OK

COOP ID: 349422

Climate Division: OK 4

NWS Call Sign:

Elevation: 1,618 Feet Lat: 35°31N

Lon: 98°42W

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	.98	1.04	1.53	1975	30	2.85	1973	.00+	1997	3.4	1.9	.8	.1	.00	.00	.15	.32	.50	.70	.94	1.23	1.63	2.29	2.94
Feb	1.16	.89	1.84	1997	21	4.19	1990	.00+	1995	3.8	2.8	.8	.2	.00	.07	.24	.41	.61	.83	1.09	1.42	1.89	2.67	3.44
Mar	2.27	2.14	2.25	1988	3	6.96	1973	.00+	1972	5.4	3.7	1.5	.7	.00	.24	.64	1.00	1.37	1.78	2.26	2.82	3.61	4.89	6.14
Apr	2.47	2.05	2.23	1978	10	8.62	1997	.18	1987	6.1	4.6	1.7	.7	.31	.50	.85	1.20	1.56	1.96	2.43	3.01	3.80	5.09	6.34
May	5.05	4.21	6.63	1982	17	16.46	1982	.30	1988	8.0	6.2	3.0	1.7	.80	1.24	1.97	2.66	3.38	4.17	5.07	6.16	7.63	10.01	12.30
Jun	4.09	3.51	7.51	1948	23	11.23	1989	1.06	1994	7.4	5.7	3.1	1.4	1.19	1.58	2.17	2.68	3.17	3.68	4.25	4.92	5.78	7.14	8.40
Jul	1.99	1.26	3.65	1959	27	7.02	1975	.00	1983	4.6	3.0	1.4	.6	.08	.24	.53	.82	1.14	1.50	1.92	2.44	3.17	4.38	5.56
Aug	2.71	2.03	3.51	1987	13	7.41	1992	.04	2000	5.6	4.0	1.7	.8	.27	.47	.84	1.22	1.63	2.09	2.63	3.31	4.24	5.78	7.29
Sep	3.27	2.48	6.25	1959	24	9.20	1986	.03	2000	5.8	4.3	2.1	1.3	.20	.39	.79	1.23	1.73	2.32	3.04	3.95	5.23	7.40	9.57
Oct	2.94	2.29	5.09	1960	12	9.11	2000	.02	1975	5.3	3.8	1.9	.9	.12	.26	.58	.96	1.42	1.96	2.64	3.52	4.77	6.93	9.12
Nov	1.74	1.40	3.40	1994	20	5.48	1994	.00+	1995	4.5	3.4	1.0	.4	.00	.22	.54	.82	1.10	1.41	1.76	2.17	2.74	3.66	4.54
Dec	1.24	.72	1.70	1980	8	3.75	1991	.00	1976	4.1	2.6	.8	.3	.03	.11	.27	.44	.64	.87	1.15	1.50	2.00	2.84	3.68
Ann	29.91	28.74	7.51	Jun 1948	23	16.46	May 1982	.00+	Jan 1997	64.0	46.0	19.8	9.1	20.33	22.15	24.50	26.29	27.89	29.45	31.06	32.85	35.03	38.21	40.97

+ 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: WEATHERFORD, OK

COOP ID: 349422

Climate Division: OK 4

NWS Call Sign:

Elevation: 1,618 Feet

Lat: 35°31N

Lon: 98°42W

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	2.8	1.4	#	0	7.0	1987	18	11.0	1988	12	1988	11	5	1988	1.2	.9	.3	.1	.0	2.5	1.3	.9	.2
Feb	2.3	.0	#	#	6.0	1971	22	10.0	1971	10	1971	22	1+	1993	.8	.7	.3	.1	.0	1.4	.8	.1	.1
Mar	.3	.0	#	0	2.0	1988	17	5.0	1988	9	1994	9	1	1994	.2	.1	.0	.0	.0	.2	.0	.0	.0
Apr	.1	.0	#	0	1.3	1973	8	1.8	1973	1	1973	8	#	1973	.1	.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	3.0	1991	31	3.0	1991	3	1991	31	#+	1993	.1	.1	.1	.0	.0	@	@	.0	.0
Nov	.6	.0	#	0	3.5	2000	8	3.5+	2000	4	1991	3	1	1991	.3	.3	.1	.0	.0	.4	.2	.0	.0
Dec	2.4	1.4	#	0	5.0	1987	14	11.0	1987	10	1987	15	2	1987	1.4	1.0	.3	.1	.0	2.0	.5	.3	@
Ann	8.6	2.8	N/A	N/A	7.0	Jan 1987	18	11.0+	Jan 1988	12	Jan 1988	11	5	Jan 1988	4.1	3.2	1.1	.3	.0	6.5	2.8	1.3	.3

+ 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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Elevation: 1,618 Feet

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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	4/10	4/07	4/04	3/30
32	4/16	4/12	4/08	4/06	4/03	3/31	3/28	3/25	3/20
28	4/10	4/04	3/31	3/27	3/24	3/20	3/17	3/13	3/07
24	3/28	3/22	3/17	3/13	3/09	3/06	3/01	2/25	2/18
20	3/21	3/12	3/06	3/01	2/24	2/19	2/14	2/08	1/31
16	3/07	2/26	2/20	2/15	2/10	2/05	1/31	1/25	1/16
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	10/07	10/11	10/15	10/19	10/22	10/26	10/30	11/05
32	10/17	10/23	10/27	10/30	11/03	11/06	11/10	11/14	11/20
28	10/24	10/30	11/03	11/07	11/11	11/14	11/18	11/23	11/29
24	10/30	11/07	11/12	11/17	11/21	11/26	11/30	12/06	12/13
20	11/11	11/18	11/23	11/28	12/02	12/06	12/10	12/15	12/22
16	11/18	11/28	12/05	12/11	12/17	12/23	12/29	1/05	1/15
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	210	202	197	193	188	184	180	174	167
32	238	230	223	218	213	208	203	197	188
28	255	247	241	236	231	226	221	215	207
24	283	274	267	261	256	251	245	239	230
20	312	301	293	286	280	273	267	259	248
16	351	332	321	313	306	299	291	282	270

* 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:
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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	927	682	483	225	43	3	0	0	24	150	521	847	3905
60	773	551	336	128	12	0	0	0	6	64	378	692	2940
57	682	475	253	83	5	0	0	0	2	33	298	601	2432
55	622	427	204	59	2	0	0	0	0	19	249	543	2125
50	480	316	107	20	0	0	0	0	0	4	147	401	1475
32	109	65	2	0	0	0	0	0	0	0	5	64	245

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	205	312	543	801	1149	1392	1595	1549	1239	919	475	240	10419
55	6	30	31	171	439	702	882	836	549	225	28	6	3905
57	3	22	18	134	379	642	820	774	491	177	17	2	3479
60	1	14	8	89	293	552	727	681	405	114	7	0	2891
65	0	0	0	37	169	405	572	526	273	46	0	0	2028
70	0	0	0	11	78	267	417	375	165	13	0	0	1326

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	174	350	583	902	1140	1337	1293	1000	686	283	98	75	249	599	1182	2084	3224	4561	5854	6854	7540	7823	7921
45	30	99	233	440	747	990	1182	1138	850	534	176	41	30	129	362	802	1549	2539	3721	4859	5709	6243	6419	6460
50	6	49	134	304	592	840	1027	983	702	387	96	12	6	55	189	493	1085	1925	2952	3935	4637	5024	5120	5132
55	0	17	64	185	439	690	872	828	554	252	45	2	0	17	81	266	705	1395	2267	3095	3649	3901	3946	3948
60	0	2	26	95	294	540	717	673	412	143	14	0	0	2	28	123	417	957	1674	2347	2759	2902	2916	2916
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	66	135	235	363	577	759	873	846	651	430	180	78	66	201	436	799	1376	2135	3008	3854	4505	4935	5115	5193

(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.

- 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/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