

Climatography of the United States No. 20

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

Station: CARRIZO SPRINGS, TX

1971-2000

COOP ID: 411486

Climate Division: TX 9

NWS Call Sign:

Elevation: 613 Feet

Lat: 28°29N

Lon: 99°52W

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	65.2	39.6	52.4	96	1943	23	58.3	1989	12	1962	12	45.2	1977	407	14	.0	.2	27.3	.1	5.5	.0
Feb	70.6	43.7	57.2	101	1986	20	63.8	2000	13+	1951	3	48.7	1978	241	21	.1	.8	26.4	.1	3.0	.0
Mar	78.8	52.0	65.4	107	1954	31	70.6	1972	21+	1980	2	59.2	1996	91	103	.2	4.2	30.9	.0	.7	.0
Apr	85.1	60.0	72.6	111	1984	21	79.7	1984	34+	1987	3	66.5	1997	18	245	.7	9.8	30.0	.0	@	.0
May	90.3	67.8	79.1	109	1984	6	83.7	1998	43	1970	4	74.2	1976	1	436	2.9	18.1	31.0	.0	.0	.0
Jun	95.3	72.9	84.1	114	1942	11	89.9	1998	56	1955	11	80.6	1979	0	573	7.2	26.5	30.0	.0	.0	.0
Jul	98.3	74.2	86.3	112	1960	31	90.2	1980	62+	1917	24	81.7	1976	0	658	15.3	29.8	31.0	.0	.0	.0
Aug	97.6	73.7	85.7	109+	1986	20	88.3	1977	61	1979	26	80.2	1971	0	641	14.9	29.3	31.0	.0	.0	.0
Sep	92.4	69.6	81.0	111	2000	6	85.5	1977	44	1942	27	75.3	1974	0	480	4.2	22.8	30.0	.0	.0	.0
Oct	83.6	60.3	72.0	104	1979	4	75.5	1979	31	1993	31	63.5	1976	15	232	.3	8.5	30.9	.0	.1	.0
Nov	73.5	49.4	61.5	97	1949	29	66.8	1994	22	1970	24	52.7	1976	167	59	.0	.9	29.3	.0	1.1	.0
Dec	65.9	41.2	53.6	98	1951	7	59.0	1984	10	1989	23	43.8	1983	372	16	.0	.1	28.6	@	5.3	.0
Ann	83.1	58.7	70.9	114	Jun 1942	11	90.2	Jul 1980	10	Dec 1989	23	43.8	Dec 1983	1312	3478	45.8	151.0	356.4	.2	15.7	.0

+ 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: 1912-2001

(3) Derived from 1971-2000 serially complete daily data

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Elevation: 613 Feet Lat: 28°29N

Lon: 99°52W

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	1.00	.93	1.72	1931	30	3.71	1992	.00+	1996	5.9	2.3	.6	.1	.00	.05	.18	.33	.50	.69	.93	1.23	1.65	2.36	3.08
Feb	.94	.65	3.40	1990	28	5.29	1990	.00+	1999	4.5	2.0	.5	.2	.00	.04	.16	.30	.46	.64	.86	1.14	1.54	2.22	2.90
Mar	.89	.42	3.36	1994	16	4.79	1994	.00	1978	4.8	1.7	.7	.2	.01	.04	.12	.23	.37	.54	.76	1.05	1.47	2.21	2.97
Apr	1.47	.90	4.20	1946	22	5.29	1981	.00+	1998	4.7	2.5	1.0	.4	.00	.04	.21	.41	.65	.94	1.30	1.77	2.43	3.58	4.74
May	2.96	2.73	5.17	1981	1	8.78	1981	.00	1998	6.8	3.8	1.9	1.0	.27	.60	1.09	1.52	1.96	2.44	2.99	3.65	4.54	5.97	7.35
Jun	2.78	2.33	4.40	1936	28	13.52	1971	.15	1990	5.8	3.9	1.7	1.0	.24	.43	.80	1.18	1.61	2.09	2.66	3.38	4.38	6.04	7.67
Jul	1.26	.59	8.78	1990	16	11.61	1990	.00+	2000	4.1	2.3	.8	.3	.00	.00	.05	.17	.34	.58	.92	1.39	2.11	3.43	4.82
Aug	2.33	1.22	6.00	1971	2	12.46	1971	.00	1985	4.1	2.4	1.2	.7	.02	.10	.32	.61	.97	1.41	1.98	2.75	3.85	5.79	7.76
Sep	1.95	1.48	6.60	1945	29	5.55	1997	.00	1999	6.1	4.1	1.5	.6	.08	.25	.54	.82	1.13	1.48	1.89	2.40	3.10	4.27	5.42
Oct	2.66	2.13	7.50	1945	9	9.37	1971	.00+	1987	5.3	3.1	1.7	1.0	.00	.15	.55	.95	1.39	1.90	2.51	3.27	4.34	6.13	7.90
Nov	1.10	.94	1.94	1980	16	3.36	1980	.00+	1988	4.2	2.3	.7	.2	.00	.00	.24	.42	.61	.82	1.07	1.38	1.78	2.47	3.14
Dec	.87	.63	2.45	1931	7	3.34	1991	.00+	1999	5.6	2.0	.4	.0	.00	.07	.22	.36	.50	.66	.85	1.08	1.39	1.92	2.43
Ann	20.21	19.02	8.78	Jul 1990	16	13.52	Jun 1971	.00+	Jul 2000	61.9	32.4	12.7	5.7	9.77	11.50	13.88	15.78	17.55	19.31	21.19	23.34	26.02	30.06	33.69

+ 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

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(3) Derived from 1971-2000 serially complete daily data

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NWS Call Sign:

Elevation: 613 Feet

Lat: 28°29N

Lon: 99°52W

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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mar	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	.0	.0	N/A	N/A	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.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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NWS Call Sign:

Elevation: 613 Feet

Lat: 28°29N

Lon: 99°52W

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	3/31	3/22	3/15	3/09	3/04	2/26	2/20	2/13	2/04
32	3/21	3/09	2/28	2/21	2/14	2/07	1/31	1/23	1/11
28	2/25	2/16	2/09	2/04	1/29	1/23	1/16	1/05	0/00
24	2/14	2/03	1/25	1/18	1/09	12/30	12/13	0/00	0/00
20	1/13	1/02	12/19	0/00	0/00	0/00	0/00	0/00	0/00
16	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
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	10/30	11/06	11/10	11/14	11/18	11/22	11/26	11/30	12/07
32	11/09	11/18	11/24	11/29	12/04	12/09	12/14	12/21	12/29
28	11/27	12/06	12/12	12/18	12/24	12/30	1/06	1/17	0/00
24	12/05	12/14	12/22	12/28	1/04	1/12	1/23	0/00	0/00
20	12/24	1/06	1/22	0/00	0/00	0/00	0/00	0/00	0/00
16	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	290	279	271	265	259	253	246	238	228
32	338	322	311	301	292	283	274	262	247
28	>365	>365	354	339	330	321	313	303	291
24	>365	>365	>365	>365	>365	349	334	322	309
20	>365	>365	>365	>365	>365	>365	>365	>365	>365
16	>365	>365	>365	>365	>365	>365	>365	>365	>365

* 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	407	241	91	18	1	0	0	0	0	15	167	372	1312
60	278	141	34	3	0	0	0	0	0	3	87	245	791
57	213	96	16	0	0	0	0	0	0	1	53	184	563
55	177	71	9	0	0	0	0	0	0	0	36	149	442
50	99	27	1	0	0	0	0	0	0	0	12	76	215
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	632	704	1035	1217	1458	1563	1681	1664	1470	1239	883	667	14213
55	96	131	331	527	745	873	968	951	780	527	229	103	6261
57	70	101	276	467	683	813	906	889	720	465	186	75	5651
60	41	62	201	381	590	723	813	796	630	374	129	44	4784
65	14	21	103	245	436	573	658	641	480	232	59	16	3478
70	5	6	40	136	290	423	503	486	331	116	20	3	2359

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	423	525	806	985	1219	1325	1443	1429	1248	1020	678	457	423	948	1754	2739	3958	5283	6726	8155	9403	10423	11101	11558
45	291	388	653	835	1064	1175	1288	1274	1098	865	530	321	291	679	1332	2167	3231	4406	5694	6968	8066	8931	9461	9782
50	177	264	503	685	909	1025	1133	1119	948	711	392	196	177	441	944	1629	2538	3563	4696	5815	6763	7474	7866	8062
55	91	164	356	535	754	875	978	964	798	557	268	105	91	255	611	1146	1900	2775	3753	4717	5515	6072	6340	6445
60	39	81	227	390	599	725	823	809	648	407	158	47	39	120	347	737	1336	2061	2884	3693	4341	4748	4906	4953
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	274	335	519	650	819	879	930	930	830	679	440	294	274	609	1128	1778	2597	3476	4406	5336	6166	6845	7285	7579

(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