

Climatology of the United States

No. 20

1971-2000

Station: TULIA, TX

COOP ID: 419175

Climate Division: TX 1

NWS Call Sign:

Elevation: 3,470 Feet Lat: 34° 32N

Lon: 101° 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	50.4	22.2	36.3	88	1950	24	43.1	1986	-8	1962	11	27.1	1979	889	0	.0	.0	17.7	4.0	28.5	.2
Feb	55.3	25.8	40.6	86	1979	15	47.9	1976	-10+	1951	2	30.7	1978	685	0	.0	.0	19.2	2.4	22.2	.4
Mar	63.2	32.0	47.6	94	1989	12	53.2	1974	3	1962	1	43.7	1998	540	0	.0	.1	26.8	.6	16.0	.0
Apr	71.6	40.4	56.0	99	1965	23	61.0	1978	19+	1997	13	49.6	1973	286	15	.0	.9	28.6	@	5.2	.0
May	79.5	50.7	65.1	106	2000	25	72.7	1996	28	1991	1	60.9	1976	92	95	.4	5.4	30.8	.0	.1	.0
Jun	87.9	60.2	74.1	110+	1994	28	79.9	1990	42	1964	1	69.4	1989	10	280	2.4	14.2	30.0	.0	.0	.0
Jul	91.1	64.4	77.8	105+	1995	28	82.3	1998	50	1990	14	74.3	1976	0	395	1.7	20.7	31.0	.0	.0	.0
Aug	89.2	63.0	76.1	102+	1994	19	80.2	1983	49	1956	21	72.4	1971	1	346	.4	17.2	31.0	.0	.0	.0
Sep	83.1	55.8	69.5	104	1983	7	74.2	1998	32+	1985	30	62.2	1974	36	169	.3	8.8	29.8	.0	@	.0
Oct	73.9	44.1	59.0	99	2000	4	62.2	1979	16+	1993	31	52.3	1976	205	18	.0	1.1	30.1	@	2.5	.0
Nov	60.6	31.6	46.1	87	1980	9	51.6	1999	-3	1991	3	39.5	1972	567	0	.0	.0	23.3	.7	16.0	.1
Dec	51.6	23.8	37.7	80	1954	5	42.8	1980	-4+	1990	22	27.8	1983	845	0	.0	.0	18.5	2.9	27.2	.5
Ann	71.5	42.8	57.2	110+	Jun 1994	28	82.3	Jul 1998	-10+	Feb 1951	2	27.1	Jan 1979	4156	1318	5.2	68.4	316.8	10.6	117.7	1.2

+ 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

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1947-2001

(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: TULIA, TX

COOP ID: 419175

Climate Division: TX 1

NWS Call Sign:

Elevation: 3,470 Feet Lat: 34°32N

Lon: 101°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	.59	.48	1.34	1999	30	2.32	1999	.00+	1996	3.6	1.6	.3	.1	.00	.02	.10	.18	.28	.40	.54	.72	.98	1.42	1.86
Feb	.72	.57	1.07	1983	1	2.64	1998	.00+	2000	4.3	2.1	.3	@	.00	.03	.12	.22	.34	.49	.66	.88	1.19	1.73	2.26
Mar	1.05	.83	1.26	1998	16	3.03	1973	.00+	1997	4.1	2.3	.7	.3	.00	.11	.29	.46	.63	.82	1.05	1.31	1.68	2.29	2.87
Apr	1.31	1.18	2.23	1997	25	6.34	1997	.00+	1996	5.3	3.1	.7	.2	.00	.04	.20	.39	.60	.86	1.18	1.58	2.17	3.17	4.17
May	2.99	2.73	3.17	1999	1	7.05	1997	.23	1984	7.6	5.1	2.4	.8	.54	.81	1.25	1.66	2.07	2.52	3.03	3.65	4.47	5.79	7.05
Jun	3.42	2.65	5.18	1985	5	9.98	2000	.46	1990	7.7	5.4	2.3	.8	.51	.79	1.29	1.76	2.25	2.80	3.42	4.18	5.21	6.88	8.49
Jul	2.32	1.97	3.95	1991	14	5.68	1993	.15	1980	6.6	4.1	1.4	.6	.24	.41	.73	1.05	1.40	1.80	2.26	2.83	3.62	4.92	6.20
Aug	2.65	1.87	2.38	1998	28	7.72	1986	.05	2000	7.6	5.1	1.8	.7	.38	.60	.98	1.34	1.73	2.15	2.64	3.23	4.04	5.35	6.62
Sep	2.40	2.17	3.95	1988	15	6.17	1985	.02	2000	6.3	4.1	1.6	.5	.12	.25	.53	.85	1.22	1.66	2.19	2.88	3.86	5.52	7.18
Oct	1.63	.84	3.80	1985	10	6.58	1998	.00+	1992	4.8	3.1	1.0	.4	.00	.03	.18	.38	.64	.97	1.38	1.93	2.72	4.12	5.55
Nov	.87	.89	1.43	1962	26	1.84	1978	.00+	1999	3.9	2.3	.5	@	.00	.07	.22	.35	.50	.66	.85	1.08	1.41	1.94	2.47
Dec	.76	.50	2.11	1959	15	3.10	1991	.00	1976	4.2	2.1	.4	.1	.01	.05	.14	.24	.36	.50	.68	.91	1.24	1.80	2.37
Ann	20.71	20.93	5.18	Jun 1985	5	9.98	Jun 2000	.00+	Feb 2000	66.0	40.4	13.4	4.5	13.96	15.24	16.90	18.17	19.31	20.41	21.55	22.82	24.37	26.62	28.59

+ 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: 1947-2001

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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Station: TULIA, TX

COOP ID: 419175

Climate Division: TX 1

NWS Call Sign:

Elevation: 3,470 Feet

Lat: 34° 32N

Lon: 101° 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	4.1	2.5	#	#	12.0	1983	21	20.0	1983	15	1983	23	4	1983	1.7	1.4	.5	.2	.1	3.0	1.5	.6	.3
Feb	4.3	2.0	#	#	8.0	1983	1	16.0	1983	10	1986	10	3	1983	1.8	1.6	.6	.2	.0	2.4	1.2	.5	.1
Mar	1.1	.1	#	0	3.8	1998	17	6.0	1988	3	1998	17	#+	2000	.7	.6	.1	.0	.0	.5	.1	.0	.0
Apr	.1	.0	#	0	4.0	1983	8	4.0	1983	4	1983	8	#+	1988	.2	.2	.1	.0	.0	.2	.1	.0	.0
May	.0	.0	#	0	.0	0	0	.0	0	#	1982	23	#	1982	.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	.3	.0	#	0	4.0	1976	29	6.0	1976	4	1976	29	#+	2000	.2	.2	@	.0	.0	.1	@	.0	.0
Nov	2.0	.0	#	0	6.0	1980	25	16.0	1980	8	1980	17	1	1980	.8	.7	.3	@	.0	.9	.4	.1	.0
Dec	3.8	3.1	#	#	12.0	1987	14	18.0	1987	15	1987	15	2	1987	1.8	1.4	.4	.1	@	2.0	.7	.4	.2
Ann	15.7	7.7	N/A	N/A	12.0+	Dec 1987	14	20.0	Jan 1983	15+	Dec 1987	15	4	Jan 1983	7.2	6.1	2.0	.5	.1	9.1	4.0	1.6	.6

+ 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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Climate Division: TX 1

NWS Call Sign:

Elevation: 3,470 Feet

Lat: 34° 32N

Lon: 101° 46W

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	5/11	5/07	5/03	5/01	4/28	4/26	4/23	4/20	4/16
32	4/28	4/23	4/19	4/16	4/14	4/11	4/08	4/05	3/31
28	4/18	4/14	4/11	4/08	4/05	4/03	3/31	3/28	3/23
24	4/06	3/31	3/26	3/22	3/19	3/15	3/11	3/06	2/28
20	4/01	3/25	3/20	3/15	3/11	3/07	3/02	2/25	2/17
16	3/18	3/11	3/06	3/02	2/26	2/22	2/18	2/13	2/06
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	9/28	10/03	10/06	10/10	10/13	10/16	10/19	10/22	10/27
32	10/09	10/14	10/18	10/21	10/24	10/27	10/30	11/03	11/08
28	10/21	10/26	10/30	11/02	11/05	11/08	11/12	11/15	11/21
24	11/01	11/07	11/11	11/14	11/17	11/20	11/23	11/27	12/02
20	11/04	11/11	11/16	11/20	11/24	11/27	12/01	12/06	12/13
16	11/12	11/20	11/26	12/01	12/06	12/11	12/16	12/22	12/30
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	183	178	173	170	167	163	160	155	150
32	209	203	199	196	193	189	186	182	176
28	233	226	221	217	213	209	205	200	193
24	270	260	254	248	243	237	232	225	216
20	289	278	270	263	257	251	244	236	225
16	311	301	294	288	282	276	270	263	253

* 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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Climate Division: TX 1 NWS Call Sign: Elevation: 3,470 Feet Lat: 34°32N Lon: 101°46W

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	889	685	540	286	92	10	0	1	36	205	567	845	4156
60	734	545	387	170	34	1	0	0	8	97	422	690	3088
57	641	464	300	115	16	0	0	0	3	54	341	597	2531
55	580	412	245	85	9	0	0	0	0	35	289	536	2191
50	433	285	130	31	1	0	0	0	0	9	179	390	1458
32	62	26	1	0	0	0	0	0	0	0	8	40	137

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	195	265	483	720	1027	1261	1418	1368	1123	837	431	218	9346
55	1	7	15	115	322	571	705	655	434	159	22	1	3007
57	0	3	8	85	267	511	643	593	376	116	14	0	2616
60	0	0	2	50	193	422	550	500	292	66	5	0	2080
65	0	0	0	15	95	280	395	346	169	18	0	0	1318
70	0	0	0	3	35	159	244	199	81	3	0	0	724

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	80	151	295	504	796	1038	1180	1127	887	594	238	92	80	231	526	1030	1826	2864	4044	5171	6058	6652	6890	6982
45	31	78	180	363	642	888	1025	972	737	447	141	40	31	109	289	652	1294	2182	3207	4179	4916	5363	5504	5544
50	3	30	90	238	489	738	870	817	592	309	68	11	3	33	123	361	850	1588	2458	3275	3867	4176	4244	4255
55	0	7	37	135	340	589	715	662	446	183	25	0	0	7	44	179	519	1108	1823	2485	2931	3114	3139	3139
60	0	1	9	62	211	439	560	507	312	88	4	0	0	1	10	72	283	722	1282	1789	2101	2189	2193	2193
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	101	150	240	349	499	665	776	746	569	390	191	102	101	251	491	840	1339	2004	2780	3526	4095	4485	4676	4778

(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/normal/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