

# Climatography of the United States

No. 20

1971-2000

Station: GOLDTHWAITE 1 WSW, TX

COOP ID: 413614

Climate Division: TX 3

NWS Call Sign:

Elevation: 1,500 Feet Lat: 31° 27N

Lon: 98° 35W

## 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	58.6	35.2	46.9	88	1969	8	53.3	1990	4+	1982	11	37.2	1978	568	3	.0	.0	23.5	1.0	13.0	.0
Feb	63.0	39.5	51.3	98	1996	22	58.5	1976	0	1985	2	40.6	1978	395	9	.0	.2	24.1	.7	7.2	@
Mar	70.7	46.6	58.7	98	1974	31	64.6	1974	8+	1989	7	53.9	1987	219	23	.0	.3	29.7	@	2.9	.0
Apr	77.3	54.0	65.7	97+	1984	26	70.1	1972	28	1973	9	60.3	1997	71	91	.0	1.6	30.0	.0	.4	.0
May	82.8	62.1	72.5	103+	1984	6	78.1	1996	40	1978	4	68.3	1976	14	245	.3	5.4	31.0	.0	.0	.0
Jun	88.1	68.4	78.3	107	1980	28	82.0+	1998	50	1964	1	75.0	1983	0	397	.8	14.5	30.0	.0	.0	.0
Jul	92.0	71.1	81.6	108	1964	25	85.4	1980	57	1990	14	76.8	1976	0	512	2.1	26.0	31.0	.0	.0	.0
Aug	91.5	70.8	81.2	110	1964	6	85.5	1999	53	1961	23	75.7	1971	0	501	1.5	24.5	31.0	.0	.0	.0
Sep	86.5	65.5	76.0	108	2000	5	81.8	1977	40+	1984	30	68.2	1974	3	334	.6	12.2	30.0	.0	.0	.0
Oct	78.7	56.5	67.6	97+	1979	7	70.6	1977	26	1993	31	59.3	1976	41	120	.0	1.7	30.8	.0	.3	.0
Nov	67.7	45.6	56.7	89	1980	8	62.5	1973	12	1976	29	49.5	1976	275	23	.0	.0	27.8	.1	3.2	.0
Dec	60.0	37.0	48.5	84	1977	4	54.6	1984	-7	1989	23	37.8	1983	514	2	.0	.0	25.4	.8	10.2	@
Ann	76.4	54.4	65.4	110	Aug 1964	6	85.5	Aug 1999	-7	Dec 1989	23	37.2	Jan 1978	2100	2260	5.3	86.4	344.3	2.6	37.2	.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](http://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: 1923-2001

(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: GOLDTHWAITE 1 WSW, TX**

**COOP ID: 413614**

**Climate Division: TX 3**

**NWS Call Sign:**

**Elevation: 1,500 Feet Lat: 31°27N**

**Lon: 98°35W**

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	1.26	1.18	3.40	1938	23	4.33	1992	.00+	1986	5.2	3.1	.7	.2	.00	.11	.32	.52	.73	.96	1.23	1.56	2.01	2.76	3.49
Feb	2.10	2.03	3.46	1997	20	6.78	1997	.03	1999	5.3	3.7	1.4	.5	.19	.34	.63	.92	1.24	1.60	2.02	2.56	3.29	4.52	5.72
Mar	2.04	1.99	3.24	1998	16	4.48	1997	.00+	1972	6.2	3.7	1.3	.5	.00	.30	.70	1.03	1.35	1.70	2.09	2.55	3.18	4.19	5.15
Apr	2.28	1.77	3.15	1990	26	8.11	1977	.42	1988	5.1	3.7	1.5	.6	.45	.66	.99	1.30	1.61	1.95	2.32	2.78	3.38	4.34	5.26
May	3.85	3.57	4.32	1956	1	8.31	1987	.33	1977	7.9	5.5	2.7	1.2	.98	1.34	1.90	2.40	2.88	3.40	3.97	4.65	5.53	6.93	8.24
Jun	3.81	3.23	6.60	1985	6	13.21	1997	.25	1994	6.8	4.9	2.5	1.1	.55	.87	1.42	1.95	2.50	3.10	3.80	4.65	5.80	7.67	9.48
Jul	1.76	1.07	4.37	1938	23	7.65	1971	.00	1993	3.9	2.8	1.0	.6	.04	.14	.36	.60	.89	1.21	1.62	2.13	2.85	4.09	5.31
Aug	1.95	1.35	3.13	1960	10	6.54	1974	.00	1973	5.1	3.3	1.3	.5	.02	.10	.31	.57	.87	1.25	1.72	2.33	3.21	4.74	6.28
Sep	2.79	2.28	5.52	1955	23	5.94	1974	.00+	1982	5.1	3.8	1.8	.9	.00	.26	.74	1.18	1.64	2.15	2.75	3.47	4.46	6.10	7.69
Oct	3.11	2.40	7.20	1969	5	8.69	1971	.26	1980	5.9	4.2	2.0	1.1	.29	.51	.92	1.36	1.83	2.36	3.00	3.79	4.88	6.70	8.49
Nov	2.05	1.30	3.43	2000	3	7.58	2000	.00	1999	5.4	3.4	1.4	.5	.16	.38	.71	1.01	1.32	1.66	2.06	2.54	3.18	4.24	5.25
Dec	1.78	1.28	4.65	1991	20	8.43	1991	.02	1973	5.6	3.2	1.2	.3	.05	.12	.30	.52	.79	1.13	1.55	2.11	2.91	4.32	5.75
Ann	28.78	28.65	7.20	Oct 1969	5	13.21	Jun 1997	.00+	Nov 1999	67.5	45.3	18.8	8.0	18.15	20.12	22.68	24.66	26.45	28.19	30.01	32.04	34.53	38.19	41.39

+ 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: 1923-2001

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

Complete documentation available from:  
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**Climate Division: TX 3**

**NWS Call Sign:**

**Elevation: 1,500 Feet**

**Lat: 31°27N**

**Lon: 98°35W**

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	-9.9	-9.9	-9.9	-9.9	-9.9	.0	.0	.0	.0
Feb	#	.0	0	0	#	1979	17	#	1979	0	0	0	0	0	-9.9	-9.9	-9.9	-9.9	-9.9	.0	.0	.0	.0
Mar	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	-9.9	-9.9	-9.9	-9.9	-9.9	.0	.0	.0	.0
Apr	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	-9.9	-9.9	-9.9	-9.9	-9.9	.0	.0	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	-9.9	-9.9	-9.9	-9.9	-9.9	.0	.0	.0	.0
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	-9.9	-9.9	-9.9	-9.9	-9.9	.0	.0	.0	.0
Jul	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	-9.9	-9.9	-9.9	-9.9	-9.9	.0	.0	.0	.0
Aug	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	-9.9	-9.9	-9.9	-9.9	-9.9	.0	.0	.0	.0
Sep	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	-9.9	-9.9	-9.9	-9.9	-9.9	.0	.0	.0	.0
Oct	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	-9.9	-9.9	-9.9	-9.9	-9.9	.0	.0	.0	.0
Nov	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	-9.9	-9.9	-9.9	-9.9	-9.9	.0	.0	.0	.0
Dec	#	#	#	0	#	1989	22	#+	1989	#	1989	22	#	1989	-9.9	-9.9	-9.9	-9.9	-9.9	.0	.0	.0	.0
Ann	#	#	N/A	N/A	#+	Dec 1989	22	#+	Dec 1989	#	Dec 1989	22	#	Dec 1989	-9.9	-9.9	-9.9	-9.9	-9.9	.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

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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	4/17	4/12	4/08	4/05	4/02	3/30	3/27	3/23	3/18
32	4/09	4/03	3/29	3/24	3/20	3/16	3/12	3/07	2/28
28	3/26	3/18	3/11	3/06	3/01	2/24	2/19	2/12	2/04
24	3/13	3/04	2/26	2/21	2/16	2/11	2/06	1/31	1/23
20	2/27	2/17	2/09	2/03	1/27	1/21	1/13	1/01	0/00
16	2/15	2/05	1/29	1/22	1/15	1/08	12/27	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	10/23	10/29	11/01	11/05	11/08	11/11	11/14	11/18	11/24
32	10/27	11/02	11/07	11/11	11/15	11/19	11/23	11/28	12/05
28	11/05	11/13	11/18	11/23	11/28	12/03	12/08	12/13	12/21
24	11/16	11/24	11/30	12/05	12/10	12/14	12/20	12/26	1/03
20	11/28	12/07	12/13	12/18	12/24	12/29	1/05	1/15	0/00
16	12/12	12/22	12/30	1/05	1/13	1/21	2/06	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	243	235	229	224	219	215	210	204	196
32	264	256	249	244	239	234	229	223	215
28	303	292	284	277	271	265	258	251	240
24	324	314	307	301	296	290	284	277	268
20	>365	>365	>365	357	336	324	314	303	290
16	>365	>365	>365	>365	>365	356	341	328	313

\* 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	568	395	219	71	14	0	0	0	3	41	275	514	2100
60	425	271	116	20	2	0	0	0	0	9	167	370	1380
57	345	208	71	8	0	0	0	0	0	3	116	289	1040
55	296	172	48	3	0	0	0	0	0	1	88	240	848
50	194	98	15	0	0	0	0	0	0	0	38	142	487
32	13	2	0	0	0	0	0	0	0	0	0	3	18

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	474	540	827	1010	1254	1387	1535	1524	1320	1102	738	514	12225
55	44	66	162	323	541	697	822	811	630	391	136	38	4661
57	31	46	123	267	479	637	760	749	570	331	104	25	4122
60	18	26	75	190	388	547	667	656	480	244	65	13	3369
65	3	9	23	91	245	397	512	501	334	120	23	2	2260
70	0	0	5	30	129	250	357	347	200	40	6	0	1364

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	284	372	597	789	1032	1173	1316	1302	1103	869	513	307	284	656	1253	2042	3074	4247	5563	6865	7968	8837	9350	9657
45	177	253	450	639	877	1023	1161	1147	953	716	378	196	177	430	880	1519	2396	3419	4580	5727	6680	7396	7774	7970
50	95	156	312	490	722	873	1006	992	803	563	258	105	95	251	563	1053	1775	2648	3654	4646	5449	6012	6270	6375
55	43	84	193	348	567	723	851	837	653	411	152	48	43	127	320	668	1235	1958	2809	3646	4299	4710	4862	4910
60	14	36	100	218	412	573	696	682	505	271	77	17	14	50	150	368	780	1353	2049	2731	3236	3507	3584	3601
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	188	236	373	505	696	812	893	883	753	574	318	199	188	424	797	1302	1998	2810	3703	4586	5339	5913	6231	6430

(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:  
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## 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](http://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"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
|---|---|

## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)