U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: GONZALES 1 N, TX **COOP ID: 413622**

Climate Division: TX 7 **NWS Call Sign:** **Elevation: 380 Feet** **Lat: 29˚32N** **Lon: 97˚27W**

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	60.7	38.7	49.7	89+	1971	31	56.6	1998	12+	1982	12	41.5	1977	488	5	.0	.0	24.8	.4	8.2	.0
Feb	65.0	42.2	53.6	96	1986	21	61.0	1999	15+	1989	7	43.4	1978	332	13	.0	.2	25.0	.3	4.5	.0
Mar	72.3	49.9	61.1	100	1971	29	66.7	1974	18	1980	2	55.1	1996	158	36	@	.6	30.1	.0	1.5	.0
Apr	78.5	56.1	67.3	98+	1984	27	71.7	1972	31	1987	4	62.8	1997	45	115	.0	2.1	30.0	.0	.1	.0
May	84.5	64.9	74.7	102	1984	8	80.3	1996	44+	1984	10	69.8	1976	6	308	@	8.1	31.0	.0	.0	.0
Jun	90.2	70.8	80.5	108+	1998	15	86.1	1998	50	1984	1	77.8	1973	0	466	1.0	20.6	30.0	.0	.0	.0
Jul	93.9	73.0	83.5	105+	1984	18	87.7	1998	59	1967	16	79.5	1976	0	571	5.5	28.0	31.0	.0	.0	.0
Aug	93.9	72.4	83.2	107	1986	20	86.4	1999	58+	1967	15	79.3	1971	0	562	4.8	27.9	31.0	.0	.0	.0
Sep	89.0	67.7	78.4	111	2000	6	81.6	1977	47+	1989	26	72.5	1974	0	400	1.0	18.9	30.0	.0	.0	.0
Oct	81.1	57.9	69.5	98	1977	1	72.3	1988	28	1993	31	60.6	1976	28	169	.0	5.1	30.9	.0	@	.0
Nov	70.7	48.1	59.4	93	1969	9	65.3	1973	21	1993	27	51.9	1976	216	48	.0	.1	29.1	.0	1.8	.0
Dec	62.9	40.4	51.7	86+	1977	6	60.0	1984	4+	1989	24	41.7	1989	425	11	.0	.0	26.5	.3	6.6	.0
Ann	78.6	56.8	67.7	111	Sep 2000	6	87.7	Jul 1998	4+	Dec 1989	24	41.5	Jan 1977	1698	2704	12.3	111.6	349.4	1.0	22.7	.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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1915-2001

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

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	2.36	2.07	3.05	1989	20	7.83	1991	.01	1971
Feb	2.08	1.89	2.70+	1992	4	8.68	1992	.16	1974
Mar	2.22	2.14	2.69	1945	30	4.46	1983	.05	1971
Apr	3.04	2.51	4.19	1977	16	10.48	1977	.18	1984
May	5.43	5.42	4.30	1972	11	15.19	1972	.06	1996
Jun	4.24	3.39	6.10	1987	4	20.23	1987	.14	1980
Jul	1.60	1.28	3.12	1975	1	5.34	1990	.00	1993
Aug	2.68	1.58	16.31	1981	31	17.05	1981	.13	1993
Sep	3.20	2.87	7.20	1967	22	7.14	1974	.19	1993
Oct	3.87	2.42	11.83	1998	18	20.47	1998	.37	1979
Nov	2.84	2.17	5.05	1940	5	7.51	2000	.20	1999
Dec	2.46	1.98	2.75	1991	22	9.63	1991	.40	1985
Ann	36.02	35.36	16.31	Aug 1981	31	20.47	Oct 1998	.00	Jul 1993

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.7	4.3	1.5	.7
Feb	7.4	4.0	1.3	.6
Mar	7.0	3.8	1.6	.6
Apr	6.8	3.7	1.9	1.0
May	8.2	5.7	3.3	2.0
Jun	7.6	5.1	2.5	1.2
Jul	5.0	3.0	1.1	.6
Aug	5.7	3.8	1.4	.5
Sep	7.3	5.0	2.2	.9
Oct	6.5	4.3	2.4	1.3
Nov	7.2	4.2	1.9	.9
Dec	8.1	4.5	1.5	.8
Ann	85.5	51.4	22.6	11.1

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.15	.29	.59	.91	1.27	1.70	2.21	2.86	3.77	5.31	6.84
Feb	.19	.33	.61	.90	1.21	1.57	2.00	2.53	3.26	4.49	5.69
Mar	.38	.58	.90	1.20	1.52	1.85	2.24	2.71	3.33	4.34	5.31
Apr	.18	.35	.72	1.13	1.60	2.15	2.82	3.68	4.88	6.92	8.95
May	.69	1.12	1.89	2.65	3.45	4.33	5.36	6.63	8.35	11.17	13.90
Jun	.36	.65	1.21	1.80	2.45	3.18	4.06	5.16	6.68	9.22	11.71
Jul	.04	.15	.36	.59	.85	1.14	1.50	1.95	2.58	3.65	4.71
Aug	.10	.22	.51	.85	1.26	1.76	2.38	3.20	4.36	6.37	8.41
Sep	.60	.89	1.35	1.79	2.23	2.71	3.25	3.90	4.77	6.16	7.49
Oct	.22	.44	.91	1.43	2.03	2.73	3.58	4.67	6.20	8.81	11.40
Nov	.48	.72	1.14	1.53	1.93	2.36	2.86	3.47	4.28	5.59	6.84
Dec	.34	.54	.89	1.23	1.59	1.98	2.44	3.00	3.75	4.99	6.18
Ann	21.01	23.70	27.26	30.04	32.56	35.05	37.66	40.59	44.21	49.56	54.29

\+ 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: 1915-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	#	.0	#	0
Feb	.0	.0	0	0
Mar	.0	.0	0	0
Apr	.0	.0	0	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.0	.0	0	0
Nov	.0	.0	0	0
Dec	#	.0	#	0
Ann	#	.0	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	#	1997	12	#	1997	7	1985	13	#+	1997
Feb	.0	0	0	.0	0	0	0	0	0	0
Mar	.0	0	0	.0	0	0	0	0	0	0
Apr	.0	0	0	.0	0	0	0	0	0	0
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	.0	0	0	.0	0	0	0	0	0	0
Nov	.0	0	0	.0	0	0	0	0	0	0
Dec	#	1996	16	#+	1996	#	1996	16	#	1996
Ann	#+	Jan 1997	12	#+	Jan 1997	7	Jan 1985	13	#+	Jan 1997

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.0	.0	.0	.0	.0
Feb	.0	.0	.0	.0	.0
Mar	.0	.0	.0	.0	.0
Apr	.0	.0	.0	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.0	.0	.0	.0	.0
Dec	.0	.0	.0	.0	.0
Ann	.0	.0	.0	.0	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.0	.0	.0	.0
Feb	.0	.0	.0	.0
Mar	.0	.0	.0	.0
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	.0	.0	.0	.0
Dec	.0	.0	.0	.0
Ann	.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	4/06	3/29	3/24	3/19	3/14	3/10	3/05	2/27	2/20
32	3/21	3/14	3/08	3/03	2/26	2/22	2/17	2/11	2/03
28	3/06	2/24	2/16	2/10	2/03	1/28	1/21	1/13	12/31
24	2/21	2/10	2/01	1/25	1/18	1/09	12/29	0/00	0/00
20	2/09	1/28	1/19	1/10	12/29	0/00	0/00	0/00	0/00
16	1/13	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	10/28	11/03	11/08	11/12	11/15	11/19	11/22	11/27	12/03
32	11/07	11/15	11/21	11/26	12/01	12/05	12/10	12/16	12/24
28	11/19	11/27	12/03	12/08	12/13	12/18	12/23	12/30	1/09
24	12/03	12/13	12/20	12/27	1/02	1/10	1/22	0/00	0/00
20	12/17	12/30	1/09	1/19	2/01	0/00	0/00	0/00	0/00
16	1/08	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	272	263	256	250	245	240	234	227	218
32	310	298	290	283	277	270	263	255	244
28	>365	338	326	317	310	304	297	290	279
24	>365	>365	>365	>365	355	340	329	318	305
20	>365	>365	>365	>365	>365	>365	>365	348	333
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

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Degree Days to Selected Base Temperatures (˚F)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	488	332	158	45	6	0	0	0	0	28	216	425	1698
60	352	217	71	10	0	0	0	0	0	6	126	290	1072
57	280	162	38	2	0	0	0	0	0	2	85	221	790
55	238	131	23	0	0	0	0	0	0	1	62	181	636
50	151	66	5	0	0	0	0	0	0	0	25	101	348
32	9	0	0	0	0	0	0	0	0	0	0	0	9

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	557	605	901	1059	1324	1456	1594	1585	1390	1163	822	610	13066
55	73	92	212	370	611	766	881	872	700	451	194	78	5300
57	53	67	164	312	549	706	819	810	640	390	156	55	4721
60	32	39	105	229	456	616	726	717	550	302	108	31	3911
65	5	13	36	115	308	466	571	562	400	169	48	11	2704
70	2	2	8	42	177	316	416	407	256	69	16	1	1712

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	350	439	684	846	1105	1244	1373	1367	1178	947	610	403	350	789	1473	2319	3424	4668	6041	7408	8586	9533	10143	10546
45	231	312	534	696	950	1094	1218	1212	1028	792	469	274	231	543	1077	1773	2723	3817	5035	6247	7275	8067	8536	8810
50	138	199	390	547	795	944	1063	1057	878	637	333	167	138	337	727	1274	2069	3013	4076	5133	6011	6648	6981	7148
55	71	115	256	400	640	794	908	902	728	483	218	92	71	186	442	842	1482	2276	3184	4086	4814	5297	5515	5607
60	30	56	147	267	485	644	753	747	578	339	126	45	30	86	233	500	985	1629	2382	3129	3707	4046	4172	4217
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	225	274	433	558	768	850	926	911	799	634	388	258	225	499	932	1490	2258	3108	4034	4945	5744	6378	6766	7024

(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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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 are 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/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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