

Climatography of the United States

No. 20

1971-2000

Station: LA GRANGE, TX

COOP ID: 414903

Climate Division: TX 7

NWS Call Sign:

Elevation: 357 Feet Lat: 29°55N Lon: 96°53W

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	62.6	41.4	52.0	86	1975	26	58.3	1998	9	1982	11	43.3	1978	420	8	.0	.0	26.3	.3	7.3	.0
Feb	67.1	44.5	55.8	99	1996	21	63.0	1999	15	1985	2	46.9	1978	274	16	.0	.2	25.7	.3	3.7	.0
Mar	74.4	51.4	62.9	97	1971	28	69.2	1974	19	1980	2	58.6	1996	118	54	.0	.4	30.6	.0	1.2	.0
Apr	80.5	57.7	69.1	98	1963	9	72.9	1972	28	1987	3	64.5	1973	26	150	.0	1.8	30.0	.0	@	.0
May	86.3	65.7	76.0	103	1996	29	82.5	1996	45+	1992	8	72.1	1976	3	344	.3	7.7	31.0	.0	.0	.0
Jun	91.7	71.4	81.6	106	1998	14	87.4	1998	54	1970	3	78.4	1973	0	496	1.8	21.5	30.0	.0	.0	.0
Jul	95.9	73.1	84.5	108+	1998	14	89.5	1998	59	1967	16	81.0	1976	0	605	8.1	28.9	31.0	.0	.0	.0
Aug	96.0	72.8	84.4	107	2000	31	86.9+	1993	58	1967	13	80.7	1973	0	601	8.4	28.9	31.0	.0	.0	.0
Sep	90.6	68.1	79.4	110	2000	4	83.2	1977	45+	1989	25	73.6	1974	0	432	1.7	19.2	30.0	.0	.0	.0
Oct	82.8	59.5	71.2	98	1989	1	73.5	1998	27	1993	31	62.8	1976	16	207	.0	6.0	31.0	.0	.1	.0
Nov	71.8	50.4	61.1	91+	1989	9	68.1	1973	21+	1993	27	53.8	1976	181	64	.0	.1	29.3	.0	1.8	.0
Dec	64.3	42.9	53.6	87	1995	3	62.4	1984	3	1989	23	43.8	1989	371	17	.0	.0	28.0	.3	5.7	.0
Ann	80.3	58.2	69.3	110	Sep 2000	4	89.5	Jul 1998	3	Dec 1989	23	43.3	Jan 1978	1409	2994	20.3	114.7	353.9	.9	19.8	.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: 1910-2001

(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: LA GRANGE, TX

COOP ID: 414903

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NWS Call Sign:

Elevation: 357 Feet Lat: 29°55N

Lon: 96°53W

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	3.05	2.36	3.72	1932	4	7.68	1989	.07	1996	7.2	5.0	2.2	.8	.27	.49	.90	1.32	1.78	2.31	2.93	3.71	4.79	6.58	8.34
Feb	2.88	2.38	3.65	1990	28	7.82	1992	.28	1996	6.4	4.6	1.9	.9	.48	.73	1.15	1.54	1.95	2.39	2.90	3.51	4.33	5.66	6.93
Mar	2.55	2.03	6.24	1988	18	7.66	1988	.35	1971	6.9	4.6	1.6	.5	.58	.82	1.19	1.53	1.86	2.22	2.61	3.09	3.71	4.70	5.64
Apr	2.99	2.56	6.31	1960	30	10.25	1976	.00	1983	5.5	4.2	2.0	.8	.14	.41	.86	1.30	1.77	2.30	2.92	3.69	4.74	6.48	8.18
May	4.82	4.56	6.67	1975	24	12.08	1975	.00	1996	7.4	6.3	3.3	1.5	.51	1.09	1.90	2.60	3.30	4.06	4.92	5.95	7.33	9.53	11.63
Jun	4.41	3.59	9.41	1940	29	12.02	1973	.84	1982	6.4	5.2	2.9	1.2	.94	1.35	2.00	2.58	3.17	3.80	4.51	5.35	6.47	8.26	9.95
Jul	2.25	1.83	8.25	1936	1	5.83	1990	.00+	1994	4.6	3.6	1.7	.8	.00	.32	.75	1.12	1.48	1.86	2.30	2.81	3.51	4.65	5.73
Aug	2.81	2.53	5.10	1981	31	7.85	1974	.00	1985	5.5	4.1	1.6	.9	.07	.24	.61	1.00	1.45	1.98	2.61	3.42	4.55	6.47	8.38
Sep	3.68	2.99	8.20	1961	12	9.43	1974	.29	2000	5.9	5.0	2.2	1.2	.49	.78	1.31	1.82	2.36	2.96	3.65	4.50	5.65	7.53	9.36
Oct	4.47	3.14	9.11	1994	17	14.57	1994	.20	1987	6.0	5.0	2.3	1.4	.33	.61	1.18	1.80	2.48	3.27	4.22	5.42	7.09	9.90	12.68
Nov	3.36	2.34	5.50	1981	1	8.84	2000	.30	1988	6.1	4.9	2.1	1.1	.47	.74	1.23	1.69	2.18	2.72	3.34	4.11	5.14	6.83	8.45
Dec	3.04	2.75	3.11	1930	4	8.70	1991	.29	1980	6.7	5.3	2.1	.9	.53	.79	1.24	1.65	2.08	2.54	3.07	3.71	4.56	5.94	7.26
Ann	40.31	40.21	9.41	Jun 1940	29	14.57	Oct 1994	.00+	May 1996	74.6	57.8	25.9	12.0	25.08	27.88	31.54	34.38	36.94	39.44	42.05	44.97	48.56	53.83	58.46

+ 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: 1910-2001

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

Complete documentation available from:
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COOP ID: 414903

Climate Division: TX 7

NWS Call Sign:

Elevation: 357 Feet

Lat: 29°55N

Lon: 96°53W

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	.1	.0	#	0	2.0	1973	11	2.0	1973	2	1973	11	#+	1975	.1	.1	.0	.0	.0	.1	.0	.0	.0
Feb	#	.0	#	0	#	1996	3	#+	1996	#	1996	3	#	1996	.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	1	1971	17	#	1971	.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	#	1976	29	#	1976	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	#	.0	0	0	#	1996	16	#+	1996	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	.1	.0	N/A	N/A	2.0	Jan 1973	11	2.0	Jan 1973	2	Jan 1973	11	#+	Feb 1996	.1	.1	.0	.0	.0	.1	.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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Lat: 29° 55N

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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	4/07	3/30	3/25	3/21	3/16	3/12	3/08	3/02	2/23
32	3/21	3/13	3/08	3/03	2/26	2/22	2/17	2/12	2/04
28	3/15	3/03	2/23	2/15	2/09	2/02	1/26	1/17	1/05
24	2/25	2/14	2/06	1/30	1/23	1/15	1/05	0/00	0/00
20	2/10	1/30	1/22	1/14	1/05	12/20	0/00	0/00	0/00
16	1/18	1/06	12/22	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	10/25	11/01	11/06	11/11	11/15	11/19	11/23	11/28	12/05
32	10/31	11/08	11/14	11/18	11/23	11/27	12/02	12/08	12/16
28	11/18	11/26	12/02	12/07	12/12	12/17	12/22	12/28	1/05
24	12/03	12/12	12/20	12/26	1/02	1/10	1/21	0/00	0/00
20	12/17	12/29	1/08	1/17	1/28	2/16	0/00	0/00	0/00
16	12/30	1/11	1/27	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	269	260	254	248	243	238	232	225	216
32	298	288	281	275	269	263	257	249	239
28	345	330	320	312	305	297	289	280	268
24	>365	>365	>365	>365	346	332	322	313	301
20	>365	>365	>365	>365	>365	>365	352	340	326
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	420	274	118	26	3	0	0	0	0	16	181	371	1409
60	290	167	46	4	0	0	0	0	0	3	101	245	856
57	225	118	21	0	0	0	0	0	0	1	65	184	614
55	188	90	12	0	0	0	0	0	0	0	46	149	485
50	109	37	2	0	0	0	0	0	0	0	17	76	241
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	619	665	959	1113	1364	1486	1628	1624	1422	1213	873	669	13635
55	94	111	257	423	651	796	915	911	732	501	229	106	5726
57	69	83	205	364	589	736	853	849	672	439	188	78	5125
60	41	48	136	278	496	646	760	756	582	348	134	46	4271
65	8	16	54	150	344	496	605	601	432	207	64	17	2994
70	6	5	13	62	206	346	450	446	286	94	23	4	1941

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	399	483	719	880	1125	1254	1395	1391	1196	975	643	443	399	882	1601	2481	3606	4860	6255	7646	8842	9817	10460	10903
45	276	350	565	730	970	1104	1240	1236	1046	820	498	305	276	626	1191	1921	2891	3995	5235	6471	7517	8337	8835	9140
50	173	233	420	580	815	954	1085	1081	896	667	360	192	173	406	826	1406	2221	3175	4260	5341	6237	6904	7264	7456
55	95	136	282	434	660	804	930	926	746	517	239	108	95	231	513	947	1607	2411	3341	4267	5013	5530	5769	5877
60	44	70	161	295	505	654	775	771	596	369	141	55	44	114	275	570	1075	1729	2504	3275	3871	4240	4381	4436
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	245	297	463	591	781	861	929	922	809	655	408	275	245	542	1005	1596	2377	3238	4167	5089	5898	6553	6961	7236

(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