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: LAMPASAS, TX **COOP ID: 415018**

Climate Division: TX 6 **NWS Call Sign:** **Elevation: 1,032 Feet** **Lat: 31˚04N** **Lon: 98˚11W**

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	57.8	30.4	44.1	95+	1943	23	51.0	1990	-12	1949	31	36.3	1979	648	0	.0	.0	22.3	.9	20.3	.0
Feb	62.4	34.6	48.5	99	1996	23	54.8	1976	-11	1949	1	39.1	1978	462	0	.0	.2	23.4	.8	13.3	.0
Mar	70.1	42.5	56.3	100	1971	29	62.9	1974	12+	1980	3	51.0	1996	284	14	@	.5	29.4	.0	6.4	.0
Apr	77.2	50.5	63.9	103	1925	18	69.0	1972	24+	1971	7	58.4	1997	106	71	.0	1.5	29.9	.0	1.7	.0
May	83.1	60.6	71.9	104	1927	28	78.0	1996	32+	1903	2	67.5	1976	18	231	.2	5.2	31.0	.0	.0	.0
Jun	89.5	68.1	78.8	108	1980	28	83.2	1990	47+	1933	15	75.7	1995	0	413	.7	16.4	30.0	.0	.0	.0
Jul	94.1	70.7	82.4	112	1917	11	86.6	1978	52+	1947	21	78.2	1976	0	540	4.0	27.0	31.0	.0	.0	.0
Aug	94.1	69.4	81.8	112	1909	18	85.0	1982	48	1915	31	76.8	1971	0	520	3.6	26.3	31.0	.0	.0	.0
Sep	88.2	63.2	75.7	108	1939	2	81.6	1977	33	1942	27	68.9	1974	4	326	.7	15.1	30.0	.0	.0	.0
Oct	79.2	52.1	65.7	104	1898	2	68.6	1979	20	1993	31	57.0	1976	69	90	.1	2.7	30.9	.0	.9	.0
Nov	67.7	41.0	54.4	93+	1980	9	60.0	1973	12+	1979	30	47.3	1976	332	12	.0	.1	27.9	.1	7.8	.0
Dec	59.5	32.6	46.1	90	1951	31	53.2	1984	-7	1929	22	37.5+	1989	587	0	.0	.0	24.5	.5	17.4	.1
Ann	76.9	51.3	64.1	112+	Jul 1917	11	86.6	Jul 1978	-12	Jan 1949	31	36.3	Jan 1979	2510	2217	9.3	95.0	341.3	2.3	67.8	.1

+ 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: 1897-2001

(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	1.50	1.27	2.68	1968	20	3.97	1992	.00	1971
Feb	2.34	2.35	3.10	1992	4	7.83	1992	.07	1999
Mar	2.31	2.08	3.75	1968	11	6.36	1999	.12	1971
Apr	2.48	2.02	4.85	1922	5	6.11	1977	.38	1983
May	4.37	4.57	6.95	1957	13	7.89	1992	.81	1998
Jun	3.49	3.20	4.76	1959	24	7.93	1993	.51	1994
Jul	1.68	1.26	3.75	1998	4	6.25	1971	.00	1993
Aug	2.42	1.61	4.53	1964	16	11.93	1974	.00	1993
Sep	2.61	2.33	5.86	1945	29	7.70	1990	.15	1999
Oct	3.33	3.25	6.75	1959	4	10.09	1986	.32	1980
Nov	2.32	2.19	4.10	1940	23	5.29	1992	.38	1975
Dec	2.23	1.94	6.05	1913	2	9.88	1991	.24	1977
Ann	31.08	31.12	6.95	May 1957	13	11.93	Aug 1974	.00+	Aug 1993

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.4	3.8	.8	.2
Feb	6.7	3.8	1.6	.8
Mar	7.7	4.2	1.5	.6
Apr	6.9	4.1	1.7	.6
May	8.7	6.5	3.1	1.4
Jun	7.7	5.2	2.2	1.0
Jul	4.7	2.9	1.2	.5
Aug	6.0	3.5	1.3	.6
Sep	6.6	4.4	1.9	.7
Oct	6.7	4.4	2.4	1.1
Nov	6.5	4.1	1.6	.6
Dec	6.9	4.2	1.3	.5
Ann	82.5	51.1	20.6	8.6

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	.12	.28	.53	.75	.98	1.22	1.51	1.85	2.32	3.07	3.80
Feb	.17	.31	.61	.93	1.29	1.70	2.20	2.83	3.71	5.20	6.67
Mar	.31	.50	.83	1.15	1.49	1.86	2.30	2.83	3.55	4.72	5.86
Apr	.46	.68	1.04	1.38	1.72	2.09	2.51	3.02	3.69	4.78	5.82
May	1.33	1.74	2.36	2.90	3.42	3.96	4.55	5.24	6.14	7.55	8.85
Jun	.65	.96	1.47	1.94	2.43	2.94	3.54	4.25	5.20	6.72	8.17
Jul	.05	.17	.40	.64	.91	1.22	1.59	2.06	2.71	3.81	4.90
Aug	.03	.15	.42	.75	1.13	1.59	2.16	2.90	3.96	5.78	7.62
Sep	.33	.54	.91	1.27	1.65	2.08	2.58	3.19	4.02	5.39	6.71
Oct	.51	.79	1.27	1.73	2.21	2.73	3.33	4.06	5.05	6.65	8.20
Nov	.42	.62	.96	1.28	1.60	1.95	2.35	2.83	3.47	4.50	5.48
Dec	.28	.46	.78	1.09	1.41	1.78	2.20	2.72	3.42	4.58	5.70
Ann	20.46	22.46	25.04	27.03	28.81	30.54	32.34	34.35	36.80	40.38	43.50

\+ 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: 1897-2001
(3) Derived from 1971-2000 serially complete daily data

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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	.5	.0	#	0
Feb	.3	.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	.4	.0	#	0
Dec	.0	.0	#	0
Ann	1.2	.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	2.0	1973	11	2.0+	1982	2+	1982	14	#+	1982
Feb	2.5	1973	9	2.5	1973	3	1973	9	#+	1988
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	5.0	1976	13	5.0	1976	5	1976	13	#	1976
Dec	.5	1989	22	.5	1989	1	1989	22	#+	1990
Ann	5.0	Nov 1976	13	5.0	Nov 1976	5	Nov 1976	13	#+	Dec 1990

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.4	.3	.0	.0	.0
Feb	.4	.2	.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	.1	.1	.1	.1	.0
Dec	.1	.0	.0	.0	.0
Ann	1.0	.6	.1	.1	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.1	.0	.0	.0
Feb	@	@	.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
Dec	@	.0	.0	.0
Ann	.1	@	@	.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	4/26	4/20	4/16	4/12	4/08	4/05	4/01	3/27	3/21
32	4/18	4/12	4/08	4/04	4/01	3/29	3/25	3/21	3/15
28	4/09	4/01	3/27	3/22	3/18	3/14	3/09	3/04	2/24
24	3/19	3/12	3/06	3/01	2/25	2/20	2/16	2/10	2/03
20	3/06	2/25	2/18	2/12	2/06	2/01	1/25	1/18	1/06
16	2/24	2/13	2/05	1/28	1/21	1/12	1/01	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	10/08	10/14	10/19	10/23	10/27	10/30	11/03	11/08	11/14
32	10/18	10/25	10/30	11/03	11/07	11/10	11/14	11/19	11/26
28	10/27	11/03	11/08	11/12	11/16	11/19	11/23	11/28	12/05
24	11/09	11/17	11/23	11/28	12/02	12/07	12/12	12/18	12/26
20	11/20	11/29	12/06	12/12	12/17	12/23	12/29	1/06	1/22
16	12/05	12/14	12/22	12/28	1/04	1/12	1/24	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	227	218	211	206	201	195	190	183	174
32	241	234	228	223	219	214	210	204	197
28	269	260	253	247	242	236	231	224	214
24	310	300	292	286	280	274	267	260	249
20	>365	347	332	322	314	306	298	289	276
16	>365	>365	>365	>365	350	335	325	314	302

***** 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	648	462	284	106	18	0	0	0	4	69	332	587	2510
60	499	330	164	41	3	0	0	0	0	21	211	436	1705
57	412	256	109	19	1	0	0	0	0	8	151	351	1307
55	356	210	79	10	0	0	0	0	0	4	118	296	1073
50	233	119	28	1	0	0	0	0	0	1	55	179	616
32	15	2	0	0	0	0	0	0	0	0	0	4	21

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	390	464	753	956	1236	1403	1563	1543	1312	1044	670	440	11774
55	19	28	119	276	523	713	850	830	622	335	98	19	4432
57	13	18	87	224	462	653	788	768	562	277	71	12	3935
60	6	8	49	156	371	563	695	675	472	197	40	4	3236
65	0	0	14	71	231	413	540	520	326	90	12	0	2217
70	0	0	2	22	120	266	385	366	195	29	2	0	1387

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	205	291	515	708	980	1154	1305	1288	1070	798	444	242	205	496	1011	1719	2699	3853	5158	6446	7516	8314	8758	9000
45	115	183	371	559	825	1004	1150	1133	920	644	313	145	115	298	669	1228	2053	3057	4207	5340	6260	6904	7217	7362
50	55	107	245	413	670	854	995	978	770	491	201	74	55	162	407	820	1490	2344	3339	4317	5087	5578	5779	5853
55	23	52	139	278	515	704	840	823	621	350	115	33	23	75	214	492	1007	1711	2551	3374	3995	4345	4460	4493
60	2	19	66	166	362	554	685	668	475	217	56	10	2	21	87	253	615	1169	1854	2522	2997	3214	3270	3280
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	173	222	348	471	655	786	867	850	715	532	300	187	173	395	743	1214	1869	2655	3522	4372	5087	5619	5919	6106

(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.
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