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: STERLING CITY, TX **COOP ID: 418630**

Climate Division: TX 6 **NWS Call Sign:** **Elevation: 2,265 Feet** **Lat: 31˚50N** **Lon: 100˚59W**

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	57.4	27.4	42.4	86	2000	20	48.1	2000	1	1982	11	34.3	1979	702	0	.0	.0	23.7	1.3	20.5	.0
Feb	63.0	32.2	47.6	94	1996	23	56.0	1976	-13	1985	2	39.6	1985	487	0	.0	.1	24.2	.8	13.7	@
Mar	71.3	39.6	55.5	98	1971	28	64.4	1974	4	1980	2	48.7	1987	309	13	.0	.8	29.7	.1	6.4	.0
Apr	79.9	49.0	64.5	100	1972	14	72.6	1972	20	1973	9	58.7	1973	108	93	@	5.6	29.9	.0	1.5	.0
May	86.6	58.9	72.8	109	2000	25	80.2	2000	32	1967	2	67.1	1992	27	268	2.0	12.1	31.0	.0	.0	.0
Jun	91.8	66.5	79.2	112	1994	27	84.2	1990	45	1970	2	75.0	1987	0	424	3.3	22.0	30.0	.0	.0	.0
Jul	94.7	69.1	81.9	109+	1989	18	87.0	1998	53	1988	22	76.3	1976	0	525	6.4	27.4	31.0	.0	.0	.0
Aug	93.8	68.1	81.0	108+	1977	24	84.9	1999	51	1992	28	76.2	1971	0	494	4.2	25.6	31.0	.0	.0	.0
Sep	87.2	61.4	74.3	106+	2000	12	81.4	1977	32	1989	24	67.4	1974	16	294	1.5	14.4	30.0	.0	@	.0
Oct	79.0	49.7	64.4	104+	1979	8	69.9	1979	23	1993	31	56.8	1976	97	75	.2	3.5	30.7	.0	1.2	.0
Nov	67.5	38.1	52.8	93	1980	8	59.3	1973	10	1979	30	47.3	1976	374	7	.0	.1	27.5	.1	8.5	.0
Dec	59.5	29.0	44.3	84+	1981	21	48.4	1971	-7	1989	23	35.1	1983	644	0	.0	.0	25.7	.7	18.9	@
Ann	77.6	49.1	63.4	112	Jun 1994	27	87.0	Jul 1998	-13	Feb 1985	2	34.3	Jan 1979	2764	2193	17.6	111.6	344.4	3.0	70.7	.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: 1926-2001

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

Issue Date: February 2004

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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	.85	.59	2.27	1961	8	2.80	1983	.00+	1998
Feb	.91	.54	2.01	1997	20	3.71	1997	.00+	1999
Mar	.91	.79	2.34	1977	27	2.64	1979	.00+	1980
Apr	1.43	.98	3.90	1941	26	4.63	1992	.00+	1998
May	2.79	2.24	4.27	1947	10	6.59	1978	.52	1984
Jun	2.33	2.29	2.70	1938	25	5.17	1982	.00	1973
Jul	1.40	.77	6.53	1948	6	4.68	1976	.00	1980
Aug	1.87	1.79	2.55	1953	19	4.78	1991	.03	2000
Sep	3.29	3.21	5.50	1936	17	10.77	1980	.01	1998
Oct	1.84	1.40	4.25	1957	13	5.18	1974	.00	1995
Nov	.85	.74	3.05	1975	2	3.50	1996	.00+	1999
Dec	.93	.57	3.15	1926	7	5.18	1991	.00+	1996
Ann	19.40	19.19	6.53	Jul 1948	6	10.77	Sep 1980	.00+	Nov 1999

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	2.8	1.9	.6	.2
Feb	2.9	2.4	.6	.1
Mar	3.2	2.0	.6	.2
Apr	3.6	2.5	1.1	.4
May	5.5	4.2	1.9	.8
Jun	4.3	3.4	1.5	.8
Jul	3.5	2.5	.9	.3
Aug	4.5	3.5	1.3	.7
Sep	4.8	3.9	1.9	1.0
Oct	4.2	3.0	1.2	.5
Nov	2.7	1.9	.5	.1
Dec	2.3	1.8	.7	.1
Ann	44.3	33.0	12.8	5.2

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	.00	.00	.00	.22	.41	.60	.82	1.09	1.46	2.07	2.65
Feb	.00	.00	.11	.27	.44	.63	.85	1.14	1.53	2.18	2.84
Mar	.00	.00	.11	.27	.44	.63	.85	1.14	1.53	2.18	2.84
Apr	.00	.07	.27	.49	.72	1.00	1.33	1.75	2.34	3.34	4.33
May	.47	.71	1.12	1.50	1.90	2.32	2.81	3.40	4.20	5.48	6.71
Jun	.25	.53	.91	1.25	1.59	1.96	2.37	2.87	3.53	4.60	5.61
Jul	.04	.13	.32	.51	.74	1.00	1.31	1.71	2.27	3.20	4.14
Aug	.20	.34	.60	.86	1.14	1.45	1.82	2.29	2.92	3.96	4.98
Sep	.10	.24	.58	.99	1.49	2.11	2.88	3.90	5.37	7.92	10.52
Oct	.08	.24	.51	.78	1.07	1.40	1.78	2.26	2.92	4.01	5.08
Nov	.00	.00	.00	.23	.41	.60	.82	1.09	1.45	2.06	2.63
Dec	.00	.00	.00	.15	.32	.54	.79	1.13	1.60	2.42	3.23
Ann	11.47	12.89	14.78	16.25	17.58	18.90	20.27	21.81	23.71	26.52	29.00

\+ 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: 1926-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	.7	.0	#	0	7.0	1982	13	7.0	1982	2	1985	14	1	1985	.3	.2	.1	.1	.0	.0	.0	.0	.0
Feb	.3	.0	0	0	3.3	1987	20	3.3	1987	0	0	0	0	0	.2	.1	.1	.0	.0	.0	.0	.0	.0
Mar	.4	.0	#	0	5.0	1989	5	7.0	1989	5	1989	5	#	1989	.2	.1	.1	.1	.0	.1	@	@	.0
Apr	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.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	.2	.0	0	0	3.5	2000	8	3.5	2000	0	0	0	0	0	.1	.1	.1	.0	.0	.0	.0	.0	.0
Dec	.5	.0	#	0	5.5	1998	12	5.5	1998	3	1998	12	#+	1998	.2	.1	.1	.1	.0	@	@	.0	.0
Ann	2.1	.0	N/A	N/A	7.0	Jan 1982	13	7.0+	Mar 1989	5	Mar 1989	5	1	Jan 1985	1.0	.6	.5	.3	.0	.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	4/21	4/18	4/15	4/12	4/10	4/07	4/04	3/30
32	4/20	4/15	4/11	4/08	4/04	4/01	3/29	3/25	3/20
28	4/12	4/05	3/31	3/27	3/23	3/19	3/15	3/10	3/03
24	4/02	3/25	3/19	3/14	3/09	3/04	2/27	2/20	2/11
20	3/23	3/13	3/07	3/01	2/23	2/18	2/11	2/04	1/24
16	3/06	2/23	2/15	2/08	2/01	1/25	1/17	1/08	12/20

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	10/01	10/07	10/11	10/15	10/18	10/21	10/25	10/29	11/04
32	10/14	10/21	10/26	10/30	11/03	11/07	11/11	11/16	11/23
28	10/25	10/31	11/05	11/09	11/13	11/16	11/20	11/25	12/02
24	10/31	11/07	11/12	11/17	11/21	11/25	11/29	12/05	12/13
20	11/10	11/17	11/23	11/28	12/03	12/07	12/12	12/18	12/28
16	11/21	12/01	12/09	12/16	12/22	12/29	1/06	1/16	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	209	202	196	192	188	184	179	174	167
32	237	228	222	217	212	207	201	195	187
28	262	252	245	239	234	228	222	215	205
24	297	280	270	263	256	250	243	235	224
20	328	308	297	289	281	273	266	257	244
16	>365	>365	359	336	323	312	301	290	276

***** 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	702	487	309	108	27	0	0	0	16	97	374	644	2764
60	548	356	185	45	8	0	0	0	3	35	244	489	1913
57	460	281	128	22	3	0	0	0	0	15	179	400	1488
55	403	235	96	13	1	0	0	0	0	8	142	343	1241
50	269	140	38	2	0	0	0	0	0	1	70	212	732
32	18	4	0	0	0	0	0	0	0	0	0	5	27

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	340	441	728	975	1264	1414	1548	1517	1268	1002	624	385	11506
55	11	28	110	298	552	724	835	804	578	296	75	10	4321
57	7	18	80	247	492	664	773	742	518	242	53	4	3840
60	1	9	45	179	404	574	680	649	431	168	28	1	3169
65	0	0	13	93	268	424	525	494	294	75	7	0	2193
70	0	0	2	37	158	279	370	341	177	25	0	0	1389

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	192	295	524	753	1036	1194	1317	1281	1049	771	420	227	192	487	1011	1764	2800	3994	5311	6592	7641	8412	8832	9059
45	104	185	384	604	881	1044	1162	1126	899	617	291	123	104	289	673	1277	2158	3202	4364	5490	6389	7006	7297	7420
50	46	99	255	461	726	894	1007	971	750	470	178	57	46	145	400	861	1587	2481	3488	4459	5209	5679	5857	5914
55	18	40	144	323	573	744	852	816	600	326	94	23	18	58	202	525	1098	1842	2694	3510	4110	4436	4530	4553
60	0	11	68	201	420	594	697	661	456	196	36	1	0	11	79	280	700	1294	1991	2652	3108	3304	3340	3341
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	177	235	368	500	676	787	863	837	690	507	291	194	177	412	780	1280	1956	2743	3606	4443	5133	5640	5931	6125

(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