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: STEPHENVILLE 1 N, TX **COOP ID: 418623**

Climate Division: TX 5 **NWS Call Sign: SEP** **Elevation: 1,309 Feet** **Lat: 32˚15N** **Lon: 98˚12W**

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	55.0	30.0	42.5	87	2000	20	49.1	1990	-2	1949	31	32.9	1978	699	0	.0	.0	20.9	1.8	17.0	.0
Feb	59.8	35.0	47.4	96	1996	23	55.0	1976	2	1951	2	36.3	1978	495	2	.0	.1	21.9	.8	10.1	.0
Mar	67.7	42.3	55.0	95	1954	10	60.3	1974	9	1948	11	50.9	1996	316	6	.0	.3	29.2	.1	4.0	.0
Apr	75.3	51.0	63.2	103	1925	18	67.5	1981	27+	1989	11	58.1	1997	111	56	.0	1.5	29.9	.0	.4	.0
May	81.8	60.0	70.9	103	1984	5	78.0	1996	38+	1981	11	66.8	1976	27	210	.1	5.2	31.0	.0	.0	.0
Jun	88.8	67.5	78.2	109	1980	28	82.1	1980	51+	1989	16	74.4	1983	0	394	.9	15.4	30.0	.0	.0	.0
Jul	93.6	70.1	81.9	111	1925	27	86.7	1978	49	1931	16	77.7	1976	0	522	4.6	26.2	31.0	.0	.0	.0
Aug	93.4	69.3	81.4	108	1925	12	86.8	1999	38	1952	1	76.1	1971	0	508	4.6	25.3	31.0	.0	.0	.0
Sep	86.5	63.0	74.8	110	1953	27	81.3	1977	33	1942	27	67.1	1974	8	301	.6	13.1	30.0	.0	.0	.0
Oct	77.6	52.2	64.9	103	1951	3	69.2	1979	21	1993	31	56.8	1976	84	81	@	2.5	30.8	.0	.3	.0
Nov	65.5	40.9	53.2	92	1980	8	59.1	1999	11	1950	11	46.2	1976	363	9	.0	@	27.0	.1	5.2	.0
Dec	57.1	33.0	45.1	88	1955	24	50.5	1984	-8	1989	23	34.0	1983	620	0	.0	.0	22.8	1.1	14.0	.1
Ann	75.2	51.2	63.2	111	Jul 1925	27	86.8	Aug 1999	-8	Dec 1989	23	32.9	Jan 1978	2723	2089	10.8	89.6	335.5	3.9	51.0	.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: 1918-2001

(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	1.31	1.27	2.74	1961	8	3.16	1991	.00	1986
Feb	1.86	1.18	2.48	1997	20	8.30	1997	.03	1999
Mar	2.35	1.95	3.65	1977	27	5.85	1979	.43	1974
Apr	2.53	2.19	4.20	1957	27	7.27	1990	.30	1998
May	4.35	4.18	9.71	1956	1	9.65	1987	.85	1976
Jun	3.41	2.69	5.35	1989	13	9.42	1989	.40	1978
Jul	1.47	1.44	4.60	1958	6	3.25	1990	.00	1993
Aug	2.41	1.55	6.47	1995	1	9.49	1995	.00+	2000
Sep	2.80	3.05	3.81	1955	23	6.02	1994	.01	1977
Oct	3.28	2.26	6.93	1959	4	8.23	1991	.31	1980
Nov	1.97	1.84	7.01	1918	5	5.11	1998	.23	1988
Dec	1.97	1.59	4.36	1991	20	8.59	1991	.12	1996
Ann	29.71	29.07	9.71	May 1956	1	9.65	May 1987	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	6.4	3.1	.8	.3
Feb	6.2	3.4	1.3	.5
Mar	6.7	4.2	1.4	.5
Apr	6.4	3.8	1.8	.6
May	8.6	6.0	2.9	1.2
Jun	7.4	5.1	2.2	.8
Jul	5.2	2.7	1.1	.5
Aug	5.7	3.5	1.3	.8
Sep	6.3	3.9	1.7	.9
Oct	7.5	5.1	2.3	1.1
Nov	6.5	3.5	1.1	.5
Dec	6.3	3.7	1.3	.4
Ann	79.2	48.0	19.2	8.1

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	.12	.27	.49	.68	.88	1.09	1.33	1.62	2.01	2.64	3.24
Feb	.13	.24	.48	.73	1.02	1.35	1.75	2.26	2.97	4.17	5.35
Mar	.47	.69	1.03	1.35	1.67	2.01	2.39	2.86	3.47	4.46	5.39
Apr	.45	.68	1.05	1.39	1.74	2.12	2.56	3.08	3.78	4.91	5.98
May	1.28	1.69	2.31	2.85	3.37	3.92	4.52	5.23	6.14	7.57	8.90
Jun	.54	.83	1.33	1.80	2.28	2.81	3.42	4.16	5.15	6.75	8.29
Jul	.08	.23	.45	.67	.90	1.15	1.45	1.81	2.31	3.13	3.92
Aug	.00	.14	.49	.85	1.26	1.72	2.27	2.96	3.93	5.57	7.18
Sep	.24	.43	.80	1.19	1.61	2.10	2.68	3.40	4.41	6.09	7.74
Oct	.42	.69	1.15	1.61	2.09	2.62	3.24	4.00	5.04	6.73	8.36
Nov	.24	.39	.67	.94	1.23	1.55	1.93	2.40	3.04	4.08	5.10
Dec	.16	.30	.56	.83	1.13	1.47	1.88	2.40	3.12	4.31	5.49
Ann	18.94	20.93	23.54	25.55	27.36	29.13	30.97	33.02	35.53	39.22	42.45

\+ 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: 1918-2001
(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	.9	.0	#	0
Feb	.2	.0	#	0
Mar	.2	.0	#	0
Apr	#	.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
Nov	.0	.0	#	0
Dec	.8	.0	#	0
Ann	2.1	.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	4.0	1978	22	5.0	1985	4	1978	22	2	1978
Feb	2.0	1984	20	2.0	1984	1	1996	2	#+	1996
Mar	2.0	1989	5	2.4	1989	1	1978	3	#	1978
Apr	#	1992	2	#	1992	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	#	1993	29	#	1993	0	0	0	0	0
Nov	.3	1993	25	.3	1993	1	1996	25	#+	1996
Dec	6.0	1986	11	6.0	1986	3	1983	16	#+	2000
Ann	6.0	Dec 1986	11	6.0	Dec 1986	4	Jan 1978	22	2	Jan 1978

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.6	.3	.2	.0	.0
Feb	.4	.1	.0	.0	.0
Mar	.2	.1	.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	.0	.0	.0	.0
Dec	.4	.2	.1	.1	.0
Ann	1.7	.7	.3	.1	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.2	.1	.0	.0
Feb	.1	.0	.0	.0
Mar	.1	.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	.2	.0	.0	.0
Ann	.6	.1	.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	4/20	4/15	4/12	4/09	4/06	4/04	4/01	3/29	3/24
32	4/09	4/03	3/29	3/26	3/22	3/18	3/14	3/10	3/03
28	4/01	3/24	3/18	3/13	3/08	3/03	2/26	2/20	2/12
24	3/12	3/04	2/27	2/22	2/17	2/12	2/07	2/02	1/24
20	3/04	2/21	2/14	2/08	2/01	1/26	1/19	1/10	12/24
16	2/19	2/09	2/01	1/25	1/18	1/10	12/29	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	10/21	10/26	10/29	11/01	11/04	11/07	11/10	11/14	11/19
32	10/27	11/02	11/06	11/09	11/13	11/16	11/19	11/23	11/29
28	11/04	11/10	11/14	11/18	11/21	11/24	11/28	12/02	12/08
24	11/13	11/20	11/25	11/30	12/04	12/08	12/13	12/18	12/26
20	11/23	12/01	12/07	12/12	12/17	12/22	12/28	1/04	1/17
16	12/08	12/18	12/26	1/02	1/10	1/19	2/05	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	230	223	219	215	211	208	204	199	193
32	257	249	244	239	235	231	226	221	213
28	286	276	269	263	257	252	245	238	228
24	316	307	300	295	289	284	279	272	263
20	>365	355	337	327	319	311	304	295	284
16	>365	>365	>365	>365	362	346	334	322	308

***** 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	699	495	316	111	27	0	0	0	8	84	363	620	2723
60	551	365	184	41	6	0	0	0	0	29	235	472	1883
57	464	291	122	17	2	0	0	0	0	12	172	385	1465
55	408	246	89	9	0	0	0	0	0	6	136	331	1225
50	280	154	33	1	0	0	0	0	0	1	67	211	747
32	28	7	0	0	0	0	0	0	0	0	0	11	46

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	352	438	713	935	1206	1383	1545	1531	1282	1020	636	414	11455
55	19	33	90	254	493	693	832	818	592	313	82	21	4240
57	13	22	61	202	433	633	770	756	532	257	58	13	3750
60	7	12	29	135	344	543	677	663	442	181	31	7	3071
65	0	2	6	56	210	394	522	508	301	81	9	0	2089
70	0	0	0	15	108	250	367	356	177	26	0	0	1299

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	208	299	521	720	983	1155	1316	1305	1067	803	439	244	208	507	1028	1748	2731	3886	5202	6507	7574	8377	8816	9060
45	118	193	380	571	828	1005	1161	1150	917	649	310	141	118	311	691	1262	2090	3095	4256	5406	6323	6972	7282	7423
50	59	111	249	427	673	855	1006	995	767	500	199	71	59	170	419	846	1519	2374	3380	4375	5142	5642	5841	5912
55	26	53	147	289	518	705	851	840	617	353	112	33	26	79	226	515	1033	1738	2589	3429	4046	4399	4511	4544
60	3	19	70	166	368	555	696	685	471	224	53	11	3	22	92	258	626	1181	1877	2562	3033	3257	3310	3321
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	147	200	328	458	656	798	879	864	710	520	275	162	147	347	675	1133	1789	2587	3466	4330	5040	5560	5835	5997

(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