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: LITTLEFIELD 2 NW, TX **COOP ID: 415265**

Climate Division: TX 1 **NWS Call Sign:** **Elevation: 3,505 Feet** **Lat: 33˚56N** **Lon: 102˚21W**

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	53.0	22.7	37.9	83	1975	27	43.3	1986	-6	1979	2	28.9	1979	843	0	.0	.0	19.2	3.4	28.1	.3
Feb	58.5	26.4	42.5	85+	1996	23	50.5	1976	-4	1985	1	34.1	1978	631	0	.0	.0	21.0	1.8	21.7	.1
Mar	66.6	32.3	49.5	94	1989	12	55.9	1974	6	1996	7	45.1	1987	482	0	.0	.2	27.9	.4	15.1	.0
Apr	74.4	40.9	57.7	99	1996	28	63.2	1978	19	1994	6	51.3	1983	245	25	.0	.9	29.0	.0	4.4	.0
May	82.7	51.6	67.2	109	2000	25	74.9	1996	31	1970	2	64.1	1983	69	136	.8	7.0	30.8	.0	.0	.0
Jun	90.1	60.7	75.4	112	1994	28	82.5	1990	43	1969	14	71.6	1983	7	318	3.3	16.3	30.0	.0	.0	.0
Jul	92.0	64.4	78.2	109	1978	16	82.5	1998	54	1987	15	73.9	1975	0	408	2.6	20.8	31.0	.0	.0	.0
Aug	89.5	62.7	76.1	103	1994	19	79.3	1985	47	1979	25	71.5	1971	1	345	.4	17.1	31.0	.0	.0	.0
Sep	83.9	55.4	69.7	103	1995	7	74.8	1998	31	2000	25	62.0	1974	36	175	.3	8.5	29.8	.0	.1	.0
Oct	75.3	43.9	59.6	102	2000	3	63.4	1998	16+	1993	30	53.4	1976	188	21	.1	1.0	30.2	@	2.1	.0
Nov	62.7	32.3	47.5	86+	1996	21	53.5	1999	2	1991	3	40.5	2000	526	0	.0	.0	24.4	.5	15.0	.0
Dec	54.3	24.5	39.4	77+	1987	8	45.0	1980	-4+	1990	24	30.7	1983	795	0	.0	.0	20.0	2.4	26.5	.5
Ann	73.6	43.2	58.4	112	Jun 1994	28	82.5+	Jul 1998	-6	Jan 1979	2	28.9	Jan 1979	3823	1428	7.5	71.8	324.3	8.5	113.0	.9

\+ 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: 1966-2001

(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	.55	.33	1.22	1999	28	2.13	1999	.00+	2000
Feb	.52	.34	.91	1990	20	1.54	1975	.00+	2000
Mar	.75	.41	1.42	1999	17	2.57	1999	.00+	1997
Apr	1.11	.89	2.25	1999	30	4.64	1997	.00+	1996
May	2.24	2.04	2.92	1971	31	6.06	1972	.03	2000
Jun	3.04	2.38	5.10	1999	21	8.54	1999	.26	1990
Jul	2.44	2.02	3.40	1996	10	6.90	1975	.22	1980
Aug	2.80	2.36	3.28	1966	24	8.69	1974	.27	1982
Sep	2.26	1.73	2.25	1969	10	6.18	1971	.00	2000
Oct	1.52	.79	2.80	1985	10	5.39	1998	.00+	1992
Nov	.77	.59	1.92	2001	16	2.47	1986	.00+	1999
Dec	.69	.36	1.05	1974	31	2.77	1991	.00+	1996
Ann	18.69	18.63	5.10	Jun 1999	21	8.69	Aug 1974	.00+	Sep 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	3.3	1.4	.3	.1
Feb	3.6	1.8	.2	.0
Mar	3.3	1.6	.5	.2
Apr	4.2	2.8	.7	.1
May	6.4	4.2	1.6	.6
Jun	7.1	4.7	1.9	.7
Jul	6.4	4.1	1.5	.6
Aug	7.3	4.7	2.1	.8
Sep	6.3	4.1	1.7	.5
Oct	4.7	2.8	1.0	.4
Nov	3.0	1.8	.5	.1
Dec	3.5	1.9	.4	.1
Ann	59.1	35.9	12.4	4.2

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	.02	.10	.20	.32	.47	.67	.95	1.43	1.92
Feb	.00	.00	.04	.11	.19	.30	.43	.61	.87	1.32	1.79
Mar	.00	.00	.10	.23	.37	.53	.71	.94	1.26	1.79	2.31
Apr	.00	.00	.13	.29	.48	.71	.99	1.35	1.86	2.73	3.62
May	.21	.36	.66	.98	1.32	1.70	2.16	2.73	3.52	4.83	6.11
Jun	.36	.60	1.03	1.45	1.90	2.41	2.99	3.71	4.70	6.31	7.88
Jul	.29	.48	.82	1.16	1.53	1.93	2.40	2.98	3.77	5.07	6.33
Aug	.43	.67	1.08	1.46	1.86	2.30	2.81	3.42	4.25	5.59	6.88
Sep	.19	.44	.81	1.14	1.48	1.85	2.28	2.79	3.49	4.61	5.69
Oct	.00	.03	.16	.34	.58	.88	1.26	1.78	2.53	3.85	5.20
Nov	.00	.00	.12	.24	.37	.53	.71	.95	1.27	1.82	2.36
Dec	.00	.00	.09	.21	.34	.48	.65	.87	1.17	1.65	2.14
Ann	11.27	12.61	14.39	15.77	17.01	18.24	19.52	20.96	22.73	25.34	27.63

\+ 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: 1966-2001
(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	2.3	.0	#	0	11.0	1983	21	15.0	1983	1	1982	13	#+	2000	.8	.6	.1	@	@	.0	.0	.0	.0
Feb	1.6	.0	#	0	5.0	1986	10	12.0	1973	3	1975	23	#+	1998	.6	.5	.2	@	.0	.1	.1	.0	.0
Mar	.3	.0	#	0	3.0	1994	1	3.0	1994	#+	1999	14	#+	1999	.2	.1	@	.0	.0	.0	.0	.0	.0
Apr	.5	.0	#	0	3.0	1983	6	8.0	1983	#+	1999	15	#+	1999	.3	.3	@	.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	#	1993	30	#	1993	1	1999	17	#+	1999	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	1.1	.0	#	0	8.0	1980	17	13.3	1980	2	1982	25	#+	1997	.5	.4	.1	.1	.0	.1	.0	.0	.0
Dec	1.7	.0	#	0	8.0	1982	27	8.5	1971	7	2000	26	#+	2000	.5	.5	.3	.1	.0	.4	.3	.1	.0
Ann	7.5	.0	N/A	N/A	11.0	Jan 1983	21	15.0	Jan 1983	7	Dec 2000	26	#+	Dec 2000	2.9	2.4	.7	.2	@	.6	.4	.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	5/07	5/02	4/29	4/25	4/23	4/20	4/17	4/13	4/08
32	4/22	4/18	4/15	4/13	4/11	4/08	4/06	4/03	3/30
28	4/12	4/08	4/05	4/02	3/31	3/29	3/26	3/23	3/19
24	4/09	4/02	3/29	3/25	3/22	3/18	3/14	3/10	3/04
20	3/26	3/19	3/14	3/09	3/05	3/01	2/24	2/19	2/12
16	3/20	3/11	3/04	2/27	2/22	2/17	2/11	2/05	1/27

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	9/28	10/04	10/07	10/10	10/13	10/16	10/20	10/23	10/29
32	10/06	10/12	10/17	10/21	10/25	10/28	11/01	11/06	11/13
28	10/24	10/29	11/02	11/05	11/08	11/10	11/13	11/17	11/22
24	11/02	11/07	11/11	11/14	11/17	11/20	11/23	11/27	12/02
20	11/06	11/13	11/18	11/23	11/27	12/01	12/05	12/10	12/17
16	11/12	11/21	11/27	12/02	12/07	12/12	12/17	12/23	12/31

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	196	188	183	178	173	169	164	158	150
32	217	210	205	200	196	192	188	183	176
28	238	232	228	224	221	217	214	209	204
24	263	255	249	244	240	235	230	224	216
20	294	284	277	271	266	260	254	247	237
16	317	307	300	293	287	281	275	268	257

***** 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	843	631	482	245	69	7	0	1	36	188	526	795	3823
60	688	491	331	140	24	0	0	0	9	84	384	640	2791
57	595	411	247	91	10	0	0	0	3	45	305	548	2255
55	533	358	196	65	6	0	0	0	0	28	255	487	1928
50	388	235	95	22	1	0	0	0	0	6	153	343	1243
32	42	13	0	0	0	0	0	0	0	0	5	27	87

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	222	306	541	769	1090	1301	1431	1367	1129	856	469	255	9736
55	1	7	24	145	382	611	718	654	439	171	29	2	3183
57	0	3	13	111	325	551	656	592	382	126	18	1	2778
60	0	0	4	69	245	462	563	499	298	72	8	0	2220
65	0	0	0	25	136	318	408	345	175	21	0	0	1428
70	0	0	0	6	60	191	256	199	86	3	0	0	801

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	88	161	323	535	848	1067	1188	1127	891	612	266	108	88	249	572	1107	1955	3022	4210	5337	6228	6840	7106	7214
45	33	88	200	391	694	917	1033	972	741	460	157	45	33	121	321	712	1406	2323	3356	4328	5069	5529	5686	5731
50	5	36	106	265	539	767	878	817	591	318	80	11	5	41	147	412	951	1718	2596	3413	4004	4322	4402	4413
55	0	10	46	156	389	617	723	662	445	189	30	0	0	10	56	212	601	1218	1941	2603	3048	3237	3267	3267
60	0	0	13	72	247	468	568	507	308	90	3	0	0	0	13	85	332	800	1368	1875	2183	2273	2276	2276
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	112	164	267	370	533	687	780	744	573	400	208	122	112	276	543	913	1446	2133	2913	3657	4230	4630	4838	4960

(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