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: MCCAMEY, TX **COOP ID: 415707**

Climate Division: TX 6 **NWS Call Sign:** **Elevation: 2,450 Feet** **Lat: 31˚08N** **Lon: 102˚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	60.7	33.1	46.9	88	1943	23	52.3	1998	-2	1962	11	40.5	1979	561	0	.0	.0	24.6	.7	16.8	.0
Feb	66.1	37.6	51.9	92+	1996	22	58.9	2000	-1	1985	2	45.3	1978	372	3	.0	.2	25.1	.4	9.3	@
Mar	74.0	44.5	59.3	99	1946	31	64.9	1974	12	1980	2	52.9	1987	205	26	.0	.9	30.4	.0	3.0	.0
Apr	81.7	52.6	67.2	103+	1937	27	73.1	1986	26	1938	7	61.2	1997	63	127	.1	6.5	29.9	.0	.3	.0
May	89.1	61.4	75.3	109+	2000	24	82.2	1996	35	1970	3	69.8	1992	12	330	2.8	15.2	31.0	.0	.0	.0
Jun	94.2	69.0	81.6	113+	1994	27	87.5	1980	44	1970	2	77.3	1987	0	498	5.3	23.8	30.0	.0	.0	.0
Jul	95.6	72.0	83.8	112	1932	31	89.7	1980	60+	1952	9	78.1	1976	0	581	6.4	27.1	31.0	.0	.0	.0
Aug	94.3	70.9	82.6	113	1936	12	86.9	1977	55	1944	31	76.7	1971	0	546	3.9	25.9	31.0	.0	.0	.0
Sep	88.5	65.1	76.8	108+	1959	1	83.4	1977	38	1989	24	69.5	1974	5	358	1.3	16.2	30.0	.0	.0	.0
Oct	80.1	55.3	67.7	103+	2000	2	71.7	1979	26	1993	31	60.2	1976	47	130	.2	3.5	30.7	.0	.3	.0
Nov	69.1	42.8	56.0	92	1988	4	61.2	1985	12	1976	29	48.9	1976	291	20	.0	@	28.2	@	4.7	.0
Dec	61.6	34.7	48.2	91	1954	4	52.3+	1984	6+	1989	23	40.8	1983	521	0	.0	.0	26.0	.5	14.6	.0
Ann	79.6	53.3	66.4	113+	Jun 1994	27	89.7	Jul 1980	-2	Jan 1962	11	40.5	Jan 1979	2077	2619	20.0	119.3	347.9	1.6	49.0	@

+ 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: 1932-2001

(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	.47	.28	1.68	1994	21	1.79	1994	.00+	1996
Feb	.56	.29	1.32	1997	19	2.46	1992	.00+	2000
Mar	.41	.15	1.84	1999	27	2.14	1999	.00+	1996
Apr	.93	.74	1.88	1941	26	3.97	1981	.00+	1998
May	1.61	1.43	3.35	1932	28	5.30	1972	.00	2000
Jun	1.55	1.46	3.54	1978	3	4.34	1978	.02	1994
Jul	.94	.58	2.95	1992	18	4.32	1992	.00+	1980
Aug	1.95	1.67	2.72	1999	1	5.10	1996	.03+	2000
Sep	2.68	2.01	6.70	1974	19	13.80	1974	.00+	2000
Oct	2.06	.93	9.13	1986	4	21.13	1986	.00+	1996
Nov	.59	.41	3.02	2001	15	2.32	1996	.00+	1999
Dec	.70	.42	1.50	1986	10	4.49	1986	.00+	1996
Ann	14.45	13.65	9.13	Oct 1986	4	21.13	Oct 1986	.00+	Sep 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	3.1	1.5	.1	.1
Feb	2.9	1.4	.3	.1
Mar	2.3	1.1	.2	.1
Apr	2.6	1.9	.6	.3
May	4.7	3.0	1.1	.3
Jun	3.9	2.6	1.2	.4
Jul	3.8	2.0	.5	.1
Aug	4.7	3.4	1.3	.5
Sep	5.1	3.6	1.8	.8
Oct	4.2	2.4	1.0	.5
Nov	2.4	1.4	.5	@
Dec	3.1	1.8	.5	.1
Ann	42.8	26.1	9.1	3.3

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	.05	.11	.19	.29	.40	.56	.78	1.16	1.55
Feb	.00	.00	.02	.10	.20	.32	.48	.67	.95	1.43	1.93
Mar	.00	.00	.00	.03	.10	.20	.32	.48	.72	1.13	1.56
Apr	.00	.00	.07	.24	.42	.63	.87	1.17	1.59	2.28	3.00
May	.06	.19	.42	.65	.91	1.20	1.54	1.98	2.57	3.57	4.55
Jun	.07	.14	.32	.52	.76	1.04	1.40	1.86	2.51	3.63	4.77
Jul	.00	.06	.20	.34	.50	.68	.89	1.16	1.53	2.16	2.78
Aug	.07	.15	.36	.61	.91	1.27	1.72	2.32	3.17	4.65	6.14
Sep	.00	.15	.54	.94	1.39	1.90	2.52	3.29	4.37	6.20	8.00
Oct	.00	.00	.13	.36	.68	1.09	1.63	2.37	3.46	5.40	7.41
Nov	.00	.00	.03	.10	.20	.32	.48	.69	1.00	1.54	2.10
Dec	.00	.00	.03	.12	.23	.38	.57	.82	1.20	1.85	2.53
Ann	6.11	7.42	9.25	10.76	12.17	13.60	15.14	16.91	19.15	22.55	25.64

\+ 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: 1932-2001
(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	.2	.0	#	0
Feb	.1	.0	#	0
Mar	#	.0	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	.1	.0	0	0
Nov	.4	.0	#	0
Dec	.2	.0	0	0
Ann	1.0	.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	3.0	1985	13	3.0	1985	#+	1982	13	#+	1982
Feb	2.5	1973	9	2.5	1973	3	1973	9	#+	1975
Mar	#	1989	21	#	1989	0	0	0	0	0
Apr	#	1983	7	#	1983	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	1.0	1993	30	1.0	1993	0	0	0	0	0
Nov	5.0	1980	16	5.0	1980	2	1976	14	#	1976
Dec	2.0	1998	11	2.0	1998	0	0	0	0	0
Ann	5.0	Nov 1980	16	5.0	Nov 1980	3	Feb 1973	9	#+	Jan 1982

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.3	.1	.1	.0	.0
Feb	.1	.1	.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	.1	.1	.0	.0	.0
Nov	.2	.1	.1	.1	.0
Dec	.1	.1	.0	.0	.0
Ann	.8	.5	.2	.1	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.0	.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	.1	.0	.0	.0
Dec	.0	.0	.0	.0
Ann	.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	4/16	4/11	4/07	4/04	4/01	3/29	3/25	3/22	3/16
32	4/10	4/02	3/28	3/24	3/20	3/16	3/11	3/06	2/27
28	3/31	3/23	3/17	3/12	3/08	3/03	2/26	2/20	2/12
24	3/16	3/05	2/26	2/19	2/13	2/07	2/01	1/24	1/14
20	3/10	2/25	2/16	2/07	1/31	1/23	1/15	1/05	12/20
16	2/18	2/05	1/26	1/18	1/09	12/29	12/14	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	10/17	10/24	10/29	11/02	11/06	11/09	11/13	11/18	11/25
32	10/25	10/31	11/05	11/08	11/12	11/15	11/19	11/23	11/29
28	11/11	11/15	11/19	11/22	11/24	11/27	11/30	12/03	12/08
24	11/13	11/21	11/26	12/01	12/05	12/09	12/14	12/19	12/27
20	11/29	12/06	12/12	12/16	12/21	12/26	12/31	1/06	1/19
16	12/01	12/14	12/24	1/02	1/11	1/22	2/12	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	240	233	227	222	218	214	209	203	196
32	262	253	247	241	236	231	226	219	210
28	288	279	272	266	261	256	250	243	234
24	333	320	310	302	294	287	278	269	256
20	>365	>365	356	333	320	310	300	289	275
16	>365	>365	>365	>365	>365	>365	333	314	295

***** 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)

Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	561	372	205	63	12	0	0	0	5	47	291	521	2077
60	411	246	104	19	2	0	0	0	0	12	179	372	1345
57	325	180	61	8	0	0	0	0	0	4	125	288	991
55	271	142	40	3	0	0	0	0	0	2	96	235	789
50	159	69	10	0	0	0	0	0	0	0	42	129	409
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	462	555	844	1054	1340	1488	1604	1569	1343	1106	718	502	12585
55	21	53	170	367	627	798	891	856	653	395	124	24	4979
57	13	35	130	312	565	738	829	794	593	335	94	15	4453
60	6	17	80	233	475	648	736	701	503	250	57	6	3712
65	0	3	26	127	330	498	581	546	358	130	20	0	2619
70	0	0	5	55	203	349	426	392	226	50	5	0	1711

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	240	353	595	824	1106	1262	1365	1332	1108	848	468	264	240	593	1188	2012	3118	4380	5745	7077	8185	9033	9501	9765
45	133	233	451	674	951	1112	1210	1177	958	693	337	155	133	366	817	1491	2442	3554	4764	5941	6899	7592	7929	8084
50	56	130	307	528	796	962	1055	1022	808	544	215	71	56	186	493	1021	1817	2779	3834	4856	5664	6208	6423	6494
55	20	64	184	384	641	812	900	867	659	397	116	24	20	84	268	652	1293	2105	3005	3872	4531	4928	5044	5068
60	0	21	92	256	488	662	745	712	513	259	51	1	0	21	113	369	857	1519	2264	2976	3489	3748	3799	3800
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	193	251	392	534	723	832	907	889	741	552	306	203	193	444	836	1370	2093	2925	3832	4721	5462	6014	6320	6523

(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