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: MINEOLA 8 ENE, TX **COOP ID: 415956**

Climate Division: TX 4 **NWS Call Sign:** **Elevation: 385 Feet** **Lat: 32˚43N** **Lon: 95˚22W**

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	54.3	31.2	42.8	84	1971	30	49.1	1990	3	1982	14	32.3	1978	690	0	.0	.0	20.2	1.4	18.7	.0
Feb	60.0	35.0	47.5	93	1996	22	54.4	2000	9	1981	11	36.1	1978	494	4	.0	.1	22.2	.7	12.5	.0
Mar	67.5	42.3	54.9	90+	1995	23	60.0	1974	15+	1996	9	49.8	1978	321	9	.0	.1	29.4	@	6.1	.0
Apr	74.8	49.8	62.3	93	1987	20	67.6	1981	24+	1987	4	57.5	1983	129	48	.0	.3	29.9	.0	1.6	.0
May	81.9	60.4	71.2	99+	1996	29	81.1	1996	38+	1997	13	67.0	1976	29	219	.0	2.5	31.0	.0	.0	.0
Jun	88.7	67.9	78.3	106	1996	19	83.3	1998	45	1988	12	74.8	1989	0	399	.4	15.5	30.0	.0	.0	.0
Jul	93.1	70.8	82.0	107	1978	16	88.0	1998	51+	1967	15	78.6	1990	0	526	3.5	25.2	31.0	.0	.0	.0
Aug	93.5	69.0	81.3	108+	1995	22	85.8	1995	49+	1967	14	75.7	1992	0	504	4.7	25.5	31.0	.0	.0	.0
Sep	87.3	62.7	75.0	110+	2000	5	80.4	1998	35+	1989	25	67.7	1974	8	308	.7	13.8	30.0	.0	.0	.0
Oct	77.7	51.4	64.6	95+	1991	12	67.5	1971	22	1993	31	56.8	1976	87	73	.0	2.0	30.9	.0	.7	.0
Nov	65.4	41.4	53.4	86+	1978	4	57.8	1994	9	1976	29	46.2	1976	357	10	.0	.0	27.6	.1	7.0	.0
Dec	56.9	33.7	45.3	82	1982	2	53.9	1984	1	1983	30	34.9	1983	611	1	.0	.0	22.7	.8	15.9	.0
Ann	75.1	51.3	63.2	110+	Sep 2000	5	88.0	Jul 1998	1	Dec 1983	30	32.3	Jan 1978	2726	2101	9.3	85.0	335.9	3.0	62.5	.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: 1966-2000

(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	3.33	2.89	3.85	1990	17	9.87	1990	.20	1986
Feb	3.43	3.59	2.22	1998	11	8.73	1997	.21	1999
Mar	4.05	3.82	3.35	1973	24	8.81	1990	.74	1971
Apr	3.98	4.23	3.31	1977	16	9.83	1973	.18	1987
May	4.71	4.47	4.85	1979	4	11.44	1989	.27	1977
Jun	3.99	3.82	4.65	1974	8	8.14	1974	.26	1978
Jul	2.92	2.32	3.95	1978	23	7.64	1994	.28	1998
Aug	2.23	2.06	3.62	1997	7	7.06	1977	.13	2000
Sep	3.67	3.36	4.10	1998	16	8.53	1979	.61	1989
Oct	4.99	4.86	5.05	1993	20	11.28	1981	.38	1995
Nov	4.50	4.32	5.01	1994	5	9.45	2000	.41	1995
Dec	4.08	3.47	6.42	1982	3	10.33	1987	.19	1981
Ann	45.88	45.68	6.42	Dec 1982	3	11.44	May 1989	.13	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.0	5.9	2.5	.7
Feb	7.2	5.4	2.4	1.2
Mar	8.6	5.9	2.8	1.3
Apr	7.8	5.5	2.6	1.2
May	9.2	6.8	3.0	1.5
Jun	7.4	5.4	2.5	1.3
Jul	5.9	4.2	2.0	.9
Aug	5.0	3.4	1.4	.5
Sep	6.4	5.0	2.1	1.1
Oct	7.4	5.6	3.0	1.8
Nov	8.0	5.7	3.0	1.6
Dec	8.0	5.3	3.0	1.4
Ann	88.9	64.1	30.3	14.5

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	.48	.75	1.23	1.70	2.18	2.71	3.32	4.07	5.08	6.73	8.32
Feb	.64	.94	1.44	1.91	2.38	2.89	3.47	4.18	5.11	6.61	8.04
Mar	1.44	1.82	2.38	2.84	3.28	3.74	4.23	4.81	5.55	6.68	7.73
Apr	.74	1.09	1.67	2.21	2.76	3.36	4.03	4.84	5.93	7.67	9.33
May	.95	1.37	2.07	2.70	3.34	4.03	4.80	5.74	6.97	8.95	10.83
Jun	.81	1.17	1.76	2.29	2.83	3.41	4.07	4.85	5.90	7.56	9.14
Jul	.42	.66	1.08	1.49	1.91	2.38	2.91	3.57	4.46	5.90	7.29
Aug	.24	.40	.71	1.02	1.36	1.73	2.17	2.72	3.47	4.71	5.92
Sep	.58	.89	1.43	1.93	2.46	3.03	3.69	4.49	5.56	7.30	8.97
Oct	.84	1.28	2.01	2.69	3.39	4.16	5.03	6.09	7.50	9.79	11.98
Nov	.89	1.29	1.95	2.56	3.17	3.83	4.58	5.48	6.67	8.58	10.39
Dec	.87	1.25	1.85	2.39	2.93	3.52	4.17	4.96	5.99	7.65	9.21
Ann	32.12	34.77	38.17	40.76	43.06	45.29	47.60	50.15	53.25	57.75	61.65

+ 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: 1966-2000
(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	1.1	.0	#	0	6.0	1977	31	6.0	1977	6	1977	31	#+	2000	.5	.3	.2	.1	.0	.3	.2	@	.0
Feb	.3	.0	#	0	2.7	1988	12	5.2	1988	1	1978	9	#+	1996	.2	.2	.0	.0	.0	@	.0	.0	.0
Mar	#	.0	#	0	#	1989	5	#+	1989	#	1989	5	#	1989	.0	.0	.0	.0	.0	.0	.0	.0	.0
Apr	#	.0	0	0	#	1987	3	#	1987	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	.1	.0	#	0	1.0	1976	13	1.0	1976	1	1976	13	#+	1997	.1	.1	.0	.0	.0	@	.0	.0	.0
Dec	.4	.0	#	0	9.0	1983	16	9.0	1983	9	1983	16	#+	1998	.1	.1	.1	.1	.0	@	@	@	.0
Ann	1.9	.0	N/A	N/A	9.0	Dec 1983	16	9.0	Dec 1983	9	Dec 1983	16	#+	Jan 2000	.9	.7	.3	.2	.0	.3	.2	@	.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	4/22	4/17	4/14	4/11	4/09	4/06	4/03	3/31	3/27
32	4/19	4/13	4/09	4/05	4/01	3/29	3/25	3/21	3/15
28	4/05	3/28	3/23	3/19	3/14	3/10	3/06	2/28	2/21
24	3/19	3/11	3/04	2/27	2/22	2/17	2/12	2/05	1/28
20	3/04	2/23	2/17	2/11	2/06	2/01	1/26	1/19	1/08
16	2/25	2/15	2/08	2/01	1/25	1/18	1/08	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	10/06	10/12	10/16	10/20	10/23	10/27	10/30	11/04	11/10
32	10/20	10/27	10/31	11/04	11/07	11/11	11/15	11/19	11/25
28	11/01	11/07	11/10	11/14	11/17	11/20	11/24	11/28	12/03
24	11/09	11/18	11/24	11/29	12/04	12/09	12/15	12/21	12/29
20	11/19	11/29	12/07	12/13	12/19	12/25	12/31	1/08	1/21
16	12/08	12/18	12/25	12/31	1/07	1/15	1/26	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	219	212	206	201	197	193	188	182	175
32	249	239	232	225	219	213	207	200	189
28	273	264	257	252	247	242	236	230	221
24	316	305	297	291	285	278	272	264	253
20	>365	340	327	318	311	304	297	289	278
16	>365	>365	>365	>365	349	334	323	313	300

***** 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	690	494	321	129	29	0	0	0	8	87	357	611	2726
60	546	364	192	52	7	0	0	0	0	29	231	467	1888
57	461	292	132	24	2	0	0	0	0	12	169	383	1475
55	407	248	98	13	1	0	0	0	0	6	134	331	1238
50	285	157	39	1	0	0	0	0	0	1	67	219	769
32	34	8	0	0	0	0	0	0	0	0	0	17	59

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	367	443	710	909	1213	1389	1549	1527	1290	1010	643	430	11480
55	27	38	96	232	501	699	836	814	600	303	86	31	4263
57	19	26	67	182	441	639	774	752	540	246	61	22	3769
60	11	14	34	120	353	549	681	659	450	171	33	12	3087
65	0	4	9	48	219	399	526	504	308	73	10	1	2101
70	0	0	0	12	115	252	371	352	183	22	0	0	1307

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	193	283	499	677	961	1151	1300	1290	1055	767	426	235	193	476	975	1652	2613	3764	5064	6354	7409	8176	8602	8837
45	113	180	357	527	806	1001	1145	1135	905	614	295	140	113	293	650	1177	1983	2984	4129	5264	6169	6783	7078	7218
50	56	105	233	384	651	851	990	980	755	463	189	77	56	161	394	778	1429	2280	3270	4250	5005	5468	5657	5734
55	23	56	137	250	496	701	835	825	607	322	106	39	23	79	216	466	962	1663	2498	3323	3930	4252	4358	4397
60	7	22	66	142	346	551	680	670	464	194	51	16	7	29	95	237	583	1134	1814	2484	2948	3142	3193	3209
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	141	197	325	442	648	790	874	854	706	506	275	168	141	338	663	1105	1753	2543	3417	4271	4977	5483	5758	5926

(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

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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