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: WILLS POINT, TX **COOP ID: 419800**

Climate Division: TX 4 **NWS Call Sign:** **Elevation: 522 Feet** **Lat: 32˚42N** **Lon: 96˚01W**

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	52.3	31.4	41.9	88	1911	31	48.4	1990	-1+	1949	31	31.7	1978	718	0	.0	.0	19.3	1.8	15.2	.0
Feb	57.8	35.8	46.8	97	1918	25	54.2	1976	1	1949	1	35.1	1978	514	5	.0	@	21.5	1.1	8.9	.0
Mar	65.7	43.2	54.5	94	1916	21	60.4	1974	10	1943	3	50.7	1996	334	6	.0	@	29.1	.1	3.0	.0
Apr	73.5	50.2	61.9	98	1963	11	68.0	1981	22	1914	9	57.0	1983	138	43	.0	.2	29.9	.0	.4	.0
May	80.9	59.5	70.2	100+	1958	28	76.9	1996	36	1909	1	66.4	1976	27	188	.0	1.9	31.0	.0	.0	.0
Jun	88.3	66.8	77.6	109	1956	28	82.0	1998	49	1964	1	73.7	1983	0	376	.4	13.8	30.0	.0	.0	.0
Jul	93.3	70.4	81.9	113	1954	25	87.3	1998	58+	1920	6	79.0	1976	0	522	3.9	26.3	31.0	.0	.0	.0
Aug	93.8	69.6	81.7	115	1909	18	85.5	1999	55	1906	28	76.0	1992	0	516	4.5	25.5	31.0	.0	.0	.0
Sep	86.9	63.4	75.2	110+	1951	4	80.1	1998	38	1942	27	67.6	1974	7	312	.8	13.7	30.0	.0	.0	.0
Oct	76.8	52.8	64.8	100+	1956	1	68.8	1971	22	1917	30	57.0	1976	86	79	.0	2.1	30.9	.0	.2	.0
Nov	64.1	41.8	53.0	91+	1955	16	59.3	1999	13+	1976	30	46.2	1976	372	10	.0	.0	27.0	@	3.6	.0
Dec	55.1	33.9	44.5	85	1913	1	52.0	1984	-2+	1989	24	33.1	1983	637	0	.0	.0	21.8	1.0	11.4	.1
Ann	74.0	51.6	62.8	115	Aug 1909	18	87.3	Jul 1998	-2+	Dec 1989	24	31.7	Jan 1978	2833	2057	9.6	83.5	332.5	4.0	42.7	.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: 1905-2001

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

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: WILLS POINT, TX **COOP ID: 419800**

Climate Division: TX 4 **NWS Call Sign:** **Elevation: 522 Feet** **Lat: 32˚42N** **Lon: 96˚01W**

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	3.10	2.75	6.56	1990	19	9.65	1990	.22	1986
Feb	3.22	3.11	4.37	2001	16	8.60	1997	.30	1999
Mar	3.74	3.73	4.48	1945	29	11.14	1990	.66+	1986
Apr	3.68	3.21	5.68	1966	26	13.90	1976	.51	1987
May	4.74	4.27	5.35	1990	2	13.36	1990	.72	1988
Jun	4.45	3.60	7.08	1945	12	10.96	1986	.62	1998
Jul	2.16	1.66	3.41	1978	24	11.58	1971	.00	1993
Aug	2.26	1.64	3.65	1993	8	6.56	1997	.00+	2000
Sep	3.39	3.07	6.40	1957	22	11.67	1973	.38	1997
Oct	4.78	4.20	6.60	1993	20	11.96	1993	.55	1995
Nov	4.23	3.74	5.63	1990	22	11.24	1990	.65	1976
Dec	3.93	3.16	4.25	1982	3	10.97	1971	.19	1981
Ann	43.68	44.18	7.08	Jun 1945	12	13.90	Apr 1976	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.6	5.5	1.8	.7
Feb	8.5	5.0	2.1	.9
Mar	9.7	5.8	2.4	.9
Apr	8.7	5.1	2.6	1.2
May	9.6	6.2	2.9	1.5
Jun	8.0	5.5	2.9	1.6
Jul	5.0	3.6	1.3	.6
Aug	5.7	3.6	1.4	.8
Sep	7.0	4.7	2.3	1.0
Oct	8.3	5.5	2.7	1.4
Nov	8.5	5.5	2.6	1.4
Dec	9.3	5.3	2.6	1.2
Ann	97.9	61.3	27.6	13.2

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	.36	.60	1.04	1.47	1.93	2.44	3.04	3.79	4.79	6.45	8.07
Feb	.62	.91	1.39	1.82	2.26	2.73	3.27	3.92	4.77	6.15	7.45
Mar	.86	1.20	1.75	2.24	2.73	3.25	3.84	4.54	5.45	6.91	8.28
Apr	.67	1.00	1.54	2.04	2.55	3.10	3.73	4.49	5.49	7.12	8.67
May	1.13	1.57	2.26	2.88	3.50	4.14	4.87	5.74	6.87	8.67	10.36
Jun	.67	1.04	1.69	2.30	2.94	3.64	4.45	5.44	6.76	8.91	10.98
Jul	.05	.19	.47	.78	1.12	1.52	2.01	2.63	3.50	4.96	6.42
Aug	.00	.11	.42	.75	1.13	1.56	2.10	2.76	3.71	5.31	6.90
Sep	.61	.91	1.40	1.87	2.34	2.85	3.43	4.13	5.07	6.58	8.02
Oct	.65	1.04	1.73	2.39	3.09	3.86	4.75	5.84	7.32	9.73	12.06
Nov	.78	1.16	1.78	2.35	2.94	3.57	4.29	5.16	6.31	8.17	9.94
Dec	.72	1.07	1.64	2.18	2.72	3.31	3.98	4.79	5.87	7.60	9.25
Ann	28.65	31.47	35.13	37.94	40.46	42.91	45.46	48.30	51.77	56.85	61.27

\+ 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: 1905-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Services

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: WILLS POINT, TX **COOP ID: 419800**

Climate Division: TX 4 **NWS Call Sign:** **Elevation: 522 Feet** **Lat: 32°42N** **Lon: 96°01W**

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	.9	.0	#	0	6.0	1977	31	7.0	1978	7	1977	31	1	1978	.6	.4	.1	@	.0	.8	.1	@	.0
Feb	1.1	.0	#	0	4.8	1985	2	6.8	1985	6	1971	22	1	1985	.9	.6	@	.0	.0	.8	.2	.1	.0
Mar	.1	.0	#	0	1.1	1989	6	1.1	1989	1	1989	6	#+	1998	.1	.1	.0	.0	.0	.1	.0	.0	.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	.1	.0	#	0	2.0	1976	13	2.0	1976	2	1976	13	#+	1997	.1	@	.0	.0	.0	@	.0	.0	.0
Dec	.4	.0	#	0	7.5	1983	16	7.5	1983	8	1983	16	1	1983	.2	.1	@	@	.0	.2	.1	@	.0
Ann	2.6	.0	N/A	N/A	7.5	Dec 1983	16	7.5	Dec 1983	8	Dec 1983	16	1+	Feb 1985	1.9	1.2	.1	@	.0	1.9	.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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: WILLS POINT, TX **COOP ID: 419800**

Climate Division: TX 4 **NWS Call Sign:** **Elevation: 522 Feet** **Lat: 32˚42N** **Lon: 96˚01W**

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	4/14	4/09	4/06	4/03	3/31	3/28	3/25	3/22	3/17
32	4/05	3/29	3/23	3/19	3/14	3/10	3/05	2/28	2/20
28	3/21	3/12	3/05	2/28	2/22	2/17	2/11	2/05	1/27
24	3/11	3/01	2/22	2/16	2/10	2/04	1/29	1/21	1/09
20	2/27	2/17	2/09	2/02	1/27	1/19	1/10	12/24	0/00
16	2/10	1/31	1/24	1/17	1/09	12/28	0/00	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	10/28	11/01	11/04	11/07	11/09	11/12	11/14	11/17	11/21
32	10/30	11/06	11/11	11/15	11/18	11/22	11/26	12/01	12/07
28	11/13	11/20	11/25	11/29	12/03	12/07	12/12	12/17	12/23
24	11/19	11/29	12/06	12/13	12/18	12/24	12/31	1/08	1/20
20	12/06	12/14	12/20	12/25	12/31	1/05	1/12	1/26	0/00
16	12/18	12/27	1/03	1/11	1/19	2/03	0/00	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	234	230	226	222	219	215	210	204
32	277	267	260	254	248	243	237	229	220
28	314	303	296	289	283	277	271	263	253
24	>365	344	325	314	306	298	290	281	269
20	>365	>365	>365	>365	343	329	318	307	293
16	>365	>365	>365	>365	>365	>365	349	336	322

***** 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: WILLS POINT, TX **COOP ID: 419800**

Climate Division: TX 4 **NWS Call Sign:** **Elevation: 522 Feet** **Lat: 32˚42N** **Lon: 96˚01W**

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	718	514	334	138	27	0	0	0	7	86	372	637	2833
60	572	384	200	57	5	0	0	0	0	30	244	490	1982
57	486	312	136	27	1	0	0	0	0	13	181	404	1560
55	430	267	101	15	0	0	0	0	0	7	145	350	1315
50	304	175	40	2	0	0	0	0	0	1	75	231	828
32	38	12	0	0	0	0	0	0	0	0	0	17	67

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	343	427	695	895	1185	1366	1545	1539	1295	1016	628	403	11337
55	22	38	83	220	472	676	832	826	605	310	83	24	4191
57	16	26	56	173	411	616	770	764	545	254	59	16	3706
60	9	15	26	112	322	526	677	671	455	178	32	9	3032
65	0	5	6	43	188	376	522	516	312	79	10	0	2057
70	0	0	0	10	88	231	367	363	185	25	1	0	1270

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	199	298	507	704	981	1170	1340	1335	1099	817	451	252	199	497	1004	1708	2689	3859	5199	6534	7633	8450	8901	9153
45	112	192	366	556	826	1020	1185	1180	949	662	317	149	112	304	670	1226	2052	3072	4257	5437	6386	7048	7365	7514
50	53	112	239	412	671	870	1030	1025	799	510	207	74	53	165	404	816	1487	2357	3387	4412	5211	5721	5928	6002
55	21	53	137	270	517	720	875	870	650	364	120	33	21	74	211	481	998	1718	2593	3463	4113	4477	4597	4630
60	1	21	63	156	364	570	720	715	504	234	57	11	1	22	85	241	605	1175	1895	2610	3114	3348	3405	3416
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	125	182	305	440	668	812	906	895	746	525	268	151	125	307	612	1052	1720	2532	3438	4333	5079	5604	5872	6023

(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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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