

Climatology of the United States

No. 20

1971-2000

Station: DENTON 2 SE, TX

COOP ID: 412404

Climate Division: TX 3

NWS Call Sign:

Elevation: 630 Feet

Lat: 33° 12N

Lon: 97° 06W

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	53.3	32.0	42.7	90	1969	8	50.3	1990	-3+	1949	31	32.4	1979	693	0	.0	.0	20.0	1.7	15.3	.0
Feb	59.2	36.8	48.0	96	1918	24	56.3	1999	-2	1951	2	36.0	1978	485	0	.0	.1	21.9	.8	8.3	.0
Mar	67.2	44.6	55.9	99	1974	31	61.6	1974	5	1943	3	50.1	1975	291	9	.0	.2	29.4	.1	3.1	.0
Apr	74.4	52.4	63.4	102	1925	18	68.3	1981	23	1914	9	58.4	1973	105	57	.0	.6	29.9	.0	.3	.0
May	81.7	61.4	71.6	107	1927	28	77.9	1996	35+	1954	4	66.9	1976	19	222	@	3.8	31.0	.0	.0	.0
Jun	89.2	69.0	79.1	108	1980	26	83.9	1980	48	1969	6	76.1	1983	0	423	.7	16.9	30.0	.0	.0	.0
Jul	94.1	73.1	83.6	113	1954	25	90.3	1998	51	1924	5	79.0	1976	0	576	5.2	27.1	31.0	.0	.0	.0
Aug	93.5	71.9	82.7	113+	1936	11	89.7	1999	52	1915	31	78.2	1992	0	550	5.7	25.6	31.0	.0	.0	.0
Sep	86.1	65.0	75.6	111+	2000	4	84.2	1998	36	1942	27	67.5	1974	10	328	.8	12.9	30.0	.0	.0	.0
Oct	76.3	54.3	65.3	103	1951	3	69.8	1998	16	1917	30	56.9	1976	82	91	.0	2.0	30.8	.0	.2	.0
Nov	64.1	43.0	53.6	99	1924	1	61.6	1999	10	1950	11	46.0	1976	356	12	.0	.0	27.3	.1	3.9	.0
Dec	56.0	34.8	45.4	89	1948	12	51.8	1984	0	1989	22	32.9	1983	609	1	.0	.0	23.0	1.0	11.6	@
Ann	74.6	53.2	63.9	113+	Jul 1954	25	90.3	Jul 1998	-3+	Jan 1949	31	32.4	Jan 1979	2650	2269	12.4	89.2	335.3	3.7	42.7	@

+ 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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1913-2001

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

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Precipitation (inches)

Precipitation Totals			Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount																	
Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution											
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	1.94	1.82	2.31	1999	29	4.70	1973	.00	1986	6.7	3.9	1.1	.5	.18	.40	.72	1.00	1.29	1.60	1.96	2.39	2.97	3.90	4.79
Feb	2.55	2.06	7.11	1986	3	8.67	1986	.04	1996	6.1	4.0	1.5	.8	.26	.44	.79	1.15	1.53	1.96	2.47	3.11	3.99	5.44	6.85
Mar	2.82	2.47	5.08	1977	27	7.41	1977	.66	1971	7.0	4.8	1.9	.6	.66	.92	1.33	1.70	2.07	2.46	2.90	3.42	4.10	5.19	6.21
Apr	3.30	3.10	3.84	1916	1	7.44	1990	.02	1987	7.1	4.7	2.5	1.0	.41	.68	1.15	1.61	2.09	2.63	3.26	4.04	5.09	6.81	8.49
May	5.41	5.15	7.30	1982	12	20.92	1982	.53	1996	8.4	6.1	3.6	1.7	.88	1.34	2.13	2.88	3.64	4.48	5.44	6.60	8.16	10.69	13.12
Jun	3.29	3.00	3.86	1941	10	8.28	1989	.97+	1978	6.4	4.9	2.5	1.1	.92	1.23	1.70	2.11	2.52	2.94	3.41	3.96	4.68	5.80	6.85
Jul	2.53	1.94	4.20	1994	10	13.58	1994	.00+	1998	4.4	3.1	1.6	.7	.00	.00	.47	.89	1.33	1.83	2.41	3.15	4.15	5.84	7.49
Aug	2.26	1.89	4.04	2001	31	6.34	1996	.00+	2000	4.7	3.3	1.6	.8	.00	.20	.59	.94	1.32	1.74	2.22	2.81	3.63	4.97	6.28
Sep	3.35	2.79	5.62	1962	8	8.14	1980	.09	1983	5.8	4.1	2.0	1.0	.20	.39	.80	1.25	1.76	2.37	3.10	4.04	5.36	7.60	9.83
Oct	4.81	3.58	6.25	1983	7	23.46	1981	.13+	1978	6.8	5.1	2.7	1.5	.28	.56	1.14	1.79	2.53	3.40	4.46	5.81	7.71	10.93	14.15
Nov	2.87	2.41	4.54	1996	6	12.13	1996	.29	1999	6.8	4.4	2.2	.8	.34	.56	.96	1.36	1.79	2.26	2.82	3.51	4.44	5.98	7.48
Dec	2.66	2.03	2.96	1969	29	8.42	1971	.14	1981	6.5	4.2	2.0	.8	.24	.42	.78	1.15	1.55	2.01	2.56	3.24	4.19	5.76	7.30
Ann	37.79	35.77	7.30	May 1982	12	23.46	Oct 1981	.00+	Aug 2000	76.7	52.6	25.2	11.3	24.81	27.25	30.41	32.83	35.01	37.13	39.33	41.78	44.78	49.16	52.98

+ 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: 1913-2001

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

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Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	.0	#	0	1.5	1997	8	1.9	1997	5	1982	31	#+	1988	.4	.1	.0	.0	.0	@	.0	.0	.0
Feb	.5	.0	#	0	4.0	1975	23	5.0	1975	5	1975	23	#+	1988	.2	.2	.1	.0	.0	.1	@	@	.0
Mar	.1	.0	#	0	2.0	1989	22	2.0	1989	#	1998	8	#	1998	.1	.1	.0	.0	.0	.0	.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	.0	.0	#	0	.5	1996	24	.5	1996	#+	1997	15	#+	1997	.1	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.3	.0	#	0	4.0	1983	16	4.0+	1983	4	1983	16	#+	1996	.2	.1	.1	.0	.0	.0	.0	.0	.0
Ann	1.1	.0	N/A	N/A	4.0+	Dec 1983	16	5.0	Feb 1975	5+	Jan 1982	31	#+	Mar 1998	1.0	.5	.2	.0	.0	.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	4/11	4/06	4/03	3/30	3/28	3/25	3/22	3/18	3/13
32	4/06	3/31	3/26	3/22	3/18	3/14	3/10	3/06	2/27
28	3/25	3/16	3/10	3/04	2/27	2/22	2/17	2/10	2/02
24	3/14	3/05	2/27	2/21	2/16	2/11	2/06	1/31	1/22
20	3/03	2/21	2/13	2/07	1/31	1/24	1/16	1/04	0/00
16	2/21	2/12	2/05	1/29	1/23	1/16	1/05	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	10/23	10/28	10/31	11/03	11/06	11/09	11/12	11/15	11/20
32	10/30	11/05	11/09	11/13	11/16	11/20	11/24	11/28	12/04
28	11/10	11/17	11/22	11/27	12/01	12/05	12/09	12/15	12/22
24	11/15	11/25	12/02	12/08	12/13	12/19	12/25	1/01	1/10
20	11/25	12/04	12/11	12/17	12/23	12/29	1/06	1/17	0/00
16	12/09	12/18	12/24	12/30	1/05	1/13	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	241	235	230	226	223	219	215	211	204
32	265	258	252	247	243	238	233	227	220
28	309	298	289	282	276	269	262	254	243
24	335	321	312	304	297	290	283	275	263
20	>365	>365	>365	345	325	314	304	294	281
16	>365	>365	>365	>365	364	341	328	316	301

* 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)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Below 65	693	485	291	105	19	0	0	0	10	82	356	609	2650
60	548	358	165	37	3	0	0	0	1	29	232	464	1837
57	462	290	109	15	1	0	0	0	0	12	171	380	1440
55	407	249	79	7	0	0	0	0	0	6	137	327	1212
50	284	164	29	0	0	0	0	0	0	1	69	213	760
32	33	12	0	0	0	0	0	0	0	0	0	14	59

Cooling Degree Days (1)

Base	Cooling Degree Days (1)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Above 32	364	461	740	942	1226	1413	1599	1573	1308	1033	647	429	11735
55	25	54	106	259	513	723	886	860	618	326	93	28	4491
57	18	39	74	207	452	663	824	798	558	269	68	19	3989
60	11	23	37	139	361	573	731	705	469	193	38	11	3291
65	0	0	9	57	222	423	576	550	328	91	12	1	2269
70	0	0	0	15	113	276	421	397	204	32	2	0	1460

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	209	320	546	740	1008	1196	1375	1349	1098	821	453	254	209	529	1075	1815	2823	4019	5394	6743	7841	8662	9115	9369
45	124	211	401	591	853	1046	1220	1194	948	667	319	153	124	335	736	1327	2180	3226	4446	5640	6588	7255	7574	7727
50	64	124	266	443	698	896	1065	1039	798	514	207	78	64	188	454	897	1595	2491	3556	4595	5393	5907	6114	6192
55	25	63	158	303	544	746	910	884	648	371	116	36	25	88	246	549	1093	1839	2749	3633	4281	4652	4768	4804
60	4	27	79	178	390	596	755	729	500	238	52	10	4	31	110	288	678	1274	2029	2758	3258	3496	3548	3558
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	139	202	337	470	684	827	926	904	742	532	269	159	139	341	678	1148	1832	2659	3585	4489	5231	5763	6032	6191

(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/normal/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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normal/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/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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