

Climatology of the United States No. 20

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: FOWLERTON, TX

1971-2000

COOP ID: 413299

Climate Division: TX 9

NWS Call Sign:

Elevation: 320 Feet Lat: 28° 28N Lon: 98° 49W

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	66.3	39.1	52.7	95	1971	3	59.8	1971	9	1962	12	45.3	1977	396	15	.0	.2	28.2	.1	6.6	.0
Feb	71.4	42.9	57.2	101+	1986	24	64.5	2000	20+	1974	26	49.3	1978	242	21	.1	1.0	26.9	.2	3.6	.0
Mar	78.5	50.4	64.5	104	1984	27	69.9	2000	22	1980	2	58.3	1996	110	92	.2	4.3	30.7	.0	1.0	.0
Apr	85.4	56.9	71.2	110	1984	21	76.5	1986	29	1983	9	65.3	1987	23	207	.9	10.6	30.0	.0	.1	.0
May	90.3	65.8	78.1	109	1916	30	84.0	1996	40	1996	1	73.1	1976	2	406	2.5	19.2	31.0	.0	.0	.0
Jun	95.6	70.9	83.3	113	1998	16	89.4	1998	55+	1975	3	80.5	1974	0	548	7.6	26.3	30.0	.0	.0	.0
Jul	98.9	72.5	85.7	112	1960	30	88.8	1980	60+	1988	25	80.1	1976	0	642	16.4	30.0	31.0	.0	.0	.0
Aug	98.4	72.3	85.4	110	1917	23	87.8	1997	59	1967	13	82.2	1971	0	630	15.1	29.9	31.0	.0	.0	.0
Sep	93.5	67.9	80.7	112	2000	6	85.4	1986	40	1981	19	75.9	1974	0	471	4.4	24.6	30.0	.0	.0	.0
Oct	85.5	58.8	72.2	103	1977	8	75.9	1979	25	1993	31	63.4	1976	14	235	.3	11.5	30.9	.0	.1	.0
Nov	75.5	48.5	62.0	96	1980	10	68.1	1973	21+	1979	30	54.0	1976	162	72	.0	1.1	29.6	.0	1.9	.0
Dec	68.1	40.6	54.4	93	1977	4	62.5	1984	10	1983	29	45.2	1989	348	17	.0	.2	29.1	@	6.8	.0
Ann	84.0	57.2	70.6	113	Jun 1998	16	89.4	Jun 1998	9	Jan 1962	12	45.2	Dec 1989	1297	3356	47.5	158.9	358.4	.3	20.1	.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/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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Station: FOWLERTON, TX

COOP ID: 413299

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NWS Call Sign:

Elevation: 320 Feet Lat: 28°28N

Lon: 98°49W

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	.93	.91	3.45	1941	28	2.67	1992	.00+	1996	4.3	2.1	.6	.2	.00	.13	.30	.45	.60	.76	.94	1.16	1.45	1.92	2.37
Feb	1.08	.68	4.30	1923	21	3.88	1998	.00+	1989	3.8	2.2	.9	.3	.00	.00	.17	.34	.53	.75	1.00	1.33	1.78	2.55	3.31
Mar	1.46	1.16	3.80	2000	15	4.99	1999	.00+	1991	3.3	2.1	1.0	.4	.00	.00	.10	.36	.64	.96	1.34	1.82	2.49	3.59	4.74
Apr	1.84	1.46	5.30	1961	6	5.55	1990	.00+	1987	3.5	2.7	1.4	.7	.00	.00	.10	.41	.75	1.15	1.65	2.28	3.16	4.64	6.17
May	2.73	2.71	6.64	1944	27	7.15	1980	.00	1973	5.3	3.7	1.9	.9	.09	.30	.68	1.07	1.51	2.00	2.60	3.34	4.37	6.11	7.81
Jun	2.61	2.56	6.00	1959	25	6.48	1994	.00+	1990	4.7	3.8	1.8	.8	.00	.00	.88	1.35	1.77	2.22	2.73	3.33	4.08	5.32	6.50
Jul	1.53	1.05	4.75	1934	24	7.30	1976	.00+	1986	3.0	2.3	1.0	.5	.00	.02	.14	.31	.55	.85	1.24	1.77	2.55	3.95	5.39
Aug	2.19	1.21	5.73	1931	11	9.32	1998	.00+	1988	3.5	2.5	1.5	.8	.00	.00	.15	.45	.82	1.28	1.86	2.62	3.72	5.61	7.54
Sep	2.71	2.32	4.50	1967	22	7.00	1971	.00	1977	4.6	4.0	1.8	.7	.29	.62	1.07	1.46	1.86	2.28	2.76	3.34	4.11	5.34	6.52
Oct	3.15	2.18	9.50	1986	6	15.00	1986	.00	1979	3.6	3.0	2.0	.9	.07	.26	.66	1.10	1.60	2.19	2.91	3.82	5.10	7.29	9.46
Nov	1.22	.98	5.00	1913	24	3.98	2000	.00+	1991	3.7	2.3	.9	.4	.00	.00	.00	.30	.55	.83	1.16	1.56	2.11	3.03	3.92
Dec	1.11	.80	3.30	1937	29	6.97	1991	.00+	1990	3.4	2.1	.8	.3	.00	.00	.07	.26	.47	.72	1.01	1.38	1.90	2.76	3.64
Ann	22.56	23.66	9.50	Oct 1986	6	15.00	Oct 1986	.00+	Jan 1996	46.7	32.8	15.6	6.9	13.54	15.17	17.32	18.99	20.51	22.00	23.56	25.30	27.45	30.62	33.42

+ 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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Station: FOWLERTON, TX

COOP ID: 413299

Climate Division: TX 9

NWS Call Sign:

Elevation: 320 Feet

Lat: 28° 28N

Lon: 98° 49W

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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mar	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.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	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	.0	.0	N/A	N/A	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.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

Complete documentation available from:

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COOP ID: 413299

Climate Division: TX 9

NWS Call Sign:

Elevation: 320 Feet

Lat: 28°28N

Lon: 98°49W

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	4/07	3/29	3/23	3/17	3/12	3/07	3/01	2/23	2/14
32	3/25	3/16	3/10	3/04	2/27	2/22	2/17	2/10	2/02
28	3/08	2/25	2/17	2/10	2/03	1/28	1/21	1/12	12/30
24	2/21	2/09	2/01	1/24	1/17	1/10	12/31	12/18	0/00
20	1/27	1/15	1/04	12/17	0/00	0/00	0/00	0/00	0/00
16	12/25	0/00	0/00	0/00	0/00	0/00	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	10/30	11/06	11/11	11/15	11/19	11/22	11/26	12/01	12/08
32	11/08	11/14	11/18	11/22	11/26	11/29	12/03	12/07	12/13
28	11/23	11/30	12/05	12/10	12/14	12/19	12/23	12/29	1/07
24	12/02	12/12	12/19	12/25	12/31	1/07	1/15	1/30	0/00
20	12/24	12/31	1/07	1/18	0/00	0/00	0/00	0/00	0/00
16	12/29	0/00	0/00	0/00	0/00	0/00	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	283	272	264	257	251	245	238	230	219
32	303	292	284	277	271	264	258	250	239
28	>365	342	329	320	312	305	297	288	275
24	>365	>365	>365	364	345	334	324	315	302
20	>365	>365	>365	>365	>365	>365	>365	>365	343
16	>365	>365	>365	>365	>365	>365	>365	>365	>365

* 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:

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COOP ID: 413299

Climate Division: TX 9 NWS Call Sign: Elevation: 320 Feet Lat: 28° 28N Lon: 98° 49W

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	396	242	110	23	2	0	0	0	0	14	162	348	1297
60	266	143	45	5	0	0	0	0	0	3	86	224	772
57	202	97	23	1	0	0	0	0	0	1	53	164	541
55	166	72	14	0	0	0	0	0	0	0	37	131	420
50	89	27	2	0	0	0	0	0	0	0	13	61	192
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	642	703	1005	1174	1427	1538	1665	1653	1461	1245	900	692	14105
55	95	131	306	484	714	848	952	940	771	532	247	109	6129
57	68	101	253	425	652	788	890	878	711	470	203	81	5520
60	40	62	182	339	559	698	797	785	621	379	146	47	4655
65	15	21	92	207	406	548	642	630	471	235	72	17	3356
70	3	6	34	106	262	398	487	475	323	117	27	3	2241

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	440	547	804	962	1212	1316	1436	1418	1239	1021	684	483	440	987	1791	2753	3965	5281	6717	8135	9374	10395	11079	11562
45	305	411	650	812	1057	1166	1281	1263	1089	866	535	343	305	716	1366	2178	3235	4401	5682	6945	8034	8900	9435	9778
50	189	285	503	662	902	1016	1126	1108	939	712	397	219	189	474	977	1639	2541	3557	4683	5791	6730	7442	7839	8058
55	101	176	359	514	747	866	971	953	789	560	269	126	101	277	636	1150	1897	2763	3734	4687	5476	6036	6305	6431
60	46	99	232	369	593	716	816	798	639	411	163	59	46	145	377	746	1339	2055	2871	3669	4308	4719	4882	4941
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	297	364	532	635	813	867	922	916	815	679	449	327	297	661	1193	1828	2641	3508	4430	5346	6161	6840	7289	7616

(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 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.

- | | |
|---|---|
| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. 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