

Climatography of the United States

No. 20

1971-2000

Station: BOWIE, TX

COOP ID: 410984

Climate Division: TX 3

NWS Call Sign:

Elevation: 1,080 Feet Lat: 33° 33N

Lon: 97° 51W

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	52.1	28.3	40.2	92	1911	31	46.1	1989	-2	1912	12	29.6	1979	769	0	.0	.0	19.6	2.1	16.8	.0
Feb	58.2	32.6	45.4	94	1996	23	55.5	1976	-3	1905	13	32.8	1978	555	0	.0	.1	21.6	1.3	10.3	@
Mar	66.1	40.2	53.2	100	1974	31	59.2	1974	10	1980	2	48.2	1996	369	2	@	.4	29.1	.2	4.1	.0
Apr	74.2	49.3	61.8	105	1925	18	66.9	1981	22	1997	13	56.6	1997	143	46	.0	1.0	29.8	.0	.4	.0
May	81.3	58.5	69.9	107	1927	29	76.3	1996	34	1909	1	66.0	1976	30	181	.1	5.1	31.0	.0	.0	.0
Jun	89.1	67.2	78.2	115	1980	28	84.9	1980	45	1903	1	72.4	1989	1	396	1.3	16.7	30.0	.0	.0	.0
Jul	94.7	70.9	82.8	113	1978	15	89.1	1980	50	1919	2	77.5	1989	0	551	7.9	26.8	31.0	.0	.0	.0
Aug	94.3	70.1	82.2	111+	1956	15	87.1	2000	52	1915	31	75.5	1989	0	532	7.2	26.0	31.0	.0	.0	.0
Sep	86.3	62.7	74.5	109	2000	5	81.2	1998	37	1989	24	67.1	1974	16	300	1.4	13.3	30.0	.0	.0	.0
Oct	76.3	51.9	64.1	103+	1898	4	69.2	1979	18	1917	30	57.2	1976	100	72	.1	2.4	30.8	.0	.2	.0
Nov	63.6	39.4	51.5	89+	1990	25	59.1	1999	13	1903	18	45.4	1972	411	6	.0	.0	26.9	.1	5.3	.0
Dec	54.9	30.8	42.9	88	1955	24	47.3	1984	-11	1989	23	30.4	1983	686	0	.0	.0	22.1	1.4	14.1	.1
Ann	74.3	50.2	62.2	115	Jun 1980	28	89.1	Jul 1980	-11	Dec 1989	23	29.6	Jan 1979	3080	2086	18.0	91.8	332.9	5.1	51.2	.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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1897-2001

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

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No. 20 1971-2000

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

Station: BOWIE, TX

COOP ID: 410984

Climate Division: TX 3

NWS Call Sign:

Elevation: 1,080 Feet Lat: 33°33N

Lon: 97°51W

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	1.47	1.39	3.43	1916	21	3.51	1998	.00+	1986	4.7	3.2	1.2	.2	.00	.19	.47	.71	.95	1.20	1.50	1.84	2.31	3.07	3.81
Feb	2.13	1.86	2.41	2001	15	7.39	1987	.00	1996	5.4	4.3	1.5	.5	.18	.42	.77	1.08	1.40	1.75	2.15	2.63	3.28	4.34	5.35
Mar	2.62	2.22	4.00	1977	27	7.20	1990	.25	1972	5.9	4.3	1.8	.7	.55	.79	1.17	1.52	1.87	2.25	2.68	3.19	3.86	4.94	5.96
Apr	2.89	2.52	4.82	1957	26	8.85	1990	.35	1987	6.1	4.7	2.1	.9	.53	.78	1.20	1.60	2.00	2.43	2.92	3.52	4.31	5.59	6.81
May	5.04	4.49	10.25	1989	16	15.27	1989	.34	1996	7.3	5.8	3.2	1.6	.70	1.11	1.84	2.54	3.27	4.08	5.01	6.15	7.70	10.22	12.66
Jun	3.42	2.66	3.55	1985	6	10.10	1989	.91+	1977	6.3	4.9	2.4	1.2	.69	1.00	1.50	1.96	2.42	2.92	3.49	4.16	5.06	6.49	7.85
Jul	1.81	1.45	5.81	1973	30	8.12	1973	.00+	1998	3.7	2.7	1.2	.6	.00	.08	.31	.58	.88	1.23	1.66	2.20	2.98	4.29	5.61
Aug	2.27	1.94	4.82	1909	13	7.29	1995	.00+	2000	4.8	3.4	1.7	.8	.00	.24	.64	1.01	1.38	1.79	2.26	2.83	3.61	4.89	6.13
Sep	3.67	3.20	6.04	1900	21	8.75	1986	.04	2000	5.7	4.3	2.3	1.3	.38	.65	1.15	1.66	2.21	2.83	3.56	4.47	5.72	7.78	9.80
Oct	4.20	4.09	6.00	1981	13	15.03	1981	.60	1975	6.1	5.2	2.6	1.5	.53	.86	1.46	2.04	2.66	3.35	4.15	5.13	6.47	8.66	10.78
Nov	2.18	1.52	4.48	1964	18	5.22	1992	.30+	1999	5.1	4.0	1.6	.6	.35	.54	.86	1.16	1.47	1.80	2.19	2.66	3.29	4.31	5.29
Dec	2.02	1.74	2.71	1956	19	6.78	1991	.00	1996	4.8	3.4	1.5	.5	.08	.24	.53	.83	1.14	1.51	1.94	2.48	3.22	4.45	5.66
Ann	33.72	34.73	10.25	May 1989	16	15.27	May 1989	.00+	Aug 2000	65.9	50.2	23.1	10.4	22.37	24.51	27.28	29.41	31.31	33.16	35.08	37.21	39.82	43.63	46.95

+ 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: 1897-2001

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

Complete documentation available from:
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Station: BOWIE, TX

COOP ID: 410984

Climate Division: TX 3

NWS Call Sign:

Elevation: 1,080 Feet

Lat: 33°33N

Lon: 97°51W

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	.5	.0	#	0	2.5	1983	2	4.5	1983	2	1988	6	#+	1992	.3	.3	.0	.0	.0	.2	.0	.0	.0
Feb	1.0	.0	#	0	3.5	1987	20	3.5	1987	2	1988	6	#+	1996	.4	.3	.2	.0	.0	.1	.0	.0	.0
Mar	.1	.0	0	0	2.0	1971	3	2.0	1971	0	0	0	0	0	.1	.1	.0	.0	.0	.0	.0	.0	.0
Apr	#	.0	0	0	#	1973	8	#	1973	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	.3	.0	#	0	2.0	1976	14	3.5	1976	#	1995	28	#	1995	.2	.2	.0	.0	.0	.0	.0	.0	.0
Dec	.5	.0	#	0	6.0	1983	16	6.0	1983	3+	2000	27	#+	2000	.4	.2	.1	.1	.0	.1	.1	.0	.0
Ann	2.4	.0	N/A	N/A	6.0	Dec 1983	16	6.0	Dec 1983	3+	Dec 2000	27	#+	Dec 2000	1.4	1.1	.3	.1	.0	.4	.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

Complete documentation available from:

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NWS Call Sign:

Elevation: 1,080 Feet

Lat: 33°33N

Lon: 97°51W

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	4/15	4/11	4/08	4/05	4/03	4/01	3/29	3/26	3/22
32	4/06	3/31	3/27	3/24	3/21	3/18	3/14	3/10	3/05
28	3/31	3/23	3/17	3/12	3/08	3/03	2/26	2/21	2/13
24	3/19	3/10	3/03	2/26	2/20	2/15	2/09	2/02	1/24
20	3/08	2/26	2/19	2/13	2/07	2/02	1/26	1/19	1/09
16	2/28	2/17	2/08	1/31	1/24	1/15	1/04	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	10/25	10/29	11/01	11/03	11/05	11/08	11/10	11/13	11/17
32	10/27	11/01	11/05	11/09	11/12	11/15	11/18	11/22	11/27
28	11/02	11/10	11/15	11/20	11/24	11/28	12/03	12/08	12/16
24	11/14	11/21	11/27	12/01	12/06	12/10	12/14	12/20	12/27
20	11/22	12/01	12/07	12/13	12/18	12/22	12/28	1/03	1/12
16	11/30	12/09	12/16	12/22	12/28	1/04	1/14	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	233	227	223	219	216	212	209	205	199
32	256	249	244	239	235	231	227	221	214
28	293	282	274	267	260	254	247	239	228
24	324	312	303	295	288	280	273	264	251
20	>365	338	326	317	309	302	294	285	272
16	>365	>365	>365	>365	359	336	322	309	294

* 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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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	769	555	369	143	30	1	0	0	16	100	411	686	3080
60	617	425	229	62	6	0	0	0	3	36	278	538	2194
57	531	353	158	31	2	0	0	0	0	16	209	452	1752
55	473	307	119	18	0	0	0	0	0	8	169	397	1491
50	338	211	51	3	0	0	0	0	0	1	92	272	968
32	44	22	0	0	0	0	0	0	0	0	2	26	94

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	298	398	656	892	1175	1385	1574	1555	1275	995	587	364	11154
55	14	39	62	220	462	695	861	842	585	290	64	21	4155
57	10	28	39	173	401	635	799	780	525	236	44	14	3684
60	3	17	16	114	313	545	706	687	438	163	23	7	3032
65	0	0	2	46	181	396	551	532	300	72	6	0	2086
70	0	0	0	12	84	256	397	380	183	23	0	0	1335

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	183	283	509	716	992	1188	1376	1357	1080	808	423	223	183	466	975	1691	2683	3871	5247	6604	7684	8492	8915	9138
45	100	186	368	566	837	1038	1221	1202	930	655	293	126	100	286	654	1220	2057	3095	4316	5518	6448	7103	7396	7522
50	45	109	242	423	682	888	1066	1047	780	502	187	61	45	154	396	819	1501	2389	3455	4502	5282	5784	5971	6032
55	13	54	136	288	528	738	911	892	632	359	102	25	13	67	203	491	1019	1757	2668	3560	4192	4551	4653	4678
60	0	21	66	170	375	588	756	737	487	228	50	5	0	21	87	257	632	1220	1976	2713	3200	3428	3478	3483
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	123	189	315	455	666	814	920	900	723	519	256	146	123	312	627	1082	1748	2562	3482	4382	5105	5624	5880	6026

(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.
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