

Climatology of the United States

No. 20

1971-2000

Station: BONHAM 3 NNE, TX

COOP ID: 410923

Climate Division: TX 3

NWS Call Sign:

Elevation: 600 Feet Lat: 33° 38N Lon: 96° 10W

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	51.0	30.2	40.6	82+	1969	8	47.8	1990	-5+	1930	19	31.0	1979	758	0	.0	.0	18.9	2.1	18.0	.0
Feb	56.5	34.4	45.5	92+	1996	22	53.8	1976	-5	1910	18	33.2	1978	547	0	.0	.1	20.9	1.0	11.0	.0
Mar	64.5	42.0	53.3	98	1928	21	58.4	1974	9	1948	11	48.8	1996	366	1	.0	.1	28.9	.1	4.6	.0
Apr	72.2	49.8	61.0	99	1940	4	66.4	1981	22	1936	3	56.5	1997	154	34	.0	.4	29.9	.0	.7	.0
May	79.5	59.7	69.6	104	1927	28	75.7	1996	32	1903	1	65.4	1976	33	175	.0	2.5	31.0	.0	.0	.0
Jun	87.4	67.7	77.6	108+	1953	11	81.7	1980	48+	1988	12	74.5	1989	0	377	.6	14.6	30.0	.0	.0	.0
Jul	92.6	71.6	82.1	112	1943	24	88.0	1998	52+	1972	6	78.5	1976	0	530	4.3	25.1	31.0	.0	.0	.0
Aug	92.9	70.2	81.6	115	1936	10	86.5	1980	52+	1961	25	75.6	1992	0	513	4.9	24.7	31.0	.0	.0	.0
Sep	85.4	63.2	74.3	109+	1998	4	80.5	1998	34	1909	28	66.3	1974	13	291	.9	11.9	30.0	.0	.0	.0
Oct	75.5	51.9	63.7	103	1939	23	67.1	2000	19+	1917	31	57.3	1976	102	61	.0	1.4	30.9	.0	.5	.0
Nov	62.4	40.8	51.6	88+	1964	2	58.9	1999	8	1976	29	44.5	1972	412	9	.0	.0	26.7	.1	6.7	.0
Dec	53.5	32.9	43.2	86+	1955	24	49.3	1984	-4+	1989	24	31.8	1983	677	0	.0	.0	21.4	1.3	15.0	.1
Ann	72.8	51.2	62.0	115	Aug 1936	10	88.0	Jul 1998	-5+	Jan 1930	19	31.0	Jan 1979	3062	1991	10.7	80.8	330.6	4.6	56.5	.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: 1903-2001

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

031-A

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: BONHAM 3 NNE, TX

COOP ID: 410923

Climate Division: TX 3

NWS Call Sign:

Elevation: 600 Feet Lat: 33°38N

Lon: 96°10W

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	2.39	1.97	5.21	1949	24	7.01	1998	.06	1986	6.1	4.4	1.5	.6	.40	.61	.95	1.28	1.62	1.98	2.40	2.91	3.59	4.69	5.75
Feb	3.01	2.59	4.55	1938	17	7.19	1997	.27	1999	5.8	4.5	2.1	.8	.48	.74	1.18	1.59	2.02	2.49	3.02	3.68	4.55	5.97	7.34
Mar	3.76	3.99	3.75	1977	27	8.41	1990	.87	1971	7.6	5.9	2.5	1.2	1.24	1.60	2.12	2.57	3.00	3.44	3.92	4.49	5.22	6.35	7.40
Apr	3.41	2.78	6.10	1922	4	7.77	1997	.06	1987	7.9	5.6	2.6	.8	.59	.89	1.38	1.85	2.33	2.85	3.44	4.16	5.12	6.67	8.15
May	5.57	5.19	12.60	1982	13	21.83	1982	.79	1996	9.4	7.1	3.5	1.7	.99	1.48	2.30	3.06	3.83	4.67	5.63	6.79	8.34	10.83	13.21
Jun	4.50	3.94	7.20	1935	15	11.72	1989	.75	1971	7.3	5.6	3.0	1.4	1.15	1.58	2.23	2.81	3.38	3.98	4.65	5.44	6.47	8.10	9.63
Jul	3.45	2.90	13.30	1903	3	14.11	1994	.00	1980	5.5	4.2	2.0	.8	.12	.39	.88	1.37	1.92	2.55	3.29	4.23	5.52	7.68	9.81
Aug	2.13	1.35	6.11	1932	18	7.60	1996	.00	2000	5.2	3.4	1.6	.8	.06	.21	.50	.81	1.15	1.54	2.01	2.60	3.43	4.82	6.20
Sep	3.45	2.41	7.15	1967	6	10.48	1973	.26	1982	6.6	4.3	1.9	1.1	.54	.84	1.34	1.81	2.31	2.84	3.46	4.22	5.23	6.87	8.45
Oct	5.40	4.78	7.00	1927	2	17.15	1981	.12	1975	6.9	5.4	3.2	1.8	.36	.70	1.38	2.12	2.95	3.91	5.07	6.55	8.60	12.08	15.52
Nov	3.94	3.61	5.20	1978	16	9.64	1996	.00	1999	6.2	4.7	2.7	1.2	.40	.87	1.52	2.10	2.68	3.30	4.01	4.87	6.00	7.84	9.58
Dec	3.55	2.53	4.65	1971	10	10.99	1971	.28	1981	6.4	5.1	2.4	1.0	.48	.77	1.27	1.77	2.29	2.86	3.52	4.34	5.44	7.25	8.99
Ann	44.56	44.01	13.30	Jul 1903	3	21.83	May 1982	.00+	Aug 2000	80.9	60.2	29.0	13.2	31.36	33.90	37.17	39.66	41.87	44.01	46.22	48.67	51.64	55.95	59.68

+ 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: 1903-2001

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

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

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: BONHAM 3 NNE, TX

COOP ID: 410923

Climate Division: TX 3

NWS Call Sign:

Elevation: 600 Feet

Lat: 33°38N

Lon: 96°10W

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	.3	.0	#	0	3.5	1992	18	3.5	1992	7	1977	31	#+	1992	.4	.2	.1	.0	.0	.1	.0	.0	.0
Feb	1.5	.0	#	0	5.0	1979	8	9.0	1979	2+	1989	6	#+	1989	.4	.3	.2	.1	.0	.3	.0	.0	.0
Mar	.4	.0	#	0	3.0	1989	5	5.0	1989	4	1989	6	#+	1989	.2	.2	@	.0	.0	.3	.1	.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	#	1989	16	#	1989	.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	.7	1972	21	.7	1972	4	1976	14	#+	1976	@	.0	.0	.0	.0	@	.0	.0	.0
Dec	.3	.0	#	0	5.5	1983	16	5.5	1983	1	1982	12	#+	1990	.3	.1	@	@	.0	.1	.0	.0	.0
Ann	2.5	.0	N/A	N/A	5.5	Dec 1983	16	9.0	Feb 1979	7	Jan 1977	31	#+	Jan 1992	1.3	.8	.3	.1	.0	.8	.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:

www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

Climatography of the United States

No. 20 1971-2000

Station: BONHAM 3 NNE, TX

COOP ID: 410923

Climate Division: TX 3

NWS Call Sign:

Elevation: 600 Feet

Lat: 33°38N

Lon: 96°10W

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	4/17	4/13	4/10	4/08	4/06	4/03	4/01	3/29	3/25
32	4/12	4/06	4/02	3/30	3/27	3/24	3/21	3/17	3/11
28	3/31	3/24	3/19	3/14	3/10	3/06	3/02	2/25	2/18
24	3/12	3/04	2/27	2/22	2/17	2/13	2/08	2/02	1/25
20	3/10	2/27	2/20	2/13	2/07	2/01	1/25	1/17	1/04
16	2/24	2/15	2/08	2/02	1/28	1/22	1/15	1/06	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	10/10	10/16	10/20	10/24	10/27	10/31	11/03	11/08	11/13
32	10/22	10/28	11/01	11/04	11/08	11/11	11/14	11/18	11/24
28	10/30	11/06	11/10	11/15	11/18	11/22	11/26	12/01	12/08
24	11/09	11/17	11/23	11/28	12/03	12/08	12/13	12/19	12/27
20	11/16	11/29	12/08	12/15	12/22	12/30	1/07	1/16	1/31
16	11/29	12/09	12/17	12/24	12/30	1/05	1/13	1/23	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	225	217	212	208	204	200	196	190	183
32	247	240	234	229	225	220	216	210	202
28	283	272	265	258	252	246	240	233	222
24	319	308	301	294	288	282	275	268	257
20	>365	>365	330	318	309	302	294	285	274
16	>365	>365	>365	346	332	322	314	305	293

* 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/normal/usnormals.html

**Climatography
of the United States
No. 20
1971-2000**

Station: BONHAM 3 NNE, TX

COOP ID: 410923

Climate Division: TX 3 NWS Call Sign: Elevation: 600 Feet Lat: 33° 38N Lon: 96° 10W

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	758	547	366	154	33	0	0	0	13	102	412	677	3062
60	606	418	225	66	7	0	0	0	2	37	282	526	2169
57	520	343	153	32	2	0	0	0	0	17	215	440	1722
55	463	297	114	18	1	0	0	0	0	9	177	384	1463
50	329	197	46	2	0	0	0	0	0	2	99	257	932
32	41	16	0	0	0	0	0	0	0	0	2	20	79

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	306	393	658	870	1166	1366	1553	1536	1269	982	590	366	11055
55	15	30	59	198	453	676	840	823	579	279	74	17	4043
57	10	20	36	152	393	616	778	761	519	224	53	12	3574
60	3	12	14	96	305	526	685	668	430	151	29	4	2923
65	0	0	1	34	175	377	530	513	291	61	9	0	1991
70	0	0	0	7	80	232	375	362	173	16	0	0	1245

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	168	269	487	687	960	1157	1328	1317	1055	769	404	202	168	437	924	1611	2571	3728	5056	6373	7428	8197	8601	8803
45	88	172	346	537	805	1007	1173	1162	905	614	276	112	88	260	606	1143	1948	2955	4128	5290	6195	6809	7085	7197
50	42	93	225	394	650	857	1018	1007	755	463	170	55	42	135	360	754	1404	2261	3279	4286	5041	5504	5674	5729
55	14	45	129	259	495	707	863	852	605	317	92	21	14	59	188	447	942	1649	2512	3364	3969	4286	4378	4399
60	0	13	56	144	345	557	708	697	459	192	41	6	0	13	69	213	558	1115	1823	2520	2979	3171	3212	3218
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	113	173	304	434	645	798	896	875	706	492	244	131	113	286	590	1024	1669	2467	3363	4238	4944	5436	5680	5811

(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