

# Climatography of the United States

No. 20

1971-2000

Station: OLTON, TX

COOP ID: 416644

Climate Division: TX 1

NWS Call Sign:

Elevation: 3,610 Feet Lat: 34° 11N

Lon: 102° 08W

## 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	50.8	21.8	36.3	81	1999	25	41.9+	1999	-7	1979	2	27.4	1979	890	0	.0	.0	18.1	3.7	28.7	.4
Feb	55.9	25.3	40.6	85	1979	15	47.7	2000	-4+	1985	2	30.4	1978	683	0	.0	.0	19.8	2.3	22.7	.3
Mar	64.0	32.3	48.2	91	1989	12	54.7	1972	6	1971	3	43.8	1987	523	0	.0	.1	27.2	.5	15.3	.0
Apr	72.0	41.2	56.6	97	1965	23	62.4	1978	14	1945	4	50.0	1983	271	20	.0	.9	28.8	@	4.2	.0
May	80.2	51.4	65.8	105	2000	25	72.8	1996	30	1984	8	61.7	1983	81	105	.4	5.6	30.8	.0	.1	.0
Jun	87.8	60.0	73.9	108	1990	25	80.4	1990	41	1983	1	69.5	1983	9	275	2.0	13.7	30.0	.0	.0	.0
Jul	90.1	63.4	76.8	108	1951	8	81.0	1998	47	1951	2	71.5	1976	0	364	1.3	18.5	31.0	.0	.0	.0
Aug	87.9	61.7	74.8	110	1944	1	77.9+	2000	50+	1979	12	71.2	1971	2	306	.1	13.3	31.0	.0	.0	.0
Sep	81.9	54.6	68.3	102+	1995	7	73.9	1998	29	1983	21	60.6	1974	46	143	.1	6.7	29.8	.0	.2	.0
Oct	73.3	43.1	58.2	96	2000	4	62.1	1998	15+	1993	31	49.2	1976	229	17	.0	.7	30.1	@	3.1	.0
Nov	60.5	31.6	46.1	89	1944	3	52.9	1999	-1+	1991	4	37.5	1972	569	0	.0	.0	23.8	.6	16.2	.1
Dec	52.1	23.4	37.8	78	1970	1	42.9	1994	-6+	1987	15	27.3	1983	846	0	.0	.0	19.1	2.8	27.6	.6
Ann	71.4	42.5	57.0	110	Aug 1944	1	81.0	Jul 1998	-7	Jan 1979	2	27.3	Dec 1983	4149	1230	3.9	59.5	319.5	9.9	118.1	1.4

+ 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](http://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: 1928-2001

(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: OLTON, TX**

**COOP ID: 416644**

**Climate Division: TX 1**

**NWS Call Sign:**

**Elevation: 3,610 Feet Lat: 34°11N**

**Lon: 102°08W**

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	.47	.33	3.30	1939	8	2.38	1983	.00+	1998	2.8	1.5	.2	.1	.00	.00	.02	.08	.16	.26	.38	.55	.79	1.22	1.66
Feb	.51	.52	1.00	1964	3	1.67	1998	.00+	2000	3.1	1.6	.1	.0	.00	.00	.03	.10	.19	.29	.43	.61	.86	1.31	1.76
Mar	.73	.47	2.92	1929	27	2.51	1973	.00+	1997	3.3	1.5	.4	.2	.00	.00	.07	.17	.29	.44	.63	.87	1.23	1.85	2.47
Apr	1.12	.94	2.23	1942	16	4.88	1997	.00+	1996	4.1	2.7	.7	.1	.00	.00	.14	.33	.53	.77	1.04	1.40	1.89	2.69	3.50
May	2.48	2.38	3.80	1999	1	7.56	1999	.16	2000	6.2	4.2	1.6	.6	.33	.53	.88	1.23	1.59	1.99	2.46	3.03	3.81	5.07	6.30
Jun	2.88	2.12	6.30	1985	4	10.10	1985	.36	1994	6.7	4.4	1.8	.8	.28	.48	.87	1.27	1.71	2.20	2.78	3.51	4.51	6.17	7.80
Jul	2.00	1.51	4.29	1951	2	5.02	1976	.07	1986	5.9	4.0	1.3	.5	.20	.34	.62	.89	1.20	1.54	1.94	2.44	3.12	4.26	5.38
Aug	2.60	2.08	3.67	1966	24	6.60	1974	.18	2000	7.0	4.8	1.6	.7	.32	.52	.89	1.25	1.63	2.06	2.56	3.18	4.01	5.39	6.72
Sep	2.17	1.97	2.50	1937	5	6.60	1971	.00+	2000	6.2	3.8	1.2	.5	.00	.23	.62	.97	1.32	1.71	2.16	2.70	3.44	4.66	5.83
Oct	1.54	.84	3.37	1941	4	5.12	1981	.00+	1992	4.5	3.0	1.1	.2	.00	.00	.18	.44	.72	1.04	1.43	1.92	2.60	3.74	4.87
Nov	.78	.66	1.70	1978	4	2.78	1978	.00+	1999	3.3	1.9	.5	.1	.00	.00	.13	.26	.39	.55	.73	.97	1.28	1.82	2.36
Dec	.68	.42	1.50	1942	21	3.15	1991	.00+	1977	3.2	1.7	.3	@	.00	.02	.09	.18	.29	.43	.60	.81	1.13	1.67	2.22
Ann	17.96	16.43	6.30	Jun 1985	4	10.10	Jun 1985	.00+	Sep 2000	56.3	35.1	10.8	3.8	10.84	12.13	13.83	15.16	16.35	17.53	18.76	20.14	21.83	24.34	26.54

+ 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: 1928-2001

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

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

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**Station: OLTON, TX**

**COOP ID: 416644**

**Climate Division: TX 1**

**NWS Call Sign:**

**Elevation: 3,610 Feet**

**Lat: 34° 11N**

**Lon: 102° 08W**

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	1.7	.0	#	0	7.3	1983	2	11.0	1997	6	1999	30	1	1973	1.1	.8	.2	.1	.0	.7	.3	.1	.0
Feb	1.4	.0	#	0	3.5	1973	23	6.6	1973	7	1973	23	3	1987	.8	.6	.2	.0	.0	.6	.3	.1	.0
Mar	.6	.0	#	0	3.0	1988	4	7.0	1988	1	1971	2	#+	1997	.3	.3	.1	.0	.0	.1	.0	.0	.0
Apr	.2	.0	#	0	2.0	1973	3	3.0+	1983	1	1973	3	#+	1997	.2	.2	.0	.0	.0	.1	.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	.1	.0	#	0	2.0	1991	31	2.0	1991	1	1972	31	#	1972	.1	.1	.0	.0	.0	.1	.0	.0	.0
Nov	.7	.0	#	0	6.0	1976	13	6.2	1976	2	1988	20	#	1988	.3	.2	.1	@	.0	.0	.0	.0	.0
Dec	2.8	.2	#	0	11.0	1987	14	15.0	1987	8	1971	2	#+	1999	1.0	.8	.4	.1	@	.1	.0	.0	.0
Ann	7.5	.2	N/A	N/A	11.0	Dec 1987	14	15.0	Dec 1987	8	Dec 1971	2	3	Feb 1987	3.8	3.0	1.0	.2	@	1.7	.6	.2	.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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Lat: 34° 11N

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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	5/11	5/06	5/03	4/30	4/27	4/25	4/22	4/18	4/14
32	4/28	4/23	4/19	4/15	4/12	4/09	4/06	4/02	3/28
28	4/14	4/09	4/06	4/03	4/01	3/29	3/27	3/23	3/19
24	4/07	3/31	3/27	3/23	3/19	3/15	3/11	3/06	2/28
20	3/29	3/22	3/17	3/12	3/08	3/04	2/28	2/22	2/15
16	3/23	3/14	3/07	3/01	2/24	2/18	2/13	2/06	1/28
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	9/29	10/03	10/07	10/10	10/12	10/15	10/18	10/21	10/26
32	10/03	10/09	10/13	10/17	10/20	10/24	10/27	10/31	11/06
28	10/19	10/25	10/29	11/01	11/05	11/08	11/12	11/16	11/22
24	10/29	11/03	11/07	11/11	11/14	11/17	11/20	11/24	11/29
20	11/06	11/11	11/16	11/19	11/23	11/26	11/30	12/04	12/10
16	11/13	11/21	11/27	12/02	12/06	12/11	12/16	12/21	12/29
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	188	181	176	171	167	163	159	154	147
32	212	204	199	194	190	186	181	176	169
28	236	230	225	221	217	213	209	205	198
24	262	254	248	243	239	234	230	224	216
20	284	275	269	264	259	254	249	242	234
16	322	309	300	292	285	277	269	260	247

\* 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	890	683	523	271	81	9	0	2	46	229	569	846	4149
60	735	543	371	160	29	1	0	0	12	117	426	691	3085
57	642	462	286	108	13	0	0	0	4	70	345	598	2528
55	582	410	233	80	7	0	0	0	2	47	294	536	2191
50	436	284	124	29	1	0	0	0	0	14	184	389	1461
32	68	27	1	0	0	0	0	0	0	0	8	38	142

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	201	268	501	739	1047	1257	1387	1328	1087	811	429	215	9270
55	1	7	20	128	341	567	674	615	398	145	25	1	2922
57	0	3	11	97	284	507	612	553	341	106	16	0	2530
60	0	0	3	59	208	417	519	460	259	60	7	0	1992
65	0	0	0	20	105	275	364	306	143	17	0	0	1230
70	0	0	0	5	40	153	215	164	63	2	0	0	642

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	76	145	302	513	807	1023	1145	1085	851	573	234	91	76	221	523	1036	1843	2866	4011	5096	5947	6520	6754	6845
45	31	73	180	372	652	873	990	930	701	425	133	34	31	104	284	656	1308	2181	3171	4101	4802	5227	5360	5394
50	6	31	92	246	499	724	835	775	555	286	66	7	6	37	129	375	874	1598	2433	3208	3763	4049	4115	4122
55	0	5	35	139	349	574	680	620	411	168	22	0	0	5	40	179	528	1102	1782	2402	2813	2981	3003	3003
60	0	0	4	61	213	424	525	465	275	74	2	0	0	0	4	65	278	702	1227	1692	1967	2041	2043	2043
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	100	148	246	353	508	658	754	722	544	381	195	110	100	248	494	847	1355	2013	2767	3489	4033	4414	4609	4719

(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](http://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](http://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"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
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## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)