

Climatology of the United States

No. 20

1971-2000

Station: LLANO, TX

COOP ID: 415272

Climate Division: TX 6

NWS Call Sign:

Elevation: 1,020 Feet Lat: 30°45N

Lon: 98°39W

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	59.6	32.3	46.0	93	1911	31	52.0	1998	-6	1949	31	38.4	1979	592	0	.0	@	23.7	.6	17.2	.0
Feb	64.3	36.3	50.3	100	1996	23	56.5	1976	-3	1949	1	40.9	1978	414	2	@	.2	24.2	.5	10.1	.0
Mar	71.9	44.3	58.1	100+	1971	29	64.3	1974	14	1980	2	53.5	1987	230	17	@	.9	29.8	@	3.4	.0
Apr	78.8	51.9	65.4	104	1925	18	70.3	1972	25	1920	5	59.0	1997	77	88	.1	2.9	29.9	.0	.5	.0
May	84.9	61.7	73.3	108	1927	28	80.8	1996	28+	1903	31	68.6	1976	14	271	.5	9.2	31.0	.0	.0	.0
Jun	91.2	68.8	80.0	112	1980	28	85.0	1990	38	1903	1	76.2	1983	0	450	1.8	21.5	30.0	.0	.0	.0
Jul	96.0	71.3	83.7	115	1933	14	87.6	1978	50	1930	16	78.0	1976	0	578	8.4	28.4	31.0	.0	.0	.0
Aug	95.6	70.4	83.0	113+	1953	11	86.3	1977	46	1906	29	78.6	1971	0	559	7.6	27.7	31.0	.0	.0	.0
Sep	89.7	64.1	76.9	112	1953	28	82.5	1977	35	1942	27	69.8	1974	2	361	1.6	19.0	30.0	.0	.0	.0
Oct	80.6	53.8	67.2	105	1951	4	70.4	1979	23	1917	30	58.6	1976	48	116	.1	4.9	30.9	.0	.3	.0
Nov	69.0	42.8	55.9	94+	1988	8	61.9	1973	15+	1979	30	48.6	1972	290	16	.0	.1	28.2	@	5.8	.0
Dec	61.2	34.3	47.8	92	1954	5	55.5	1984	-7	1929	22	38.3	1989	536	1	.0	.0	25.5	.4	14.6	.1
Ann	78.6	52.7	65.6	115	Jul 1933	14	87.6	Jul 1978	-7	Dec 1929	22	38.3	Dec 1989	2203	2459	20.1	114.8	345.2	1.5	51.9	.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: 1896-2001

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

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: LLANO, TX

COOP ID: 415272

Climate Division: TX 6

NWS Call Sign:

Elevation: 1,020 Feet Lat: 30°45N

Lon: 98°39W

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	1.08	.91	2.54	1968	19	3.70	1989	.00+	1999	5.1	2.6	.6	.1	.00	.10	.29	.47	.64	.84	1.07	1.35	1.73	2.36	2.97
Feb	1.80	1.57	2.87	1927	9	5.66	1992	.02	1999	5.3	3.4	1.3	.3	.10	.20	.41	.65	.93	1.26	1.66	2.17	2.90	4.13	5.37
Mar	1.90	1.63	5.29	1999	19	6.98	1999	.08	1971	6.2	3.6	1.3	.3	.20	.34	.60	.87	1.15	1.47	1.85	2.31	2.95	4.01	5.05
Apr	2.19	1.79	6.35	1977	15	10.94	1977	.15	1984	5.4	3.6	1.6	.6	.32	.50	.81	1.12	1.43	1.78	2.18	2.67	3.33	4.41	5.45
May	3.94	3.80	4.61	1951	7	7.51	1975	.77	1998	7.5	5.9	2.9	1.2	1.13	1.50	2.07	2.56	3.04	3.54	4.09	4.74	5.59	6.91	8.14
Jun	3.40	3.56	4.00	1906	25	7.96	1991	.66	1971	6.3	4.8	2.4	1.2	.79	1.10	1.60	2.05	2.49	2.97	3.49	4.13	4.96	6.27	7.51
Jul	1.84	1.37	6.75	1938	25	5.96	1976	.00	1993	4.1	2.8	1.2	.6	.03	.12	.34	.59	.88	1.23	1.66	2.21	3.00	4.35	5.71
Aug	2.03	1.10	4.32	1974	28	11.17	1974	.00	1999	4.7	3.2	1.2	.6	.03	.15	.39	.67	.99	1.37	1.84	2.45	3.30	4.77	6.24
Sep	2.14	1.95	12.53	1952	11	6.21	1986	.00	1999	5.3	3.9	1.4	.6	.14	.36	.69	1.01	1.34	1.70	2.12	2.64	3.34	4.48	5.58
Oct	2.88	2.48	7.20	1959	4	7.30	1984	.17	1987	6.1	4.4	1.9	1.0	.45	.69	1.11	1.51	1.92	2.37	2.89	3.52	4.36	5.73	7.05
Nov	2.23	1.90	3.94	1992	19	8.99	2000	.05	1999	5.3	3.3	1.7	.7	.19	.34	.63	.94	1.28	1.67	2.13	2.71	3.51	4.85	6.16
Dec	1.90	1.63	4.16	1991	19	11.42	1991	.06	1977	5.4	3.4	1.3	.3	.12	.23	.46	.72	1.01	1.35	1.77	2.30	3.04	4.31	5.56
Ann	27.33	27.42	12.53	Sep 1952	11	11.42	Dec 1991	.00+	Sep 1999	66.7	44.9	18.8	7.5	20.29	21.67	23.43	24.76	25.94	27.07	28.23	29.51	31.06	33.29	35.22

+ 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: 1896-2001

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

Complete documentation available from:
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1971-2000

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Station: LLANO, TX

COOP ID: 415272

Climate Division: TX 6

NWS Call Sign:

Elevation: 1,020 Feet

Lat: 30°45N

Lon: 98°39W

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	.8	.0	#	0	3.0	1975	12	8.0	1985	5	1985	13	#+	1985	.3	.3	.2	.0	.0	.2	.1	@	.0
Feb	.4	.0	#	0	5.0	1973	9	5.0	1973	1	1985	2	#+	1996	.1	.1	.1	.1	.0	@	.0	.0	.0
Mar	#	.0	0	0	#	1987	29	#	1987	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	#	1976	14	#	1976	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	#	.0	0	0	#	1972	13	#	1972	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	1.2	.0	N/A	N/A	5.0	Feb 1973	9	8.0	Jan 1985	5	Jan 1985	13	#+	Feb 1996	.4	.4	.3	.1	.0	.2	.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

Complete documentation available from:

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NWS Call Sign:

Elevation: 1,020 Feet

Lat: 30° 45N

Lon: 98° 39W

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	4/19	4/13	4/08	4/05	4/01	3/29	3/25	3/20	3/14
32	4/09	4/01	3/27	3/22	3/18	3/14	3/09	3/04	2/25
28	3/23	3/15	3/08	3/03	2/26	2/22	2/16	2/10	2/02
24	3/08	2/28	2/23	2/18	2/13	2/09	2/04	1/28	1/16
20	2/26	2/17	2/10	2/04	1/29	1/22	1/13	0/00	0/00
16	2/11	1/31	1/23	1/16	1/08	12/30	12/13	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	10/17	10/23	10/27	10/30	11/03	11/06	11/09	11/13	11/19
32	10/26	11/01	11/05	11/09	11/12	11/15	11/19	11/23	11/29
28	11/06	11/12	11/16	11/20	11/23	11/27	11/30	12/05	12/10
24	11/20	11/27	12/03	12/08	12/12	12/17	12/22	12/28	1/10
20	11/28	12/07	12/15	12/21	12/27	1/04	1/13	0/00	0/00
16	12/10	12/20	12/27	1/04	1/11	1/21	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	238	230	224	219	215	210	205	200	192
32	266	256	249	244	238	233	227	220	211
28	299	289	282	275	269	263	257	250	239
24	>365	329	316	308	301	295	288	280	270
20	>365	>365	>365	352	334	324	315	306	295
16	>365	>365	>365	>365	>365	349	337	327	314

* 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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Climate Division: TX 6 NWS Call Sign: Elevation: 1,020 Feet Lat: 30° 45N Lon: 98° 39W

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	592	414	230	77	14	0	0	0	2	48	290	536	2203
60	444	285	120	23	2	0	0	0	0	12	176	392	1454
57	359	215	72	9	0	0	0	0	0	4	122	310	1091
55	305	175	48	4	0	0	0	0	0	2	93	259	886
50	190	95	13	0	0	0	0	0	0	0	40	156	494
32	8	0	0	0	0	0	0	0	0	0	0	4	12

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	440	513	809	1001	1280	1440	1601	1582	1348	1091	716	492	12313
55	23	44	145	315	567	750	888	869	658	380	119	34	4792
57	15	28	107	260	505	690	826	807	598	320	88	23	4267
60	8	14	61	184	414	600	733	714	508	235	52	12	3535
65	0	2	17	88	271	450	578	559	361	116	16	1	2459
70	0	0	2	30	151	302	423	404	224	41	3	0	1580

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	241	342	590	789	1060	1226	1376	1353	1131	863	496	286	241	583	1173	1962	3022	4248	5624	6977	8108	8971	9467	9753
45	140	228	445	640	905	1076	1221	1198	981	708	362	172	140	368	813	1453	2358	3434	4655	5853	6834	7542	7904	8076
50	68	131	306	493	750	926	1066	1043	831	555	240	91	68	199	505	998	1748	2674	3740	4783	5614	6169	6409	6500
55	27	67	187	349	596	776	911	888	681	404	144	43	27	94	281	630	1226	2002	2913	3801	4482	4886	5030	5073
60	6	28	97	220	442	626	756	733	532	264	71	15	6	34	131	351	793	1419	2175	2908	3440	3704	3775	3790
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	191	245	386	514	713	833	901	889	749	568	332	216	191	436	822	1336	2049	2882	3783	4672	5421	5989	6321	6537

(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