

Climatology of the United States

No. 20

1971-2000

Station: PUTNAM, TX

COOP ID: 417327

Climate Division: TX 3

NWS Call Sign:

Elevation: 1,591 Feet Lat: 32° 22N

Lon: 99° 11W

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	55.3	31.1	43.2	89	1969	8	49.9	1990	2	1982	11	33.2	1979	676	0	.0	.0	22.8	1.7	14.6	.0
Feb	60.8	36.0	48.4	96	1996	22	56.2	1976	0	1985	1	37.4	1978	471	6	.0	.1	23.3	.8	8.8	.1
Mar	68.5	42.8	55.7	97	1974	31	61.4	1974	6	1980	2	51.0	1987	300	9	.0	.6	29.5	@	3.9	.0
Apr	76.7	51.9	64.3	100	1972	13	68.6	1972	25	1973	10	58.0	1973	98	77	@	2.9	29.9	.0	.5	.0
May	83.8	60.5	72.2	108	2000	25	78.7	2000	36	1994	1	67.3	1976	24	245	.6	9.5	31.0	.0	.0	.0
Jun	90.7	68.1	79.4	107+	1994	29	84.6	1990	48	1970	3	75.6	1989	0	432	2.2	20.2	30.0	.0	.0	.0
Jul	94.9	71.6	83.3	109+	1995	29	88.1	1978	56	1990	14	77.5	1976	0	564	7.1	27.4	31.0	.0	.0	.0
Aug	94.4	70.9	82.7	110	1964	6	88.0	1999	52	1992	28	76.0	1971	0	547	7.9	26.0	31.0	.0	.0	.0
Sep	87.2	64.1	75.7	109	2000	5	83.2	1977	37	1989	24	66.5	1974	10	331	1.5	14.7	30.0	.0	.0	.0
Oct	77.9	54.2	66.1	101	1977	1	71.6	1979	20	1993	31	57.1	1976	73	106	@	3.1	30.8	.0	.3	.0
Nov	65.6	42.6	54.1	91	1980	8	60.2	1973	16	1993	26	46.0	1976	346	18	.0	.1	27.1	.1	4.7	.0
Dec	56.8	33.8	45.3	89	1996	11	50.4	1984	-8	1989	23	33.1	1983	611	0	.0	.0	24.2	1.0	12.0	.1
Ann	76.1	52.3	64.2	110	Aug 1964	6	88.1	Jul 1978	-8	Dec 1989	23	33.1	Dec 1983	2609	2335	19.3	104.6	340.6	3.6	44.8	.2

+ 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: 1911-2001

(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: PUTNAM, TX

COOP ID: 417327

Climate Division: TX 3

NWS Call Sign:

Elevation: 1,591 Feet Lat: 32°22N

Lon: 99°11W

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	1.17	1.04	3.14	1961	7	3.44	1973	.00+	1986	4.2	2.6	.8	.2	.00	.13	.35	.53	.72	.93	1.17	1.45	1.84	2.48	3.10
Feb	1.55	1.35	2.06	1994	22	5.54	1997	.00	1999	4.2	3.0	1.0	.4	.05	.17	.39	.62	.86	1.14	1.48	1.90	2.48	3.45	4.41
Mar	1.76	1.33	3.50	1916	31	5.15	1979	.09	1971	4.2	3.2	1.2	.4	.18	.31	.55	.80	1.06	1.36	1.71	2.14	2.74	3.72	4.68
Apr	1.80	1.51	3.60	1960	25	5.35	1990	.06	1998	4.3	3.4	1.2	.5	.27	.42	.68	.93	1.19	1.48	1.80	2.20	2.73	3.60	4.44
May	3.13	2.56	4.51	1971	29	8.67	1994	.03	1984	5.7	4.5	2.3	.8	.45	.71	1.16	1.60	2.05	2.55	3.12	3.82	4.77	6.32	7.80
Jun	3.25	3.22	3.48	1948	26	8.17	1997	.11	1978	5.0	4.2	2.5	1.0	.38	.63	1.08	1.53	2.02	2.56	3.19	3.97	5.03	6.79	8.49
Jul	1.97	2.02	3.70	1928	26	4.16	1975	.00	1993	3.7	2.9	1.3	.7	.10	.27	.57	.86	1.17	1.51	1.92	2.43	3.12	4.26	5.37
Aug	2.02	1.40	5.00	1978	3	7.95	1978	.00+	2000	4.0	3.3	1.1	.6	.00	.10	.38	.68	1.02	1.41	1.88	2.47	3.31	4.72	6.13
Sep	2.79	2.31	4.66	1996	15	8.12	1996	.00+	1983	4.7	3.8	1.9	1.0	.00	.00	.57	1.04	1.53	2.07	2.71	3.50	4.56	6.35	8.10
Oct	3.03	1.93	4.98	1931	12	13.98	1981	.09	1987	4.6	4.1	2.2	.9	.27	.48	.88	1.30	1.76	2.28	2.91	3.69	4.76	6.56	8.32
Nov	1.64	1.44	2.58	1963	19	4.36	2000	.00+	1999	3.6	3.1	1.0	.5	.00	.00	.44	.73	1.01	1.31	1.66	2.09	2.64	3.55	4.43
Dec	1.41	1.19	3.42	1991	20	7.62	1991	.00+	1996	3.8	2.7	.8	.3	.00	.05	.21	.41	.64	.91	1.26	1.70	2.33	3.43	4.52
Ann	25.52	25.22	5.00	Aug 1978	3	13.98	Oct 1981	.00+	Aug 2000	52.0	40.8	17.3	7.3	15.97	17.73	20.03	21.81	23.41	24.98	26.62	28.45	30.69	33.99	36.88

+ 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: 1911-2001

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

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

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Station: PUTNAM, TX

COOP ID: 417327

Climate Division: TX 3

NWS Call Sign:

Elevation: 1,591 Feet

Lat: 32° 22N

Lon: 99° 11W

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	2.4	1.1	#	#	7.0	1973	11	9.0	1983	8	1973	11	1	1988	1.0	.8	.3	.1	.0	1.0	.3	.2	.0
Feb	1.4	.7	#	#	5.0	1974	21	6.0	1978	4	1980	9	#+	1996	.8	.6	.2	@	.0	.5	.2	.0	.0
Mar	.4	.0	#	0	8.0	1989	5	8.0	1989	6	1989	5	#+	1989	.1	.1	@	@	.0	.1	.1	.1	.0
Apr	.2	.0	#	0	5.0	1996	5	5.0	1996	4	1996	5	#	1996	@	@	@	@	.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	.6	.0	#	0	5.0	1976	13	5.0	1976	5	1976	13	#+	1996	.2	.2	.1	@	.0	.2	.1	@	.0
Dec	.9	.0	#	0	5.0	1986	12	6.0	1986	2	1990	22	#+	2000	.5	.5	.1	@	.0	.3	.0	.0	.0
Ann	5.9	1.8	N/A	N/A	8.0	Mar 1989	5	9.0	Jan 1983	8	Jan 1973	11	1	Jan 1988	2.6	2.2	.7	.1	.0	2.1	.7	.3	.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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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	4/07	4/05	4/02	3/30	3/27	3/23
32	4/07	4/02	3/30	3/27	3/24	3/21	3/18	3/14	3/09
28	4/02	3/26	3/21	3/16	3/12	3/08	3/03	2/26	2/19
24	3/16	3/07	2/28	2/23	2/17	2/12	2/06	1/31	1/21
20	3/10	2/26	2/17	2/09	2/02	1/25	1/17	1/07	12/23
16	2/25	2/14	2/06	1/30	1/22	1/14	1/03	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	10/21	10/26	10/30	11/02	11/05	11/08	11/12	11/15	11/21
32	10/27	11/02	11/06	11/10	11/13	11/16	11/20	11/24	11/30
28	11/04	11/11	11/15	11/19	11/23	11/27	12/01	12/05	12/12
24	11/12	11/20	11/26	11/30	12/05	12/09	12/14	12/20	12/27
20	11/16	11/28	12/06	12/14	12/21	12/28	1/05	1/15	1/29
16	12/06	12/14	12/20	12/26	1/01	1/07	1/17	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	222	218	214	210	206	201	194
32	251	245	241	237	234	230	226	222	216
28	284	274	267	261	255	250	244	237	227
24	326	313	304	297	290	283	275	266	254
20	>365	>365	341	325	314	305	296	286	273
16	>365	>365	>365	>365	359	340	326	313	296

* 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

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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	676	471	300	98	24	0	0	0	10	73	346	611	2609
60	530	342	173	35	6	0	0	0	1	25	228	462	1802
57	444	272	115	15	2	0	0	0	0	11	170	377	1406
55	389	230	84	8	0	0	0	0	0	6	137	323	1177
50	266	144	31	0	0	0	0	0	0	1	71	205	718
32	25	7	0	0	0	0	0	0	0	0	0	10	42

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	373	466	732	969	1244	1422	1587	1570	1310	1057	662	422	11814
55	23	45	103	287	531	732	874	857	620	350	109	22	4553
57	16	31	72	235	471	672	812	795	560	292	82	14	4052
60	9	17	37	164	382	582	719	702	471	214	50	6	3353
65	0	6	9	77	245	432	564	547	331	106	18	0	2335
70	0	0	0	26	137	286	409	395	206	40	5	0	1504

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	339	569	770	1038	1198	1363	1342	1096	847	470	272	241	580	1149	1919	2957	4155	5518	6860	7956	8803	9273	9545
45	144	227	427	621	883	1048	1208	1187	946	693	338	166	144	371	798	1419	2302	3350	4558	5745	6691	7384	7722	7888
50	73	142	293	476	728	898	1053	1032	796	539	222	88	73	215	508	984	1712	2610	3663	4695	5491	6030	6252	6340
55	34	72	180	336	575	748	898	877	646	396	128	37	34	106	286	622	1197	1945	2843	3720	4366	4762	4890	4927
60	6	30	97	214	421	598	743	722	501	261	63	12	6	36	133	347	768	1366	2109	2831	3332	3593	3656	3668
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	167	224	363	499	688	809	900	886	728	550	293	177	167	391	754	1253	1941	2750	3650	4536	5264	5814	6107	6284

(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