U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: PERRYTON, TX **COOP ID: 416950**

Climate Division: TX 1 **NWS Call Sign:** **Elevation: 2,942 Feet** **Lat: 36˚23N** **Lon: 100˚49W**

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	45.1	18.4	31.8	81	1986	21	39.2	1986	-17	1988	7	19.4	1979	1030	0	.0	.0	13.8	6.0	30.2	1.8
Feb	50.8	22.8	36.8	87	1970	18	45.6	1976	-15	1982	6	24.7	1978	789	0	.0	.0	16.9	4.1	25.1	1.1
Mar	58.8	30.2	44.5	95	1989	11	50.6	1972	-2	1996	8	38.9	1998	636	0	.0	.1	23.7	1.2	19.7	.1
Apr	68.2	38.6	53.4	101	1989	23	59.1	1972	14+	1997	13	46.7	1997	360	11	@	.8	27.8	.1	8.1	.0
May	76.0	49.6	62.8	106	1996	17	69.6	1996	27	1991	1	56.9	1995	143	73	.3	3.2	30.7	.0	.6	.0
Jun	85.7	59.4	72.6	111	1981	10	77.4	1994	41	1970	5	67.0	1992	25	253	2.3	12.4	30.0	.0	.0	.0
Jul	91.4	64.8	78.1	108	1980	17	84.3	1980	47	1990	13	74.4	1989	1	407	5.5	22.7	31.0	.0	.0	.0
Aug	89.4	63.5	76.5	106+	1984	30	83.2	1983	46	1988	29	69.6	1992	3	358	3.3	20.1	31.0	.0	.0	.0
Sep	81.7	55.0	68.4	105	1995	6	73.5	1998	29+	2000	25	62.4	1974	50	149	.9	9.6	29.7	.0	.2	.0
Oct	71.5	42.7	57.1	97	1979	1	62.9	1979	11	1993	31	51.6	1976	261	16	.0	1.6	29.8	.1	4.2	.0
Nov	56.7	29.4	43.1	88	1980	9	49.6	1999	-4	1976	28	34.8	1972	658	0	.0	.0	21.2	1.2	20.3	.1
Dec	46.8	21.0	33.9	78+	1987	6	39.7	1980	-12	1972	6	23.0	1983	965	0	.0	.0	14.8	4.9	29.5	1.3
Ann	68.5	41.3	54.9	111	Jun 1981	10	84.3	Jul 1980	-17	Jan 1988	7	19.4	Jan 1979	4921	1267	12.3	70.5	300.4	17.6	137.9	4.4

\+ 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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1907-2001

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

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	.47	.35	1.73	1939	8	1.46	1980	.00+	1996
Feb	.62	.38	1.90	1912	25	1.99	1971	.00+	1999
Mar	1.71	1.41	2.10	1973	24	7.10	1973	.00	1997
Apr	1.80	1.43	2.70	1985	29	6.34	1997	.00	1996
May	3.33	2.62	7.11	1989	17	11.84	1989	.45	1985
Jun	2.97	2.42	2.90	1987	30	8.08	2000	.25	1981
Jul	2.74	2.17	3.88	1963	12	10.26	1998	.53+	1987
Aug	2.22	1.91	3.95	1967	9	5.43	1986	.03	1983
Sep	1.89	1.71	5.30	1915	25	8.78	1996	.00	1992
Oct	1.38	1.03	4.12	1923	11	6.05	2000	.00	1975
Nov	1.09	.70	4.02	1971	17	5.49	1971	.00+	1999
Dec	.66	.59	3.00	1911	19	2.62	1991	.00+	1988
Ann	20.88	20.92	7.11	May 1989	17	11.84	May 1989	.00+	Nov 1999

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	3.0	1.4	.2	.0
Feb	2.9	1.5	.4	.1
Mar	5.5	3.5	1.3	.3
Apr	5.4	3.5	1.2	.4
May	7.5	5.2	2.3	.9
Jun	6.8	4.6	2.1	.7
Jul	5.8	4.3	1.8	.7
Aug	6.5	4.4	1.5	.5
Sep	5.5	3.2	1.2	.7
Oct	3.7	2.3	.9	.4
Nov	3.4	2.2	.6	.2
Dec	3.2	2.0	.4	.0
Ann	59.2	38.1	13.9	4.9

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.00	.06	.15	.23	.30	.38	.47	.58	.73	.97	1.19
Feb	.00	.00	.03	.12	.24	.37	.54	.76	1.07	1.60	2.15
Mar	.04	.14	.36	.60	.87	1.19	1.58	2.08	2.78	3.97	5.16
Apr	.06	.20	.45	.71	.99	1.32	1.71	2.20	2.88	4.03	5.15
May	.65	.95	1.44	1.89	2.35	2.83	3.39	4.06	4.94	6.36	7.70
Jun	.46	.71	1.14	1.55	1.97	2.44	2.97	3.62	4.50	5.92	7.28
Jul	.34	.56	.95	1.33	1.73	2.18	2.71	3.35	4.23	5.67	7.06
Aug	.21	.36	.66	.97	1.30	1.68	2.14	2.70	3.48	4.77	6.04
Sep	.08	.23	.50	.78	1.08	1.42	1.82	2.32	3.01	4.17	5.29
Oct	.03	.11	.28	.47	.69	.95	1.27	1.67	2.25	3.22	4.19
Nov	.00	.00	.17	.34	.53	.75	1.01	1.34	1.80	2.57	3.34
Dec	.00	.07	.19	.30	.40	.52	.66	.82	1.04	1.40	1.75
Ann	13.70	15.05	16.79	18.13	19.34	20.51	21.73	23.08	24.73	27.16	29.27

\+ 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: 1907-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	3.9	3.0	#	#
Feb	5.1	1.5	1	#
Mar	3.3	1.5	#	#
Apr	.8	.0	#	0
May	.1	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	#	0
Oct	.3	.0	0	0
Nov	2.2	.5	#	0
Dec	3.2	2.0	#	#
Ann	18.9	8.5	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	6.0	1988	7	14.0	1988	8	1988	10	2	1993
Feb	11.5	1971	22	19.0	1971	14	1971	22	4	1983
Mar	12.0	1994	9	23.5	1988	12	1988	5	2	1988
Apr	4.0	1973	8	4.0+	1994	4	1973	8	#+	1989
May	3.5	1978	3	3.5	1978	4	1978	3	#	1978
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	1.0	1984	29	1.0	1984	#	1984	29	#	1984
Oct	6.0	1991	31	6.0	1991	0	0	0	0	0
Nov	11.0	1992	25	22.0	1972	11	1992	25	2	1992
Dec	8.0	1995	18	19.0	1987	11	1987	15	3+	1992
Ann	12.0	Mar 1994	9	23.5	Mar 1988	14	Feb 1971	22	4	Feb 1983

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	2.1	1.5	.5	.1	.0
Feb	1.6	1.4	.6	.3	@
Mar	1.6	1.1	.6	.2	@
Apr	.3	.2	.2	.0	.0
May	@	@	@	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	@	@	.0	.0	.0
Oct	.1	.1	@	@	.0
Nov	1.0	.8	.3	.1	@
Dec	1.5	1.1	.6	.2	.0
Ann	8.2	6.2	2.8	.9	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	4.6	1.7	.3	.0
Feb	3.3	2.4	1.5	.1
Mar	1.2	.6	.3	.1
Apr	.3	.3	.0	.0
May	@	@	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	1.0	.7	.6	@
Dec	3.5	1.9	.5	.0
Ann	13.9	7.6	3.2	.2

+ 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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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	5/15	5/10	5/07	5/05	5/02	4/30	4/27	4/24	4/20
32	5/08	5/03	4/30	4/27	4/25	4/22	4/19	4/16	4/12
28	4/23	4/19	4/16	4/13	4/11	4/08	4/06	4/03	3/30
24	4/14	4/09	4/05	4/02	3/31	3/28	3/25	3/21	3/16
20	4/09	4/03	3/29	3/25	3/21	3/17	3/13	3/08	3/01
16	4/02	3/26	3/21	3/16	3/12	3/08	3/04	2/27	2/20

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	9/24	9/28	10/01	10/04	10/07	10/10	10/12	10/16	10/20
32	9/30	10/06	10/10	10/13	10/17	10/20	10/23	10/27	11/02
28	10/14	10/19	10/22	10/25	10/28	10/31	11/03	11/06	11/11
24	10/24	10/30	11/03	11/06	11/09	11/12	11/16	11/20	11/25
20	10/31	11/06	11/10	11/14	11/17	11/20	11/24	11/28	12/04
16	11/04	11/11	11/16	11/21	11/25	11/28	12/03	12/08	12/15

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	175	169	164	160	157	153	149	145	139
32	190	184	181	177	174	171	168	164	159
28	220	213	208	204	200	196	191	186	180
24	245	238	232	227	223	218	214	208	200
20	267	258	251	246	241	235	230	223	214
16	284	274	268	262	256	251	245	239	229

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1030	789	636	360	143	25	1	3	50	261	658	965	4921
60	875	649	481	234	67	7	0	0	14	145	510	810	3792
57	782	572	392	172	38	2	0	0	5	93	425	717	3198
55	720	519	335	136	24	1	0	0	2	66	372	656	2831
50	570	392	205	65	6	0	0	0	0	23	248	508	2017
32	146	84	7	0	0	0	0	0	0	0	20	109	366

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	139	219	395	642	954	1217	1429	1378	1089	778	353	166	8759
55	1	10	10	88	265	528	716	665	402	131	14	0	2830
57	0	6	4	64	216	470	654	603	344	95	8	0	2464
60	0	0	1	36	153	384	561	510	263	55	3	0	1966
65	0	0	0	11	73	253	407	358	149	16	0	0	1267
70	0	0	0	3	27	147	260	218	69	3	0	0	727

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	36	96	222	432	722	996	1201	1152	872	546	184	52	36	132	354	786	1508	2504	3705	4857	5729	6275	6459	6511
45	10	43	128	301	567	846	1046	997	723	398	103	16	10	53	181	482	1049	1895	2941	3938	4661	5059	5162	5178
50	0	13	61	186	415	696	891	842	577	266	45	3	0	13	74	260	675	1371	2262	3104	3681	3947	3992	3995
55	0	1	24	102	280	546	736	687	436	155	13	0	0	1	25	127	407	953	1689	2376	2812	2967	2980	2980
60	0	0	5	44	158	400	581	532	304	70	1	0	0	0	5	49	207	607	1188	1720	2024	2094	2095	2095
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	65	118	195	305	455	636	771	745	557	365	163	76	65	183	378	683	1138	1774	2545	3290	3847	4212	4375	4451

(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:
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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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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 are 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.

a. Temperature/ Precipitation Tables
   1. 1971-2000 Monthly Normals
   2. Cooperative Summary of the Day
   3. National Weather Service station records
   4. 1971-2000 serially complete daily data

b. Degree Day Table
   1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
   2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data

c. Snow Tables
   1. Snow Climatology
   2. Cooperative Summary of the Day

d. Freeze Data Table
   1971-2000 serially complete daily data

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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