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: PORT MANSFIELD, TX **COOP ID: 417184**

Climate Division: TX10 **NWS Call Sign:** **Elevation: 9 Feet** **Lat: 26˚33N** **Lon: 97˚26W**

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	64.8	48.8	56.8	88	1960	17	65.2	2000	15	1962	12	50.6	1984	294	41	.0	.0	28.2	@	1.7	.0
Feb	67.9	52.6	60.3	95	1971	1	67.9	2000	26+	1985	3	51.8	1978	183	49	.0	.1	26.7	.1	.8	.0
Mar	73.7	60.2	67.0	101	1984	28	72.1	2000	29	1980	2	60.8	1996	62	122	.1	.6	30.9	.0	.1	.0
Apr	77.8	66.1	72.0	102	1963	22	76.7	1972	38	1974	6	67.5	1980	12	222	.0	.9	30.0	.0	.0	.0
May	82.4	72.6	77.5	103	1963	31	81.0	1999	52+	1976	2	74.0	1979	0	387	.1	1.4	31.0	.0	.0	.0
Jun	86.9	76.0	81.5	101	1998	16	83.7	1998	49	1974	26	78.6	1979	0	494	.1	4.2	30.0	.0	.0	.0
Jul	88.7	77.3	83.0	97	1969	23	84.7	1996	65	1985	1	81.2	1976	0	558	.0	11.3	31.0	.0	.0	.0
Aug	88.7	76.9	82.8	102	1962	14	84.1	1977	64+	1967	14	81.5	1973	0	552	.2	12.7	31.0	.0	.0	.0
Sep	86.3	73.2	79.8	99+	1977	20	82.8	1977	55+	1991	26	76.1	1979	0	443	.0	4.5	30.0	.0	.0	.0
Oct	81.0	67.0	74.0	96	1973	1	76.9+	1986	32	1993	31	67.1	1976	6	285	.0	1.2	31.0	.0	@	.0
Nov	73.9	59.4	66.7	98	1988	5	74.1	1973	30	1959	18	58.1	1976	99	148	.0	.2	29.6	.0	@	.0
Dec	67.0	51.1	59.1	91	1968	28	67.5	1984	15+	1989	24	48.3	1989	238	54	.0	.0	29.3	.1	1.1	.0
Ann	78.3	65.1	71.7	103	May 1963	31	84.7	Jul 1996	15+	Dec 1989	24	48.3	Dec 1989	894	3355	.5	37.1	358.7	.2	3.7	.0

\+ 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: 1958-2001

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

Issue Date: February 2004

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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	1.50	.95	2.75	1978	18	4.84	1984	.07+	1982
Feb	1.74	1.30	4.50	1982	20	6.53	1998	.00+	1976
Mar	1.21	.78	4.00	1997	11	6.56	1997	.00+	1978
Apr	1.55	.82	4.30	1976	5	7.64	1976	.00+	1998
May	3.01	2.76	4.00	1971	12	8.60	1991	.00	1998
Jun	2.46	2.31	12.90	1968	27	8.90	1973	.00	1998
Jul	1.23	.67	4.22	1978	31	4.97	1983	.00+	2000
Aug	1.86	1.64	4.61	1959	25	6.75	1980	.01	1991
Sep	5.00	3.58	6.50	1975	1	18.08	1984	.13	2000
Oct	3.23	2.61	4.07	1958	17	14.06	1997	.33	1989
Nov	2.12	1.63	6.73	1995	18	7.87	1995	.00	1999
Dec	1.30	.90	3.75	1978	27	4.73	1986	.00+	1977
Ann	26.21	26.20	12.90	Jun 1968	27	18.08	Sep 1984	.00+	Jul 2000

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	6.2	3.1	.8	.4
Feb	5.2	2.7	1.0	.5
Mar	3.2	1.7	.7	.4
Apr	3.3	2.1	1.0	.5
May	4.7	3.6	1.9	1.0
Jun	4.5	3.1	1.6	1.0
Jul	3.3	2.2	.7	.3
Aug	4.6	3.1	1.0	.5
Sep	7.8	6.1	2.9	1.5
Oct	6.0	4.3	2.0	1.2
Nov	5.0	2.9	1.1	.6
Dec	5.6	2.9	.7	.3
Ann	59.4	37.8	15.4	8.2

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	.07	.15	.33	.53	.76	1.03	1.37	1.81	2.42	3.48	4.53
Feb	.00	.00	.29	.57	.87	1.21	1.63	2.16	2.87	4.09	5.29
Mar	.00	.00	.05	.18	.36	.61	.93	1.38	2.05	3.22	4.45
Apr	.00	.00	.09	.29	.55	.88	1.29	1.84	2.63	4.01	5.42
May	.07	.27	.66	1.08	1.56	2.12	2.80	3.67	4.88	6.92	8.96
Jun	.04	.16	.44	.78	1.16	1.63	2.21	2.96	4.02	5.84	7.68
Jul	.00	.00	.05	.18	.37	.63	.96	1.42	2.09	3.30	4.54
Aug	.08	.17	.38	.62	.91	1.25	1.68	2.23	3.01	4.36	5.71
Sep	.45	.80	1.47	2.17	2.93	3.79	4.81	6.09	7.85	10.79	13.67
Oct	.40	.66	1.11	1.56	2.04	2.57	3.18	3.95	4.98	6.67	8.31
Nov	.05	.20	.48	.78	1.12	1.51	1.98	2.59	3.43	4.86	6.27
Dec	.00	.09	.29	.49	.71	.95	1.24	1.60	2.11	2.94	3.77
Ann	14.84	16.85	19.53	21.63	23.55	25.44	27.42	29.66	32.43	36.54	40.18

\+ 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: 1958-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
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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	.0	.0	0	0
Feb	.0	.0	0	0
Mar	.0	.0	0	0
Apr	.0	.0	0	0
May	.0	.0	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	.0	.0	0	0
Dec	.0	.0	0	0
Ann	.0	.0	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	.0	0	0	.0	0	0	0	0	0	0
Feb	.0	0	0	.0	0	0	0	0	0	0
Mar	.0	0	0	.0	0	0	0	0	0	0
Apr	.0	0	0	.0	0	0	0	0	0	0
May	.0	0	0	.0	0	0	0	0	0	0
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	.0	0	0	.0	0	0	0	0	0	0
Oct	.0	0	0	.0	0	0	0	0	0	0
Nov	.0	0	0	.0	0	0	0	0	0	0
Dec	.0	0	0	.0	0	0	0	0	0	0
Ann	.0	0	0	.0	0	0	0	0	0	0

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.0	.0	.0	.0	.0
Feb	.0	.0	.0	.0	.0
Mar	.0	.0	.0	.0	.0
Apr	.0	.0	.0	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.0	.0	.0	.0	.0
Dec	.0	.0	.0	.0	.0
Ann	.0	.0	.0	.0	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.0	.0	.0	.0
Feb	.0	.0	.0	.0
Mar	.0	.0	.0	.0
Apr	.0	.0	.0	.0
May	.0	.0	.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	.0	.0	.0	.0
Dec	.0	.0	.0	.0
Ann	.0	.0	.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

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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	3/13	3/02	2/22	2/15	2/08	2/02	1/25	1/16	12/29
32	2/21	2/08	1/29	1/19	1/10	12/30	12/14	0/00	0/00
28	1/30	1/19	1/09	12/28	0/00	0/00	0/00	0/00	0/00
24	1/04	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
20	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
16	0/00	0/00	0/00	0/00	0/00	0/00	0/00	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	11/25	12/03	12/08	12/12	12/17	12/21	12/26	1/02	1/13
32	11/29	12/11	12/20	12/29	1/07	1/17	2/06	0/00	0/00
28	12/20	12/31	1/09	1/20	0/00	0/00	0/00	0/00	0/00
24	1/01	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
20	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
16	0/00	0/00	0/00	0/00	0/00	0/00	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	>365	352	331	320	311	303	294	284	272
32	>365	>365	>365	>365	351	338	328	319	308
28	>365	>365	>365	>365	>365	>365	>365	>365	341
24	>365	>365	>365	>365	>365	>365	>365	>365	>365
20	>365	>365	>365	>365	>365	>365	>365	>365	>365
16	>365	>365	>365	>365	>365	>365	>365	>365	>365

***** 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	294	183	62	12	0	0	0	0	0	6	99	238	894
60	191	104	19	1	0	0	0	0	0	1	45	145	506
57	141	67	7	0	0	0	0	0	0	0	26	100	341
55	112	47	4	0	0	0	0	0	0	0	17	74	254
50	51	17	0	0	0	0	0	0	0	0	6	30	104
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	770	790	1083	1200	1410	1484	1581	1575	1433	1302	1040	840	14508
55	168	193	374	510	697	794	868	862	743	589	367	201	6366
57	136	157	316	450	635	734	806	800	683	527	315	164	5723
60	93	110	234	361	542	644	713	707	593	435	245	117	4794
65	41	49	122	222	387	494	558	552	443	285	148	54	3355
70	16	17	47	110	237	344	403	397	293	151	76	21	2112

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	536	602	845	968	1172	1258	1342	1334	1198	1066	806	609	536	1138	1983	2951	4123	5381	6723	8057	9255	10321	11127	11736
45	393	467	691	818	1017	1108	1187	1179	1048	911	658	462	393	860	1551	2369	3386	4494	5681	6860	7908	8819	9477	9939
50	269	333	538	668	862	958	1032	1024	898	756	513	327	269	602	1140	1808	2670	3628	4660	5684	6582	7338	7851	8178
55	161	213	390	519	707	808	877	869	748	602	376	212	161	374	764	1283	1990	2798	3675	4544	5292	5894	6270	6482
60	84	114	254	373	552	658	722	714	598	451	250	116	84	198	452	825	1377	2035	2757	3471	4069	4520	4770	4886
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	304	357	546	667	857	928	984	971	875	749	525	359	304	661	1207	1874	2731	3659	4643	5614	6489	7238	7763	8122

(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