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: ARCHER CITY, TX **COOP ID: 410313**

Climate Division: TX 3 **NWS Call Sign:** **Elevation: 1,045 Feet** **Lat: 33˚35N** **Lon: 98˚38W**

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	53.8	26.7	40.3	88	1969	8	47.7	1990	-5	1966	23	29.0	1979	766	0	.0	.0	20.3	2.4	20.6	.0
Feb	59.6	31.2	45.4	96	1996	22	52.8	1976	-10	1985	2	32.2	1978	553	5	.0	.1	21.6	1.3	12.0	.1
Mar	67.8	38.8	53.3	99	1971	27	60.0	1974	10+	1980	3	48.3	1980	367	5	.0	.7	29.0	.1	5.2	.0
Apr	76.3	48.1	62.2	101	1972	12	66.9	1978	25	1975	3	56.3	1973	137	53	@	2.1	29.9	.0	.7	.0
May	83.9	57.8	70.9	110	2000	24	78.0	1996	38	1979	13	65.0	1976	30	211	.7	8.2	31.0	.0	.0	.0
Jun	91.6	67.0	79.3	114	1980	28	84.8	1998	50+	1983	7	74.3	1983	1	428	3.3	20.2	30.0	.0	.0	.0
Jul	97.0	70.9	84.0	111+	1996	7	89.3	1980	54	1970	23	79.0	1976	0	587	11.5	28.9	31.0	.0	.0	.0
Aug	96.3	69.7	83.0	112	1964	6	89.7	2000	52	1992	28	77.3	1971	0	558	11.2	27.2	31.0	.0	.0	.0
Sep	88.2	62.0	75.1	112	2000	3	82.2	1998	35	1983	21	66.6	1974	14	316	2.4	16.0	30.0	.0	.0	.0
Oct	78.5	51.0	64.8	103+	2000	3	69.0	1979	21	1993	31	55.8	1976	93	85	.2	3.8	30.8	.0	.5	.0
Nov	65.3	38.8	52.1	90+	1988	9	59.1	1999	14	1976	29	44.1	1972	398	10	.0	.1	26.7	@	6.4	.0
Dec	55.9	29.8	42.9	84+	1995	2	46.6	1984	-10	1989	23	29.5	1983	687	0	.0	.0	22.5	1.4	17.8	.1
Ann	76.2	49.3	62.8	114	Jun 1980	28	89.7	Aug 2000	-10+	Dec 1989	23	29.0	Jan 1979	3046	2258	29.3	107.3	333.8	5.2	63.2	.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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1910-2001

(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	1.13	.88	2.15	1968	18	3.32	1998	.00+	1986
Feb	1.75	1.43	3.20	1981	28	4.38	1990	.00	1976
Mar	2.05	1.89	2.73	1978	24	5.32	1985	.05	1997
Apr	2.46	2.58	5.19	1951	30	6.82	1990	.14	1980
May	4.33	3.67	5.05	1915	23	12.44	1982	.69	1996
Jun	3.46	2.90	6.71	1915	5	7.76	1985	.45	1994
Jul	1.79	1.48	4.70	1950	24	5.30	1979	.00+	1999
Aug	2.66	2.48	4.03	1996	10	7.23	1996	.00	2000
Sep	3.11	3.07	6.70	1955	25	10.42	1980	.10	1979
Oct	3.39	2.44	7.95	1981	12	16.13	1981	.06	1992
Nov	1.90	1.34	4.60	1962	26	6.55	2000	.07	1999
Dec	1.75	1.19	3.08	1987	19	6.98	1997	.00	1973
Ann	29.78	29.23	7.95	Oct 1981	12	16.13	Oct 1981	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	3.7	2.5	1.0	.2
Feb	5.1	3.5	1.2	.3
Mar	5.4	3.8	1.3	.5
Apr	5.4	4.0	1.7	.8
May	7.2	5.8	2.8	1.3
Jun	6.1	4.8	2.5	1.0
Jul	3.8	2.9	1.0	.5
Aug	5.2	3.8	1.8	.7
Sep	5.4	4.1	2.2	.9
Oct	6.1	4.7	2.1	1.0
Nov	4.2	3.1	1.3	.6
Dec	4.1	2.9	1.2	.4
Ann	61.7	45.9	20.1	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	.00	.00	.17	.35	.54	.77	1.04	1.39	1.87	2.70	3.51
Feb	.10	.26	.53	.79	1.06	1.37	1.72	2.16	2.75	3.72	4.67
Mar	.19	.33	.61	.89	1.20	1.56	1.97	2.50	3.21	4.41	5.59
Apr	.37	.57	.93	1.27	1.62	2.01	2.46	3.01	3.74	4.94	6.09
May	.79	1.18	1.81	2.40	3.00	3.65	4.39	5.28	6.47	8.38	10.20
Jun	.84	1.17	1.67	2.12	2.57	3.04	3.56	4.19	5.01	6.31	7.53
Jul	.00	.00	.39	.69	1.00	1.35	1.75	2.25	2.92	4.03	5.12
Aug	.27	.58	1.02	1.41	1.80	2.22	2.70	3.28	4.05	5.29	6.47
Sep	.22	.41	.81	1.23	1.71	2.26	2.92	3.77	4.94	6.91	8.87
Oct	.16	.34	.73	1.17	1.70	2.32	3.08	4.07	5.47	7.87	10.28
Nov	.21	.35	.62	.88	1.16	1.48	1.85	2.32	2.95	3.99	5.01
Dec	.01	.08	.25	.47	.74	1.08	1.51	2.07	2.88	4.30	5.75
Ann	22.33	23.80	25.67	27.07	28.31	29.51	30.73	32.08	33.71	36.06	38.08

\+ 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: 1910-2001
(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	2.4	.1	#	0
Feb	.9	.0	#	0
Mar	.1	.0	#	0
Apr	#	.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	.6	.0	#	0
Dec	.9	.0	#	0
Ann	4.9	.1	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	7.0	1992	18	11.1	1977	4	1992	18	#+	2000
Feb	4.0	1988	5	6.0	1985	10	1985	3	2	1985
Mar	1.5	1989	21	1.5	1989	4	1989	5	#+	1989
Apr	#	1973	8	#	1973	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	1.0	1993	29	1.0	1993	0	0	0	0	0
Nov	4.3	1976	13	4.3	1976	#	2000	9	#	2000
Dec	4.0	1971	2	4.0	1971	3+	1997	26	#+	1997
Ann	7.0	Jan 1992	18	11.1	Jan 1977	10	Feb 1985	3	2	Feb 1985

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.8	.6	.3	.2	.0
Feb	.5	.4	.1	.0	.0
Mar	.1	@	.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
Nov	.2	.2	.1	.0	.0
Dec	.4	.3	.1	.0	.0
Ann	2.0	1.5	.6	.2	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.6	.2	.0	.0
Feb	.2	.1	.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	.2	.1	.0	.0
Ann	1.0	.4	.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	4/16	4/13	4/10	4/08	4/06	4/04	4/02	3/30	3/27
32	4/09	4/05	4/02	3/31	3/28	3/26	3/23	3/20	3/16
28	4/05	3/28	3/23	3/18	3/14	3/10	3/05	2/28	2/20
24	3/18	3/10	3/04	2/28	2/23	2/19	2/14	2/08	2/01
20	3/07	2/26	2/20	2/15	2/10	2/05	1/30	1/23	1/13
16	2/28	2/17	2/09	2/01	1/26	1/18	1/10	12/30	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	10/10	10/16	10/21	10/25	10/29	11/01	11/05	11/10	11/16
32	10/22	10/28	11/02	11/06	11/09	11/13	11/17	11/21	11/28
28	11/07	11/12	11/16	11/19	11/22	11/25	11/28	12/02	12/07
24	11/10	11/17	11/22	11/26	11/30	12/04	12/08	12/13	12/20
20	11/22	11/30	12/05	12/10	12/14	12/19	12/23	12/29	1/07
16	12/01	12/09	12/15	12/20	12/26	12/31	1/07	1/17	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	227	219	214	209	205	200	196	190	183
32	247	240	234	230	225	221	216	211	203
28	279	270	263	257	252	247	241	235	225
24	307	298	291	285	279	273	267	260	251
20	352	332	322	314	307	299	292	283	271
16	>365	>365	>365	350	336	325	316	305	291

***** 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	766	553	367	137	30	1	0	0	14	93	398	687	3046
60	616	423	229	59	7	0	0	0	2	35	270	535	2176
57	530	349	162	30	2	0	0	0	0	16	205	449	1743
55	473	303	124	17	1	0	0	0	0	9	167	392	1486
50	339	205	55	3	0	0	0	0	0	2	92	263	959
32	47	20	0	0	0	0	0	0	0	0	2	20	89

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	304	396	661	906	1204	1417	1610	1581	1292	1015	604	356	11346
55	16	35	72	233	491	727	897	868	602	311	79	15	4346
57	11	25	48	185	431	667	835	806	542	256	57	10	3873
60	4	15	22	125	343	577	742	713	455	182	32	3	3213
65	0	5	5	53	211	428	587	558	316	85	10	0	2258
70	0	0	0	15	110	286	432	406	196	30	1	0	1476

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	169	276	499	719	1001	1207	1398	1364	1088	808	420	204	169	445	944	1663	2664	3871	5269	6633	7721	8529	8949	9153
45	90	174	356	569	846	1057	1243	1209	938	656	293	114	90	264	620	1189	2035	3092	4335	5544	6482	7138	7431	7545
50	38	97	231	425	691	907	1088	1054	788	503	182	55	38	135	366	791	1482	2389	3477	4531	5319	5822	6004	6059
55	9	47	133	291	536	757	933	899	639	355	102	21	9	56	189	480	1016	1773	2706	3605	4244	4599	4701	4722
60	1	15	64	175	385	607	778	744	492	229	49	3	1	16	80	255	640	1247	2025	2769	3261	3490	3539	3542
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	137	194	328	464	660	807	906	887	714	520	270	156	137	331	659	1123	1783	2590	3496	4383	5097	5617	5887	6043

(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