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: CLEBURNE, TX **COOP ID: 411800**

Climate Division: TX 3 **NWS Call Sign:** **Elevation: 783 Feet** **Lat: 32˚20N** **Lon: 97˚24W**

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	57.7	34.0	45.9	90	1943	23	53.1	1990	-3	1930	18	36.0	1978	597	3	.0	.0	22.9	1.1	14.5	.0
Feb	63.4	38.5	51.0	98	1996	21	59.0	1976	-1	1933	8	39.2	1978	406	11	.0	.1	23.5	.6	7.8	.0
Mar	71.3	45.9	58.6	101	1974	31	64.6	1974	11+	1948	11	54.9	1987	217	19	@	.4	29.9	@	2.9	.0
Apr	78.6	53.3	66.0	102+	1963	10	70.4+	1981	25	1915	3	60.9	1973	64	93	.0	1.4	30.0	.0	.3	.0
May	85.2	62.2	73.7	107	1927	28	80.1	1996	38	1954	4	69.4	1976	8	278	.2	7.7	31.0	.0	.0	.0
Jun	92.0	69.0	80.5	113	1980	27	84.9	1980	49+	1964	1	77.0	1983	0	465	1.8	21.1	30.0	.0	.0	.0
Jul	97.0	72.0	84.5	112	1954	25	89.3	1980	57+	1971	31	80.6	1976	0	605	9.5	28.7	31.0	.0	.0	.0
Aug	96.9	71.5	84.2	112+	1943	16	88.2	1999	51	1915	31	79.3	1992	0	595	10.8	27.5	31.0	.0	.0	.0
Sep	89.8	65.6	77.7	114	1939	2	83.8	1977	30	1908	27	69.7	1974	3	383	1.9	17.5	30.0	.0	.0	.0
Oct	80.4	55.2	67.8	104	1951	3	70.5	1979	20	1917	30	60.0	1976	41	127	.1	4.0	30.9	.0	.2	.0
Nov	67.7	44.7	56.2	91	1988	7	61.6+	1999	12	1950	11	48.7	1976	288	23	.0	.1	28.0	.0	3.9	.0
Dec	59.5	36.3	47.9	93	1951	30	54.4	1984	-5	1989	23	36.6	1983	534	2	.0	.0	24.7	.8	11.7	@
Ann	78.3	54.0	66.2	114	Sep 1939	2	89.3	Jul 1980	-5	Dec 1989	23	36.0	Jan 1978	2158	2604	24.3	108.5	342.9	2.5	41.3	@

\+ 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

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	1.90	1.70	3.08	1932	22	4.01	1990	.01	1986
Feb	2.29	2.00	4.15	1948	25	7.54	1997	.09	1999
Mar	3.07	2.91	4.95	1977	27	8.03	1977	.43	1971
Apr	3.53	2.85	6.43	1991	13	10.01	1973	.26	1983
May	5.11	4.71	9.02	1989	17	14.93	1989	.76	1984
Jun	3.90	2.97	4.64	1947	21	15.30	2000	.20	1978
Jul	2.18	1.69	4.51	1933	30	7.18	1976	.00	1993
Aug	2.36	1.81	5.90	1974	26	10.23	1996	.00	2000
Sep	2.88	2.75	6.35	1986	2	10.77	1986	.04	2000
Oct	3.92	4.23	5.07	1971	19	12.38	1971	.25	1995
Nov	2.54	2.13	4.39	1998	13	8.41	1998	.37	1999
Dec	2.57	1.93	5.02	1991	20	10.01	1991	.20	1977
Ann	36.25	36.19	9.02	May 1989	17	15.30	Jun 2000	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.6	3.9	1.4	.4
Feb	7.0	3.9	1.6	.6
Mar	8.3	4.7	1.9	.8
Apr	7.3	4.4	2.2	1.0
May	8.5	5.9	3.4	1.8
Jun	7.0	4.9	2.5	1.1
Jul	5.0	3.0	1.3	.6
Aug	5.1	3.0	1.3	.8
Sep	6.2	4.1	1.7	.9
Oct	7.7	5.2	2.1	1.5
Nov	7.2	4.2	2.0	.6
Dec	7.4	4.2	1.7	.7
Ann	84.3	51.4	23.1	10.8

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	.19	.33	.59	.86	1.14	1.46	1.84	2.31	2.96	4.03	5.08
Feb	.30	.48	.80	1.12	1.46	1.83	2.27	2.80	3.52	4.71	5.86
Mar	.57	.85	1.30	1.72	2.14	2.60	3.12	3.75	4.58	5.92	7.20
Apr	.52	.81	1.32	1.81	2.32	2.88	3.52	4.31	5.38	7.11	8.78
May	1.11	1.59	2.33	3.01	3.69	4.41	5.23	6.20	7.49	9.53	11.46
Jun	.42	.72	1.26	1.80	2.39	3.04	3.81	4.77	6.07	8.23	10.33
Jul	.10	.29	.62	.94	1.28	1.67	2.12	2.68	3.45	4.72	5.96
Aug	.01	.08	.29	.58	.93	1.39	1.97	2.75	3.90	5.91	7.98
Sep	.33	.55	.95	1.35	1.78	2.26	2.82	3.51	4.46	6.01	7.53
Oct	.27	.51	1.01	1.54	2.14	2.84	3.68	4.75	6.25	8.76	11.26
Nov	.45	.67	1.05	1.39	1.75	2.13	2.57	3.10	3.81	4.95	6.04
Dec	.28	.47	.83	1.19	1.57	2.00	2.51	3.14	4.00	5.43	6.82
Ann	22.70	25.19	28.46	30.99	33.26	35.49	37.81	40.41	43.59	48.27	52.38

\+ 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

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	.8	.0	#	0
Feb	.6	.0	#	0
Mar	.2	.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
Nov	.2	.0	#	0
Dec	.3	.0	#	0
Ann	2.1	.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	3.0	1973	11	5.6	1978	3	1982	13	#+	1997
Feb	5.0	1978	17	7.6	1978	5	1978	17	#+	1996
Mar	2.5	1978	3	2.5	1978	2	1978	3	#+	1989
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	#	1993	29	#	1993	0	0	0	0	0
Nov	4.0	1976	13	4.0	1976	2	1976	13	#+	1993
Dec	4.0	2000	27	4.3	2000	4	2000	27	#+	2000
Ann	5.0	Feb 1978	17	7.6	Feb 1978	5	Feb 1978	17	#+	Dec 2000

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.6	.3	.1	.0	.0
Feb	.6	.2	.1	@	.0
Mar	.1	.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	.0	.0
Nov	.1	@	@	.0	.0
Dec	.2	.1	.1	.0	.0
Ann	1.6	.7	.3	@	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.4	.1	.0	.0
Feb	.4	.1	@	.0
Mar	@	.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	.1	.0	.0	.0
Dec	.1	@	.0	.0
Ann	1.0	.2	@	.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	4/12	4/09	4/06	4/03	3/31	3/29	3/25	3/21
32	4/09	4/01	3/27	3/22	3/18	3/13	3/09	3/03	2/24
28	3/27	3/18	3/12	3/07	3/02	2/25	2/19	2/13	2/05
24	3/12	3/04	2/26	2/21	2/16	2/11	2/06	1/31	1/23
20	2/28	2/18	2/11	2/05	1/30	1/24	1/17	1/07	0/00
16	2/17	2/06	1/30	1/23	1/16	1/07	12/26	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	10/22	10/27	10/30	11/02	11/05	11/08	11/11	11/15	11/20
32	10/28	11/03	11/07	11/10	11/13	11/16	11/20	11/24	11/29
28	11/02	11/10	11/16	11/20	11/25	11/29	12/04	12/09	12/17
24	11/17	11/25	12/01	12/06	12/11	12/16	12/21	12/27	1/04
20	11/27	12/06	12/12	12/18	12/23	12/28	1/04	1/12	0/00
16	12/15	12/24	1/01	1/08	1/15	1/23	2/08	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	234	228	223	219	215	212	207	203	196
32	265	256	250	245	240	235	230	223	215
28	301	289	281	274	267	261	253	245	234
24	331	319	311	304	297	290	283	275	263
20	>365	>365	>365	340	328	318	309	299	286
16	>365	>365	>365	>365	>365	353	341	329	316

***** 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	597	406	217	64	8	0	0	0	3	41	288	534	2158
60	454	284	111	17	1	0	0	0	0	10	179	390	1446
57	371	221	67	6	0	0	0	0	0	3	128	309	1105
55	320	185	45	2	0	0	0	0	0	2	99	260	913
50	212	110	13	0	0	0	0	0	0	0	46	159	540
32	15	4	0	0	0	0	0	0	0	0	0	5	24

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	444	533	825	1018	1293	1455	1628	1618	1371	1109	725	496	12515
55	36	71	157	331	580	765	915	905	681	398	134	38	5011
57	25	51	117	274	518	705	853	843	621	338	102	26	4473
60	15	29	68	195	425	615	760	750	531	251	64	14	3717
65	3	11	19	93	278	465	605	595	383	127	23	2	2604
70	0	0	2	31	153	316	450	440	247	45	6	0	1690

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	251	360	587	787	1055	1225	1389	1378	1140	871	496	288	251	611	1198	1985	3040	4265	5654	7032	8172	9043	9539	9827
45	148	243	443	637	900	1075	1234	1223	990	716	360	174	148	391	834	1471	2371	3446	4680	5903	6893	7609	7969	8143
50	79	146	303	489	745	925	1079	1068	840	563	242	97	79	225	528	1017	1762	2687	3766	4834	5674	6237	6479	6576
55	33	78	186	345	590	775	924	913	690	411	144	46	33	111	297	642	1232	2007	2931	3844	4534	4945	5089	5135
60	10	34	96	216	436	625	769	758	542	274	71	17	10	44	140	356	792	1417	2186	2944	3486	3760	3831	3848
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	171	237	376	516	716	828	904	895	760	571	312	189	171	408	784	1300	2016	2844	3748	4643	5403	5974	6286	6475

(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