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: HALLETTSVILLE 2 N, TX **COOP ID: 413873**

Climate Division: TX 8 **NWS Call Sign:** **Elevation: 275 Feet** **Lat: 29˚28N** **Lon: 96˚57W**

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	63.5	41.8	52.7	95	1927	18	59.8	1971	6	1930	18	44.2	1978	403	14	.0	@	26.6	.2	6.1	.0
Feb	67.7	45.0	56.4	92+	1996	21	62.9	2000	6	1951	2	47.5	1978	262	19	.0	.1	26.0	.3	3.4	.0
Mar	74.5	52.2	63.4	98+	1971	28	69.2	1974	20+	1980	2	58.1	1996	114	62	.0	.4	30.7	.0	1.1	.0
Apr	80.1	58.3	69.2	99	1925	27	74.4	1972	29	1987	3	64.4	1997	29	155	.0	1.3	30.0	.0	.1	.0
May	85.8	66.2	76.0	102	1925	18	81.2	1996	38	1929	2	71.8	1976	2	342	.0	6.4	31.0	.0	.0	.0
Jun	90.8	71.4	81.1	109	1980	27	86.0	1998	52+	1984	1	78.5	1995	0	482	.6	19.2	30.0	.0	.0	.0
Jul	94.4	72.9	83.7	111+	1980	17	87.9	1998	56	1967	16	80.0	1976	0	577	3.3	28.1	31.0	.0	.0	.0
Aug	94.9	72.5	83.7	109	1962	13	86.3	1999	58	1992	29	81.4	1992	0	580	2.3	28.1	31.0	.0	.0	.0
Sep	90.5	68.6	79.6	110	2000	5	83.4	1977	41	1942	27	75.5	1974	0	436	.6	18.7	30.0	.0	.0	.0
Oct	83.0	60.0	71.5	102+	1929	4	74.0	1977	20	1931	28	62.9	1976	15	216	.0	5.0	31.0	.0	@	.0
Nov	72.8	50.9	61.9	96	1927	29	69.2	1973	17	1911	30	54.5	1976	171	77	.0	.0	29.4	.0	1.5	.0
Dec	65.3	43.7	54.5	88+	1954	1	62.7	1984	5	1989	23	44.1	1989	348	21	.0	.0	27.9	.2	5.1	.0
Ann	80.3	58.6	69.5	111+	Jul 1980	17	87.9	Jul 1998	5	Dec 1989	23	44.1	Dec 1989	1344	2981	6.8	107.3	354.6	.7	17.3	.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: 1897-2001

(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	2.91	2.40	3.22	1926	2	8.02	1989	.02	1971
Feb	2.50	1.90	6.25	1955	4	9.01	1992	.48+	1988
Mar	2.46	2.41	3.80	1934	1	5.18	1983	.49	1996
Apr	3.44	2.38	7.00	1905	24	9.71	1997	.07	1983
May	5.75	5.81	5.60	1972	12	13.78	1972	.09	1996
Jun	5.02	4.13	6.50	1940	30	13.65	1973	.00	1980
Jul	2.28	1.74	11.30	1936	1	5.86	1975	.12	1980
Aug	2.95	2.21	6.40	1981	31	11.60	1981	.06	1997
Sep	4.49	3.37	6.75	1961	12	15.36	1974	.71	1975
Oct	4.07	2.56	7.32	1914	24	14.05	1998	.46	1999
Nov	3.53	2.75	6.75	1965	4	9.34	1985	.11	1988
Dec	2.83	2.47	5.55	1991	21	10.35	1991	.58	1999
Ann	42.23	41.22	11.30	Jul 1936	1	15.36	Sep 1974	.00	Jun 1980

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.9	4.9	1.8	.9
Feb	7.1	4.0	1.7	.7
Mar	8.0	4.2	1.5	.8
Apr	7.3	4.0	2.0	1.3
May	7.8	5.6	3.2	1.9
Jun	7.9	5.8	2.7	1.7
Jul	6.0	3.9	1.5	.6
Aug	7.7	4.8	1.5	.6
Sep	8.2	5.6	2.6	1.5
Oct	6.6	4.6	2.3	1.2
Nov	6.9	4.2	2.1	1.2
Dec	8.4	4.6	1.8	.9
Ann	90.8	56.2	24.7	13.3

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	.24	.44	.82	1.22	1.67	2.17	2.78	3.54	4.59	6.35	8.09
Feb	.40	.61	.97	1.32	1.67	2.06	2.50	3.05	3.77	4.95	6.08
Mar	.72	.95	1.30	1.61	1.90	2.21	2.55	2.95	3.47	4.29	5.04
Apr	.21	.41	.83	1.29	1.82	2.44	3.20	4.16	5.51	7.79	10.07
May	.78	1.25	2.07	2.87	3.71	4.64	5.71	7.03	8.81	11.72	14.53
Jun	.64	1.28	2.13	2.84	3.56	4.32	5.17	6.19	7.54	9.68	11.71
Jul	.16	.31	.60	.91	1.26	1.67	2.15	2.77	3.62	5.06	6.48
Aug	.14	.29	.63	1.02	1.47	2.01	2.68	3.54	4.76	6.85	8.95
Sep	.57	.93	1.56	2.19	2.85	3.58	4.43	5.48	6.90	9.23	11.49
Oct	.25	.49	.99	1.54	2.17	2.90	3.79	4.92	6.51	9.20	11.87
Nov	.47	.76	1.26	1.75	2.27	2.84	3.50	4.31	5.40	7.19	8.92
Dec	.43	.67	1.08	1.47	1.87	2.32	2.83	3.45	4.29	5.66	6.96
Ann	25.74	28.74	32.69	35.75	38.52	41.24	44.08	47.26	51.17	56.93	61.99

\+ 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: 1897-2001
(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	.0	.0	#	0
Feb	#	.0	0	0
Mar	#	.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
Ann	#	.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	.4	1997	12	.4	1997	1	1997	12	#	1997
Feb	#	1994	10	#+	1994	0	0	0	0	0
Mar	#	1996	7	#	1996	#	1996	7	#	1996
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	#	1996	16	#+	1996	#	1996	16	#	1996
Ann	.4	Jan 1997	12	.4	Jan 1997	1	Jan 1997	12	#+	Jan 1997

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.1	.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	.1	.0	.0	.0	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	@	.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

+ 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	4/06	3/29	3/23	3/17	3/13	3/08	3/02	2/24	2/16
32	3/30	3/18	3/10	3/03	2/25	2/18	2/11	2/03	1/22
28	3/14	3/02	2/21	2/14	2/07	1/31	1/23	1/14	12/30
24	2/24	2/12	2/04	1/27	1/19	1/11	12/30	0/00	0/00
20	2/09	1/28	1/19	1/10	12/30	0/00	0/00	0/00	0/00
16	1/14	1/05	12/24	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	10/29	11/04	11/08	11/12	11/15	11/19	11/22	11/27	12/03
32	11/04	11/13	11/19	11/24	11/29	12/04	12/10	12/16	12/24
28	11/19	11/28	12/04	12/09	12/14	12/19	12/25	12/31	1/11
24	12/03	12/13	12/20	12/27	1/03	1/10	1/22	0/00	0/00
20	12/14	12/27	1/07	1/18	2/01	0/00	0/00	0/00	0/00
16	12/30	1/08	1/19	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	275	266	259	253	247	241	235	228	219
32	318	304	294	285	277	269	260	250	236
28	>365	344	328	317	308	300	291	281	267
24	>365	>365	>365	>365	354	336	326	316	304
20	>365	>365	>365	>365	>365	>365	357	342	329
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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	403	262	114	29	2	0	0	0	0	15	171	348	1344
60	277	158	44	5	0	0	0	0	0	3	95	227	809
57	215	111	20	1	0	0	0	0	0	1	61	169	578
55	180	84	11	0	0	0	0	0	0	0	43	136	454
50	102	34	2	0	0	0	0	0	0	0	16	67	221
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	640	681	972	1117	1363	1472	1600	1603	1426	1225	896	697	13692
55	107	121	270	427	650	782	887	890	736	512	249	120	5751
57	80	92	217	368	588	722	825	828	676	450	206	91	5143
60	49	55	147	282	495	632	732	735	586	359	150	56	4278
65	14	19	62	155	342	482	577	580	436	216	77	21	2981
70	8	6	16	67	200	332	422	425	289	101	30	8	1904

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	417	495	736	885	1119	1238	1359	1360	1188	981	656	464	417	912	1648	2533	3652	4890	6249	7609	8797	9778	10434	10898
45	290	363	583	735	964	1088	1204	1205	1038	826	508	328	290	653	1236	1971	2935	4023	5227	6432	7470	8296	8804	9132
50	180	247	433	586	809	938	1049	1050	888	671	374	211	180	427	860	1446	2255	3193	4242	5292	6180	6851	7225	7436
55	103	148	291	437	654	788	894	895	738	518	249	124	103	251	542	979	1633	2421	3315	4210	4948	5466	5715	5839
60	52	76	173	299	499	638	739	740	588	369	151	63	52	128	301	600	1099	1737	2476	3216	3804	4173	4324	4387
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	259	310	472	593	789	857	917	905	810	660	420	293	259	569	1041	1634	2423	3280	4197	5102	5912	6572	6992	7285

(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