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: KINGSVILLE, TX **COOP ID: 414810**

Climate Division: TX 8 **NWS Call Sign:** **Elevation: 66 Feet** **Lat: 27˚31N** **Lon: 97˚52W**

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	68.3	43.4	55.9	92	1950	25	63.6	1998	11	1962	12	48.4	1978	325	30	.0	.2	28.4	@	3.3	.0
Feb	71.7	47.1	59.4	98	1986	19	68.8	1999	14	1951	3	49.9	1978	197	40	.0	.6	27.0	.0	1.5	.0
Mar	78.1	53.6	65.9	103	1984	27	72.0	2000	24+	1980	2	60.4	1987	79	105	.1	2.5	30.9	.0	.6	.0
Apr	83.5	60.4	72.0	106	1963	9	76.7	1985	33	1987	3	66.8	1973	11	219	.3	6.1	30.0	.0	.0	.0
May	87.8	67.4	77.6	107	1984	4	82.3	1989	40	1954	4	73.4	1976	1	393	.4	13.0	31.0	.0	.0	.0
Jun	92.6	71.9	82.3	111	1998	15	88.1	1998	54	1975	2	79.0	1973	0	518	1.4	23.2	30.0	.0	.0	.0
Jul	95.5	73.1	84.3	107	2000	16	88.5	1998	58	1933	3	80.5	1976	0	598	3.8	29.4	31.0	.0	.0	.0
Aug	95.6	73.2	84.4	108	1962	14	87.2	1997	60+	1976	19	80.7	1973	0	600	4.7	27.2	31.0	.0	.0	.0
Sep	91.9	70.0	81.0	111	2000	6	84.5+	2000	47	1981	19	76.3	1979	0	478	1.0	21.7	30.0	.0	.0	.0
Oct	85.3	61.7	73.5	100+	1991	14	78.4	1984	32	1993	31	65.8	1976	8	271	.1	9.3	30.9	.0	@	.0
Nov	76.5	52.8	64.7	98	1988	4	70.0	1973	27+	1979	30	55.0	1976	119	109	.0	1.1	29.7	.0	.6	.0
Dec	70.2	45.7	58.0	93	1968	27	65.5	1984	10	1989	24	47.2	1989	261	43	.0	.1	29.1	.1	2.8	.0
Ann	83.1	60.0	71.6	111+	Sep 2000	6	88.5	Jul 1998	10	Dec 1989	24	47.2	Dec 1989	1001	3404	11.8	134.4	359.0	.1	8.8	.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: 1902-2001

(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	1.44	1.35	6.50	1916	10	3.22	1984	.00+	1999
Feb	1.71	1.13	4.52	1972	29	5.47	1972	.00	1976
Mar	1.24	.84	5.25	1921	3	7.30	1974	.00+	1978
Apr	1.80	1.42	6.60	1976	4	9.85	1976	.00+	1984
May	3.53	3.52	6.52	1926	5	9.85	1993	.00	1998
Jun	4.02	3.52	5.20	1924	21	14.18	1981	.00+	1990
Jul	1.97	1.46	4.18	1976	14	11.22	1976	.00+	2000
Aug	3.05	1.97	5.52	1999	23	17.36	1980	.00	1985
Sep	3.98	3.54	4.37	1973	14	12.60	1973	.01	2000
Oct	3.72	2.72	5.50	1973	12	13.67	1997	.03	1989
Nov	1.50	1.08	5.20	1986	9	5.85	1986	.00+	1988
Dec	1.07	.61	6.67	1991	22	7.73	1991	.00+	1998
Ann	29.03	27.82	6.67	Dec 1991	22	17.36	Aug 1980	.00+	Jul 2000

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.2	3.1	.9	.2
Feb	5.0	2.7	1.0	.6
Mar	4.1	2.4	.9	.5
Apr	4.7	2.8	1.2	.5
May	6.1	4.4	2.2	1.2
Jun	6.3	4.8	3.0	1.3
Jul	3.8	2.9	1.1	.6
Aug	6.4	4.4	1.2	.7
Sep	7.6	5.3	2.3	1.4
Oct	5.7	3.9	2.1	1.0
Nov	4.1	2.3	.9	.4
Dec	5.0	2.4	.6	.3
Ann	64.0	41.4	17.4	8.7

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	.15	.40	.63	.87	1.13	1.43	1.80	2.29	3.11	3.90
Feb	.03	.13	.35	.59	.86	1.18	1.57	2.07	2.78	3.98	5.18
Mar	.00	.04	.18	.35	.55	.79	1.10	1.49	2.05	3.02	3.99
Apr	.00	.00	.22	.48	.78	1.15	1.60	2.18	3.00	4.41	5.83
May	.20	.53	1.07	1.59	2.14	2.75	3.47	4.35	5.55	7.52	9.45
Jun	.00	.48	1.22	1.87	2.52	3.23	4.05	5.02	6.35	8.52	10.62
Jul	.00	.00	.14	.41	.75	1.16	1.68	2.36	3.35	5.03	6.75
Aug	.03	.16	.48	.88	1.36	1.94	2.67	3.63	5.01	7.40	9.82
Sep	.19	.40	.86	1.39	2.00	2.73	3.63	4.78	6.42	9.22	12.03
Oct	.24	.46	.92	1.43	2.00	2.67	3.47	4.50	5.94	8.38	10.79
Nov	.00	.00	.26	.54	.82	1.13	1.47	1.91	2.50	3.43	4.36
Dec	.00	.03	.14	.28	.46	.67	.94	1.28	1.78	2.65	3.53
Ann	15.83	18.13	21.22	23.65	25.87	28.08	30.40	33.03	36.28	41.14	45.45

\+ 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: 1902-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

Snow Fall >= Thresholds

Snow Depth >= Thresholds

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year	0.1	1.0	3.0	5.0	10.0	1	3	5	10
Jan	#	.0	0	0	#	1992	17	#	1992	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	.0	.0	#	0	1.0	1973	9	1.0	1973	1	1973	9	#	1973	@	@	.0	.0	.0	@	.0	.0	.0
Mar	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Apr	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	#	.0	0	0	#	1976	28	#	1976	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.0	.0	#	0	.0	0	0	.0	0	#	1983	23	#	1983	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	#	.0	N/A	N/A	1.0	Feb 1973	9	1.0	Feb 1973	1	Feb 1973	9	#+	Dec 1983	@	@	.0	.0	.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	3/28	3/18	3/11	3/05	2/27	2/21	2/15	2/07	1/26
32	3/17	3/05	2/25	2/17	2/10	2/03	1/26	1/17	1/02
28	3/06	2/20	2/10	2/01	1/23	1/13	12/31	12/09	0/00
24	2/04	1/23	1/15	1/06	12/26	0/00	0/00	0/00	0/00
20	1/26	1/11	12/26	0/00	0/00	0/00	0/00	0/00	0/00
16	12/17	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	11/09	11/16	11/20	11/24	11/28	12/02	12/06	12/11	12/19
32	11/20	11/27	12/02	12/07	12/11	12/15	12/20	12/26	1/04
28	12/04	12/16	12/26	1/03	1/12	1/21	2/03	0/00	0/00
24	12/17	12/28	1/06	1/15	1/28	0/00	0/00	0/00	0/00
20	12/23	1/09	1/27	0/00	0/00	0/00	0/00	0/00	0/00
16	1/04	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	319	299	289	280	273	266	258	250	238
32	>365	332	320	311	303	295	287	278	266
28	>365	>365	>365	>365	346	332	321	309	295
24	>365	>365	>365	>365	>365	>365	>365	354	335
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	325	197	79	11	1	0	0	0	0	8	119	261	1001
60	219	114	27	1	0	0	0	0	0	1	57	163	582
57	168	74	12	0	0	0	0	0	0	0	32	115	401
55	137	53	6	0	0	0	0	0	0	0	21	87	304
50	70	20	1	0	0	0	0	0	0	0	7	37	135
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	740	767	1049	1197	1415	1508	1621	1623	1468	1286	980	805	14459
55	163	176	342	507	702	818	908	910	778	573	311	179	6367
57	133	141	286	447	640	758	846	848	718	511	262	145	5735
60	90	97	208	358	547	668	753	755	628	419	196	99	4818
65	30	40	105	219	393	518	598	600	478	271	109	43	3404
70	18	13	38	108	248	368	443	445	329	143	47	16	2216

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	545	622	861	998	1204	1280	1392	1389	1245	1071	776	594	545	1167	2028	3026	4230	5510	6902	8291	9536	10607	11383	11977
45	403	480	706	848	1049	1130	1237	1234	1095	916	628	448	403	883	1589	2437	3486	4616	5853	7087	8182	9098	9726	10174
50	272	346	554	698	894	980	1082	1079	945	761	480	314	272	618	1172	1870	2764	3744	4826	5905	6850	7611	8091	8405
55	164	224	408	548	739	830	927	924	795	607	348	198	164	388	796	1344	2083	2913	3840	4764	5559	6166	6514	6712
60	83	130	271	403	584	680	772	769	645	455	224	112	83	213	484	887	1471	2151	2923	3692	4337	4792	5016	5128
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	346	394	575	676	842	879	929	928	850	728	507	376	346	740	1315	1991	2833	3712	4641	5569	6419	7147	7654	8030

(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