

Climatology of the United States

No. 20

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: GROVETON, TX

1971-2000

COOP ID: 413778

Climate Division: TX 4

NWS Call Sign:

Elevation: 350 Feet Lat: 31°04N Lon: 95°08W

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	60.8	37.1	49.0	83+	1997	4	55.8	1990	6	1982	11	40.1	1978	510	4	.0	.0	25.8	.3	10.6	.0
Feb	65.8	40.8	53.3	95	1996	22	59.5	2000	14	1981	11	42.8	1978	340	12	.0	.1	25.6	.3	6.2	.0
Mar	73.2	46.7	60.0	90+	1995	24	66.1	1974	18	1980	2	55.5	1983	188	31	.0	.1	30.6	.0	2.3	.0
Apr	79.2	53.4	66.3	95	1990	29	70.5	1991	28	1971	7	62.2+	1997	57	96	.0	1.0	30.0	.0	.3	.0
May	85.6	61.8	73.7	101	1996	28	80.9	1996	41	1981	11	69.1	1976	8	278	.1	7.0	31.0	.0	.0	.0
Jun	91.2	68.5	79.9	103	1930	27	85.1	1998	49	1970	3	76.4	1976	0	445	.9	20.7	30.0	.0	.0	.0
Jul	94.8	71.4	83.1	106+	1998	31	88.4	1998	56+	1972	7	79.8	1976	0	560	5.2	27.9	31.0	.0	.0	.0
Aug	95.0	70.2	82.6	110	2000	31	86.9	1993	55+	1992	18	79.0	1973	0	546	4.7	27.9	31.0	.0	.0	.0
Sep	89.8	64.9	77.4	111	2000	4	81.3	1998	40+	1984	30	72.2	1974	1	371	.8	17.4	30.0	.0	.0	.0
Oct	81.8	54.5	68.2	99	1993	2	70.6	1971	27	1993	31	59.8	1976	40	137	.0	3.7	31.0	.0	.2	.0
Nov	70.8	45.2	58.0	88+	1997	1	65.3	1973	16	1976	29	49.5	1976	244	33	.0	.0	29.2	.0	3.3	.0
Dec	62.7	38.0	50.4	84	1995	3	58.0	1984	1	1989	23	41.7	1983	462	9	.0	.0	27.2	.3	8.7	.0
Ann	79.2	54.4	66.8	111	Sep 2000	4	88.4	Jul 1998	1	Dec 1989	23	40.1	Jan 1978	1850	2522	11.7	105.8	352.4	.9	31.6	.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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1923-2001

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

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NWS Call Sign:

Elevation: 350 Feet Lat: 31°04N

Lon: 95°08W

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med- ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	4.17	3.42	4.70	1998	6	10.28	1991	.56	1971	8.2	6.6	2.6	1.4	.77	1.14	1.75	2.32	2.89	3.52	4.23	5.08	6.22	8.06	9.80
Feb	3.21	2.09	3.23	1955	4	7.62	1992	.38	1996	6.5	5.3	2.3	.9	.54	.82	1.29	1.73	2.18	2.67	3.23	3.92	4.83	6.30	7.72
Mar	3.67	3.61	5.90	1990	29	11.93	1990	.30	1971	7.4	5.7	2.5	1.1	.70	1.03	1.56	2.06	2.56	3.11	3.72	4.46	5.45	7.03	8.54
Apr	3.13	3.13	5.30	1927	13	7.19	1979	.16	1984	5.6	4.3	2.4	.9	.42	.67	1.12	1.55	2.01	2.51	3.10	3.82	4.79	6.39	7.93
May	5.11	4.98	6.00	1929	27	9.00	1993	.27	1988	7.4	6.1	3.5	1.9	1.09	1.56	2.31	2.99	3.68	4.40	5.23	6.21	7.51	9.58	11.54
Jun	5.01	4.63	5.00	1990	1	12.25	1973	.67	1998	7.4	6.4	3.5	2.0	.84	1.28	2.01	2.70	3.40	4.17	5.05	6.12	7.54	9.84	12.05
Jul	3.48	3.09	5.06	1959	25	11.43	1979	.19	1986	7.1	5.7	2.5	1.2	.64	.95	1.46	1.93	2.41	2.93	3.53	4.24	5.20	6.73	8.19
Aug	3.25	2.83	5.84	1957	10	8.65	1974	.40	1999	6.3	5.1	2.2	.9	.53	.81	1.28	1.73	2.19	2.69	3.27	3.97	4.91	6.43	7.89
Sep	4.10	3.28	6.75	1958	20	8.67	1998	.85	1993	6.6	5.3	2.7	1.4	1.21	1.60	2.19	2.69	3.18	3.69	4.26	4.92	5.78	7.12	8.36
Oct	4.07	2.99	12.10	1994	17	20.07	1994	.59	1987	6.2	4.9	2.7	1.2	.39	.68	1.23	1.80	2.41	3.11	3.93	4.96	6.37	8.72	11.02
Nov	4.49	3.62	6.86	1998	13	15.35	2000	.45	1999	6.9	6.0	3.1	1.7	.96	1.38	2.03	2.63	3.23	3.87	4.59	5.45	6.59	8.40	10.12
Dec	4.41	4.49	4.40	2001	12	8.71	1994	.98	1980	8.0	6.1	3.1	1.6	1.53	1.95	2.56	3.06	3.55	4.05	4.60	5.24	6.05	7.31	8.47
Ann	48.10	49.44	12.10	Oct 1994	17	20.07	Oct 1994	.16	Apr 1984	83.6	67.5	33.1	16.2	31.87	34.92	38.88	41.92	44.64	47.28	50.03	53.08	56.81	62.26	67.01

+ 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: 1923-2001

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

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Station: GROVETON, TX

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Climate Division: TX 4

NWS Call Sign:

Elevation: 350 Feet

Lat: 31°04N

Lon: 95°08W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	.8	.0	0	0	5.0	1973	11	6.5	1973	0	0	0	0	0	.2	.2	.2	.1	.0	.0	.0	.0	.0
Feb	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.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	29	#	1976	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	.8	.0	N/A	N/A	5.0	Jan 1973	11	6.5	Jan 1973	0	0	0	0	0	.2	.2	.2	.1	.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

Complete documentation available from:

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Climate Division: TX 4

NWS Call Sign:

Elevation: 350 Feet

Lat: 31°04N

Lon: 95°08W

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	4/14	4/08	4/04	3/31	3/28	3/24	3/20	3/16	3/10
32	4/06	3/29	3/23	3/18	3/14	3/10	3/05	2/27	2/19
28	3/23	3/14	3/08	3/02	2/25	2/20	2/15	2/09	1/31
24	3/05	2/22	2/15	2/09	2/02	1/27	1/20	1/11	12/25
20	2/17	2/07	1/30	1/23	1/16	1/07	12/26	0/00	0/00
16	1/25	1/14	1/03	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	10/17	10/24	10/29	11/02	11/06	11/10	11/14	11/19	11/26
32	10/27	11/02	11/07	11/10	11/14	11/17	11/21	11/25	12/01
28	11/08	11/16	11/22	11/27	12/02	12/06	12/11	12/17	12/25
24	11/24	12/02	12/07	12/12	12/17	12/22	12/27	1/03	1/15
20	12/06	12/16	12/23	12/30	1/06	1/15	1/30	0/00	0/00
16	12/20	1/04	1/21	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	252	242	235	229	223	217	211	204	194
32	273	263	256	250	244	238	232	225	216
28	310	299	291	285	278	272	266	258	247
24	>365	353	334	324	316	308	301	292	281
20	>365	>365	>365	>365	361	340	327	316	302
16	>365	>365	>365	>365	>365	>365	>365	>365	361

* 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

Complete documentation available from:

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Climate Division: TX 4

NWS Call Sign:

Elevation: 350 Feet Lat: 31°04N Lon: 95°08W

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	510	340	188	57	8	0	0	0	1	40	244	462	1850
60	372	224	95	14	1	0	0	0	0	10	145	323	1184
57	298	167	55	4	0	0	0	0	0	4	100	250	878
55	254	135	35	2	0	0	0	0	0	2	74	207	709
50	164	69	10	0	0	0	0	0	0	0	30	121	394
32	10	0	0	0	0	0	0	0	0	0	0	2	12

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	535	596	866	1029	1293	1435	1583	1569	1361	1120	780	571	12738
55	66	87	188	340	580	745	870	856	671	409	164	64	5040
57	48	63	146	283	518	685	808	794	611	349	129	44	4478
60	29	36	93	203	426	595	715	701	521	262	85	24	3690
65	4	12	31	96	278	445	560	546	371	137	33	9	2522
70	0	1	8	31	152	297	405	391	231	51	11	0	1578

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	318	410	625	800	1055	1205	1343	1332	1130	880	548	353	318	728	1353	2153	3208	4413	5756	7088	8218	9098	9646	9999
45	200	285	477	650	900	1055	1188	1177	980	725	407	228	200	485	962	1612	2512	3567	4755	5932	6912	7637	8044	8272
50	115	178	330	501	745	905	1033	1022	830	571	275	133	115	293	623	1124	1869	2774	3807	4829	5659	6230	6505	6638
55	61	97	201	355	590	755	878	867	680	420	168	64	61	158	359	714	1304	2059	2937	3804	4484	4904	5072	5136
60	23	44	105	218	435	605	723	712	530	278	88	30	23	67	172	390	825	1430	2153	2865	3395	3673	3761	3791
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	212	265	407	528	721	822	897	879	759	581	356	233	212	477	884	1412	2133	2955	3852	4731	5490	6071	6427	6660

(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:

www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normal/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 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.

- | | |
|---|---|
| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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