

Climatography of the United States No. 20

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

Station: BENAVIDES 2, TX

1971-2000

COOP ID: 410690

Climate Division: TX 9

NWS Call Sign:

Elevation: 380 Feet

Lat: 27° 36N

Lon: 98° 25W

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	67.7	43.2	55.5	94	1971	30	65.2	1998	15	1975	13	47.3	1978	335	28	.0	.3	28.0	@	5.0	.0
Feb	71.6	46.3	59.0	99	1986	19	66.4	2000	21+	1974	9	50.8	1978	208	38	.0	.7	26.6	.1	2.6	.0
Mar	78.9	53.4	66.2	104	1984	27	70.7	1992	23	1996	11	57.9	1996	86	122	.1	2.8	30.8	.0	.9	.0
Apr	84.7	60.4	72.6	109	1989	8	79.8	1999	31+	1987	3	66.0	1997	17	244	1.0	8.6	30.0	.0	.1	.0
May	89.4	68.0	78.7	108	1999	5	84.7	1989	42	1996	1	73.5	1972	0	424	1.0	17.3	31.0	.0	.0	.0
Jun	94.3	72.2	83.3	112+	1998	25	89.4	1998	52	1984	1	79.6	1972	0	547	4.7	25.4	30.0	.0	.0	.0
Jul	97.0	73.5	85.3	107+	2000	15	89.1	1998	59	1972	7	80.6	1972	0	627	7.8	28.8	31.0	.0	.0	.0
Aug	96.9	72.9	84.9	108+	1991	13	89.2	1991	60	1972	7	80.8	1971	0	617	9.0	29.7	31.0	.0	.0	.0
Sep	91.9	69.0	80.5	109	2000	6	84.6	1986	45+	1996	30	76.0	1974	0	464	2.3	21.6	30.0	.0	.0	.0
Oct	85.1	60.7	72.9	102	1991	13	77.9	1984	35	1980	31	64.7	1976	18	262	.1	9.1	30.9	.0	@	.0
Nov	76.1	51.5	63.8	96+	1969	12	69.9	1985	24	1979	30	56.1	1976	140	104	.0	1.3	29.4	.0	1.1	.0
Dec	69.1	44.5	56.8	95	1977	4	66.0	1984	12+	1989	24	48.3	1989	288	35	.0	.2	28.9	.2	4.1	.0
Ann	83.6	59.6	71.6	112+	Jun 1998	25	89.4	Jun 1998	12+	Dec 1989	24	47.3	Jan 1978	1092	3512	26.0	145.8	357.6	.3	13.8	.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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1962-2001

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

025-A

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Climate Division: TX 9

NWS Call Sign:

Elevation: 380 Feet Lat: 27°36N

Lon: 98°25W

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	1.18	.78	1.75	1981	19	6.05	1992	.00+	1996	4.1	2.7	.6	.2	.00	.09	.28	.46	.66	.88	1.14	1.46	1.91	2.66	3.39
Feb	1.59	1.17	3.60	1972	29	5.32	1987	.00+	1996	3.0	2.4	1.0	.4	.00	.00	.18	.52	.84	1.18	1.56	2.04	2.68	3.70	4.76
Mar	1.15	.72	3.12	1974	13	5.44	1974	.00+	1998	2.7	1.9	.8	.4	.00	.00	.05	.16	.33	.55	.86	1.29	1.93	3.09	4.32
Apr	1.68	1.48	3.45	2001	24	7.04	1976	.00+	1983	3.1	2.3	1.3	.5	.00	.00	.29	.56	.86	1.19	1.59	2.09	2.78	3.94	5.09
May	3.76	4.10	3.61	1985	17	7.30	1991	.00+	1998	4.5	3.7	2.2	1.3	.00	.67	1.43	2.02	2.61	3.22	3.91	4.69	5.76	7.47	9.09
Jun	3.26	2.82	5.50	1979	4	8.67	1973	.08	1980	4.3	3.5	2.0	1.2	.24	.45	.87	1.32	1.82	2.39	3.08	3.96	5.17	7.22	9.24
Jul	1.38	1.02	4.03	1976	5	7.05	1975	.00+	1998	2.7	2.2	1.1	.6	.00	.00	.00	.22	.52	.85	1.24	1.74	2.42	3.58	4.70
Aug	2.20	1.32	6.50	1971	2	9.05	1971	.00+	1997	4.4	3.6	1.2	.5	.00	.00	.27	.64	1.04	1.50	2.05	2.74	3.71	5.30	6.90
Sep	4.10	3.06	6.04	1976	27	22.76	1971	.00	1989	4.8	4.0	1.8	1.0	.21	.57	1.19	1.80	2.44	3.16	4.01	5.06	6.49	8.85	11.16
Oct	2.14	1.78	3.12	1973	12	5.07	1973	.00+	1992	3.5	2.8	1.4	.9	.00	.00	.46	.83	1.20	1.62	2.10	2.70	3.49	4.82	6.12
Nov	1.13	.95	2.20	1995	17	3.26	1980	.00+	1991	2.7	2.0	.8	.3	.00	.00	.20	.46	.69	.91	1.17	1.47	1.87	2.48	3.12
Dec	1.06	.69	1.94	1984	31	7.60	1991	.00+	1988	3.4	2.0	.5	.2	.00	.05	.19	.35	.53	.73	.98	1.30	1.74	2.50	3.25
Ann	24.63	23.66	6.50	Aug 1971	2	22.76	Sep 1971	.00+	Jul 1998	43.2	33.1	14.7	7.5	12.52	14.57	17.36	19.58	21.63	23.66	25.83	28.28	31.35	35.95	40.05

+ 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: 1962-2001

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

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Station: BENAVIDES 2, TX

COOP ID: 410690

Climate Division: TX 9

NWS Call Sign:

Elevation: 380 Feet

Lat: 27°36N

Lon: 98°25W

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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.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	0	.0	0	0	.0	0	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	.0	.0	N/A	N/A	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.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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Climate Division: TX 9

NWS Call Sign:

Elevation: 380 Feet

Lat: 27°36N

Lon: 98°25W

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	4/05	3/26	3/20	3/14	3/09	3/03	2/26	2/19	2/10
32	3/29	3/16	3/06	2/26	2/18	2/10	2/02	1/22	1/06
28	3/11	2/25	2/16	2/07	1/30	1/21	1/11	12/29	0/00
24	2/13	1/31	1/21	1/11	12/29	0/00	0/00	0/00	0/00
20	1/07	12/30	12/19	0/00	0/00	0/00	0/00	0/00	0/00
16	12/28	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	10/31	11/07	11/12	11/17	11/21	11/25	11/29	12/04	12/11
32	11/12	11/19	11/24	11/28	12/02	12/06	12/10	12/15	12/23
28	11/23	12/02	12/08	12/14	12/19	12/25	12/31	1/09	0/00
24	12/14	12/21	12/28	1/03	1/10	0/00	0/00	0/00	0/00
20	12/22	1/01	1/14	0/00	0/00	0/00	0/00	0/00	0/00
16	12/27	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	288	277	269	263	256	250	243	235	224
32	337	315	303	294	286	278	269	260	246
28	>365	>365	347	327	315	306	297	288	275
24	>365	>365	>365	>365	>365	>365	348	330	313
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

Complete documentation available from:

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COOP ID: 410690

Climate Division: TX 9 NWS Call Sign: Elevation: 380 Feet Lat: 27°36N Lon: 98°25W

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	335	208	86	17	0	0	0	0	0	18	140	288	1092
60	227	122	32	3	0	0	0	0	0	4	72	183	643
57	175	82	16	0	0	0	0	0	0	2	43	133	451
55	142	59	9	0	0	0	0	0	0	1	30	103	344
50	75	23	1	0	0	0	0	0	0	0	10	46	155
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	726	755	1059	1217	1447	1537	1650	1640	1454	1267	954	769	14475
55	155	170	355	527	734	847	937	927	764	555	294	159	6424
57	125	136	300	467	672	787	875	865	704	494	248	127	5800
60	84	93	223	380	579	697	782	772	614	404	186	84	4898
65	28	38	122	244	424	547	627	617	464	262	104	35	3512
70	16	13	52	134	276	397	472	462	315	145	47	13	2342

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	506	569	835	996	1219	1305	1403	1403	1227	1036	735	543	506	1075	1910	2906	4125	5430	6833	8236	9463	10499	11234	11777
45	367	433	681	846	1064	1155	1248	1248	1077	881	585	398	367	800	1481	2327	3391	4546	5794	7042	8119	9000	9585	9983
50	239	306	530	696	909	1005	1093	1093	927	728	445	273	239	545	1075	1771	2680	3685	4778	5871	6798	7526	7971	8244
55	142	198	386	546	754	855	938	938	777	574	312	168	142	340	726	1272	2026	2881	3819	4757	5534	6108	6420	6588
60	69	108	252	399	599	705	783	783	627	423	195	91	69	177	429	828	1427	2132	2915	3698	4325	4748	4943	5034
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	325	365	553	664	836	879	930	919	829	701	484	351	325	690	1243	1907	2743	3622	4552	5471	6300	7001	7485	7836

(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