

Climatology of the United States

No. 20

1971-2000

Station: GRAPEVINE DAM, TX

COOP ID: 413691

Climate Division: TX 3

NWS Call Sign:

Elevation: 585 Feet

Lat: 32°57N

Lon: 97°03W

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	54.0	30.8	42.4	95	1911	31	49.9	1990	-1	1918	12	32.6	1978	701	0	.0	.0	19.3	1.8	18.2	.0
Feb	59.7	35.5	47.6	95	1996	23	56.1	1976	3	1905	13	35.3	1978	494	0	.0	.1	21.1	1.2	10.5	.0
Mar	67.8	43.4	55.6	100	1916	21	60.8	1974	13	1980	3	51.4	1975	299	7	.0	.2	29.0	.1	3.5	.0
Apr	75.2	51.3	63.3	99	1909	29	68.7	1981	29+	1989	11	58.5	1983	109	56	.0	.7	29.9	.0	.3	.0
May	82.5	60.6	71.6	105	1911	31	79.3	1996	33	1903	1	66.7	1976	22	225	.1	5.0	31.0	.0	.0	.0
Jun	90.3	68.4	79.4	109+	1980	28	84.5	1980	47	1903	1	75.4	1989	0	431	1.1	18.3	30.0	.0	.0	.0
Jul	95.5	72.5	84.0	112	1912	28	91.1	1998	56	1972	6	80.1	1976	0	588	6.6	27.3	31.0	.0	.0	.0
Aug	95.3	71.5	83.4	115	1909	18	88.3	1999	54+	1915	31	78.0	1992	0	571	8.1	26.7	31.0	.0	.0	.0
Sep	88.3	64.7	76.5	109	1998	5	83.2	1998	38	1995	23	68.3	1974	6	351	1.6	15.6	30.0	.0	.0	.0
Oct	78.5	53.3	65.9	102	1904	3	69.3	1998	22+	1993	31	58.7	1976	69	96	.1	3.3	30.8	.0	.1	.0
Nov	65.6	42.7	54.2	89+	1977	1	60.6	1999	17	1976	29	47.4	1976	340	14	.0	.0	27.0	@	4.7	.0
Dec	56.8	33.9	45.4	89	1955	25	51.1	1984	-1	1989	23	34.0	1983	609	1	.0	.0	22.8	1.1	13.7	@
Ann	75.8	52.4	64.1	115	Aug 1909	18	91.1	Jul 1998	-1+	Dec 1989	23	32.6	Jan 1978	2649	2340	17.6	97.2	332.9	4.2	51.0	@

+ 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: 1897-2001

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

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No. 20 1971-2000

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

Station: GRAPEVINE DAM, TX

COOP ID: 413691

Climate Division: TX 3

NWS Call Sign:

Elevation: 585 Feet Lat: 32°57N

Lon: 97°03W

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	1.77	1.26	3.87	1998	6	7.41	1998	.03	1986	7.1	3.5	1.0	.4	.12	.23	.46	.70	.97	1.29	1.67	2.15	2.82	3.96	5.08
Feb	2.37	1.99	2.97	2001	16	8.68	1997	.15	1996	7.0	3.7	1.7	.7	.28	.47	.80	1.13	1.48	1.87	2.33	2.90	3.66	4.93	6.16
Mar	2.72	2.27	4.87	1977	27	7.17	1990	.23	1971	8.1	4.7	1.8	.8	.39	.62	1.01	1.39	1.78	2.21	2.71	3.33	4.15	5.50	6.80
Apr	3.37	3.10	3.96	1966	30	7.62	1995	.51	1987	7.3	4.7	2.3	1.1	.69	1.00	1.49	1.95	2.40	2.89	3.44	4.10	4.97	6.37	7.69
May	4.71	4.27	6.47	1989	17	11.79	1989	.28	1996	8.6	5.9	3.2	1.6	1.03	1.47	2.16	2.78	3.41	4.07	4.82	5.71	6.89	8.77	10.55
Jun	3.41	2.82	8.30	1989	14	16.93	1989	.00	1999	7.5	4.5	2.3	1.1	.26	.63	1.18	1.68	2.20	2.77	3.42	4.21	5.28	7.03	8.70
Jul	2.20	2.52	5.08	1994	11	7.01	1994	.00+	1993	5.1	3.2	1.5	.7	.00	.12	.43	.76	1.13	1.56	2.07	2.70	3.60	5.12	6.62
Aug	1.78	1.70	5.06	1915	18	4.96	1974	.00+	2000	5.0	3.5	1.2	.5	.00	.00	.56	.92	1.24	1.56	1.89	2.30	2.84	3.63	4.40
Sep	2.86	2.46	8.64	1964	21	7.40	1974	.20	1983	6.8	4.2	1.6	.7	.35	.58	.98	1.38	1.80	2.27	2.82	3.49	4.40	5.90	7.36
Oct	4.08	3.83	5.36	1949	24	9.59	1971	.00	1975	7.2	4.7	2.6	1.5	.16	.49	1.08	1.67	2.32	3.05	3.92	5.01	6.51	9.00	11.46
Nov	2.70	2.17	4.51	1902	16	6.84	2000	.40	1979	7.3	4.5	1.9	.7	.43	.66	1.05	1.42	1.81	2.23	2.71	3.30	4.09	5.37	6.59
Dec	2.69	2.08	3.67+	1991	21	9.13	1991	.20	1981	7.3	4.5	2.0	.6	.27	.46	.83	1.20	1.61	2.07	2.61	3.28	4.21	5.75	7.25
Ann	34.66	35.87	8.64	Sep 1964	21	16.93	Jun 1989	.00+	Aug 2000	84.3	51.6	23.1	10.4	19.62	22.28	25.83	28.61	31.15	33.65	36.28	39.25	42.92	48.37	53.19

+ 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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Station: GRAPEVINE DAM, TX

COOP ID: 413691

Climate Division: TX 3

NWS Call Sign:

Elevation: 585 Feet

Lat: 32°57N

Lon: 97°03W

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	.1	.0	0	0	1.0	1996	2	1.0	1996	0	0	0	0	0	.1	.1	.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	.1	.0	#	0	.8	1976	13	.8	1976	5	1976	14	#	1976	.1	.0	.0	.0	.0	@	.0	.0	.0
Dec	.3	.0	#	0	3.1	1983	16	3.1	1983	3	1983	16	#+	1990	.1	.1	.1	.0	.0	.1	@	.0	.0
Ann	.5	.0	N/A	N/A	3.1	Dec 1983	16	3.1	Dec 1983	5	Nov 1976	14	#+	Dec 1990	.3	.2	.1	.0	.0	.1	@	.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 3

NWS Call Sign:

Elevation: 585 Feet

Lat: 32° 57N

Lon: 97° 03W

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	4/11	4/07	4/04	4/01	3/29	3/26	3/23	3/18
32	4/09	4/03	3/29	3/25	3/21	3/18	3/14	3/09	3/03
28	3/22	3/15	3/09	3/05	3/01	2/24	2/20	2/14	2/07
24	3/06	2/27	2/22	2/17	2/13	2/08	2/04	1/29	1/22
20	3/01	2/20	2/14	2/08	2/03	1/28	1/21	1/11	0/00
16	2/17	2/07	1/31	1/25	1/18	1/11	1/02	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	10/20	10/25	10/29	11/02	11/05	11/08	11/11	11/15	11/21
32	10/29	11/04	11/08	11/11	11/15	11/18	11/21	11/25	12/01
28	11/06	11/13	11/18	11/23	11/27	12/01	12/05	12/10	12/17
24	11/14	11/23	11/29	12/04	12/09	12/14	12/19	12/25	1/03
20	11/26	12/05	12/12	12/18	12/24	12/30	1/06	1/17	0/00
16	12/16	12/23	12/28	1/02	1/07	1/12	1/19	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	240	232	226	221	217	213	208	202	194
32	261	253	247	242	237	233	228	222	214
28	298	288	282	276	271	265	259	253	243
24	329	319	311	305	299	293	286	279	268
20	>365	>365	>365	339	326	316	307	297	283
16	>365	>365	>365	>365	>365	352	341	330	318

* 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 3 NWS Call Sign: Elevation: 585 Feet Lat: 32°57N Lon: 97°03W

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	701	494	299	109	22	0	0	0	6	69	340	609	2649
60	555	367	169	39	4	0	0	0	0	21	219	462	1836
57	468	297	111	16	1	0	0	0	0	8	160	377	1438
55	412	255	80	8	0	0	0	0	0	4	127	323	1209
50	286	167	29	0	0	0	0	0	0	1	63	207	753
32	31	12	0	0	0	0	0	0	0	0	0	11	54

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	354	450	731	937	1226	1421	1611	1594	1334	1051	665	426	11800
55	22	49	98	255	513	731	898	881	644	342	101	25	4559
57	15	35	67	203	452	671	836	819	584	284	74	16	4056
60	9	20	32	136	363	581	743	726	494	204	43	9	3360
65	0	0	7	56	225	431	588	571	351	96	14	1	2340
70	0	0	0	15	117	285	433	417	221	33	2	0	1523

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	178	289	500	706	990	1190	1369	1354	1101	813	444	234	178	467	967	1673	2663	3853	5222	6576	7677	8490	8934	9168
45	98	184	358	557	835	1040	1214	1199	951	658	313	133	98	282	640	1197	2032	3072	4286	5485	6436	7094	7407	7540
50	46	106	236	412	680	890	1059	1044	801	509	204	63	46	152	388	800	1480	2370	3429	4473	5274	5783	5987	6050
55	17	52	133	273	525	740	904	889	652	361	113	27	17	69	202	475	1000	1740	2644	3533	4185	4546	4659	4686
60	1	21	63	158	370	590	749	734	507	232	54	4	1	22	85	243	613	1203	1952	2686	3193	3425	3479	3483
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	131	188	308	441	662	811	913	894	735	520	272	154	131	319	627	1068	1730	2541	3454	4348	5083	5603	5875	6029

(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