

Climatography of the United States

No. 20

1971-2000

Station: ABILENE MUNICIPAL AP, TX

COOP ID: 410016

Climate Division: TX 2

NWS Call Sign: ABI

Elevation: 1,790 Feet Lat: 32°25N

Lon: 99°41W

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	55.2	31.8	43.5	88	1969	8	50.0	1990	-1	1973	12	34.2	1978	678	0	.0	.0	21.1	1.9	16.5	@
Feb	60.7	36.5	48.6	93	1996	22	56.6	1976	-7	1985	2	38.4	1978	477	5	.0	.1	22.4	1.1	10.0	@
Mar	69.1	43.8	56.4	97	1974	31	63.1	1974	9	1948	11	52.1	1987	299	28	.0	.6	29.2	.1	3.9	.0
Apr	77.3	51.8	64.6	99+	1963	10	70.0	1978	25	1973	9	58.9	1997	113	94	.0	2.5	29.7	.0	.6	.0
May	84.7	61.0	72.8	109	2000	24	79.4	2000	36	1979	12	68.9	1976	20	253	.8	8.7	31.0	.0	.0	.0
Jun	91.1	68.5	79.8	109+	1994	27	84.9	1990	47	1964	1	75.9	1989	0	442	2.2	18.7	30.0	.0	.0	.0
Jul	94.8	72.3	83.5	110	1978	17	89.2	1980	57+	1990	14	78.6	1976	0	568	5.1	26.3	31.0	.0	.0	.0
Aug	93.7	71.4	82.6	107+	1952	31	87.1	1999	50	1992	28	77.1	1971	0	535	3.8	24.6	31.0	.0	.0	.0
Sep	86.7	64.4	75.5	107	2000	5	83.5	1977	38	1989	24	67.2	1974	18	327	.9	12.5	30.0	.0	.0	.0
Oct	77.6	54.4	66.0	103	1979	1	71.2	1979	23	1993	31	57.9	1976	93	118	.1	2.2	30.7	.0	.3	.0
Nov	65.1	42.3	53.7	92	1980	8	59.8	1999	14	1976	14	46.7	1976	353	15	.0	@	26.4	.2	5.3	.0
Dec	56.9	33.9	45.4	89+	1955	24	49.7	1977	-7	1989	23	33.8	1983	608	1	.0	.0	23.0	1.2	14.1	.1
Ann	76.1	52.7	64.4	110	Jul 1978	17	89.2	Jul 1980	-7+	Dec 1989	23	33.8	Dec 1983	2659	2386	12.9	96.2	335.5	4.5	50.7	.1

+ 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

001-A

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1948-2001

(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

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COOP ID: 410016

Climate Division: TX 2

NWS Call Sign: ABI

Elevation: 1,790 Feet Lat: 32°25N

Lon: 99°41W

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	.97	.80	1.92	1961	7	3.52	1973	.01+	1986	5.1	2.3	.7	.1	.03	.07	.16	.28	.43	.61	.84	1.15	1.59	2.36	3.14
Feb	1.13	.74	1.77	1992	24	3.60	1992	.00	1999	4.9	2.6	.8	.1	.02	.07	.20	.36	.54	.75	1.02	1.36	1.85	2.70	3.54
Mar	1.41	1.01	2.10	1977	26	5.16	1979	.04	1971	5.3	2.8	.9	.3	.09	.18	.36	.55	.77	1.02	1.32	1.71	2.25	3.17	4.08
Apr	1.67	1.12	2.45	1957	25	4.57	1990	.17	1980	5.1	3.2	1.1	.4	.21	.34	.58	.81	1.06	1.33	1.65	2.04	2.57	3.44	4.28
May	2.83	2.09	4.72	1990	2	9.03	1994	.42	1984	7.7	4.3	1.9	.8	.45	.70	1.11	1.50	1.90	2.34	2.84	3.45	4.28	5.61	6.88
Jun	3.06	2.41	3.62	1989	10	9.53	1989	.00	1994	6.4	4.1	2.2	1.1	.33	.70	1.21	1.65	2.10	2.58	3.12	3.78	4.64	6.03	7.36
Jul	1.70	1.74	3.66	1949	13	4.27+	1990	.01	2000	5.1	3.3	1.1	.4	.13	.25	.47	.70	.96	1.26	1.61	2.06	2.68	3.72	4.75
Aug	2.63	2.07	6.30	1978	3	6.92+	1996	.00	2000	5.9	3.4	1.6	.8	.11	.34	.73	1.11	1.53	1.99	2.55	3.24	4.18	5.75	7.29
Sep	2.91	2.32	4.50	1961	3	11.03	1974	.01	1979	6.5	4.0	2.0	.9	.10	.23	.53	.90	1.35	1.89	2.57	3.46	4.74	6.96	9.20
Oct	2.90	2.43	4.99	1959	3	10.68	1981	.21	1987	6.2	4.4	1.9	.8	.34	.56	.97	1.37	1.80	2.28	2.84	3.54	4.48	6.04	7.56
Nov	1.30	1.03	2.43	1975	2	3.39	1994	.00+	1999	4.7	2.5	.8	.2	.00	.15	.38	.59	.80	1.04	1.30	1.62	2.06	2.78	3.47
Dec	1.27	.91	2.17	1987	25	6.28	1991	.00+	1996	5.1	2.6	.8	.3	.00	.03	.15	.31	.51	.76	1.08	1.51	2.12	3.20	4.29
Ann	23.78	22.43	6.30	Aug 1978	3	11.03	Sep 1974	.00+	Aug 2000	68.0	39.5	15.8	6.2	15.49	17.04	19.06	20.61	22.00	23.36	24.77	26.34	28.26	31.08	33.54

+ 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

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NWS Call Sign: ABI

Elevation: 1,790 Feet

Lat: 32°25N

Lon: 99°41W

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	2.6	1.0	#	0	6.6	1983	21	13.5	1973	8	1973	11	1+	1983	1.7	.8	.3	.2	.0	1.1	.4	.1	.0
Feb	1.0	.4	#	0	4.5	1979	5	5.9	1979	5	1985	2	#	1997	.9	.4	.1	.0	.0	.6	.2	@	.0
Mar	.3	.0	#	0	3.0	1989	5	5.2	1989	5	1989	5	#	1989	.3	.1	@	.0	.0	.1	.1	@	.0
Apr	.4	.0	#	0	9.3	1996	5	9.3	1996	6	1996	6	#	1996	.0	.0	@	@	.0	@	@	@	.0
May	.0	.0	#	0	.0	0	0	.0	0	0	0	0	#	1996	.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	.3	1993	29	.3	1993	#+	1993	30	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.6	.0	#	0	3.5	1976	13	5.6	1976	4	1976	14	#	1996	.4	.2	@	.0	.0	.2	.1	.0	.0
Dec	.8	.0	#	0	3.0	1983	16	7.8	1983	3+	1990	22	#	1990	.7	.4	@	.0	.0	.5	.1	.0	.0
Ann	5.7	1.4	N/A	N/A	9.3	Apr 1996	5	13.5	Jan 1973	8	Jan 1973	11	1+	Jan 1983	4.0	1.9	.4	.2	.0	2.5	.9	.1	.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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Elevation: 1,790 Feet

Lat: 32°25N

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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	4/19	4/14	4/11	4/08	4/05	4/02	3/30	3/27	3/22
32	4/10	4/04	3/31	3/27	3/24	3/21	3/17	3/13	3/07
28	4/02	3/25	3/20	3/15	3/10	3/06	3/01	2/24	2/16
24	3/16	3/08	3/02	2/25	2/21	2/16	2/11	2/06	1/29
20	3/08	2/24	2/16	2/09	2/02	1/26	1/18	1/07	12/19
16	2/20	2/10	2/02	1/26	1/19	1/12	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	11/01	11/04	11/07	11/10	11/13	11/18
32	10/26	11/01	11/05	11/08	11/12	11/15	11/18	11/22	11/28
28	11/03	11/10	11/14	11/18	11/22	11/26	11/30	12/04	12/11
24	11/09	11/17	11/23	11/28	12/03	12/08	12/13	12/19	12/27
20	11/18	11/28	12/06	12/12	12/19	12/25	1/01	1/10	1/27
16	11/30	12/12	12/20	12/28	1/05	1/14	1/28	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	232	225	220	216	212	208	204	199	193
32	253	246	241	236	232	227	223	218	210
28	285	275	268	262	256	250	244	237	227
24	317	306	298	291	285	278	271	263	252
20	>365	>365	345	328	317	308	299	289	275
16	>365	>365	>365	>365	363	346	334	322	307

* 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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Climate Division: TX 2 NWS Call Sign: ABI Elevation: 1,790 Feet Lat: 32°25N Lon: 99°41W

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	678	477	299	113	20	0	0	0	18	93	353	608	2659
60	521	338	152	35	5	0	0	0	1	23	227	461	1763
57	435	268	97	16	1	0	0	0	0	9	166	375	1367
55	379	226	68	9	0	0	0	0	0	5	131	320	1138
50	256	141	23	0	0	0	0	0	0	1	65	203	689
32	21	7	0	0	0	0	0	0	0	0	0	10	38

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	381	476	758	974	1262	1431	1593	1563	1302	1050	648	430	11868
55	21	50	148	307	551	741	880	850	614	354	103	27	4646
57	13	35	115	257	490	681	818	788	556	300	78	18	4149
60	5	19	74	189	400	591	725	695	469	224	48	8	3447
65	0	5	28	94	253	442	568	535	327	118	15	1	2386
70	0	1	7	37	140	294	415	385	205	50	1	0	1535

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	201	304	530	744	1023	1200	1354	1323	1070	812	427	229	201	505	1035	1779	2802	4002	5356	6679	7749	8561	8988	9217
45	115	197	384	595	868	1050	1199	1168	920	658	299	136	115	312	696	1291	2159	3209	4408	5576	6496	7154	7453	7589
50	58	115	260	448	713	900	1044	1013	770	507	191	65	58	173	433	881	1594	2494	3538	4551	5321	5828	6019	6084
55	24	59	154	315	559	750	889	858	623	361	107	28	24	83	237	552	1111	1861	2750	3608	4231	4592	4699	4727
60	3	23	81	195	408	600	734	703	478	232	52	4	3	26	107	302	710	1310	2044	2747	3225	3457	3509	3513
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	144	198	333	476	680	814	906	892	721	517	260	154	144	342	675	1151	1831	2645	3551	4443	5164	5681	5941	6095

(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