

Climatology of the United States

No. 20

1971-2000

Station: COLLEGE STATION ETRWD AP, TX

COOP ID: 411889

Climate Division: TX 4

NWS Call Sign: CLL

Elevation: 314 Feet

Lat: 30° 35N

Lon: 96° 22W

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	60.6	39.8	50.2	86	1972	23	56.2	1990	7	1973	12	41.2	1979	472	13	.0	.0	24.0	.4	7.7	.0
Feb	65.5	43.4	54.5	99	1996	21	61.7	1976	14	1985	2	45.9	1978	309	14	.0	.2	24.7	.3	3.8	.0
Mar	72.6	50.5	61.6	94	1971	22	67.3	1974	19	1980	2	56.9	1983	149	42	.0	.1	30.3	@	1.3	.0
Apr	78.8	56.9	67.9	94	1987	28	72.4	1981	28	1973	10	63.0	1973	40	127	.0	.7	30.0	.0	.1	.0
May	85.3	65.3	75.3	100	1996	29	81.6	1996	42	1954	4	71.1	1976	5	324	@	5.8	31.0	.0	.0	.0
Jun	91.7	71.5	81.6	104	1980	27	85.6	1998	53	1970	3	79.1	1983	0	497	1.1	20.8	30.0	.0	.0	.0
Jul	95.6	73.6	84.6	109	1954	12	88.3	1980	58	1967	16	81.1	1976	0	607	4.7	27.9	31.0	.0	.0	.0
Aug	96.2	73.2	84.7	109	2000	31	87.4	1985	60	1992	29	81.4	1992	0	611	5.9	27.7	31.0	.0	.0	.0
Sep	90.9	68.5	79.7	112	2000	4	82.9	1980	44	1989	25	73.5	1974	0	440	1.1	18.1	30.0	.0	.0	.0
Oct	82.0	59.0	70.5	98	1956	4	73.3	1984	29	1993	31	61.2	1976	25	196	.0	3.2	31.0	.0	.1	.0
Nov	70.9	49.1	60.0	89+	1989	8	66.7	1973	19	1976	29	52.1	1976	203	53	.0	.0	28.8	.0	1.5	.0
Dec	62.8	41.5	52.2	86	1995	3	61.7	1984	2	1989	23	42.5	1989	413	14	.0	.0	26.3	.3	6.2	.0
Ann	79.4	57.7	68.6	112	Sep 2000	4	88.3	Jul 1980	2	Dec 1989	23	41.2	Jan 1979	1616	2938	12.8	104.5	348.1	1.0	20.7	.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: 1951-2001

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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	Median	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	3.32	2.92	5.63	1991	9	15.60	1991	.22	1971	8.5	5.3	1.9	.9	.35	.60	1.06	1.52	2.02	2.58	3.24	4.06	5.18	7.03	8.84	
Feb	2.38	1.98	3.34	1955	4	9.82	1992	.10	1974	7.0	4.2	1.7	.6	.30	.49	.83	1.16	1.51	1.90	2.35	2.91	3.66	4.90	6.10	
Mar	2.84	2.97	4.20	1980	27	6.07	1980	.29	1971	7.8	4.8	1.8	.7	.68	.95	1.36	1.73	2.10	2.49	2.92	3.44	4.12	5.20	6.21	
Apr	3.20	2.68	5.17	1969	12	7.66	1977	.08	1984	6.6	4.1	2.1	.9	.38	.63	1.08	1.53	2.00	2.53	3.15	3.91	4.95	6.66	8.33	
May	5.05	5.18	6.23	1983	20	11.38	1983	.63	1996	8.5	6.1	3.2	1.6	1.00	1.46	2.20	2.88	3.56	4.30	5.14	6.15	7.48	9.62	11.65	
Jun	3.79	2.90	4.18	1960	25	11.12	1993	.09	1980	7.5	5.3	2.4	1.2	.51	.81	1.35	1.88	2.43	3.05	3.75	4.63	5.80	7.73	9.59	
Jul	1.92	1.91	5.09	1968	9	7.03	1979	.00+	2000	5.0	3.1	1.3	.6	.00	.10	.37	.65	.97	1.34	1.79	2.35	3.14	4.47	5.80	
Aug	2.63	1.96	4.42	1974	29	10.63	1974	.08	1993	5.8	3.9	1.8	.7	.15	.30	.62	.97	1.38	1.85	2.43	3.18	4.22	6.00	7.77	
Sep	3.91	3.77	5.23	1974	13	10.27	1973	.50	1984	7.0	4.9	2.4	1.3	.58	.90	1.47	2.01	2.57	3.19	3.90	4.77	5.95	7.85	9.69	
Oct	4.22	3.70	5.13	1957	14	12.91	1984	.35+	1987	7.2	4.8	2.7	1.5	.57	.91	1.51	2.10	2.72	3.40	4.19	5.16	6.47	8.62	10.70	
Nov	3.18	2.96	3.65	2000	3	9.29	2000	.86	1994	8.1	4.9	2.0	1.1	.95	1.25	1.71	2.10	2.48	2.87	3.31	3.82	4.48	5.52	6.48	
Dec	3.23	2.88	5.79	1994	15	10.72	1994	.23	1980	8.4	4.8	2.3	.9	.57	.86	1.33	1.77	2.22	2.71	3.26	3.93	4.83	6.28	7.66	
Ann	39.67	38.64	6.23	May 1983	20	15.60	Jan 1991	.00+	Jul 2000	87.4	56.2	25.6	12.0	24.78	27.52	31.11	33.89	36.39	38.84	41.39	44.25	47.75	52.91	57.42	

+ 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: 1951-2001

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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	.4	#	#	0	3.0	1973	10	5.0	1973	4+	1982	12	#	1985	.4	.1	@	.0	.0	.3	.2	.0	.0
Feb	.2	.0	#	0	2.0	1973	8	3.0	1973	2	1973	9	#	1973	.2	.1	.0	.0	.0	@	.0	.0	.0
Mar	#	.0	0	0	#	1989	5	#+	1989	#	1989	5	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	#	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	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	#	.0	0	0	#	1980	26	#+	1980	#+	1980	26	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	#	.0	0	0	#	1993	21	#+	1993	#+	1990	23	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	.6	#	N/A	N/A	3.0	Jan 1973	10	5.0	Jan 1973	4+	Jan 1982	12	#+	May 1996	.6	.2	@	.0	.0	.3	.2	.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	4/09	4/01	3/26	3/21	3/16	3/11	3/06	2/28	2/20
32	3/25	3/17	3/11	3/07	3/02	2/26	2/21	2/15	2/08
28	3/13	3/04	2/25	2/19	2/14	2/09	2/03	1/27	1/18
24	2/26	2/15	2/07	1/31	1/24	1/17	1/06	0/00	0/00
20	2/07	1/27	1/17	1/09	12/30	12/16	0/00	0/00	0/00
16	1/17	1/05	12/24	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	10/28	11/03	11/07	11/11	11/14	11/17	11/21	11/25	12/01
32	11/10	11/17	11/21	11/25	11/29	12/03	12/06	12/11	12/17
28	11/15	11/24	11/30	12/06	12/11	12/16	12/22	12/28	1/06
24	12/01	12/11	12/19	12/26	1/03	1/11	1/24	0/00	0/00
20	12/07	12/20	12/31	1/10	1/21	2/07	0/00	0/00	0/00
16	12/21	1/02	1/14	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	271	261	254	248	242	237	231	224	214
32	295	287	281	276	271	266	261	255	246
28	336	323	314	307	299	292	284	275	263
24	>365	>365	>365	>365	>365	345	329	315	299
20	>365	>365	>365	>365	>365	>365	>365	345	327
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)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Below 65	472	309	149	40	5	0	0	0	0	25	203	413	1616
60	336	196	66	8	0	0	0	0	0	6	116	281	1009
57	265	143	34	2	0	0	0	0	0	2	77	214	737
55	224	113	21	0	0	0	0	0	0	1	56	177	592
50	138	53	4	0	0	0	0	0	0	0	21	98	314
32	6	0	0	0	0	0	0	0	0	0	0	0	6

Cooling Degree Days (1)

Base	Cooling Degree Days (1)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Above 32	570	629	916	1076	1342	1487	1630	1634	1430	1194	840	624	13372
55	75	97	224	387	629	797	917	921	740	482	206	88	5563
57	54	72	175	328	567	737	855	859	680	421	167	63	4978
60	32	41	114	245	474	647	762	766	590	332	116	37	4156
65	13	14	42	127	324	497	607	611	440	196	53	14	2938
70	0	2	10	49	189	347	452	456	293	90	19	2	1909

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	342	427	665	831	1095	1248	1376	1378	1184	937	594	384	342	769	1434	2265	3360	4608	5984	7362	8546	9483	10077	10461
45	227	302	516	681	940	1098	1221	1223	1034	782	450	258	227	529	1045	1726	2666	3764	4985	6208	7242	8024	8474	8732
50	133	195	369	531	785	948	1066	1068	884	627	317	161	133	328	697	1228	2013	2961	4027	5095	5979	6606	6923	7084
55	67	113	242	386	630	798	911	913	734	475	204	86	67	180	422	808	1438	2236	3147	4060	4794	5269	5473	5559
60	33	57	134	249	475	648	756	758	584	328	116	42	33	90	224	473	948	1596	2352	3110	3694	4022	4138	4180
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	202	258	413	547	759	866	930	926	805	624	367	232	202	460	873	1420	2179	3045	3975	4901	5706	6330	6697	6929

(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/normal/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 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/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