U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

Climatography of the United States No. 20 1971-2000

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

Station: OLNEY, TX **COOP ID: 416636**

Climate Division: TX 3 **NWS Call Sign:** **Elevation: 1,195 Feet** **Lat: 33˚22N** **Lon: 98˚46W**

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	55.9	30.4	43.2	85+	1986	20	50.4	1990	-5	1966	23	31.9	1979	678	0	.0	.0	22.5	1.4	18.9	.0
Feb	62.0	34.8	48.4	95	1996	21	56.4	1976	-6	1985	2	36.5	1978	475	0	.0	.2	22.6	1.1	10.8	@
Mar	70.7	42.3	56.5	99	1974	31	63.5	1974	11	1965	20	52.4	1987	273	9	.0	.7	29.5	.1	4.7	.0
Apr	78.6	50.2	64.4	100+	1978	29	68.8	1978	26+	1975	3	59.0	1973	95	77	.1	2.7	30.0	.0	.6	.0
May	85.3	59.4	72.4	108+	1998	31	79.1	1996	36+	1960	12	68.3	1976	18	246	.6	8.7	31.0	.0	.0	.0
Jun	91.9	67.9	79.9	114	1980	28	86.2	1998	49	1982	1	74.9	1983	0	447	3.4	20.7	30.0	.0	.0	.0
Jul	96.7	71.8	84.3	116	1978	15	90.6	1978	55	1971	31	79.3	1976	0	596	10.5	28.6	31.0	.0	.0	.0
Aug	96.5	70.9	83.7	111+	1984	29	89.1	2000	53+	1992	28	78.1	1992	0	579	11.6	27.8	31.0	.0	.0	.0
Sep	89.0	63.8	76.4	111	2000	4	83.3	1977	38+	1984	30	68.6	1974	10	352	3.0	16.8	30.0	.0	.0	.0
Oct	79.3	53.1	66.2	103+	1979	7	71.0	1979	21	1993	30	57.0	1976	73	112	.3	4.0	30.8	.0	.4	.0
Nov	66.3	41.2	53.8	91	1980	8	58.8	1999	10	1959	17	46.3	1976	349	12	.0	@	27.4	.0	6.0	.0
Dec	57.7	32.6	45.2	85+	1995	13	49.5	1984	-7	1989	23	33.0	1983	615	0	.0	.0	23.6	1.0	15.5	.1
Ann	77.5	51.5	64.5	116	Jul 1978	15	90.6	Jul 1978	-7	Dec 1989	23	31.9	Jan 1979	2586	2430	29.5	110.2	339.4	3.6	56.9	.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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1956-2001

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

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	1.19	.91	2.05	1968	18	3.54	1990	.00+	1986
Feb	1.68	1.34	2.10	1997	20	5.59	1997	.02	1976
Mar	2.19	1.90	2.75	2001	24	6.99	1999	.23	1971
Apr	2.54	2.34	3.96	2000	30	7.35	1990	.16	1989
May	5.11	3.64	8.54	1989	16	18.60	1980	.70	1973
Jun	3.61	3.29	6.20	1983	14	8.30	1992	.62	1980
Jul	1.85	1.59	3.50	1979	6	5.84	1979	.12	1980
Aug	2.32	1.90	2.82	1971	24	8.38	1971	.00	2000
Sep	2.95	2.64	4.67	1980	28	11.16	1980	.03	1979
Oct	3.13	2.35	4.61	1959	3	8.64	1984	.08	1987
Nov	1.74	1.33	2.15	1968	26	5.62	2000	.00	1999
Dec	1.66	1.14	2.42	1987	19	5.70	1987	.00	1996
Ann	29.97	30.13	8.54	May 1989	16	18.60	May 1980	.00+	Aug 2000

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	4.8	2.4	.9	.1
Feb	5.4	3.2	1.1	.4
Mar	5.7	3.6	1.3	.6
Apr	6.1	4.3	1.7	.6
May	6.7	5.3	2.5	1.5
Jun	6.2	4.6	2.3	1.1
Jul	4.7	3.1	1.0	.4
Aug	5.3	3.6	1.6	.8
Sep	5.0	3.6	1.8	1.0
Oct	6.3	4.5	2.2	1.0
Nov	4.6	3.1	1.1	.5
Dec	4.5	3.0	1.2	.3
Ann	65.3	44.3	18.7	8.3

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.00	.10	.30	.48	.68	.90	1.16	1.48	1.92	2.65	3.37
Feb	.07	.16	.35	.57	.83	1.14	1.52	2.02	2.72	3.93	5.14
Mar	.40	.59	.91	1.21	1.51	1.84	2.22	2.67	3.27	4.24	5.16
Apr	.44	.66	1.03	1.38	1.74	2.12	2.56	3.10	3.81	4.96	6.06
May	.72	1.14	1.87	2.58	3.33	4.14	5.09	6.24	7.81	10.35	12.81
Jun	.87	1.20	1.73	2.20	2.67	3.16	3.72	4.38	5.24	6.61	7.89
Jul	.18	.32	.57	.83	1.11	1.42	1.79	2.26	2.90	3.96	5.00
Aug	.15	.37	.74	1.08	1.44	1.83	2.29	2.86	3.62	4.88	6.10
Sep	.14	.29	.63	1.02	1.48	2.02	2.68	3.54	4.76	6.84	8.93
Oct	.20	.39	.78	1.20	1.69	2.25	2.93	3.79	5.00	7.05	9.09
Nov	.14	.33	.61	.86	1.13	1.42	1.75	2.15	2.70	3.58	4.43
Dec	.05	.16	.38	.62	.89	1.19	1.56	2.03	2.68	3.77	4.86
Ann	21.06	22.78	24.99	26.67	28.16	29.61	31.10	32.75	34.76	37.68	40.20

\+ 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: 1956-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	.9	.0	#	#
Feb	.8	.0	#	0
Mar	.3	.0	#	0
Apr	#	.0	0	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.0	.0	#	0
Nov	.1	.0	#	0
Dec	.5	.0	#	0
Ann	2.6	.0	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	5.0	1983	1	7.0	1977	5	1983	1	1	1979
Feb	5.0	1978	17	10.5	1978	4	1988	5	1	1985
Mar	5.0	1989	5	6.5	1989	5	1989	5	#+	1995
Apr	#	1973	8	#	1973	0	0	0	0	0
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	.0	0	0	.0	0	#	1993	29	#	1993
Nov	2.5	1976	13	2.5	1976	3	1980	17	#+	1996
Dec	3.5	1971	2	3.5	1971	3	1983	16	1	1983
Ann	5.0+	Mar 1989	5	10.5	Feb 1978	5+	Mar 1989	5	1+	Feb 1985

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.4	.3	.2	@	.0
Feb	.3	.3	.1	@	.0
Mar	.1	.1	@	@	.0
Apr	.0	.0	.0	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.1	@	.0	.0	.0
Dec	.2	.1	.1	.0	.0
Ann	1.1	.8	.4	@	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.4	.3	@	.0
Feb	.5	.2	.0	.0
Mar	.1	@	@	.0
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	@	@	.0	.0
Dec	.1	@	.0	.0
Ann	1.1	.5	@	.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	4/17	4/13	4/11	4/09	4/07	4/05	4/03	4/01	3/28
32	4/10	4/05	4/01	3/29	3/26	3/23	3/20	3/16	3/11
28	4/02	3/26	3/21	3/16	3/12	3/08	3/03	2/26	2/19
24	3/17	3/09	3/02	2/25	2/20	2/15	2/09	2/03	1/25
20	3/06	2/27	2/21	2/16	2/12	2/07	2/02	1/27	1/20
16	2/22	2/13	2/06	1/31	1/25	1/18	1/09	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	10/22	10/26	10/29	11/01	11/04	11/07	11/11	11/16
32	10/25	10/31	11/04	11/07	11/11	11/14	11/17	11/21	11/27
28	11/04	11/09	11/13	11/17	11/20	11/23	11/26	11/30	12/06
24	11/09	11/16	11/22	11/27	12/01	12/05	12/10	12/15	12/23
20	11/15	11/26	12/05	12/12	12/18	12/25	1/01	1/10	1/21
16	12/01	12/10	12/16	12/22	12/28	1/04	1/14	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	225	219	215	211	207	204	200	196	190
32	250	243	238	233	229	225	220	215	208
28	276	268	262	257	252	247	242	236	228
24	316	304	296	290	283	277	270	262	251
20	>365	328	318	311	304	298	291	284	274
16	>365	>365	>365	>365	356	337	324	312	296

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	678	475	273	95	18	0	0	0	10	73	349	615	2586
60	531	349	150	33	3	0	0	0	1	25	225	468	1785
57	445	281	95	14	0	0	0	0	0	10	164	382	1391
55	390	241	67	7	0	0	0	0	0	5	130	328	1168
50	266	157	23	0	0	0	0	0	0	1	64	210	721
32	25	11	0	0	0	0	0	0	0	0	0	11	47

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	370	470	759	972	1251	1437	1619	1602	1332	1061	653	419	11945
55	23	56	113	289	538	747	906	889	642	354	92	22	4671
57	16	40	79	236	476	687	844	827	582	296	67	15	4165
60	9	24	40	165	386	597	751	734	493	218	38	8	3463
65	0	0	9	77	246	447	596	579	352	112	12	0	2430
70	0	0	0	25	133	305	441	425	225	45	2	0	1601

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	195	308	530	743	1022	1214	1393	1372	1105	829	434	232	195	503	1033	1776	2798	4012	5405	6777	7882	8711	9145	9377
45	108	197	383	594	867	1064	1238	1217	955	674	304	134	108	305	688	1282	2149	3213	4451	5668	6623	7297	7601	7735
50	48	117	255	446	712	914	1083	1062	805	521	192	63	48	165	420	866	1578	2492	3575	4637	5442	5963	6155	6218
55	15	56	150	307	557	764	928	907	657	375	107	24	15	71	221	528	1085	1849	2777	3684	4341	4716	4823	4847
60	1	19	76	186	404	614	773	752	510	243	46	3	1	20	96	282	686	1300	2073	2825	3335	3578	3624	3627
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	151	216	349	480	677	813	904	891	729	539	279	172	151	367	716	1196	1873	2686	3590	4481	5210	5749	6028	6200

(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:
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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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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