

Climatology of the United States

No. 20

1971-2000

Station: HEALDTON, OK

COOP ID: 344001

Climate Division: OK 8

NWS Call Sign:

Elevation: 734 Feet Lat: 34° 13N Lon: 97° 28W

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	50.5	26.7	38.6	82	1986	20	45.2	1990	-10	1977	10	29.2	1979	818	0	.0	.0	18.8	2.4	21.7	.2
Feb	56.9	31.9	44.4	91	1996	22	54.2	1976	1	1996	4	32.8	1978	580	3	.0	@	20.8	1.3	13.8	.0
Mar	64.7	39.8	52.3	97	1974	31	60.0	1974	1	1989	7	44.9	1996	403	7	.0	.3	28.5	.1	7.5	.0
Apr	73.4	49.2	61.3	98	1972	12	67.2	1981	20	1971	7	55.8	1997	156	45	.0	.6	29.9	.0	1.5	.0
May	81.1	59.2	70.2	101+	2000	24	75.5	1974	32	1979	12	66.0	1976	28	187	.1	4.1	31.0	.0	@	.0
Jun	88.9	67.0	78.0	114	1980	28	83.3	1980	43	1983	1	73.9	1992	1	388	.9	16.2	30.0	.0	.0	.0
Jul	94.9	70.6	82.8	112	1980	2	88.7	1980	50	1971	31	79.4	1994	0	551	7.9	27.1	31.0	.0	.0	.0
Aug	94.7	68.5	81.6	112	1964	5	87.2	1980	49	1967	13	75.4	1992	0	515	8.3	26.0	31.0	.0	.0	.0
Sep	86.2	61.4	73.8	111	2000	4	81.4	1998	35	1983	22	66.3	1974	21	286	2.3	12.6	30.0	.0	.0	.0
Oct	76.0	49.9	63.0	101	1972	17	66.6	1998	18	1993	31	56.3	1976	124	58	@	2.2	30.8	.0	1.1	.0
Nov	62.7	38.1	50.4	89	1965	25	57.5	1999	8	1979	30	44.6	1976	440	3	.0	.0	26.5	.1	8.8	.0
Dec	53.3	29.3	41.3	82	1966	7	48.2	1984	-10	1989	23	28.7	1983	735	0	.0	.0	20.7	1.5	18.9	.2
Ann	73.6	49.3	61.5	114	Jun 1980	28	88.7	Jul 1980	-10+	Dec 1989	23	28.7	Dec 1983	3306	2043	19.5	89.1	329.0	5.4	73.3	.4

+ 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: 1948-2001

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

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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: HEALDTON, OK

COOP ID: 344001

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NWS Call Sign:

Elevation: 734 Feet Lat: 34°13N

Lon: 97°28W

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	1.69	1.64	2.24	1990	19	5.26	1998	.00+	1986	4.8	3.4	1.1	.4	.00	.26	.59	.86	1.13	1.42	1.74	2.11	2.63	3.45	4.23
Feb	2.06	1.70	2.38	1997	20	5.53	1987	.02	1996	5.0	3.8	1.5	.5	.22	.37	.65	.94	1.25	1.60	2.01	2.52	3.21	4.37	5.49
Mar	3.20	3.05	2.61	1976	8	7.03	1990	.27	1971	6.6	5.2	2.4	.9	.76	1.06	1.53	1.95	2.36	2.80	3.29	3.87	4.64	5.85	6.99
Apr	3.29	3.01	5.81	1990	26	12.02	1990	.16	1987	6.6	5.0	2.2	.8	.62	.91	1.40	1.84	2.30	2.79	3.34	4.01	4.90	6.34	7.70
May	5.18	4.67	4.80	1957	17	15.03	1982	.02	1996	7.6	5.8	2.9	1.7	.30	.60	1.23	1.93	2.72	3.66	4.79	6.25	8.29	11.77	15.23
Jun	4.41	4.33	4.10	1995	11	10.19	1989	.93	1972	6.9	5.2	2.9	1.5	1.05	1.46	2.10	2.68	3.25	3.86	4.53	5.34	6.40	8.08	9.66
Jul	2.32	2.11	3.25	1994	9	6.89	1996	.00	1993	4.7	3.5	1.5	.7	.02	.10	.33	.62	.98	1.43	1.99	2.75	3.83	5.73	7.67
Aug	2.24	1.68	3.97	1966	22	5.75	1983	.00+	2000	5.0	3.5	1.3	.7	.00	.46	.92	1.27	1.61	1.96	2.35	2.79	3.39	4.34	5.23
Sep	4.23	4.17	6.00	1970	22	9.85	1974	.08	2000	7.0	5.2	2.7	1.5	.55	.89	1.49	2.08	2.70	3.39	4.19	5.17	6.50	8.69	10.80
Oct	3.96	3.04	4.52	1981	13	16.44	1981	.05	1992	6.4	4.8	2.4	1.1	.32	.59	1.11	1.66	2.26	2.95	3.78	4.82	6.25	8.66	11.03
Nov	2.52	1.99	2.69	1986	4	6.70	1994	.00	1989	5.8	4.3	1.7	.7	.20	.47	.88	1.25	1.63	2.05	2.53	3.11	3.89	5.16	6.38
Dec	2.23	2.05	3.47	1956	20	7.08	1987	.12	1996	5.0	3.5	1.5	.5	.19	.34	.64	.95	1.29	1.68	2.14	2.71	3.51	4.84	6.15
Ann	37.33	36.79	6.00	Sep 1970	22	16.44	Oct 1981	.00+	Aug 2000	71.4	53.2	24.1	11.0	26.23	28.37	31.11	33.20	35.06	36.85	38.71	40.77	43.27	46.89	50.03

+ 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: 1948-2001

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

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Station: HEALDTON, OK

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Climate Division: OK 8

NWS Call Sign:

Elevation: 734 Feet

Lat: 34° 13N

Lon: 97° 28W

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	1.2	.0	#	0	7.0	1977	9	8.5	1977	9+	1992	18	2	1988	.7	.5	.2	@	.0	.7	.3	.2	.0
Feb	1.2	.0	#	0	3.0	1978	7	13.5	1978	230	1973	22	8	1973	.8	.5	.1	.0	.0	.2	@	.0	.0
Mar	.6	.0	#	0	6.0	1989	6	13.0	1989	11	1989	6	1	1989	.2	.2	.1	.1	.0	.2	.1	.1	@
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	.2	.0	#	0	4.0	1972	21	4.0	1972	4	1972	21	#+	1976	@	@	@	.0	.0	@	@	.0	.0
Dec	.6	.0	#	0	4.9	1975	25	4.9	1975	5	1975	25	#+	2000	.5	.3	@	.0	.0	.2	.1	@	.0
Ann	3.8	.0	N/A	N/A	7.0	Jan 1977	9	13.5	Feb 1978	230	Feb 1973	22	8	Feb 1973	2.2	1.5	.4	.1	.0	1.3	.5	.3	@

+ 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	5/05	4/28	4/23	4/19	4/15	4/11	4/07	4/02	3/26
32	4/21	4/15	4/10	4/07	4/03	3/31	3/27	3/23	3/17
28	4/11	4/05	4/01	3/29	3/25	3/22	3/18	3/14	3/08
24	4/02	3/25	3/18	3/13	3/08	3/03	2/25	2/19	2/10
20	3/17	3/08	3/01	2/24	2/19	2/14	2/08	2/02	1/24
16	3/02	2/22	2/16	2/11	2/06	2/01	1/27	1/19	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	10/06	10/12	10/15	10/18	10/21	10/24	10/27	10/31	11/05
32	10/15	10/20	10/24	10/27	10/30	11/02	11/05	11/09	11/14
28	10/21	10/28	11/02	11/06	11/10	11/14	11/18	11/23	11/29
24	10/31	11/08	11/13	11/18	11/22	11/26	12/01	12/06	12/14
20	11/15	11/22	11/27	12/02	12/06	12/10	12/14	12/19	12/26
16	11/23	12/03	12/10	12/17	12/23	12/30	1/06	1/16	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	216	206	200	194	189	183	178	171	162
32	233	225	219	214	209	205	200	194	186
28	251	243	238	233	229	224	220	214	207
24	294	282	273	266	258	251	244	235	222
20	320	309	302	295	289	283	277	269	258
16	>365	>365	346	327	317	308	300	291	280

* 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)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	818	580	403	156	28	1	0	0	21	124	440	735	3306
60	664	449	265	73	6	0	0	0	5	49	304	582	2397
57	573	374	195	40	2	0	0	0	1	24	232	495	1936
55	515	326	155	25	0	0	0	0	0	13	189	438	1661
50	373	222	78	5	0	0	0	0	0	2	105	305	1090
32	48	22	1	0	0	0	0	0	0	0	2	31	104

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	253	368	627	880	1183	1378	1574	1538	1255	958	555	319	10888
55	7	29	69	214	470	688	861	825	565	258	52	13	4051
57	2	20	46	169	409	628	799	763	506	207	35	8	3592
60	0	12	23	112	320	538	706	670	420	139	17	3	2960
65	0	3	7	45	187	388	551	515	286	58	3	0	2043
70	0	0	0	12	88	247	396	363	174	18	0	0	1298

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	132	236	449	672	943	1147	1338	1311	1044	753	369	162	132	368	817	1489	2432	3579	4917	6228	7272	8025	8394	8556
45	65	144	317	523	788	997	1183	1156	894	598	248	86	65	209	526	1049	1837	2834	4017	5173	6067	6665	6913	6999
50	32	78	198	381	634	847	1028	1001	744	449	149	39	32	110	308	689	1323	2170	3198	4199	4943	5392	5541	5580
55	5	34	109	244	479	697	873	846	596	305	77	15	5	39	148	392	871	1568	2441	3287	3883	4188	4265	4280
60	0	11	51	137	330	547	718	691	449	183	32	4	0	11	62	199	529	1076	1794	2485	2934	3117	3149	3153
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	105	175	296	435	627	778	878	853	688	490	239	125	105	280	576	1011	1638	2416	3294	4147	4835	5325	5564	5689

(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