

Climatology of the United States

No. 20

1971-2000

Station: PAULS VALLEY 4 WSW, OK

COOP ID: 346926

Climate Division: OK 8

NWS Call Sign:

Elevation: 940 Feet

Lat: 34°44N

Lon: 97°17W

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	49.3	24.8	37.1	86	1911	31	44.6	1990	-14	1930	18	25.3	1979	866	0	.0	.0	17.5	2.5	22.4	.2
Feb	55.8	29.3	42.6	94	1918	24	52.0	1976	-12	1905	13	30.1	1978	629	0	.0	@	20.4	1.4	15.1	.1
Mar	63.9	37.4	50.7	98	1940	31	56.9	1974	0	1989	7	46.4	1996	445	0	.0	.1	28.2	.1	7.0	@
Apr	73.0	47.4	60.2	100+	1925	18	65.8	1981	21	1920	5	55.0	1997	180	36	@	.6	29.9	.0	1.3	.0
May	80.6	57.6	69.1	103	1927	28	74.7	1996	24	1903	2	64.6	1976	37	164	.1	3.5	31.0	.0	.0	.0
Jun	88.2	66.0	77.1	108+	1918	21	81.8	1980	44+	1917	16	73.3	1983	1	363	.5	15.6	30.0	.0	.0	.0
Jul	94.0	70.3	82.2	112	1936	19	88.2	1998	51+	1905	11	78.9	1987	0	531	6.5	26.1	31.0	.0	.0	.0
Aug	93.9	68.5	81.2	114	1936	11	85.5	1980	44	1915	31	74.7	1992	0	502	6.7	25.5	31.0	.0	.0	.0
Sep	86.1	60.9	73.5	112	2000	4	81.2	1998	33+	1908	28	65.9	1974	21	276	1.7	11.9	30.0	.0	.0	.0
Oct	75.8	48.8	62.3	101	1937	6	65.5	2000	11	1917	30	55.7	1976	130	47	.0	1.7	30.9	.0	1.0	.0
Nov	62.3	37.1	49.7	90	1904	24	56.0	1999	10	1976	29	43.2	1972	461	2	.0	.0	26.2	.1	8.7	.0
Dec	52.4	28.1	40.3	87	1955	24	45.4	1984	-10	1989	23	27.3	1983	767	0	.0	.0	20.1	1.6	19.0	.2
Ann	72.9	48.0	60.5	114	Aug 1936	11	88.2	Jul 1998	-14	Jan 1930	18	25.3	Jan 1979	3537	1921	15.5	85.0	326.2	5.7	74.5	.5

+ 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: 1900-2001

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

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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: PAULS VALLEY 4 WSW, OK

COOP ID: 346926

Climate Division: OK 8

NWS Call Sign:

Elevation: 940 Feet Lat: 34°44N

Lon: 97°17W

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	1.67	1.61	2.52	1946	5	4.46	1998	.00	1986	4.9	3.4	1.2	.4	.05	.17	.40	.63	.90	1.21	1.57	2.04	2.68	3.77	4.85
Feb	2.01	1.68	3.83	1938	15	6.23	1997	.15	1996	5.5	3.7	1.3	.5	.25	.41	.69	.97	1.27	1.60	1.98	2.45	3.09	4.14	5.16
Mar	3.09	2.88	4.30	1990	14	10.19	1990	.45+	1997	6.7	4.8	2.2	.9	.64	.92	1.37	1.79	2.21	2.65	3.16	3.76	4.56	5.84	7.06
Apr	3.40	2.99	3.78	1927	7	11.21	1990	.40	1989	6.9	5.1	2.1	1.0	.85	1.17	1.66	2.10	2.54	2.99	3.50	4.11	4.90	6.15	7.33
May	6.04	5.34	6.50	1987	28	14.33	1982	.14	1988	8.1	6.5	3.3	2.0	.84	1.34	2.21	3.05	3.92	4.89	6.01	7.38	9.22	12.24	15.15
Jun	4.56	4.01	4.28	1968	1	9.83	1992	1.21	1976	7.1	6.0	2.8	1.5	1.11	1.54	2.21	2.80	3.38	4.00	4.70	5.52	6.60	8.30	9.90
Jul	2.37	2.02	4.30	1953	20	6.98	1975	.00+	1997	4.7	3.4	1.5	.7	.00	.08	.37	.71	1.10	1.56	2.13	2.86	3.91	5.70	7.50
Aug	2.01	1.75	5.53	1922	8	7.11	1974	.00	2000	5.0	3.8	1.3	.5	.12	.32	.64	.93	1.24	1.59	1.99	2.48	3.15	4.24	5.30
Sep	4.41	4.03	4.95	1993	14	10.01	1973	.18	2000	6.9	5.4	2.8	1.5	.69	1.06	1.70	2.31	2.94	3.63	4.42	5.39	6.69	8.79	10.81
Oct	3.89	3.05	6.24	1983	19	9.61	1981	.27	1992	5.5	4.4	2.1	1.4	.54	.86	1.41	1.95	2.52	3.15	3.87	4.76	5.96	7.91	9.80
Nov	2.93	2.39	4.60	1994	6	7.10	1994	.13	1989	6.4	4.4	2.0	.8	.41	.65	1.08	1.48	1.91	2.38	2.92	3.58	4.48	5.94	7.34
Dec	2.17	1.68	2.52	1932	23	6.67	1991	.12	1996	5.7	3.9	1.6	.5	.18	.32	.61	.91	1.24	1.62	2.07	2.64	3.42	4.74	6.04
Ann	38.55	39.40	6.50	May 1987	28	14.33	May 1982	.00+	Aug 2000	73.4	54.8	24.2	11.7	25.77	28.19	31.31	33.70	35.85	37.93	40.09	42.49	45.42	49.69	53.42

+ 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: 1900-2001

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

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Lat: 34° 44N

Lon: 97° 17W

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	2.8	.0	#	#	11.0	1988	7	19.0	1988	6	1977	9	2	1977	.8	.7	.3	.2	@	1.6	.6	.4	.0
Feb	1.9	.0	#	0	6.0	1986	10	12.4	1978	6	1978	9	2	1978	.8	.5	.2	@	.0	.9	.4	.1	.0
Mar	.5	.0	#	0	13.0	1989	6	13.0	1989	2	1971	2	#+	1982	.3	.1	@	@	@	@	.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	.2	.0	#	0	2.0	1972	21	2.0	1972	2	1976	14	#+	1995	.2	.1	.0	.0	.0	.1	.0	.0	.0
Dec	1.4	.0	#	0	9.0	1975	25	9.0	1975	2	1975	25	#+	2000	.5	.5	.2	.1	.0	.2	.0	.0	.0
Ann	6.8	.0	N/A	N/A	13.0	Mar 1989	6	19.0	Jan 1988	6+	Feb 1978	9	2+	Feb 1978	2.6	1.9	.7	.3	@	2.8	1.0	.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

Complete documentation available from:

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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	4/29	4/24	4/20	4/17	4/14	4/11	4/08	4/04	3/30
32	4/16	4/12	4/08	4/05	4/02	3/30	3/27	3/24	3/19
28	4/09	4/04	3/31	3/28	3/25	3/21	3/18	3/14	3/09
24	3/30	3/24	3/19	3/15	3/11	3/07	3/03	2/26	2/19
20	3/14	3/06	3/01	2/24	2/19	2/15	2/10	2/05	1/28
16	3/03	2/23	2/18	2/13	2/09	2/04	1/31	1/25	1/17
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	10/19	10/22	10/25	10/28	11/01	11/06
32	10/15	10/20	10/25	10/28	11/01	11/04	11/08	11/12	11/18
28	10/24	10/30	11/03	11/07	11/11	11/14	11/18	11/22	11/28
24	10/30	11/07	11/12	11/16	11/20	11/25	11/29	12/04	12/11
20	11/12	11/20	11/25	11/30	12/04	12/09	12/13	12/19	12/26
16	11/17	11/27	12/04	12/11	12/17	12/22	12/29	1/05	1/15
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	212	205	199	195	190	186	181	176	169
32	235	227	221	216	212	207	202	197	189
28	252	245	239	235	230	226	221	216	208
24	285	274	267	260	254	248	241	233	223
20	316	306	299	293	287	281	275	268	258
16	349	331	321	314	307	300	293	285	274

* 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	866	629	445	180	37	1	0	0	21	130	461	767	3537
60	712	499	298	88	9	0	0	0	5	50	323	614	2598
57	621	422	218	50	3	0	0	0	1	24	248	526	2113
55	563	373	171	31	1	0	0	0	0	13	204	469	1825
50	421	264	82	7	0	0	0	0	0	2	115	333	1224
32	74	36	1	0	0	0	0	0	0	0	3	41	155

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	231	332	579	846	1150	1352	1554	1525	1246	940	534	297	10586
55	7	25	36	187	438	662	841	812	556	239	44	12	3859
57	3	18	21	145	378	602	779	750	497	188	29	7	3417
60	1	11	8	94	291	512	686	657	411	121	14	2	2808
65	0	0	0	36	164	363	531	502	276	47	2	0	1921
70	0	0	0	9	73	225	376	350	166	12	0	0	1211

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	123	224	438	666	940	1143	1333	1314	1039	742	364	154	123	347	785	1451	2391	3534	4867	6181	7220	7962	8326	8480
45	59	137	307	516	785	993	1178	1159	889	589	238	78	59	196	503	1019	1804	2797	3975	5134	6023	6612	6850	6928
50	24	71	193	376	630	843	1023	1004	739	439	140	34	24	95	288	664	1294	2137	3160	4164	4903	5342	5482	5516
55	4	33	105	244	475	693	868	849	590	299	72	11	4	37	142	386	861	1554	2422	3271	3861	4160	4232	4243
60	0	10	51	138	324	543	713	694	446	180	30	0	0	10	61	199	523	1066	1779	2473	2919	3099	3129	3129
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	97	165	288	431	623	778	886	858	685	481	229	113	97	262	550	981	1604	2382	3268	4126	4811	5292	5521	5634

(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.

- 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