

Climatology of the United States

No. 20

1971-2000

Station: ALVA, OK

COOP ID: 340193

Climate Division: OK 3

NWS Call Sign:

Elevation: 1,395 Feet Lat: 36°49N

Lon: 98°39W

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	44.2	19.6	31.9	82	1967	22	41.1	1990	-11	1959	4	17.4	1979	1025	0	.0	.0	14.1	5.1	26.9	.7
Feb	51.4	24.0	37.7	93	1996	22	47.3	1976	-9	1951	1	23.2	1978	768	0	.0	@	16.8	3.0	19.3	.6
Mar	60.2	32.5	46.4	95	1994	17	52.2	1986	-5+	1948	11	40.1	1996	578	0	.0	.2	25.3	.5	11.2	.0
Apr	70.5	42.9	56.7	100+	1953	22	64.4	1981	19	1975	3	49.9	1983	274	24	@	1.2	29.5	.0	2.1	.0
May	79.6	54.9	67.3	107	1996	23	73.8	1996	30	1954	3	61.9	1976	69	139	.4	4.7	31.0	.0	.0	.0
Jun	90.2	64.3	77.3	111+	1950	25	82.1	1990	41	1951	7	72.2	1982	4	371	3.6	18.1	30.0	.0	.0	.0
Jul	96.3	69.5	82.9	114	1954	14	88.6	1980	52+	1950	14	79.6	1972	0	555	11.7	26.9	31.0	.0	.0	.0
Aug	94.3	67.5	80.9	113	1952	16	88.4	2000	49	1950	21	74.9	1992	1	494	10.3	24.1	31.0	.0	.0	.0
Sep	85.7	58.9	72.3	112	2000	4	80.8	1998	31	1989	24	63.2	1974	29	249	2.7	13.2	30.0	.0	@	.0
Oct	73.6	46.0	59.8	101+	1951	4	65.2	1979	14	1993	31	54.2	1976	190	29	.0	2.3	30.6	.0	1.3	.0
Nov	57.4	32.3	44.9	92	1950	1	54.1	1999	8+	1952	28	38.9	1972	605	0	.0	@	22.6	.3	11.9	.0
Dec	46.4	23.0	34.7	85	1955	24	39.5	1988	-15	1989	23	19.6	1983	940	0	.0	.0	14.6	3.1	24.4	.6
Ann	70.8	44.6	57.7	114	Jul 1954	14	88.6	Jul 1980	-15	Dec 1989	23	17.4	Jan 1979	4483	1861	28.7	90.7	306.5	12.0	97.1	1.9

+ 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: ALVA, OK

COOP ID: 340193

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NWS Call Sign:

Elevation: 1,395 Feet Lat: 36°49N

Lon: 98°39W

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	.81	.70	1.28	1999	30	2.51	1999	.00+	1986	3.4	2.0	.6	.1	.00	.04	.16	.28	.41	.57	.76	1.00	1.33	1.90	2.46
Feb	.98	.82	1.70	1997	21	2.57	1990	.00+	1991	4.2	2.5	.6	.1	.00	.04	.17	.32	.48	.67	.90	1.19	1.61	2.31	3.01
Mar	2.36	2.01	2.52	2000	23	8.52	2000	.00+	1972	6.8	4.4	1.9	.7	.00	.29	.73	1.10	1.49	1.91	2.38	2.95	3.73	4.99	6.21
Apr	2.59	2.23	2.99	1970	18	8.06	1999	.02	1996	6.7	4.6	2.0	.6	.30	.50	.86	1.22	1.61	2.04	2.54	3.16	4.01	5.40	6.75
May	4.55	3.98	4.23	1957	16	11.16	1993	1.02	1971	9.1	6.6	3.2	1.4	1.57	2.00	2.62	3.15	3.66	4.18	4.75	5.41	6.26	7.58	8.79
Jun	3.27	2.65	4.36	1963	23	9.29	1992	.16	1990	8.0	5.5	2.5	1.0	.54	.82	1.30	1.75	2.21	2.71	3.29	3.99	4.93	6.46	7.92
Jul	2.48	2.49	3.02+	1960	4	5.62	1994	.11	1983	5.3	4.0	1.5	.6	.38	.59	.95	1.29	1.64	2.03	2.48	3.02	3.76	4.95	6.09
Aug	3.22	2.63	4.84	1960	9	9.45	1977	.16	1973	6.2	4.5	1.8	1.0	.35	.60	1.04	1.49	1.97	2.51	3.14	3.93	5.00	6.78	8.50
Sep	2.42	1.85	3.36	1991	1	6.57	1986	.00	2000	6.3	4.3	1.6	.7	.12	.33	.69	1.05	1.43	1.85	2.35	2.97	3.82	5.23	6.60
Oct	1.89	1.86	3.93	1998	31	8.44	1998	.00	1978	5.2	3.4	1.4	.4	.04	.15	.38	.64	.95	1.30	1.74	2.29	3.08	4.42	5.75
Nov	1.68	1.33	3.24	1998	1	6.59	1992	.00+	1995	4.6	3.0	1.1	.4	.00	.08	.30	.55	.83	1.16	1.55	2.05	2.76	3.96	5.16
Dec	1.02	.71	1.78	1999	5	3.50	1997	.00	1976	4.0	2.5	.6	.2	.04	.13	.28	.43	.59	.77	.99	1.26	1.62	2.24	2.83
Ann	27.27	27.52	4.84	Aug 1960	9	11.16	May 1993	.00+	Sep 2000	69.8	47.3	18.8	7.2	19.43	20.95	22.89	24.37	25.68	26.95	28.25	29.70	31.45	33.99	36.19

+ 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Station: ALVA, OK

COOP ID: 340193

Climate Division: OK 3

NWS Call Sign:

Elevation: 1,395 Feet

Lat: 36°49N

Lon: 98°39W

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	2.1	2.0	#	0	6.0	1993	10	6.5	1995	5+	2000	28	3	1979	1.1	1.0	.2	.1	.0	1.4	.8	.1	.0
Feb	3.4	1.0	1	0	13.0	1971	22	18.0	1971	13	1971	22	3	1978	1.3	1.0	.4	.2	@	1.7	1.1	.7	.2
Mar	2.1	.0	#	0	6.0	1998	19	9.0	1998	8	1999	14	1	1999	.7	.6	.3	.1	.0	.9	.4	.3	.0
Apr	.6	.0	#	0	8.0	1973	8	10.0	1973	4	1973	9	#	1973	.1	.1	.1	@	.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	.9	.0	#	0	6.0	1972	18	9.0	1972	7	1972	19	1	1972	.4	.4	.1	.1	.0	.7	.4	.2	.0
Dec	2.4	2.6	#	0	7.0	1999	5	7.0	1999	7	1999	5	1	1999	1.3	.9	.4	.1	.0	1.4	.2	.1	.0
Ann	11.5	5.6	N/A	N/A	13.0	Feb 1971	22	18.0	Feb 1971	13	Feb 1971	22	3+	Jan 1979	4.9	4.0	1.5	.6	@	6.1	2.9	1.4	.2

+ 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	5/01	4/26	4/23	4/20	4/17	4/14	4/11	4/07	4/02
32	4/19	4/15	4/12	4/09	4/07	4/04	4/01	3/29	3/25
28	4/11	4/06	4/03	3/31	3/28	3/26	3/23	3/19	3/15
24	4/01	3/26	3/21	3/17	3/13	3/10	3/06	3/01	2/22
20	3/27	3/19	3/12	3/07	3/02	2/25	2/19	2/13	2/04
16	3/17	3/08	3/01	2/24	2/18	2/13	2/08	2/01	1/23
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	9/27	10/03	10/07	10/11	10/15	10/18	10/22	10/27	11/02
32	10/13	10/18	10/22	10/25	10/28	10/31	11/04	11/07	11/13
28	10/21	10/27	11/01	11/04	11/08	11/11	11/15	11/19	11/25
24	10/29	11/05	11/10	11/14	11/18	11/21	11/26	11/30	12/07
20	11/07	11/14	11/19	11/23	11/27	12/01	12/05	12/10	12/17
16	11/16	11/23	11/27	12/01	12/05	12/09	12/13	12/18	12/25
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	206	197	191	185	180	175	170	163	154
32	225	218	213	208	204	200	195	190	183
28	246	238	233	228	224	219	215	209	202
24	275	266	259	254	248	243	237	231	222
20	301	290	283	276	270	263	257	249	238
16	322	311	303	296	289	283	276	267	256

* 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	1025	768	578	274	69	4	0	1	29	190	605	940	4483
60	872	637	430	165	25	0	0	0	8	89	457	785	3468
57	781	560	344	113	11	0	0	0	3	49	374	692	2927
55	722	510	291	85	6	0	0	0	0	32	321	631	2598
50	579	393	178	34	1	0	0	0	0	7	204	486	1882
32	179	107	9	0	0	0	0	0	0	0	12	103	410

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	177	267	454	741	1093	1357	1578	1516	1210	862	398	186	9839
55	7	25	22	135	386	667	865	803	520	180	17	1	3628
57	4	19	14	104	329	607	803	741	463	136	9	0	3229
60	1	13	7	66	250	517	710	648	378	83	3	0	2676
65	0	0	0	24	139	371	555	494	249	29	0	0	1861
70	0	0	0	7	62	236	400	346	147	7	0	0	1205

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	62	150	327	577	886	1152	1359	1313	1016	675	257	79	62	212	539	1116	2002	3154	4513	5826	6842	7517	7774	7853
45	26	78	209	431	731	1002	1204	1158	866	523	149	32	26	104	313	744	1475	2477	3681	4839	5705	6228	6377	6409
50	2	37	119	292	576	852	1049	1003	716	379	81	6	2	39	158	450	1026	1878	2927	3930	4646	5025	5106	5112
55	0	9	59	174	424	702	894	848	569	245	34	1	0	9	68	242	666	1368	2262	3110	3679	3924	3958	3959
60	0	1	25	93	277	552	739	693	428	139	12	0	0	1	26	119	396	948	1687	2380	2808	2947	2959	2959
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	58	118	223	366	570	757	878	849	662	430	167	66	58	176	399	765	1335	2092	2970	3819	4481	4911	5078	5144

(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