

Climatology of the United States

No. 20

1971-2000

Station: ALTUS DAM, OK

COOP ID: 340184

Climate Division: OK 7

NWS Call Sign:

Elevation: 1,525 Feet Lat: 34° 53N

Lon: 99° 18W

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	48.9	25.3	37.1	84	1967	23	44.8	1990	-5	1988	9	26.3	1979	865	0	.0	.0	16.0	4.0	24.5	.2
Feb	54.8	30.4	42.6	91+	1962	12	51.2	1976	-5	1986	11	29.7	1978	633	0	.0	@	18.0	2.4	16.2	.2
Mar	63.8	38.9	51.4	99	1971	27	56.0	1974	1	1980	2	45.0	1998	426	1	.0	.4	26.6	.2	8.0	.0
Apr	73.1	48.6	60.9	103	1972	12	65.8	1978	22	1994	6	55.0	1983	172	47	@	1.5	29.4	.0	1.2	.0
May	81.5	58.6	70.1	110	2000	24	77.4	1996	33	1994	1	65.4	1976	40	197	.8	6.6	31.0	.0	.0	.0
Jun	90.3	67.8	79.1	114	1994	28	85.3	1998	47	1983	7	73.2	1992	3	425	2.9	17.4	30.0	.0	.0	.0
Jul	95.9	72.6	84.3	110+	1954	25	90.8	1998	55+	1990	14	79.4	1975	0	597	9.5	26.3	31.0	.0	.0	.0
Aug	94.2	70.9	82.6	110	1964	6	89.9	2000	51	1962	26	75.1	1992	1	544	8.0	24.0	31.0	.0	.0	.0
Sep	85.7	62.5	74.1	110	2000	5	82.1	1998	30	1984	30	66.0	1974	18	291	2.0	12.5	30.0	.0	@	.0
Oct	75.0	50.1	62.6	105	2000	4	66.7	1998	12	1993	31	55.1	1976	134	57	.1	2.1	30.6	.0	1.1	.0
Nov	60.9	37.4	49.2	88	1988	10	56.9	1999	6	1993	26	42.0	1993	479	3	.0	.0	24.5	.2	9.5	.0
Dec	51.3	28.1	39.7	86+	1954	4	43.8	1984	-10	1989	23	27.4	1983	785	0	.0	.0	17.8	2.4	21.9	.2
Ann	73.0	49.3	61.1	114	Jun 1994	28	90.8	Jul 1998	-10	Dec 1989	23	26.3	Jan 1979	3556	2162	23.3	90.8	315.9	9.2	82.4	.6

+ 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: ALTUS DAM, OK

COOP ID: 340184

Climate Division: OK 7

NWS Call Sign:

Elevation: 1,525 Feet Lat: 34°53N

Lon: 99°18W

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	1.02	1.05	1.75	1982	30	2.86	1973	.00+	1986	3.9	2.3	.8	.1	.00	.05	.19	.34	.51	.71	.95	1.25	1.67	2.40	3.12
Feb	1.24	.87	2.00	1997	20	4.86	1997	.00+	1996	4.3	2.6	.8	.3	.00	.02	.14	.30	.50	.74	1.05	1.46	2.06	3.11	4.18
Mar	2.06	1.68	2.84	1988	3	5.65	1998	.00	1971	5.5	3.6	1.2	.5	.09	.26	.56	.86	1.19	1.56	1.99	2.54	3.28	4.52	5.74
Apr	2.51	2.28	3.18	1993	29	9.28	1997	.00	1989	6.0	4.0	1.9	.6	.06	.22	.54	.89	1.29	1.76	2.33	3.05	4.06	5.77	7.48
May	4.65	3.45	5.35	1980	15	16.77	1980	.38	1988	8.4	6.0	3.0	1.4	.57	.93	1.59	2.24	2.93	3.69	4.58	5.68	7.18	9.63	12.02
Jun	4.15	3.63	5.35	1953	6	10.93	1999	.10	1998	7.2	5.1	2.8	1.4	.52	.85	1.44	2.02	2.63	3.31	4.10	5.08	6.40	8.57	10.67
Jul	2.08	1.69	3.98	1997	12	6.70	1979	.00	1980	5.2	3.2	1.4	.6	.05	.19	.46	.76	1.09	1.48	1.94	2.54	3.37	4.77	6.16
Aug	2.75	1.70	3.77	1975	14	8.55	1977	.00	2000	5.9	4.2	1.4	.9	.09	.29	.67	1.06	1.50	2.01	2.61	3.37	4.42	6.19	7.94
Sep	3.17	2.25	4.00	1989	13	9.49	1986	.00	1979	6.4	4.5	1.9	1.0	.06	.24	.63	1.06	1.57	2.17	2.90	3.84	5.16	7.43	9.70
Oct	2.84	2.51	7.05	1983	20	10.44	1983	.00	1992	5.9	4.0	1.7	.8	.08	.27	.66	1.06	1.52	2.04	2.67	3.47	4.59	6.47	8.33
Nov	1.62	1.34	2.53	1998	1	6.94	1992	.00	1989	5.5	3.2	1.0	.3	.08	.23	.47	.71	.97	1.25	1.58	2.00	2.56	3.49	4.40
Dec	1.20	.99	1.58	1980	8	4.55	1991	.00	1973	4.0	2.4	.9	.2	.01	.07	.20	.35	.54	.77	1.06	1.43	1.97	2.89	3.83
Ann	29.29	28.97	7.05	Oct 1983	20	16.77	May 1980	.00+	Aug 2000	68.2	45.1	18.8	8.1	18.83	20.78	23.32	25.28	27.04	28.75	30.54	32.53	34.97	38.55	41.68

+ 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:
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Station: ALTUS DAM, OK

COOP ID: 340184

Climate Division: OK 7

NWS Call Sign:

Elevation: 1,525 Feet

Lat: 34° 53N

Lon: 99° 18W

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	1.9	.5	#	0	6.0	1979	20	10.0	1988	2	1977	9	#	1977	1.0	.9	.4	.2	.0	-9.9	-9.9	-9.9	-9.9
Feb	2.0	.0	0	0	7.0	1979	7	12.1	1978	4	1978	10	1+	1982	.9	.6	.3	.1	.0	-9.9	-9.9	-9.9	-9.9
Mar	.2	.0	#	0	2.0	1989	21	2.0	1989	4	1994	9	#	1994	.1	.1	.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	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	.1	.0	#	0	3.0	1988	20	3.0	1988	#	1976	28	#	1976	.1	.1	.1	.0	.0	.0	.0	.0	.0
Dec	1.2	.0	#	0	6.0	1975	24	6.0	1975	5	1971	3	#+	1996	.5	.5	.2	.1	.0	.2	.1	.0	.0
Ann	5.4	.5	N/A	N/A	7.0	Feb 1979	7	12.1	Feb 1978	5	Dec 1971	3	1+	Feb 1982	2.6	2.2	1.0	.4	.0	-9.9	-9.9	-9.9	-9.9

+ 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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Elevation: 1,525 Feet

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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	4/23	4/19	4/15	4/12	4/10	4/07	4/04	4/01	3/27
32	4/13	4/09	4/06	4/04	4/02	3/30	3/28	3/25	3/22
28	4/10	4/04	3/30	3/26	3/22	3/18	3/14	3/09	3/02
24	3/31	3/23	3/17	3/11	3/07	3/02	2/24	2/18	2/10
20	3/13	3/04	2/26	2/21	2/16	2/11	2/06	1/31	1/22
16	3/08	2/27	2/21	2/15	2/10	2/05	1/31	1/24	1/13
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	10/03	10/09	10/14	10/18	10/22	10/25	10/29	11/03	11/09
32	10/15	10/22	10/26	10/30	11/03	11/07	11/11	11/15	11/21
28	10/23	10/30	11/03	11/07	11/11	11/14	11/18	11/23	11/29
24	10/31	11/08	11/14	11/18	11/23	11/27	12/02	12/08	12/16
20	11/11	11/20	11/25	12/01	12/05	12/10	12/15	12/21	12/29
16	11/17	11/28	12/05	12/12	12/18	12/24	12/31	1/08	1/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	219	210	204	199	194	189	184	178	170
32	235	228	223	219	215	210	206	201	194
28	258	250	243	238	233	228	223	216	208
24	294	283	274	267	261	254	247	239	227
20	324	311	303	296	290	284	277	269	259
16	>365	341	326	316	308	300	292	283	271

* 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	865	633	426	172	40	3	0	1	18	134	479	785	3556
60	711	503	283	86	11	0	0	0	4	57	341	630	2626
57	621	427	207	49	4	0	0	0	0	30	266	540	2144
55	562	380	164	31	2	0	0	0	0	18	222	482	1861
50	421	274	82	8	0	0	0	0	0	4	130	343	1262
32	74	44	1	0	0	0	0	0	0	0	4	38	161

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	231	340	600	865	1180	1411	1620	1567	1263	947	519	276	10819
55	7	32	50	206	469	721	907	854	573	251	46	7	4123
57	4	24	31	164	409	661	845	792	513	202	31	3	3679
60	1	15	14	110	323	571	752	699	427	135	16	0	3063
65	0	0	1	47	197	425	597	544	291	57	3	0	2162
70	0	0	0	14	103	287	442	395	177	17	0	0	1435

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	90	190	380	630	937	1176	1380	1326	1032	710	314	120	90	280	660	1290	2227	3403	4783	6109	7141	7851	8165	8285
45	37	110	256	484	782	1026	1225	1171	882	558	202	57	37	147	403	887	1669	2695	3920	5091	5973	6531	6733	6790
50	10	57	155	345	629	876	1070	1016	733	410	115	21	10	67	222	567	1196	2072	3142	4158	4891	5301	5416	5437
55	1	20	82	225	477	726	915	861	583	275	56	2	1	21	103	328	805	1531	2446	3307	3890	4165	4221	4223
60	0	6	36	125	326	576	760	706	441	159	18	0	0	6	42	167	493	1069	1829	2535	2976	3135	3153	3153
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	83	141	249	390	607	788	908	878	676	448	198	97	83	224	473	863	1470	2258	3166	4044	4720	5168	5366	5463

(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