

Climatology of the United States

No. 20

1971-2000

Station: OAKDALE, NE

COOP ID: 256135

Climate Division: NE 3

NWS Call Sign:

Elevation: 1,709 Feet Lat: 42°04N Lon: 97°58W

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	31.3	7.8	19.6	74	1981	25	31.3	1990	-29	1950	26	5.2	1979	1409	0	.0	.0	3.7	16.0	30.8	9.5
Feb	36.9	13.6	25.3	76+	1995	22	34.9	1992	-29+	1996	3	10.8	1979	1113	0	.0	.0	6.7	11.2	27.3	5.4
Mar	47.3	24.2	35.8	89	1968	31	41.1	2000	-21+	1998	12	28.5	1984	908	0	.0	.0	13.2	4.7	24.5	.8
Apr	60.1	35.4	47.8	94+	1980	22	57.1	1981	-1	1975	3	41.7	1983	520	3	.0	.4	23.1	.4	11.3	@
May	70.8	47.2	59.0	102	1967	26	66.5	1977	23+	1967	2	52.9	1995	223	37	.0	.4	30.2	.0	1.4	.0
Jun	80.8	56.9	68.9	105	1988	22	75.1	1988	33	1983	6	64.2	1982	42	158	.3	4.5	29.9	.0	.0	.0
Jul	85.6	62.0	73.8	109	1954	11	79.7	1974	38	1971	30	66.8	1992	9	281	.9	9.8	31.0	.0	.0	.0
Aug	83.6	59.8	71.7	105	1983	17	78.3	1983	36	1988	28	66.1	1992	21	229	.4	7.5	31.0	.0	.0	.0
Sep	75.7	48.3	62.0	102	1956	2	67.5	1978	17	1984	29	56.6	1993	144	54	.0	3.4	29.6	.0	1.8	.0
Oct	63.9	35.6	49.8	96	1963	1	53.7	1973	9+	2000	9	44.5	1976	473	0	.0	.2	26.8	.2	11.2	.0
Nov	45.9	22.8	34.4	81+	1999	14	43.7	1999	-16+	1986	11	24.1	1985	919	0	.0	.0	12.0	5.3	25.9	1.0
Dec	34.5	12.0	23.3	71	1962	16	30.9	1979	-33	1989	23	4.7	1983	1295	0	.0	.0	4.6	12.8	30.6	5.6
Ann	59.7	35.5	47.6	109	Jul 1954	11	79.7	Jul 1974	-33	Dec 1989	23	4.7	Dec 1983	7076	762	1.6	26.2	241.8	50.6	164.8	22.3

+ 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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**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: OAKDALE, NE

COOP ID: 256135

Climate Division: NE 3

NWS Call Sign:

Elevation: 1,709 Feet Lat: 42°04N

Lon: 97°58W

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	.49	.38	1.33	1949	4	1.28	1989	.02	1981	4.4	1.5	.2	.0	.06	.09	.16	.23	.31	.39	.48	.60	.77	1.03	1.29
Feb	.66	.40	2.36	1971	19	3.27	1971	.06	1996	5.2	1.8	.2	@	.05	.09	.18	.27	.37	.49	.62	.80	1.05	1.46	1.86
Mar	1.81	1.28	2.16	1987	17	6.84	1987	.07	1994	7.3	4.2	1.1	.3	.17	.29	.54	.79	1.07	1.38	1.75	2.21	2.85	3.91	4.95
Apr	2.65	2.34	2.77	1964	26	8.21	1984	.52	1989	9.3	5.8	1.7	.6	.53	.78	1.16	1.52	1.88	2.27	2.70	3.23	3.92	5.04	6.09
May	3.90	3.41	3.27	2000	18	7.86	1982	1.05	1994	10.1	7.2	2.9	.9	1.49	1.85	2.37	2.80	3.21	3.63	4.08	4.60	5.27	6.30	7.23
Jun	4.05	3.26	4.32	1990	15	9.75	1983	1.01	1973	9.2	6.5	2.6	1.1	1.10	1.48	2.06	2.58	3.08	3.61	4.19	4.88	5.78	7.19	8.51
Jul	3.42	2.76	3.72	1981	26	8.17	1972	1.06	1980	8.3	5.8	2.2	.9	1.01	1.33	1.82	2.24	2.65	3.08	3.55	4.11	4.83	5.96	7.00
Aug	2.92	2.61	6.09	1995	22	9.36	1995	.26	1971	7.7	5.1	1.8	.6	.58	.85	1.28	1.67	2.07	2.50	2.98	3.56	4.33	5.56	6.72
Sep	2.17	1.69	2.60	1989	4	6.26	1973	.23	1999	6.7	4.1	1.6	.5	.40	.59	.91	1.20	1.50	1.83	2.20	2.64	3.23	4.19	5.10
Oct	1.76	1.47	2.64	1968	16	5.57	1982	.09	1988	6.1	4.0	1.1	.4	.15	.27	.51	.75	1.02	1.32	1.69	2.15	2.78	3.83	4.87
Nov	1.33	1.25	1.82	1996	16	3.70	1975	.01	1980	5.8	3.1	.9	.2	.05	.12	.26	.43	.64	.89	1.19	1.59	2.16	3.14	4.13
Dec	.62	.47	1.45	1982	25	2.56	1982	.04	1975	4.9	1.7	.3	.1	.08	.13	.22	.30	.39	.49	.61	.76	.95	1.27	1.58
Ann	25.78	25.90	6.09	Aug 1995	22	9.75	Jun 1983	.01	Nov 1980	85.0	50.8	16.6	5.6	16.64	18.35	20.57	22.28	23.82	25.31	26.87	28.61	30.74	33.85	36.58

+ 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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www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Station: OAKDALE, NE

COOP ID: 256135

Climate Division: NE 3

NWS Call Sign:

Elevation: 1,709 Feet

Lat: 42°04N

Lon: 97°58W

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	5.0	4.9	3	3	8.0	1994	27	12.1	1993	15	1984	1	8	1984	3.9	1.7	.6	.1	.0	16.3	13.1	7.9	.8
Feb	5.3	3.6	3	2	10.0	1984	18	18.0	1984	17	1984	19	10	1979	3.8	1.8	.5	.3	@	12.2	8.5	5.6	1.4
Mar	5.9	4.8	1	1	10.0	1987	24	21.7	1998	12	1978	8	6	1978	3.9	2.0	.8	.2	@	6.0	3.2	1.7	.5
Apr	2.8	1.6	#	#	8.0	1984	30	15.0	1984	8	1997	12	1	1997	1.5	1.0	.4	.2	.0	1.0	.4	.2	.0
May	.0	.0	#	0	.0	0	0	.0	0	#	1984	1	#	1984	.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	#	2000	6	#	2000	.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	.2	1985	29	.2	1985	#	1985	29	#	1985	@	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.7	.0	#	0	4.0	1997	25	5.0+	1997	4+	1997	25	#+	1997	.3	.2	.1	.0	.0	.3	.1	.0	.0
Nov	5.6	3.3	1	#	14.0	1983	28	22.8	1983	17	1983	28	5	1991	3.2	1.6	.7	.2	.1	5.6	2.6	1.5	.6
Dec	5.9	5.0	2	1	11.0	1978	3	19.4	1978	18	1978	3	14	1983	4.2	1.8	.7	.3	@	14.1	7.7	3.6	1.7
Ann	31.2	23.2	N/A	N/A	14.0	Nov 1983	28	22.8	Nov 1983	18	Dec 1978	3	14	Dec 1983	20.8	10.1	3.8	1.3	.1	55.5	35.6	20.5	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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NWS Call Sign:

Elevation: 1,709 Feet

Lat: 42° 04N

Lon: 97° 58W

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	6/03	5/28	5/25	5/21	5/18	5/15	5/12	5/08	5/03
32	5/18	5/13	5/09	5/06	5/03	4/30	4/27	4/24	4/18
28	5/10	5/05	5/02	4/28	4/26	4/23	4/19	4/16	4/11
24	4/26	4/22	4/19	4/16	4/13	4/11	4/08	4/05	4/01
20	4/17	4/12	4/08	4/06	4/03	3/31	3/28	3/25	3/20
16	4/08	4/03	3/29	3/26	3/23	3/19	3/16	3/12	3/06
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	9/09	9/13	9/15	9/18	9/20	9/22	9/24	9/27	10/01
32	9/14	9/18	9/22	9/24	9/27	9/29	10/02	10/05	10/10
28	9/20	9/26	9/30	10/03	10/07	10/10	10/13	10/17	10/23
24	10/05	10/09	10/13	10/15	10/18	10/21	10/23	10/27	10/31
20	10/09	10/15	10/20	10/23	10/27	10/31	11/03	11/08	11/14
16	10/16	10/23	10/28	11/01	11/05	11/08	11/12	11/17	11/24
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	144	137	132	128	124	120	116	111	104
32	166	159	154	150	146	142	138	133	126
28	183	176	171	167	163	159	155	150	143
24	204	198	194	190	187	184	180	176	170
20	231	222	216	211	207	202	197	191	182
16	253	244	237	231	226	221	215	208	199

* 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

Complete documentation available from:

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Climate Division: NE 3 NWS Call Sign: Elevation: 1,709 Feet Lat: 42°04N Lon: 97°58W

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	1409	1113	908	520	223	42	9	21	144	473	919	1295	7076
60	1254	973	753	380	124	11	0	4	63	322	769	1140	5793
57	1161	889	660	302	80	4	0	1	33	239	679	1047	5095
55	1099	838	599	255	58	2	0	0	19	190	620	985	4665
50	949	708	454	154	20	0	0	0	3	92	481	833	3694
32	460	304	89	5	0	0	0	0	0	1	116	354	1329

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	74	115	204	477	837	1107	1295	1231	901	551	187	82	7061
55	0	5	1	37	182	418	582	518	230	27	2	0	2002
57	0	0	0	25	142	361	520	457	183	14	0	0	1702
60	0	0	0	12	93	278	427	367	124	4	0	0	1305
65	0	0	0	3	37	158	281	229	54	0	0	0	762
70	0	0	0	0	10	73	155	121	17	0	0	0	376

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	3	22	89	276	599	876	1057	993	670	339	68	7	3	25	114	390	989	1865	2922	3915	4585	4924	4992	4999
45	0	4	42	177	447	726	902	838	525	216	31	0	0	4	46	223	670	1396	2298	3136	3661	3877	3908	3908
50	0	1	15	102	306	579	747	683	383	121	6	0	0	1	16	118	424	1003	1750	2433	2816	2937	2943	2943
55	0	0	3	52	190	431	592	528	259	50	1	0	0	0	3	55	245	676	1268	1796	2055	2105	2106	2106
60	0	0	0	24	98	290	437	375	152	16	0	0	0	0	0	24	122	412	849	1224	1376	1392	1392	1392
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	13	30	75	187	368	568	702	652	430	241	64	17	13	43	118	305	673	1241	1943	2595	3025	3266	3330	3347

(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