

Climatography of the United States No. 20

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: AKRON 4 E, CO

1971-2000

COOP ID: 050109

Climate Division: CO 3

NWS Call Sign:

Elevation: 4,540 Feet Lat: 40°09N

Lon: 103°09W

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	38.2	11.9	25.1	75	1982	27	34.9	1986	-29	1930	17	13.6	1979	1238	0	.0	.0	7.0	10.0	30.7	5.0
Feb	43.9	17.1	30.5	76	1935	21	38.3	1999	-26	1982	5	20.2	1989	966	0	.0	.0	10.7	5.9	27.3	2.3
Mar	51.7	23.8	37.8	82+	1989	11	44.8	1986	-17	1932	10	32.8	1980	844	0	.0	.0	17.8	3.6	26.3	.5
Apr	60.4	31.6	46.0	93	1922	22	52.0	1981	-3	1920	4	39.4	1984	570	0	.0	@	23.6	.9	15.1	.1
May	70.0	41.7	55.9	97+	2000	30	61.0	1994	19	1989	1	48.1	1995	299	15	.0	.6	29.5	.0	2.6	.0
Jun	81.8	51.0	66.4	105+	1994	27	71.7	1994	31+	1998	6	61.6	1982	70	112	.6	7.3	29.9	.0	@	.0
Jul	88.7	56.7	72.7	107	1989	9	75.7	1980	40	1922	12	69.2	1972	4	243	2.4	16.2	31.0	.0	.0	.0
Aug	86.8	55.0	70.9	105+	1995	8	76.2	1983	36	1993	31	67.1	1974	18	200	.6	13.7	31.0	.0	.0	.0
Sep	78.1	45.7	61.9	102	1985	1	68.5	1998	14	1985	30	57.1	1971	152	58	.1	5.4	29.2	.1	1.7	.0
Oct	65.6	33.5	49.6	92	1997	2	52.3	1979	1	1991	31	44.8	1984	479	0	.0	.1	27.0	.5	11.8	.0
Nov	49.2	21.7	35.5	82	1927	11	44.7	1999	-12	1976	27	25.1	1972	887	0	.0	.0	15.1	5.0	25.8	.5
Dec	40.4	13.7	27.1	75	1980	28	35.4	1980	-32	1989	22	11.7	1983	1176	0	.0	.0	8.2	8.0	30.4	3.4
Ann	62.9	33.6	48.3	107	Jul 1989	9	76.2	Aug 1983	-32	Dec 1989	22	11.7	Dec 1983	6703	628	3.7	43.3	260.0	34.0	171.7	11.8

+ 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: 1918-2001

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

001-A

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NWS Call Sign:

Elevation: 4,540 Feet Lat: 40°09N

Lon: 103°09W

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	.36	.26	1.10	1921	24	1.51	1988	.00	1983	3.6	1.3	.1	@	.02	.05	.11	.16	.22	.28	.35	.44	.56	.76	.95
Feb	.37	.24	1.03	1987	27	1.47	1987	.00+	1979	3.7	1.1	.1	@	.00	.04	.11	.17	.23	.30	.37	.46	.59	.79	.99
Mar	1.06	1.11	1.39	1983	6	2.46	1981	.07+	1997	5.9	2.6	.6	.1	.09	.16	.30	.45	.61	.79	1.01	1.29	1.67	2.31	2.93
Apr	1.42	1.40	1.85	1935	26	3.15	1973	.18	1992	7.7	3.8	.7	.1	.33	.47	.67	.86	1.04	1.24	1.46	1.72	2.06	2.60	3.11
May	3.00	2.84	4.00	1973	7	6.07	1975	.13	1974	9.6	6.0	1.8	.6	.58	.85	1.29	1.69	2.10	2.54	3.05	3.65	4.45	5.74	6.97
Jun	2.28	2.10	1.91	1935	12	4.88	1995	.24	1994	8.6	5.0	1.6	.3	.49	.70	1.03	1.34	1.64	1.97	2.33	2.77	3.35	4.27	5.14
Jul	2.95	2.72	3.75	1981	18	5.79	1981	.33	1986	8.8	5.6	1.7	.4	1.04	1.32	1.72	2.06	2.38	2.72	3.08	3.50	4.04	4.88	5.65
Aug	2.26	1.72	3.56	1918	7	6.45	1999	.16	1973	7.5	4.4	1.3	.5	.40	.59	.92	1.23	1.55	1.89	2.28	2.75	3.38	4.40	5.37
Sep	.98	.81	3.16	1924	6	3.41	1996	.00	1978	5.5	2.5	.5	@	.03	.10	.23	.37	.53	.71	.92	1.20	1.59	2.23	2.88
Oct	.85	.61	1.88	1993	8	3.71	1993	.00	1988	4.2	2.2	.4	.1	.03	.10	.22	.34	.48	.63	.82	1.05	1.36	1.89	2.41
Nov	.70	.60	1.40	1983	28	2.05	1972	.02	1996	4.3	2.1	.2	.1	.08	.13	.23	.33	.43	.55	.69	.86	1.09	1.47	1.84
Dec	.36	.28	1.10	1982	25	1.39	1973	.00	1996	3.2	1.2	.1	@	.01	.04	.09	.14	.20	.26	.34	.43	.57	.79	1.02
Ann	16.59	16.75	4.00	May 1973	7	6.45	Aug 1999	.00+	Dec 1996	72.6	37.8	9.1	2.2	11.26	12.27	13.57	14.57	15.46	16.33	17.22	18.22	19.43	21.20	22.73

+ 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: 1918-2001

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

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Station: AKRON 4 E, CO

COOP ID: 050109

Climate Division: CO 3

NWS Call Sign:

Elevation: 4,540 Feet

Lat: 40°09N

Lon: 103°09W

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	4.9	4.3	3	1	9.5	1990	20	14.0	1990	30	1987	10	11	1992	3.0	1.6	.5	.2	.0	12.3	7.8	4.6	2.6
Feb	3.8	3.3	1	1	5.0	1986	4	8.5	1984	11	1973	5	9	1973	3.2	1.5	.4	.1	.0	8.4	2.6	1.5	.0
Mar	6.2	5.0	#	#	8.0	1974	11	15.5	1974	8	1974	11	1	1996	3.8	2.3	.5	.2	.0	6.1	1.5	.3	.0
Apr	4.1	2.5	#	0	9.0	1984	3	16.2	1973	8+	1988	2	2	1973	1.9	1.2	.4	.2	.0	2.1	.9	.5	.0
May	.2	.0	#	0	2.0	1995	13	2.0	1995	2	1990	9	#+	1995	.1	.1	.0	.0	.0	.1	.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	4	1987	4	#	1987	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.4	.0	#	0	6.0	1995	21	6.0	1995	5	1995	21	#+	1999	.1	.1	@	@	.0	.1	@	@	.0
Oct	1.6	.0	#	0	9.0	1973	11	9.0	1973	9	1973	11	1	1997	.7	.5	.2	.1	.0	.9	.5	.2	.0
Nov	6.4	4.7	1	#	18.0	1983	28	29.2	1972	17	1972	16	13	1972	2.2	1.8	.8	.4	.1	6.7	3.7	2.5	1.5
Dec	5.0	4.7	2	1	6.0	1973	18	14.6	1973	13	1972	18	12	1972	3.0	1.9	.4	.1	.0	12.7	7.1	4.9	2.1
Ann	32.6	24.5	N/A	N/A	18.0	Nov 1983	28	29.2	Nov 1972	30	Jan 1987	10	13	Nov 1972	18.0	11.0	3.2	1.3	.1	49.4	24.1	14.5	6.2

+ 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

Complete documentation available from:

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Climate Division: CO 3

NWS Call Sign:

Elevation: 4,540 Feet

Lat: 40° 09N

Lon: 103° 09W

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	6/07	6/01	5/27	5/23	5/20	5/16	5/12	5/08	5/01
32	5/23	5/19	5/16	5/13	5/11	5/08	5/06	5/03	4/29
28	5/13	5/09	5/06	5/03	5/01	4/28	4/26	4/23	4/19
24	5/03	4/28	4/25	4/22	4/19	4/17	4/14	4/10	4/06
20	4/26	4/20	4/16	4/13	4/09	4/06	4/02	3/29	3/24
16	4/17	4/10	4/05	4/01	3/29	3/25	3/21	3/16	3/10
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	9/16	9/18	9/21	9/23	9/25	9/28	10/02
32	9/15	9/19	9/22	9/24	9/27	9/29	10/02	10/04	10/08
28	9/23	9/28	10/02	10/05	10/08	10/11	10/15	10/18	10/24
24	10/04	10/09	10/13	10/16	10/19	10/22	10/25	10/29	11/03
20	10/10	10/16	10/19	10/23	10/26	10/29	11/01	11/05	11/10
16	10/20	10/25	10/29	11/01	11/04	11/07	11/10	11/14	11/19
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	127	123	119	115	110	102
32	157	150	146	142	138	135	131	126	120
28	182	174	169	164	160	155	151	145	138
24	200	194	189	185	182	178	174	169	163
20	223	214	209	203	199	194	189	183	175
16	243	235	229	224	220	215	210	204	196

* 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: CO 3

NWS Call Sign:

Elevation: 4,540 Feet Lat: 40°09N Lon: 103°09W

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	1238	966	844	570	299	70	4	18	152	479	887	1176	6703
60	1083	826	689	424	178	24	0	3	71	326	737	1021	5382
57	990	742	596	340	121	10	0	1	39	239	647	928	4653
55	928	686	534	288	90	5	0	0	24	186	591	866	4198
50	774	554	384	173	36	0	0	0	5	83	451	718	3178
32	296	166	35	3	0	0	0	0	0	0	101	263	864

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	81	125	213	424	739	1032	1262	1205	896	545	204	109	6835
55	0	0	0	18	116	347	549	492	229	18	4	0	1773
57	0	0	0	10	85	292	487	431	185	9	0	0	1499
60	0	0	0	4	49	216	394	341	127	3	0	0	1134
65	0	0	0	0	15	112	243	200	58	0	0	0	628
70	0	0	0	0	3	44	114	91	20	0	0	0	272

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	9	39	112	251	516	812	1037	984	680	350	91	23	9	48	160	411	927	1739	2776	3760	4440	4790	4881	4904
45	0	10	52	145	368	662	882	829	539	232	38	4	0	10	62	207	575	1237	2119	2948	3487	3719	3757	3761
50	0	1	15	77	237	513	727	674	399	129	14	0	0	1	16	93	330	843	1570	2244	2643	2772	2786	2786
55	0	0	2	32	133	368	572	520	272	61	0	0	0	0	2	34	167	535	1107	1627	1899	1960	1960	1960
60	0	0	0	8	63	233	418	368	160	16	0	0	0	0	0	8	71	304	722	1090	1250	1266	1266	1266
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	25	56	113	195	325	501	651	615	434	269	91	36	25	81	194	389	714	1215	1866	2481	2915	3184	3275	3311

(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/normal/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