

Climatography of the United States

No. 20

1971-2000

Station: WALDEN, CO

COOP ID: 058756

Climate Division: CO 4

NWS Call Sign:

Elevation: 8,120 Feet Lat: 40°44N

Lon: 106°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	30.4	3.6	17.0	56	1981	22	22.9	2000	-48	1963	12	8.5	1979	1488	0	.0	.0	.2	17.8	30.9	10.7
Feb	34.0	5.9	20.0	53+	1987	7	27.5	1995	-49	1951	1	10.3	1973	1261	0	.0	.0	.7	11.1	28.2	8.0
Mar	41.1	13.9	27.5	70	1987	6	33.0	1972	-34	1956	12	20.3	1988	1163	0	.0	.0	5.1	5.6	30.8	3.1
Apr	50.3	20.6	35.5	74	1992	30	41.4	1992	-16	1975	2	28.0	1984	887	0	.0	.0	16.1	1.5	28.4	.7
May	60.7	28.6	44.7	81+	2000	30	49.4	2000	7	1999	6	40.5	1983	630	0	.0	.0	26.6	.0	23.4	.0
Jun	71.9	36.7	54.3	91	1990	30	60.0	1977	20	1989	22	50.4	1998	323	2	.0	@	29.7	.0	6.8	.0
Jul	78.4	40.6	59.5	94	1989	6	62.7	1998	23	1968	1	55.5	1993	176	5	.0	.5	31.0	.0	1.5	.0
Aug	76.8	38.6	57.7	96	1973	4	61.5	1983	19	1978	19	54.7	1974	229	4	.0	.2	31.0	.0	5.0	.0
Sep	68.2	31.4	49.8	89	1998	4	55.0	1998	5	1959	30	45.7	1985	456	0	.0	.0	28.8	@	17.2	.0
Oct	56.2	22.3	39.3	78+	1992	2	43.2	1988	-12	1972	31	34.3	1984	798	0	.0	.0	23.3	.9	28.0	.3
Nov	39.9	12.7	26.3	66	1953	16	33.6	1999	-28+	1979	30	17.9	1979	1162	0	.0	.0	6.1	8.0	29.6	4.4
Dec	31.9	5.0	18.5	57+	1980	27	29.2	1980	-39	1962	26	12.5	1978	1443	0	.0	.0	.6	16.3	31.0	10.4
Ann	53.3	21.7	37.5	96	Aug 1973	4	62.7	Jul 1998	-49	Feb 1951	1	8.5	Jan 1979	10016	11	.0	.7	199.2	61.2	260.8	37.6

+ 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/normals/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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No. 20 1971-2000

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

Station: WALDEN, CO

COOP ID: 058756

Climate Division: CO 4

NWS Call Sign:

Elevation: 8,120 Feet Lat: 40°44N

Lon: 106°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	.62	.47	.96	1992	7	2.26	1980	.05+	1986	7.5	2.1	.1	.0	.05	.09	.17	.26	.35	.46	.59	.76	.99	1.37	1.75
Feb	.61	.45	.49	1990	13	1.76	1986	.03	1973	6.7	2.2	@	.0	.07	.12	.21	.29	.38	.49	.60	.75	.95	1.27	1.59
Mar	.82	.79	.57	1991	27	1.47	1985	.13	1997	8.8	2.9	.1	.0	.28	.35	.47	.56	.66	.75	.86	.98	1.13	1.38	1.60
Apr	1.07	.99	.88	1995	30	2.35	1985	.34	1981	8.4	3.7	.3	.0	.35	.46	.61	.73	.85	.98	1.12	1.28	1.49	1.81	2.10
May	1.51	1.22	1.63	1978	17	5.46	1995	.05	1974	10.8	5.0	.5	.1	.26	.40	.62	.82	1.04	1.26	1.53	1.84	2.27	2.95	3.60
Jun	1.06	.91	1.16	1969	17	2.53	1998	.04	1980	7.8	3.3	.4	.0	.15	.23	.39	.53	.69	.85	1.05	1.29	1.61	2.14	2.65
Jul	1.28	1.18	2.19	1952	28	2.80	1985	.29	1993	9.5	4.3	.5	@	.29	.41	.60	.77	.94	1.12	1.32	1.56	1.87	2.38	2.85
Aug	1.05	.95	.92	2000	26	2.42	1977	.28	1974	9.9	4.0	.2	.0	.32	.42	.56	.69	.82	.95	1.09	1.25	1.47	1.81	2.12
Sep	1.21	1.09	1.47	1997	19	4.23	1997	.19	1979	8.2	3.8	.4	.1	.30	.41	.59	.75	.90	1.07	1.25	1.47	1.75	2.20	2.63
Oct	.89	.95	1.37	1990	7	2.44	1985	.06	2000	6.5	3.0	.3	@	.13	.20	.33	.45	.58	.72	.88	1.08	1.35	1.79	2.21
Nov	.83	.62	1.03	1973	3	2.68	1985	.09	1974	7.4	2.7	.2	@	.16	.23	.35	.46	.58	.70	.84	1.00	1.23	1.58	1.92
Dec	.59	.51	.90	1951	30	1.64	1978	.08	1976	7.3	2.1	.1	.0	.10	.15	.24	.32	.40	.49	.60	.72	.89	1.16	1.41
Ann	11.54	11.35	2.19	Jul 1952	28	5.46	May 1995	.03	Feb 1973	98.8	39.1	3.1	.2	7.71	8.43	9.37	10.09	10.73	11.36	12.00	12.72	13.60	14.89	16.01

+ 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

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

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Station: WALDEN, CO

COOP ID: 058756

Climate Division: CO 4

NWS Call Sign:

Elevation: 8,120 Feet

Lat: 40° 44N

Lon: 106° 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	9.5	7.2	6	6	11.5	1992	7	29.8	1980	18	1980	29	13	1988	7.0	3.1	.7	.2	@	25.3	21.3	17.4	7.4
Feb	7.8	6.1	6	6	7.5	1990	13	22.6	1990	16+	1996	3	14	1988	5.9	2.7	.8	.2	.0	22.0	19.3	15.4	5.7
Mar	9.6	9.0	2	1	7.0	1975	7	18.5	1988	15	1988	13	10	1988	6.8	3.6	.9	.2	.0	10.2	5.8	3.2	1.3
Apr	8.6	7.3	#	#	10.0	1971	20	21.4	1997	10	1973	19	1	1997	4.6	3.0	.9	.3	@	2.3	.9	.3	@
May	4.1	2.0	#	#	12.0	1983	17	19.7	1978	10	1982	13	1	1982	2.0	1.3	.4	.2	.1	.4	.2	.1	@
Jun	.6	.0	#	0	12.0	1974	8	12.0	1974	8	1974	8	#+	1998	.1	.1	.1	@	@	@	@	@	.0
Jul	#	.0	0	0	#	1993	3	#	1993	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	#	.0	0	0	#	1977	27	#	1977	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	1.4	.4	#	0	7.4	1978	19	10.6	1978	7	1978	19	#+	2000	.7	.5	.2	@	.0	.1	.1	@	.0
Oct	4.6	3.3	#	#	9.0	1975	23	15.1	1985	8	1975	24	1	1996	2.5	1.6	.4	.2	.0	2.0	.7	.3	.0
Nov	11.1	8.5	2	1	14.0	1973	3	38.5	1985	25	1973	4	8	1985	7.0	3.5	1.1	.5	@	12.3	5.9	3.1	.8
Dec	8.7	7.3	4	3	10.0	1982	24	22.1	1978	19	1985	1	16	1985	7.1	3.3	.7	.1	@	21.7	14.3	9.4	3.3
Ann	66.0	51.1	N/A	N/A	14.0	Nov 1973	3	38.5	Nov 1985	25	Nov 1973	4	16	Dec 1985	43.7	22.7	6.2	1.9	.1	96.3	68.5	49.2	18.5

+ 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 4

NWS Call Sign:

Elevation: 8,120 Feet

Lat: 40° 44N

Lon: 106° 17W

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	8/06	8/02	7/30	7/27	7/25	7/22	7/20	7/17	7/13
32	7/25	7/18	7/13	7/09	7/06	7/02	6/28	6/23	6/16
28	7/07	6/30	6/25	6/20	6/16	6/11	6/07	6/01	5/25
24	6/12	6/06	6/02	5/30	5/27	5/24	5/20	5/16	5/11
20	5/29	5/24	5/21	5/18	5/15	5/12	5/09	5/05	4/30
16	5/17	5/12	5/09	5/06	5/03	5/01	4/28	4/25	4/20
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	7/29	7/31	8/02	8/03	8/05	8/07	8/08	8/10	8/13
32	7/30	8/04	8/09	8/12	8/16	8/20	8/23	8/28	9/03
28	8/11	8/18	8/23	8/27	8/30	9/03	9/07	9/12	9/18
24	8/30	9/04	9/07	9/10	9/13	9/16	9/19	9/22	9/27
20	9/06	9/11	9/14	9/18	9/21	9/24	9/27	9/30	10/05
16	9/16	9/21	9/25	9/27	9/30	10/03	10/06	10/09	10/14
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	28	22	18	14	10	7	3	0	0
32	71	60	53	47	41	35	29	21	11
28	106	95	88	81	75	69	62	54	44
24	130	123	117	113	109	104	100	94	87
20	149	142	137	132	128	124	119	114	107
16	170	163	158	153	149	145	140	135	128

* 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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Lon: 106° 17W

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	1488	1261	1163	887	630	323	176	229	456	798	1162	1443	10016
60	1333	1121	1008	737	475	187	61	103	309	643	1012	1288	8277
57	1240	1037	915	647	382	122	22	52	227	550	922	1195	7311
55	1178	981	853	587	322	86	9	30	177	488	862	1133	6706
50	1023	841	698	440	185	27	0	4	78	334	712	978	5320
32	472	351	199	62	2	0	0	0	0	14	225	427	1752

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	7	14	59	165	395	670	852	797	534	239	54	6	3792
55	0	0	0	0	3	66	148	114	21	0	0	0	352
57	0	0	0	0	1	41	99	75	11	0	0	0	227
60	0	0	0	0	0	17	45	32	4	0	0	0	98
65	0	0	0	0	0	2	5	4	0	0	0	0	11
70	0	0	0	0	0	0	0	0	0	0	0	0	0

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	0	0	0	38	178	428	597	543	301	74	2	0	0	0	0	38	216	644	1241	1784	2085	2159	2161	2161
45	0	0	0	7	75	284	442	388	174	17	0	0	0	0	0	7	82	366	808	1196	1370	1387	1387	1387
50	0	0	0	0	16	153	288	237	71	0	0	0	0	0	0	0	16	169	457	694	765	765	765	765
55	0	0	0	0	0	50	140	101	13	0	0	0	0	0	0	0	0	50	190	291	304	304	304	304
60	0	0	0	0	0	5	33	17	0	0	0	0	0	0	0	0	0	5	38	55	55	55	55	55
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	14	69	184	338	443	421	281	131	16	0	0	0	14	83	267	605	1048	1469	1750	1881	1897	1897

(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