

Climatology of the United States

No. 20

1971-2000

Station: BURLINGTON 4 S, CO

COOP ID: 051121

Climate Division: CO 3

NWS Call Sign:

Elevation: 4,210 Feet Lat: 39°15N

Lon: 102°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	39.9	14.8	27.4	79	1951	27	38.1	1986	-25	1959	4	13.0	1979	1168	0	.0	.0	9.5	7.2	29.5	2.8
Feb	45.3	18.8	32.1	82	1962	11	40.2	1991	-23+	1982	5	21.8	1978	923	0	.0	.0	13.5	4.9	25.7	1.3
Mar	52.8	24.4	38.6	93	1921	19	44.6	1986	-22	1960	3	32.2	1980	819	0	.0	.0	20.5	2.3	23.2	.3
Apr	61.9	33.4	47.7	93	1989	22	54.0	1981	-3	1936	2	38.9	1984	523	2	.0	.1	25.7	.5	11.7	.0
May	71.2	44.0	57.6	100	2000	30	63.3	1998	22	1967	1	50.6	1995	258	28	@	1.1	30.3	.0	1.6	.0
Jun	82.9	54.8	68.9	112	1952	15	75.9	1996	31	1919	4	63.2	1982	48	164	.6	9.0	29.9	.0	.0	.0
Jul	88.5	59.5	74.0	108	2001	8	77.5	1980	40	1962	15	70.2	1971	1	280	2.0	17.1	31.0	.0	.0	.0
Aug	86.0	58.2	72.1	107	1919	23	77.2	2000	38	1972	6	67.9	1974	14	234	.6	14.0	31.0	.0	.0	.0
Sep	77.8	49.0	63.4	102	1960	2	70.0	1998	20	1985	30	58.9	1973	119	71	.1	5.1	29.5	@	.8	.0
Oct	66.1	36.4	51.3	93	1934	7	54.2	1973	8+	1997	26	46.4	1976	427	0	.0	.3	28.6	.3	7.6	.0
Nov	49.7	24.1	36.9	84	1927	10	47.5	1999	-7	1929	22	29.4	1985	844	0	.0	.0	17.1	3.0	22.9	.1
Dec	41.4	16.6	29.0	81	1939	6	35.4	1994	-22	1919	9	13.6	1983	1117	0	.0	.0	10.4	6.4	28.9	2.0
Ann	63.6	36.2	49.9	112	Jun 1952	15	77.5	Jul 1980	-25	Jan 1959	4	13.0	Jan 1979	6261	779	3.3	46.7	277.0	24.6	151.9	6.5

+ 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

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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: BURLINGTON 4 S, CO

COOP ID: 051121

Climate Division: CO 3

NWS Call Sign:

Elevation: 4,210 Feet Lat: 39°15N

Lon: 102°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	.33	.23	1.11	1960	14	1.01	1990	.00	1986	2.9	1.3	.1	.0	.01	.04	.09	.14	.19	.25	.32	.41	.53	.73	.92
Feb	.42	.32	1.41	1960	3	1.13	1987	.00+	1999	2.5	1.4	.1	.0	.00	.00	.06	.13	.20	.28	.39	.52	.71	1.02	1.33
Mar	1.05	.62	2.42	2000	8	4.90	1981	.00+	1997	4.9	2.4	.5	.1	.00	.02	.10	.23	.39	.60	.87	1.23	1.75	2.68	3.64
Apr	1.35	.94	3.22	1921	15	4.30	1999	.04	1992	5.5	3.5	.7	.1	.13	.23	.42	.61	.81	1.04	1.31	1.65	2.11	2.88	3.64
May	2.88	3.00	2.80	1969	6	5.90	1995	.37+	1992	8.9	5.9	1.7	.6	.64	.90	1.33	1.71	2.09	2.49	2.95	3.50	4.21	5.36	6.44
Jun	2.50	2.56	2.80	1945	3	5.17	1982	.32	1976	7.2	5.3	1.7	.5	.65	.88	1.24	1.56	1.88	2.21	2.58	3.01	3.58	4.48	5.32
Jul	2.77	2.54	3.51	1985	19	6.76	1998	.50	1975	7.3	5.4	1.8	.5	.56	.81	1.22	1.59	1.97	2.37	2.82	3.36	4.09	5.24	6.33
Aug	2.28	1.90	3.42	1965	20	6.44	1999	.45	1973	5.8	4.3	1.7	.5	.43	.63	.97	1.28	1.59	1.93	2.32	2.78	3.40	4.39	5.33
Sep	1.04	.98	2.00	1941	22	3.32	1973	.00	1974	3.7	2.3	.7	.1	.03	.11	.25	.40	.57	.76	.99	1.27	1.67	2.34	3.01
Oct	.94	.72	1.85	1930	11	3.44	1997	.00+	1988	3.3	2.2	.6	.1	.00	.07	.21	.36	.52	.69	.90	1.16	1.52	2.12	2.71
Nov	.58	.49	2.11	1930	20	1.59	1972	.00+	1994	3.1	1.6	.3	.1	.00	.05	.15	.24	.34	.45	.57	.72	.94	1.29	1.63
Dec	.34	.21	1.20	1918	20	1.32+	1982	.00+	1995	2.2	.9	.1	.0	.00	.00	.02	.07	.12	.19	.28	.40	.58	.88	1.18
Ann	16.48	16.99	3.51	Jul 1985	19	6.76	Jul 1998	.00+	Feb 1999	57.3	36.5	10.0	2.6	11.27	12.27	13.55	14.53	15.40	16.25	17.13	18.10	19.29	21.01	22.51

+ 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

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

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Station: BURLINGTON 4 S, CO

COOP ID: 051121

Climate Division: CO 3

NWS Call Sign:

Elevation: 4,210 Feet

Lat: 39° 15N

Lon: 102° 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	5.2	4.3	1	#	10.0	1988	19	15.0	1996	13	1984	17	3	1992	2.0	1.5	.7	.2	@	2.6	1.6	.5	.0
Feb	4.6	4.5	1	#	7.1	1997	24	14.9	1997	9	1997	27	6	1982	1.5	1.2	.6	.1	.0	1.7	.2	.0	.0
Mar	9.1	7.3	1	#	12.0	1984	19	28.5	1984	16	1980	30	7	1981	2.1	1.8	.9	.5	.1	1.2	.4	.3	.2
Apr	5.6	1.1	1	#	14.0	1988	2	30.0	1984	24	1980	2	22	1980	1.1	1.0	.6	.4	.1	.5	.2	.1	.1
May	.2	.0	#	0	4.0	1988	3	4.0	1988	2	1988	3	#+	1992	@	@	@	.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	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.0	.0	#	0	1.2	2000	24	1.2	2000	1	2000	24	#	2000	@	@	.0	.0	.0	@	.0	.0	.0
Oct	2.0	.0	#	0	19.2	1997	26	22.2	1997	22	1997	26	1	1997	.5	.4	.2	.1	@	.3	.3	.2	.1
Nov	4.0	2.1	#	#	10.0	1983	28	14.0	1983	9	1991	2	2	1991	1.0	.9	.4	.1	@	.9	.2	.1	.0
Dec	4.8	2.8	#	#	10.0	1979	28	16.0	1979	18	1982	27	3	1997	1.3	1.0	.5	.2	@	2.2	1.4	.5	.0
Ann	35.5	22.1	N/A	N/A	19.2	Oct 1997	26	30.0	Apr 1984	24	Apr 1980	2	22	Apr 1980	9.5	7.8	3.9	1.6	.2	9.5	4.3	1.7	.4

+ 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: 4,210 Feet

Lat: 39° 15N

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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	5/23	5/19	5/16	5/14	5/12	5/09	5/07	5/04	4/30
32	5/17	5/13	5/10	5/08	5/06	5/04	5/01	4/28	4/25
28	5/03	4/28	4/25	4/22	4/19	4/16	4/13	4/10	4/05
24	4/22	4/18	4/15	4/12	4/10	4/08	4/05	4/02	3/29
20	4/16	4/10	4/06	4/02	3/30	3/26	3/22	3/18	3/12
16	4/09	4/02	3/28	3/24	3/20	3/17	3/12	3/08	3/01
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	9/17	9/21	9/24	9/26	9/29	10/01	10/04	10/07	10/11
32	9/21	9/27	10/01	10/04	10/07	10/11	10/14	10/18	10/23
28	10/02	10/07	10/10	10/13	10/16	10/19	10/22	10/26	10/31
24	10/07	10/12	10/17	10/20	10/23	10/27	10/30	11/03	11/09
20	10/20	10/25	10/29	11/01	11/04	11/07	11/10	11/14	11/19
16	10/30	11/05	11/09	11/12	11/15	11/18	11/21	11/25	12/01
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	157	151	147	143	140	136	132	128	122
32	176	168	163	158	154	150	145	140	132
28	198	191	187	183	179	176	172	167	161
24	214	208	203	199	196	192	188	183	177
20	244	236	229	224	219	214	208	202	193
16	267	258	251	245	239	233	227	220	211

* 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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Climate Division: CO 3 NWS Call Sign: Elevation: 4,210 Feet Lat: 39°15N Lon: 102°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	1168	923	819	523	258	48	1	14	119	427	844	1117	6261
60	1013	783	664	381	150	15	0	3	48	277	694	962	4990
57	920	699	571	301	100	6	0	1	23	195	604	869	4289
55	858	643	509	253	74	3	0	0	13	147	547	807	3854
50	707	514	363	150	28	0	0	0	1	60	408	658	2889
32	248	145	33	3	0	0	0	0	0	0	75	212	716

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	104	146	237	472	793	1105	1302	1243	942	596	222	118	7280
55	0	0	1	32	153	419	589	530	265	30	3	0	2022
57	0	0	0	20	118	362	527	469	215	16	0	0	1727
60	0	0	0	10	74	280	434	378	150	5	0	0	1331
65	0	0	0	2	28	164	280	234	71	0	0	0	779
70	0	0	0	0	7	78	140	117	26	0	0	0	368

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	26	66	147	326	604	903	1099	1037	751	420	111	38	26	92	239	565	1169	2072	3171	4208	4959	5379	5490	5528
45	6	23	76	209	452	753	944	882	603	288	56	11	6	29	105	314	766	1519	2463	3345	3948	4236	4292	4303
50	0	1	31	112	311	604	789	727	460	172	18	0	0	1	32	144	455	1059	1848	2575	3035	3207	3225	3225
55	0	0	5	52	186	454	634	573	328	85	2	0	0	0	5	57	243	697	1331	1904	2232	2317	2319	2319
60	0	0	0	18	96	311	479	421	204	31	0	0	0	0	0	18	114	425	904	1325	1529	1560	1560	1560
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	36	74	136	236	376	574	704	670	476	296	104	43	36	110	246	482	858	1432	2136	2806	3282	3578	3682	3725

(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