U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: DILLON 1 E, CO **COOP ID: 052281**

Climate Division: CO 2 **NWS Call Sign:** **Elevation: 9,065 Feet** **Lat: 39˚38N** **Lon: 106˚02W**

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	30.7	.2	15.5	61	1953	12	21.5	1981	-44+	1962	10	6.9	1979	1536	0	.0	.0	.3	16.9	31.0	14.3
Feb	34.1	2.9	18.5	60+	1962	11	25.3	1995	-45+	1951	1	12.1	1985	1302	0	.0	.0	.6	10.5	28.3	10.5
Mar	38.8	11.2	25.0	62+	1987	7	30.0	1999	-38	1932	12	19.5	1977	1240	0	.0	.0	4.1	6.9	30.9	3.7
Apr	46.0	18.4	32.2	76	1946	19	37.9	1992	-25	1924	1	25.8	1983	983	0	.0	.0	13.3	2.8	29.7	1.0
May	56.5	27.1	41.8	79+	1962	13	45.2	1992	-8+	1944	4	37.8	1983	720	0	.0	.0	24.2	.2	26.8	.0
Jun	67.3	33.5	50.4	87	1944	21	54.4	1994	11	1947	13	47.3	1975	438	0	.0	.0	29.2	.0	12.2	.0
Jul	73.1	38.6	55.9	89+	1939	15	58.3	1998	22	1938	7	53.1	1992	284	0	.0	.0	31.0	.0	1.5	.0
Aug	71.3	37.8	54.6	87	1938	11	57.7	2000	20	1928	23	52.1+	1976	324	0	.0	.0	31.0	.0	3.5	.0
Sep	64.0	30.6	47.3	84+	1960	4	51.7	1998	4	1924	21	43.8	1985	532	0	.0	.0	28.6	@	17.6	.0
Oct	53.8	21.5	37.7	77+	1952	9	40.9	1992	-17+	1919	28	31.9	1984	848	0	.0	.0	22.6	1.2	29.8	.1
Nov	39.2	11.2	25.2	65+	1953	1	32.5	1999	-36	1951	17	17.0	1979	1194	0	.0	.0	6.3	8.0	29.7	3.2
Dec	32.0	3.0	17.5	61	1939	11	27.9	1980	-46	1924	24	12.1	1978	1473	0	.0	.0	.6	14.4	31.0	11.7
Ann	50.6	19.7	35.1	89+	Jul 1939	15	58.3	Jul 1998	-46	Dec 1924	24	6.9	Jan 1979	10874	0	.0	.0	191.8	60.9	272.0	44.5

\+ 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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1909-2001

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

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	.86	.59	.84	1912	18	3.10	1996	.16	1977
Feb	.95	.75	1.07	1936	3	2.57	1995	.24	1991
Mar	1.13	.98	1.83	1938	15	2.45	1974	.45	1986
Apr	1.22	1.20	2.00	1926	21	1.87	1995	.47	1978
May	1.45	1.43	1.88	1928	14	2.90	1982	.19	1974
Jun	1.21	1.29	1.44	1947	12	2.01	1984	.00	1980
Jul	1.75	1.67	1.63	1949	5	3.71	1984	.33	1979
Aug	1.66	1.46	1.27	1968	7	3.69	1984	.42	1985
Sep	1.32	1.34	2.00	1930	7	2.44	1976	.17	1979
Oct	.78	.71	1.64	1916	15	1.49	1984	.26	1989
Nov	.87	.80	.95	1930	18	1.99	1983	.22	1999
Dec	.83	.65	2.34	1909	1	2.80	1983	.16	1994
Ann	14.03	13.36	2.34	Dec 1909	1	3.71	Jul 1984	.00	Jun 1980

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.1	2.8	@	.0
Feb	9.4	3.0	.2	@
Mar	11.1	3.7	.2	.0
Apr	11.0	4.5	.1	@
May	10.7	4.6	.6	@
Jun	8.7	3.9	.4	.1
Jul	12.2	5.6	.5	.1
Aug	13.2	5.7	.3	.0
Sep	9.8	4.6	.4	@
Oct	7.4	3.0	.0	.0
Nov	9.8	2.8	.1	.0
Dec	9.5	2.6	@	.0
Ann	123.9	46.8	2.8	.2

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.15	.23	.36	.47	.59	.72	.87	1.05	1.29	1.68	2.04
Feb	.19	.28	.42	.55	.67	.81	.96	1.15	1.40	1.79	2.16
Mar	.47	.58	.72	.84	.95	1.06	1.18	1.32	1.50	1.77	2.01
Apr	.58	.68	.83	.94	1.05	1.16	1.27	1.41	1.57	1.82	2.04
May	.32	.45	.66	.86	1.05	1.25	1.49	1.76	2.13	2.71	3.27
Jun	.40	.57	.76	.90	1.03	1.16	1.29	1.45	1.65	1.95	2.23
Jul	.47	.64	.89	1.11	1.33	1.56	1.81	2.12	2.51	3.12	3.70
Aug	.58	.73	.96	1.15	1.34	1.53	1.73	1.97	2.28	2.75	3.19
Sep	.41	.53	.72	.88	1.04	1.20	1.38	1.59	1.86	2.28	2.66
Oct	.32	.39	.49	.57	.65	.73	.81	.91	1.03	1.22	1.39
Nov	.30	.38	.50	.60	.70	.80	.90	1.03	1.19	1.43	1.66
Dec	.12	.19	.31	.42	.54	.67	.83	1.02	1.27	1.68	2.08
Ann	10.10	10.87	11.84	12.58	13.24	13.87	14.52	15.25	16.12	17.38	18.48

\+ 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: 1909-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	16.0	11.8	8	6
Feb	16.2	14.0	9	8
Mar	19.0	16.3	7	4
Apr	16.7	16.0	2	1
May	7.1	6.0	#	#
Jun	1.3	.0	#	0
Jul	#	.0	0	0
Aug	#	.0	#	0
Sep	1.2	.5	#	0
Oct	5.9	6.0	#	#
Nov	15.3	15.0	2	2
Dec	15.4	11.8	5	4
Ann	114.1	97.4	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	13.0	1996	31	56.0	1996	27	1980	30	21	1984
Feb	12.0	1996	1	38.5+	1996	32	1996	1	24+	1996
Mar	14.0	1977	11	39.0	1974	31	1980	14	27	1980
Apr	12.0	1975	18	31.0	1973	26	1980	1	12	1980
May	9.0	1973	2	24.3	1983	13	1982	14	2	1983
Jun	5.5	1984	7	13.0	1974	5	1984	7	#+	1998
Jul	#	1993	5	#	1993	0	0	0	0	0
Aug	#	1978	15	#	1978	#	1978	15	#	1978
Sep	3.0	1978	20	6.5	1996	3	1985	29	#+	2000
Oct	7.0	1975	23	15.5	1984	8	1980	17	2	1984
Nov	11.0	1985	9	32.0	1983	16	1985	10	5	1985
Dec	13.0	1983	24	54.0	1983	30	1983	25	15	1983
Ann	14.0	Mar 1977	11	56.0	Jan 1996	32	Feb 1996	1	27	Mar 1980

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	9.6	7.0	1.9	.4	@
Feb	8.3	6.1	1.9	.8	.1
Mar	9.7	7.2	2.0	.9	.1
Apr	8.5	6.6	1.9	.5	.1
May	3.5	2.8	.9	.4	.0
Jun	.6	.6	.1	.1	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.8	.6	.1	.0	.0
Oct	3.7	2.7	.5	.1	.0
Nov	8.4	6.2	1.5	.6	@
Dec	8.6	6.2	1.8	.7	@
Ann	61.7	46.0	12.6	4.5	.3

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	28.4	24.8	20.6	7.6
Feb	24.9	20.8	18.3	9.0
Mar	20.8	15.0	11.0	6.1
Apr	10.1	4.4	2.6	1.4
May	3.1	1.2	.5	.1
Jun	.3	.1	@	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.6	@	.0	.0
Oct	4.1	.9	.2	.0
Nov	15.4	6.8	2.1	.2
Dec	24.7	18.1	13.2	2.5
Ann	132.4	92.1	68.5	26.9

+ 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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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	7/28	7/26	7/23	7/21	7/18	7/15
32	7/27	7/20	7/15	7/11	7/07	7/03	6/29	6/25	6/18
28	7/04	6/30	6/26	6/23	6/20	6/18	6/15	6/11	6/06
24	6/15	6/09	6/05	6/01	5/29	5/25	5/22	5/17	5/11
20	5/26	5/21	5/17	5/14	5/12	5/09	5/06	5/02	4/28
16	5/13	5/09	5/06	5/03	4/30	4/28	4/25	4/22	4/17

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	8/01	8/07	8/12	8/15	8/19	8/23	8/27	8/31	9/07
28	8/17	8/24	8/28	9/01	9/05	9/09	9/13	9/17	9/24
24	9/05	9/10	9/13	9/16	9/19	9/22	9/25	9/28	10/03
20	9/20	9/23	9/26	9/28	9/30	10/02	10/04	10/07	10/10
16	9/22	9/28	10/02	10/05	10/08	10/11	10/14	10/18	10/24

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	24	19	16	13	10	7	4	0	0
32	73	62	55	48	42	36	30	22	12
28	99	91	85	81	76	71	67	61	53
24	133	126	121	117	113	108	104	99	92
20	160	153	149	145	141	137	133	129	122
16	181	174	169	164	160	156	151	146	139

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1536	1302	1240	983	720	438	284	324	532	848	1194	1473	10874
60	1381	1162	1085	833	565	290	135	173	382	693	1044	1318	9061
57	1288	1078	992	743	472	206	67	96	294	600	954	1225	8015
55	1226	1022	930	683	410	156	36	58	238	538	894	1163	7354
50	1071	882	775	533	259	62	3	9	117	384	744	1008	5847
32	513	379	244	98	4	0	0	0	0	24	242	452	1956

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	0	1	27	104	307	552	740	699	458	199	38	2	3127
55	0	0	0	0	0	18	62	44	5	0	0	0	129
57	0	0	0	0	0	8	32	20	2	0	0	0	62
60	0	0	0	0	0	2	7	4	0	0	0	0	13
65	0	0	0	0	0	0	0	0	0	0	0	0	0
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	17	120	333	504	470	258	59	1	0	0	0	0	17	137	470	974	1444	1702	1761	1762	1762
45	0	0	0	0	36	192	349	315	127	9	0	0	0	0	0	0	36	228	577	892	1019	1028	1028	1028
50	0	0	0	0	2	82	196	166	39	0	0	0	0	0	0	0	2	84	280	446	485	485	485	485
55	0	0	0	0	0	15	66	46	7	0	0	0	0	0	0	0	0	15	81	127	134	134	134	134
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	0	4	40	133	275	372	349	233	111	18	0	0	0	4	44	177	452	824	1173	1406	1517	1535	1535

(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:
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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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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 are 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.

a. Temperature/ Precipitation Tables
   1. 1971-2000 Monthly Normals
   2. Cooperative Summary of the Day
   3. National Weather Service station records
   4. 1971-2000 serially complete daily data

b. Degree Day Table
   1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
   2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data

c. Snow Tables
   1. Snow Climatology
   2. Cooperative Summary of the Day

d. Freeze Data Table
   1971-2000 serially complete daily data

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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