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: PALISADE, CO **COOP ID: 056266**

Climate Division: CO 2 **NWS Call Sign:** **Elevation: 4,810 Feet** **Lat: 39˚07N** **Lon: 108˚21W**

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	39.2	17.4	28.3	64	1956	8	38.4	1981	-20	1963	12	16.6	1973	1139	0	.0	.0	4.1	7.6	29.8	1.7
Feb	47.7	24.5	36.1	74	1986	27	44.7	1995	-12+	1989	7	22.4	1974	810	0	.0	.0	11.5	1.5	23.1	.4
Mar	57.8	32.4	45.1	82+	1986	30	51.8	1986	9+	1971	6	38.0	1975	617	0	.0	.0	24.9	.1	13.6	.0
Apr	66.6	39.1	52.9	89	1981	26	60.0	1992	16+	1975	2	43.5	1975	377	13	.0	.0	27.7	.0	4.5	.0
May	76.6	47.8	62.2	98	2000	30	66.5	1984	29	1997	2	53.8	1975	146	58	.0	1.7	30.9	.0	.3	.0
Jun	88.5	56.6	72.6	106	1981	26	77.1	1977	34	1974	8	67.4	1975	18	244	2.0	14.8	30.0	.0	@	.0
Jul	94.2	62.7	78.5	108	1989	7	80.9	1988	45	1969	1	75.5	1995	0	416	5.2	23.7	31.0	.0	.0	.0
Aug	91.6	61.1	76.4	106	1979	6	78.8	1985	45+	1976	13	73.2	1993	0	352	2.2	19.7	31.0	.0	.0	.0
Sep	82.6	52.4	67.5	101	1985	1	72.7	1979	29	1968	17	63.0	1986	54	130	.1	6.2	30.0	.0	.0	.0
Oct	69.5	41.2	55.4	90+	1980	2	60.1	1987	20	1991	31	49.1	1984	311	11	.0	@	29.6	.1	3.1	.0
Nov	52.4	29.2	40.8	76	1978	3	46.3	1999	5+	1976	27	34.7	2000	726	0	.0	.0	17.8	.4	19.3	.0
Dec	41.4	20.0	30.7	69	1973	2	41.0	1980	-10	1990	31	20.4	1978	1064	0	.0	.0	5.2	4.2	29.9	.4
Ann	67.3	40.4	53.9	108	Jul 1989	7	80.9	Jul 1988	-20	Jan 1963	12	16.6	Jan 1973	5262	1224	9.5	66.1	273.7	13.9	123.6	2.5

\+ 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: 1948-2001

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

Issue Date: February 2004

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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	.58	.50	.73	1956	16	1.39	2000	.13	1976
Feb	.56	.40	1.03	1989	5	1.90	1989	.00	1972
Mar	1.14	1.14	1.13	1993	28	2.32	1983	.01	1972
Apr	1.12	1.06	1.30	1965	27	2.64	1997	.07	1982
May	1.21	1.18	1.28	1983	16	2.97	1995	.00	1974
Jun	.70	.56	1.52	1983	25	3.00	1983	.00	1980
Jul	.76	.81	1.58	1950	8	1.69	1985	.00	1994
Aug	.80	.68	1.16	1957	30	1.94	1999	.03	1985
Sep	1.05	.82	1.76	1958	13	3.66	1997	.03	1979
Oct	1.27	1.02	1.80	1957	13	3.43	1984	.03	1999
Nov	.94	.83	.87	1990	27	2.76	1983	.02	1989
Dec	.59	.51	.70	1966	7	2.16	1983	.00	1976
Ann	10.72	9.60	1.80	Oct 1957	13	3.66	Sep 1997	.00+	Jul 1994

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	6.1	2.2	.1	.0
Feb	4.9	2.2	.1	@
Mar	8.0	3.8	.4	@
Apr	6.9	3.9	.5	@
May	7.2	3.9	.5	@
Jun	4.0	1.9	.2	.1
Jul	5.6	2.4	.3	.0
Aug	7.2	2.8	.1	.0
Sep	7.2	3.3	.3	.0
Oct	6.7	3.5	.7	@
Nov	6.2	2.9	.4	.0
Dec	5.2	2.1	.1	.0
Ann	75.2	34.9	3.7	.1

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	.12	.17	.26	.33	.41	.50	.59	.71	.86	1.10	1.33
Feb	.05	.12	.21	.29	.38	.47	.57	.69	.86	1.13	1.39
Mar	.13	.22	.38	.53	.70	.90	1.12	1.39	1.77	2.39	3.00
Apr	.23	.33	.49	.64	.79	.96	1.14	1.36	1.65	2.12	2.56
May	.11	.25	.45	.63	.81	1.01	1.23	1.50	1.86	2.44	3.00
Jun	.02	.06	.15	.25	.36	.49	.65	.85	1.12	1.59	2.06
Jul	.15	.25	.38	.49	.59	.69	.80	.94	1.11	1.38	1.63
Aug	.10	.17	.28	.39	.51	.64	.79	.98	1.23	1.64	2.04
Sep	.16	.25	.40	.55	.70	.86	1.05	1.28	1.58	2.08	2.56
Oct	.14	.23	.41	.59	.78	.99	1.24	1.55	1.97	2.67	3.36
Nov	.11	.18	.31	.44	.58	.74	.92	1.15	1.46	1.97	2.47
Dec	.07	.14	.24	.32	.41	.50	.60	.73	.89	1.15	1.40
Ann	6.62	7.37	8.35	9.12	9.80	10.48	11.18	11.97	12.94	14.37	15.62

\+ 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

Complete documentation available from:
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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	6.1	3.5	1	#
Feb	1.8	1.0	1	#
Mar	1.4	.0	#	#
Apr	.4	.0	#	0
May	.1	.0	#	0
Jun	.0	.0	#	0
Jul	.0	.0	#	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.1	.0	#	0
Nov	1.7	1.3	#	#
Dec	3.5	2.0	#	#
Ann	15.1	7.8	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	8.0	1974	22	18.3	1991	12	1974	27	7	1991
Feb	6.0	1989	5	9.3	1989	8	1974	2	4	1974
Mar	4.5	1998	18	6.6	1998	4	1998	18	3	1976
Apr	3.0	1997	2	4.0+	1997	3+	1997	2	#+	1999
May	2.0	1979	8	2.0	1979	2	1979	8	#+	1979
Jun	.0	0	0	.0	0	#	1974	7	#	1974
Jul	.0	0	0	.0	0	#	1974	7	#	1974
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	1.5	1982	27	1.5	1982	#	1986	12	#	1986
Nov	5.0	1983	25	8.8	1983	5	1983	25	1	1983
Dec	6.0	1975	14	19.8	1983	9	1983	24	3	1978
Ann	8.0	Jan 1974	22	19.8	Dec 1983	12	Jan 1974	27	7	Jan 1991

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	2.5	1.6	.4	.1	.0
Feb	1.3	.8	.1	@	.0
Mar	1.0	.7	.2	.0	.0
Apr	.4	.3	@	.0	.0
May	.1	@	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	@	@	.0	.0	.0
Nov	1.1	.8	.1	@	.0
Dec	2.0	1.3	.3	.1	.0
Ann	8.4	5.5	1.1	.2	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	1.6	.0	.0	.0
Feb	3.5	1.7	1.1	.0
Mar	.6	.1	.0	.0
Apr	.2	@	.0	.0
May	@	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	1.0	.3	@	.0
Dec	1.8	.8	.4	.0
Ann	8.7	2.9	1.5	.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

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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	6/02	5/25	5/20	5/15	5/11	5/07	5/02	4/27	4/19
32	5/14	5/07	5/01	4/27	4/22	4/18	4/13	4/08	3/31
28	4/21	4/15	4/11	4/07	4/04	3/31	3/28	3/23	3/17
24	4/12	4/03	3/27	3/21	3/16	3/10	3/05	2/26	2/16
20	3/29	3/19	3/12	3/06	2/28	2/22	2/16	2/09	1/30
16	3/13	3/02	2/21	2/14	2/07	2/01	1/25	1/16	1/05

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	9/26	10/01	10/06	10/09	10/13	10/16	10/20	10/24	10/30
32	10/12	10/16	10/20	10/22	10/25	10/27	10/30	11/02	11/06
28	10/23	10/27	10/30	11/02	11/05	11/07	11/10	11/13	11/18
24	10/27	11/02	11/06	11/09	11/13	11/16	11/20	11/24	11/29
20	11/06	11/13	11/18	11/23	11/27	12/01	12/05	12/11	12/18
16	11/15	11/23	11/29	12/04	12/08	12/13	12/17	12/23	12/31

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	182	172	165	159	154	148	143	136	126
32	212	203	196	190	185	179	173	166	157
28	236	229	223	219	214	210	205	199	192
24	272	262	254	247	241	235	228	221	210
20	311	298	288	279	271	263	255	245	231
16	344	327	317	308	300	292	284	274	261

***** 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)

Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1139	810	617	377	146	18	0	0	54	311	726	1064	5262
60	984	670	466	251	67	4	0	0	16	186	576	909	4129
57	893	586	381	189	37	1	0	0	6	125	487	816	3521
55	835	537	325	153	24	0	0	0	3	92	429	754	3152
50	691	407	204	80	6	0	0	0	0	36	291	600	2315
32	263	89	8	0	0	0	0	0	0	0	19	159	538

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	148	203	414	625	936	1216	1439	1375	1066	723	283	119	8547
55	7	7	18	88	246	526	726	662	379	102	2	0	2763
57	2	0	11	64	198	467	664	600	322	73	1	0	2402
60	0	0	4	36	135	380	571	507	242	41	0	0	1916
65	0	0	0	13	58	244	416	352	130	11	0	0	1224
70	0	0	0	2	18	133	262	203	53	2	0	0	673

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	1	61	213	411	707	995	1205	1139	845	497	118	6	1	62	275	686	1393	2388	3593	4732	5577	6074	6192	6198
45	0	16	109	280	554	845	1050	984	695	353	49	0	0	16	125	405	959	1804	2854	3838	4533	4886	4935	4935
50	0	0	48	169	403	695	895	829	546	223	15	0	0	0	48	217	620	1315	2210	3039	3585	3808	3823	3823
55	0	0	12	84	264	547	740	674	400	113	1	0	0	0	12	96	360	907	1647	2321	2721	2834	2835	2835
60	0	0	1	31	148	402	585	519	260	42	0	0	0	0	1	32	180	582	1167	1686	1946	1988	1988	1988
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	4	49	145	263	443	628	768	737	541	319	87	6	4	53	198	461	904	1532	2300	3037	3578	3897	3984	3990

(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

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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