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: HILL CITY 1 W, ID **COOP ID: 104268**

Climate Division: ID 4 **NWS Call Sign:** **Elevation: 5,100 Feet** **Lat: 43˚18N** **Lon: 115˚04W**

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	29.3	8.1	18.7	50+	1962	8	25.1	1983	-44	1937	21	10.2	1979	1435	0	.0	.0	.0	18.7	30.7	9.5
Feb	33.8	11.7	22.8	59	1992	28	32.5	1992	-40	1956	1	13.3	1985	1183	0	.0	.0	.6	11.1	27.9	7.2
Mar	41.8	21.0	31.4	70	1986	28	40.9	1992	-26	1955	5	21.9	1976	1042	0	.0	.0	4.5	2.6	29.5	1.5
Apr	54.4	29.6	42.0	83	1977	24	48.3	1977	-8	1936	2	34.2	1975	691	0	.0	.0	19.1	.1	21.5	.1
May	65.1	35.7	50.4	91	1954	19	54.9	1992	14	1968	6	46.8	1977	453	0	.0	@	29.3	.0	11.6	.0
Jun	74.6	39.9	57.3	98+	1940	20	64.6	1977	20+	1974	8	52.1	1993	253	21	.0	1.7	30.0	.0	4.3	.0
Jul	84.3	44.7	64.5	102	1934	28	69.1	1985	21	1981	8	55.3	1993	100	84	@	8.1	31.0	.0	1.0	.0
Aug	84.3	43.4	63.9	100+	1983	6	68.0	1981	21	1992	25	58.5	1993	106	70	.1	7.5	31.0	.0	1.7	.0
Sep	74.5	35.3	54.9	98+	1955	5	60.4	1990	12	1970	25	49.4	1986	313	10	.0	.9	29.7	.0	10.2	.0
Oct	61.8	27.2	44.5	91	1931	3	52.6	1988	0+	1971	29	40.1	1984	634	0	.0	.0	26.7	.2	22.8	@
Nov	41.8	18.6	30.2	73	1980	1	39.5	1999	-23	1931	22	20.4	1994	1043	0	.0	.0	6.5	5.6	27.3	2.2
Dec	30.7	8.4	19.6	56+	1940	5	25.7	1981	-40	1990	23	10.4	1985	1409	0	.0	.0	.2	16.7	30.5	8.4
Ann	56.4	27.0	41.7	102	Jul 1934	28	69.1	Jul 1985	-44	Jan 1937	21	10.2	Jan 1979	8662	185	.1	18.2	208.6	55.0	219.0	28.9

\+ 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: 1931-2001

(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	2.23	2.08	2.25	1993	22	7.66	1993	.15	1992
Feb	1.47	1.26	2.02	1952	20	4.55	1986	.12	1988
Mar	1.25	1.13	1.00+	1988	15	2.68	1983	.00	1994
Apr	1.00	.85	1.50	1951	28	2.84	1990	.00	1977
May	1.16	.94	1.20	1953	29	4.18	1998	.00+	1992
Jun	.85	.74	1.80	1963	16	2.59	1993	.00	1979
Jul	.51	.46	1.52	1984	22	2.19	1984	.00+	1988
Aug	.33	.16	1.25	1951	3	1.90	1983	.00+	1996
Sep	.76	.44	1.16	1961	9	2.40	1985	.00+	1987
Oct	.90	.93	1.10	1975	25	2.34	2000	.00+	1988
Nov	1.63	1.43	2.49	1942	27	4.82	1983	.06	1976
Dec	2.04	1.47	1.62	1995	12	6.95	1996	.00	1976
Ann	14.13	13.25	2.49	Nov 1942	27	7.66	Jan 1993	.00+	Aug 1996

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.3	5.7	1.5	.2
Feb	7.9	4.8	.5	.0
Mar	6.9	3.9	.5	@
Apr	5.9	3.4	.3	.1
May	6.6	3.9	.5	@
Jun	5.2	2.6	.3	.0
Jul	2.7	1.3	.2	@
Aug	2.2	1.1	.1	.0
Sep	3.9	2.3	.3	.0
Oct	4.6	2.5	.4	.1
Nov	8.1	4.8	.7	.2
Dec	8.5	5.4	1.1	.2
Ann	70.8	41.7	6.4	.8

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	.28	.46	.77	1.08	1.41	1.78	2.20	2.73	3.44	4.60	5.73
Feb	.23	.35	.56	.77	.98	1.21	1.47	1.79	2.22	2.93	3.60
Mar	.14	.29	.50	.68	.86	1.06	1.28	1.54	1.90	2.46	3.00
Apr	.16	.29	.46	.60	.73	.88	1.04	1.22	1.47	1.86	2.22
May	.00	.11	.31	.50	.69	.90	1.14	1.44	1.84	2.51	3.16
Jun	.04	.12	.24	.37	.50	.65	.83	1.05	1.35	1.84	2.33
Jul	.00	.00	.04	.11	.19	.29	.43	.60	.86	1.30	1.76
Aug	.00	.00	.00	.05	.11	.18	.27	.40	.57	.87	1.18
Sep	.00	.00	.09	.22	.36	.52	.71	.95	1.29	1.84	2.40
Oct	.00	.09	.25	.39	.54	.71	.90	1.12	1.44	1.96	2.46
Nov	.20	.32	.55	.78	1.02	1.29	1.60	1.99	2.52	3.38	4.22
Dec	.05	.18	.44	.73	1.05	1.43	1.89	2.48	3.30	4.69	6.07
Ann	7.86	8.96	10.43	11.59	12.64	13.69	14.79	16.02	17.56	19.84	21.87

\+ 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: 1931-2001
(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	18.2	12.0	15	14
Feb	12.6	12.5	18	16
Mar	6.5	5.0	12	10
Apr	.7	.0	2	0
May	#	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.5	.0	#	0
Nov	8.2	8.9	2	1
Dec	7.6	5.0	9	7
Ann	54.3	43.4	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	22.0	1993	20	36.4	1998	60	1993	22	42	1993
Feb	16.0	1985	8	28.0	1976	40	1978	20	36	1993
Mar	13.0	1988	15	26.0	1975	35+	1999	10	29	1999
Apr	3.5	1998	4	7.0	1975	28	1975	6	20	1975
May	#	1982	11	#	1982	1	1988	6	#+	1999
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	6.0	1975	25	6.0	1975	6	1975	25	1	1975
Nov	16.0	1971	26	23.0	1975	20	1971	28	8	1988
Dec	13.0	1996	5	16.5	1993	38	1971	14	29	1971
Ann	22.0	Jan 1993	20	36.4	Jan 1998	60	Jan 1993	22	42	Jan 1993

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	6.3	5.3	2.5	1.5	.2
Feb	4.9	3.8	1.7	.6	.2
Mar	1.6	1.4	.6	.4	.1
Apr	.3	.2	.1	.0	.0
May	.0	.0	.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	.1	.1	.1	@	.0
Nov	2.3	2.0	1.1	.6	.1
Dec	5.1	3.8	1.8	.6	.1
Ann	20.6	16.6	7.9	3.7	.7

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	-9.9	-9.9	-9.9	-9.9
Feb	-9.9	-9.9	-9.9	-9.9
Mar	-9.9	-9.9	-9.9	-9.9
Apr	.6	.6	.6	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.2	.1	.1	.0
Nov	7.6	6.6	4.4	.5
Dec	-9.9	-9.9	-9.9	-9.9
Ann	-9.9	-9.9	-9.9	-9.9

+ 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

Complete documentation available from:
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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	7/27	7/22	7/18	7/15	7/12	7/08	7/05	7/01	6/26
32	7/20	7/14	7/10	7/07	7/04	6/30	6/27	6/23	6/17
28	7/06	6/28	6/23	6/19	6/14	6/10	6/06	6/01	5/24
24	6/19	6/09	6/03	5/28	5/22	5/17	5/11	5/04	4/25
20	5/15	5/08	5/03	4/29	4/25	4/20	4/16	4/11	4/04
16	4/19	4/14	4/10	4/07	4/04	4/01	3/29	3/25	3/20

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	8/03	8/08	8/13	8/16	8/19	8/23	8/26	8/30	9/05
32	8/09	8/16	8/21	8/25	8/29	9/02	9/06	9/10	9/17
28	8/21	8/27	8/31	9/04	9/08	9/11	9/15	9/20	9/26
24	9/07	9/12	9/15	9/18	9/21	9/24	9/27	9/30	10/05
20	9/17	9/23	9/28	10/01	10/05	10/08	10/12	10/17	10/23
16	9/27	10/04	10/09	10/13	10/17	10/20	10/25	10/29	11/05

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	64	55	49	43	38	33	28	21	12
32	82	73	66	61	55	50	44	38	29
28	115	105	97	91	85	79	72	65	54
24	152	141	134	127	121	115	108	100	90
20	191	181	174	168	163	157	151	144	135
16	220	212	205	200	195	190	185	179	170

***** 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	1435	1183	1042	691	453	253	100	106	313	634	1043	1409	8662
60	1280	1043	887	541	302	144	36	38	190	480	893	1254	7088
57	1187	959	794	457	219	94	17	17	130	389	803	1161	6227
55	1125	903	732	401	169	67	10	10	96	330	743	1099	5685
50	970	763	581	272	74	22	1	1	37	199	596	944	4460
32	426	294	149	24	0	0	0	0	0	6	168	411	1478

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	14	35	130	323	570	757	1007	988	687	394	115	25	5045
55	0	0	0	10	26	134	304	284	93	6	0	0	857
57	0	0	0	6	14	102	249	230	66	3	0	0	670
60	0	0	0	0	4	62	175	158	36	0	0	0	435
65	0	0	0	0	0	21	84	70	10	0	0	0	185
70	0	0	0	0	0	5	27	20	1	0	0	0	53

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	5	118	326	525	770	753	461	192	20	0	0	0	5	123	449	974	1744	2497	2958	3150	3170	3170
45	0	0	0	54	193	377	615	598	319	96	2	0	0	0	0	54	247	624	1239	1837	2156	2252	2254	2254
50	0	0	0	14	94	242	461	444	193	29	0	0	0	0	0	14	108	350	811	1255	1448	1477	1477	1477
55	0	0	0	2	35	129	312	292	92	7	0	0	0	0	0	2	37	166	478	770	862	869	869	869
60	0	0	0	0	4	51	174	163	29	0	0	0	0	0	0	0	4	55	229	392	421	421	421	421
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	1	9	106	246	377	523	517	374	207	23	0	0	1	10	116	362	739	1262	1779	2153	2360	2383	2383

(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.
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