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: GRAND VIEW 4 NW, ID **COOP ID: 103760**

Climate Division: ID 5 **NWS Call Sign:** **Elevation: 2,400 Feet** **Lat: 43˚01N** **Lon: 116˚11W**

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	38.4	21.4	29.9	70	1953	9	38.7	1998	-28	1937	8	15.9	1979	1088	0	.0	.0	4.5	7.0	26.7	1.5
Feb	47.2	25.5	36.4	76	1981	19	43.2	1986	-20	1985	4	26.9	1989	802	0	.0	.0	12.8	2.0	22.6	.4
Mar	57.7	30.8	44.3	85	1966	29	50.5	1986	1	1976	2	37.0	1976	642	0	.0	.0	27.3	.1	18.3	.0
Apr	66.1	37.0	51.6	93+	1939	28	58.6	1987	11	1936	2	45.6	1975	410	6	.0	.2	29.5	.0	8.3	.0
May	74.5	44.9	59.7	104	1954	19	67.1	1992	19	1940	22	53.0	1977	199	34	.1	2.3	31.0	.0	1.2	.0
Jun	83.0	51.7	67.4	109	1940	19	73.4	1986	31	1973	18	62.6	1984	64	135	1.4	8.9	30.0	.0	@	.0
Jul	90.7	56.3	73.5	115	1934	28	79.3	1985	38	1944	3	66.8	1993	11	275	4.2	20.6	31.0	.0	.0	.0
Aug	89.8	53.9	71.9	110	1961	3	76.0	1971	30	1969	30	65.6	1976	20	234	2.9	20.0	31.0	.0	.0	.0
Sep	79.3	44.7	62.0	110	1950	3	67.9	1990	19	1934	26	55.9	1985	146	56	.1	5.1	30.0	.0	1.3	.0
Oct	66.5	35.4	51.0	95	1943	1	57.7	1988	12	1935	31	47.8	1985	437	0	.0	.1	30.3	.0	11.6	.0
Nov	49.5	27.9	38.7	80	1980	7	45.3	1999	-7	1935	4	29.1	1985	790	0	.0	.0	15.9	1.0	20.7	.1
Dec	38.3	20.8	29.6	73	1939	10	36.3	1996	-26+	1990	23	14.9	1985	1100	0	.0	.0	4.7	6.1	27.1	1.5
Ann	65.1	37.5	51.3	115	Jul 1934	28	79.3	Jul 1985	-28	Jan 1937	8	14.9	Dec 1985	5709	740	8.7	57.2	278.0	16.2	137.8	3.5

\+ 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: 1933-2001

(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	.64	.51	.88	1952	15	1.34	1978	.02	1992
Feb	.57	.44	.81	2000	23	2.09	1986	.00	1997
Mar	.79	.55	1.65	1946	20	2.51	1993	.00	1994
Apr	.66	.61	1.74	1935	9	1.49	1981	.00	1989
May	.85	.58	1.25	1935	30	3.12	1998	.00+	1992
Jun	.66	.43	1.60	1983	1	2.32	1971	.00+	2000
Jul	.25	.13	.78	1975	9	1.05	1975	.00+	2000
Aug	.22	.06	1.02	1968	17	1.68	1976	.00+	2000
Sep	.59	.45	.93+	1980	11	2.41	1985	.00+	1999
Oct	.51	.49	.92	1968	14	1.97	1975	.00+	1999
Nov	.78	.72	.85	1946	19	1.73	1981	.07	1976
Dec	.59	.36	.90	1941	31	1.78	1983	.00+	1989
Ann	7.11	6.98	1.74	Apr 1935	9	3.12	May 1998	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	6.2	2.6	.0	.0
Feb	5.1	2.1	.1	.0
Mar	6.2	2.8	.2	.0
Apr	5.4	2.2	.2	@
May	4.7	2.9	.3	.1
Jun	4.0	2.3	.2	.1
Jul	1.4	.8	@	.0
Aug	1.6	.8	.1	.0
Sep	3.0	1.9	.2	.0
Oct	3.3	1.8	.1	.0
Nov	6.4	2.8	@	.0
Dec	5.9	2.3	.1	.0
Ann	53.2	25.3	1.5	.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	.12	.18	.27	.36	.45	.54	.65	.78	.96	1.24	1.50
Feb	.06	.13	.23	.31	.39	.48	.58	.70	.86	1.11	1.35
Mar	.06	.14	.27	.39	.51	.64	.79	.97	1.22	1.62	2.01
Apr	.07	.15	.26	.35	.45	.55	.67	.81	1.00	1.31	1.60
May	.00	.07	.21	.35	.49	.64	.83	1.05	1.36	1.88	2.38
Jun	.00	.00	.15	.28	.40	.53	.67	.84	1.08	1.44	1.79
Jul	.00	.00	.00	.00	.00	.10	.20	.31	.46	.71	.96
Aug	.00	.00	.00	.01	.04	.09	.15	.24	.38	.63	.88
Sep	.00	.00	.00	.08	.20	.34	.51	.73	1.04	1.57	2.08
Oct	.00	.00	.08	.17	.25	.36	.48	.63	.84	1.20	1.55
Nov	.15	.22	.34	.44	.55	.66	.79	.95	1.16	1.49	1.81
Dec	.00	.04	.12	.21	.31	.43	.56	.73	.96	1.35	1.74
Ann	3.88	4.44	5.19	5.78	6.33	6.86	7.43	8.07	8.86	10.05	11.10

\+ 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: 1933-2001
(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	1.3	.0	#	0
Feb	2.3	.3	#	0
Mar	.1	.0	#	0
Apr	.0	.0	0	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	.0	.0	#	0
Nov	1.0	.0	#	0
Dec	.5	.0	#	0
Ann	5.2	.3	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	6.0	1972	12	6.0	1972	5	1993	13	3+	1993
Feb	6.0	1987	23	8.0	1987	3+	1995	13	1	1989
Mar	2.0	1993	3	2.0	1993	1	1976	2	#	1976
Apr	.0	0	0	.0	0	0	0	0	0	0
May	.0	0	0	.0	0	0	0	0	0	0
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	.0	0	0	.0	0	2	1991	29	#	1991
Nov	4.0	1983	30	10.0	1985	2	1992	27	#+	1993
Dec	3.0	1972	3	4.0	1995	7	1981	31	2	1972
Ann	6.0+	Feb 1987	23	10.0	Nov 1985	7	Dec 1981	31	3+	Jan 1993

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.9	.8	.3	.1	.0
Feb	.8	.7	.2	.1	.0
Mar	.1	.1	.0	.0	.0
Apr	.0	.0	.0	.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	.0	.0	.0	.0	.0
Nov	.3	.3	.2	.0	.0
Dec	.4	.3	.1	.0	.0
Ann	2.5	2.2	.8	.2	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	-9.9	-9.9	-9.9	-9.9
Feb	.1	.1	.0	.0
Mar	.1	.0	.0	.0
Apr	.0	.0	.0	.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	.0	.0	.0	.0
Nov	.0	.0	.0	.0
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	6/14	6/07	6/01	5/27	5/23	5/19	5/14	5/08	5/01
32	5/27	5/20	5/15	5/11	5/07	5/03	4/29	4/24	4/17
28	5/06	4/30	4/26	4/23	4/19	4/16	4/13	4/09	4/03
24	4/24	4/16	4/11	4/07	4/02	3/29	3/25	3/20	3/12
20	4/13	4/03	3/28	3/22	3/17	3/11	3/05	2/27	2/17
16	3/25	3/14	3/07	2/28	2/22	2/16	2/10	2/02	1/23

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	9/06	9/10	9/13	9/15	9/18	9/20	9/23	9/26	9/30
32	9/15	9/20	9/24	9/27	9/30	10/03	10/06	10/09	10/14
28	9/22	9/28	10/02	10/05	10/09	10/12	10/16	10/20	10/25
24	10/09	10/14	10/18	10/21	10/24	10/26	10/29	11/02	11/07
20	10/23	10/28	11/01	11/04	11/07	11/10	11/13	11/17	11/22
16	10/31	11/08	11/13	11/17	11/21	11/25	11/30	12/05	12/12

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	146	136	129	123	117	111	105	98	89
32	172	163	156	150	145	140	134	127	118
28	197	189	182	177	172	166	161	155	146
24	229	220	214	209	203	198	193	186	177
20	268	256	248	241	235	228	221	213	202
16	311	298	288	279	271	263	255	245	231

***** 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	1088	802	642	410	199	64	11	20	146	437	790	1100	5709
60	933	662	488	276	103	21	1	4	65	285	640	945	4423
57	840	578	398	207	61	9	0	1	34	202	550	852	3732
55	778	522	341	167	41	5	0	0	20	154	494	790	3312
50	635	392	210	87	11	0	0	0	4	62	356	646	2403
32	209	64	5	0	0	0	0	0	0	0	52	213	543

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	144	187	386	587	858	1061	1287	1236	900	587	252	136	7621
55	0	0	9	64	186	375	574	523	230	27	4	0	1992
57	0	0	4	44	144	320	512	462	184	14	0	0	1684
60	0	0	1	23	93	242	420	372	125	4	0	0	1280
65	0	0	0	6	34	135	275	234	56	0	0	0	740
70	0	0	0	0	9	61	151	123	19	0	0	0	363

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	15	60	186	372	637	845	1066	1016	688	372	89	26	15	75	261	633	1270	2115	3181	4197	4885	5257	5346	5372
45	0	16	83	235	483	695	911	861	538	231	31	4	0	16	99	334	817	1512	2423	3284	3822	4053	4084	4088
50	0	0	25	127	332	545	756	706	391	120	7	1	0	0	25	152	484	1029	1785	2491	2882	3002	3009	3010
55	0	0	2	53	198	397	601	551	254	44	1	0	0	0	2	55	253	650	1251	1802	2056	2100	2101	2101
60	0	0	0	17	101	258	446	398	138	12	0	0	0	0	0	17	118	376	822	1220	1358	1370	1370	1370
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	9	49	153	262	412	530	659	629	462	286	64	9	9	58	211	473	885	1415	2074	2703	3165	3451	3515	3524

(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