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: BROWNLEE DAM, ID **COOP ID: 101180**

Climate Division: ID 4 **NWS Call Sign:** **Elevation: 1,844 Feet** **Lat: 44˚50N** **Lon: 116˚52W**

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	37.7	23.3	30.5	65	1997	1	37.0	1990	-13	1979	31	16.1	1979	1070	0	.0	.0	1.5	6.6	26.4	.6
Feb	44.9	27.0	36.0	69	1995	25	43.6	1992	-13	1979	1	24.4	1989	813	0	.0	.0	7.8	2.2	20.6	.4
Mar	55.3	34.0	44.7	84	1978	30	52.4	1992	11	1976	5	37.9	1976	631	0	.0	.0	24.4	.0	11.9	.0
Apr	65.0	40.7	52.9	95+	1987	28	59.8	1987	24	1975	1	44.6	1975	378	12	.0	.2	28.9	.0	3.2	.0
May	74.1	48.0	61.1	103	1986	30	68.5	1992	31+	1977	5	55.1	1977	180	58	.1	2.9	31.0	.0	.1	.0
Jun	83.5	55.5	69.5	107+	1992	25	75.8	1986	38+	1976	26	64.1	1976	50	184	1.9	9.2	30.0	.0	@	.0
Jul	94.1	61.9	78.0	113	1994	23	84.3	1985	41	1979	2	68.5	1993	7	411	9.1	22.1	31.0	.0	.0	.0
Aug	93.7	61.7	77.7	112	1990	9	83.9	1971	42	1978	17	69.8	1976	11	403	8.7	22.4	31.0	.0	.0	.0
Sep	82.1	52.7	67.4	103+	1998	4	75.2	1990	35	1983	27	61.0	1985	82	154	.6	8.6	30.0	.0	.0	.0
Oct	67.5	42.4	55.0	95+	1992	2	64.2	1988	23	1971	29	51.6	1985	322	10	.0	.2	30.2	.0	1.4	.0
Nov	49.1	32.8	41.0	74	1988	1	47.1	1999	2	1985	24	31.6	1985	723	0	.0	.0	14.6	.7	13.1	.0
Dec	39.3	25.2	32.3	65	1995	13	36.2+	1989	-7	1978	31	22.9	1978	1016	0	.0	.0	2.4	4.5	26.0	.5
Ann	65.5	42.1	53.8	113	Jul 1994	23	84.3	Jul 1985	-13+	Feb 1979	1	16.1	Jan 1979	5283	1232	20.4	65.6	262.8	14.0	102.7	1.5

\+ 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: 1966-2001

(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	2.10	2.18	1.20	1979	10	3.21	1976	.32	1985
Feb	1.67	1.48	1.18	1968	19	3.75	1986	.59	1977
Mar	1.80	1.58	.94	1979	16	4.24	1983	.06	1994
Apr	1.55	1.37	1.16	1983	24	4.21	1978	.15	1977
May	1.86	1.66	1.70	1998	6	7.32	1998	.14	1974
Jun	1.29	1.02	1.30	1969	24	3.49	1993	.12	1973
Jul	.58	.45	1.08	1995	13	1.95	1993	.01+	2000
Aug	.60	.40	1.04	1979	14	2.26	1975	.00+	1998
Sep	.80	.45	1.26	1980	13	3.19	1980	.00+	1999
Oct	1.04	.83	1.20	1979	19	2.64	1990	.00	1978
Nov	1.91	1.90	.98+	1999	25	3.75	1973	.05	1976
Dec	2.21	2.15	1.30	1980	24	5.86	1996	.10	1976
Ann	17.41	17.75	1.70	May 1998	6	7.32	May 1998	.00+	Sep 1999

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.9	6.6	.9	.1
Feb	11.0	5.1	.5	@
Mar	11.1	5.6	.7	.0
Apr	10.3	4.9	.5	.1
May	9.3	5.0	1.0	.2
Jun	7.2	3.9	.5	.1
Jul	3.6	1.7	.3	@
Aug	3.7	2.0	.2	@
Sep	4.6	2.3	.4	@
Oct	5.9	3.3	.4	.1
Nov	12.1	6.4	.6	.0
Dec	11.5	6.6	.9	.1
Ann	102.2	53.4	6.9	.7

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	.81	1.01	1.28	1.51	1.73	1.95	2.19	2.47	2.83	3.37	3.86
Feb	.56	.72	.95	1.14	1.33	1.53	1.74	1.99	2.30	2.80	3.25
Mar	.33	.49	.76	1.00	1.25	1.52	1.83	2.20	2.69	3.48	4.23
Apr	.32	.46	.68	.89	1.10	1.33	1.58	1.89	2.29	2.94	3.56
May	.33	.49	.77	1.02	1.28	1.56	1.88	2.27	2.79	3.62	4.41
Jun	.21	.33	.51	.69	.87	1.07	1.30	1.58	1.94	2.54	3.11
Jul	.01	.03	.09	.16	.25	.36	.49	.68	.95	1.43	1.92
Aug	.00	.00	.07	.15	.25	.37	.52	.72	1.00	1.48	1.96
Sep	.00	.00	.00	.16	.32	.50	.72	.99	1.38	2.03	2.67
Oct	.05	.13	.29	.44	.60	.79	1.00	1.27	1.65	2.26	2.87
Nov	.38	.55	.83	1.09	1.35	1.62	1.94	2.32	2.82	3.63	4.40
Dec	.38	.57	.89	1.20	1.51	1.84	2.23	2.70	3.32	4.34	5.30
Ann	11.70	12.78	14.17	15.24	16.19	17.12	18.08	19.15	20.45	22.35	24.01

\+ 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: 1966-2001
(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	10.8	5.6	3	1
Feb	2.0	.4	1	#
Mar	.4	.0	#	0
Apr	.0	.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	.0	#	0
Dec	4.0	2.6	1	#
Ann	18.2	8.6	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	14.0	1982	23	33.2	1989	21	1976	15	12	1979
Feb	7.0	1982	14	10.5	1984	19	1989	17	11	1989
Mar	3.0	1972	2	3.2	1972	8	1984	1	1+	1989
Apr	.0	0	0	.0	0	#	1988	15	#	1988
May	.0	0	0	.0	0	#	1988	9	#	1988
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	0	0	0	0	0
Nov	10.5	1988	28	11.1	1988	10	1988	28	1	1988
Dec	14.0	1975	1	14.0	1975	16	1983	30	6	1984
Ann	14.0+	Jan 1982	23	33.2	Jan 1989	21	Jan 1976	15	12	Jan 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	3.7	2.5	1.3	.5	.1
Feb	1.5	.8	.2	.1	.0
Mar	.2	.2	@	.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	.6	.3	.2	.1	@
Dec	2.2	1.4	.6	.2	.1
Ann	8.2	5.2	2.3	.9	.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	6.4	5.2	3.2	1.8
Feb	1.1	.4	.0	.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	.0
Nov	.3	.2	.2	.1
Dec	3.6	1.8	.5	.0
Ann	11.5	7.6	3.9	1.9

+ 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	5/21	5/14	5/09	5/04	4/30	4/26	4/22	4/17	4/10
32	5/06	4/27	4/21	4/15	4/10	4/05	3/31	3/24	3/16
28	4/08	3/31	3/25	3/20	3/16	3/11	3/06	2/28	2/20
24	3/16	3/08	3/02	2/25	2/20	2/15	2/10	2/04	1/27
20	3/10	2/28	2/22	2/16	2/11	2/05	1/31	1/24	1/15
16	3/03	2/20	2/11	2/04	1/28	1/21	1/12	1/01	0/00

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	9/28	10/04	10/08	10/11	10/15	10/18	10/21	10/26	10/31
32	10/16	10/21	10/25	10/28	11/01	11/04	11/07	11/11	11/17
28	10/25	11/01	11/05	11/09	11/13	11/17	11/21	11/26	12/02
24	11/02	11/10	11/15	11/20	11/24	11/29	12/03	12/09	12/17
20	11/11	11/21	11/27	12/03	12/09	12/14	12/21	12/28	1/08
16	11/17	11/27	12/04	12/11	12/17	12/24	1/01	1/13	0/00

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	197	187	179	173	167	161	154	147	136
32	237	226	217	210	204	197	190	181	170
28	277	265	256	249	242	235	227	218	206
24	316	303	293	284	276	268	260	250	237
20	346	328	317	308	300	291	282	272	258
16	>365	>365	349	332	320	310	301	290	276

***** 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	1070	813	631	378	180	50	7	11	82	322	723	1016	5283
60	915	673	477	252	95	16	0	2	33	195	573	861	4092
57	822	589	389	189	58	7	0	0	17	132	485	768	3456
55	760	533	333	152	39	4	0	0	10	98	428	706	3063
50	612	404	205	78	13	0	0	0	1	39	296	552	2200
32	179	74	6	0	0	0	0	0	0	0	26	122	407

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	132	185	398	624	901	1124	1427	1416	1062	711	294	129	8403
55	0	0	12	86	227	438	714	703	382	96	6	0	2664
57	0	0	6	63	184	381	652	641	329	68	3	0	2327
60	0	0	2	36	128	300	559	549	255	38	0	0	1867
65	0	0	0	12	58	184	411	403	154	10	0	0	1232
70	0	0	0	3	20	97	273	269	81	2	0	0	745

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	5	41	177	396	659	884	1174	1176	823	472	107	12	5	46	223	619	1278	2162	3336	4512	5335	5807	5914	5926
45	0	9	73	253	504	734	1019	1021	673	322	39	1	0	9	82	335	839	1573	2592	3613	4286	4608	4647	4648
50	0	1	20	144	354	585	864	866	524	194	8	0	0	1	21	165	519	1104	1968	2834	3358	3552	3560	3560
55	0	0	3	67	223	439	709	711	382	95	0	0	0	0	3	70	293	732	1441	2152	2534	2629	2629	2629
60	0	0	0	24	123	299	554	556	251	37	0	0	0	0	0	24	147	446	1000	1556	1807	1844	1844	1844
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	1	22	111	238	399	550	727	725	514	285	47	5	1	23	134	372	771	1321	2048	2773	3287	3572	3619	3624

(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