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: BARING, WA **COOP ID: 450456**

Climate Division: WA 4 **NWS Call Sign:** **Elevation: 760 Feet** **Lat: 47˚46N** **Lon: 121˚29W**

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	40.5	30.8	35.7	60+	1983	30	42.9	1981	3	1982	6	30.3	1980	911	0	.0	.0	2.6	2.4	19.1	.0
Feb	45.8	32.1	39.0	73	1992	26	44.6	1992	6	1989	3	32.0	1989	729	0	.0	.0	7.7	.7	14.9	.0
Mar	51.7	34.0	42.9	80	1994	28	49.3	1992	16	1989	3	38.2	1971	687	0	.0	.0	17.3	.0	13.9	.0
Apr	58.9	37.6	48.3	91	1998	30	51.7	1992	27+	1975	1	43.6	1972	502	0	.0	@	25.2	.0	5.2	.0
May	65.1	43.1	54.1	100	1983	28	58.9	1993	30	1972	1	49.6	1996	340	2	@	.2	30.1	.0	.4	.0
Jun	69.4	47.9	58.7	98	1970	2	62.3	1987	31	1976	3	55.3	1971	200	8	.0	.3	30.0	.0	@	.0
Jul	75.2	51.4	63.3	97	1971	29	67.6	1985	37	1971	2	59.4	1993	94	41	.0	1.0	31.0	.0	.0	.0
Aug	75.3	52.0	63.7	98	1981	9	66.6	1981	38+	1973	23	60.4	1973	85	43	.0	.7	31.0	.0	.0	.0
Sep	70.4	47.3	58.9	98	1988	2	63.3	1974	30	1972	25	53.1	1972	206	22	.0	.2	29.9	.0	.1	.0
Oct	59.4	41.0	50.2	86	1980	5	54.2	1988	23	1971	28	47.0	1990	460	0	.0	.0	26.9	.0	2.3	.0
Nov	46.4	35.1	40.8	70+	1970	3	45.0	1987	8	1985	23	33.1	1985	727	0	.0	.0	7.6	.6	9.7	.0
Dec	40.2	31.1	35.7	58	1980	26	40.0	1991	1+	1990	21	29.5	1983	910	0	.0	.0	1.9	2.6	18.4	.0
Ann	58.2	40.3	49.3	100	May 1983	28	67.6	Jul 1985	1+	Dec 1990	21	29.5	Dec 1983	5851	116	@	2.4	241.2	6.3	84.0	.0

+ 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: 1970-2001

(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	16.05	16.58	6.14	1990	9	33.03	1974	1.40	1985
Feb	11.92	11.96	7.38	1972	27	29.25	1972	.86	1993
Mar	10.24	10.07	4.59	1972	5	23.47	1997	1.29	1992
Apr	7.83	7.52	4.44	1989	5	14.39	1981	2.68	1998
May	5.58	5.33	2.30	1971	16	13.21	1984	2.50+	1995
Jun	4.04	3.84	2.90	1985	7	10.14	1981	1.31	1987
Jul	2.41	2.25	2.57	1972	12	8.43	1983	.00	1984
Aug	2.45	1.75	3.13	1977	29	8.40	1977	.24	1986
Sep	4.77	4.83	3.10	1972	21	11.08	1972	.28	1975
Oct	9.97	9.09	5.32	1988	16	21.68	1975	.42	1987
Nov	18.03	17.39	8.87	1990	24	41.94	1990	3.87	1979
Dec	16.63	16.04	7.54	1982	3	30.22	1975	2.21	1985
Ann	109.92	113.22	8.87	Nov 1990	24	41.94	Nov 1990	.00	Jul 1984

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	19.9	16.8	9.8	5.4
Feb	18.0	14.7	7.6	3.8
Mar	19.8	14.8	6.4	2.5
Apr	19.0	14.0	5.6	1.7
May	17.3	12.2	3.9	.9
Jun	14.0	9.1	2.7	.6
Jul	8.6	5.0	1.7	.5
Aug	8.7	4.6	1.7	.5
Sep	10.4	7.1	3.0	1.0
Oct	15.7	11.8	6.5	3.0
Nov	21.5	18.0	11.5	6.2
Dec	20.8	17.0	10.4	5.6
Ann	193.7	145.1	70.8	31.7

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	4.24	5.76	8.08	10.13	12.14	14.25	16.59	19.37	22.99	28.69	34.02
Feb	3.05	4.18	5.91	7.44	8.95	10.54	12.31	14.41	17.15	21.48	25.53
Mar	3.79	4.75	6.13	7.28	8.37	9.49	10.71	12.12	13.92	16.69	19.23
Apr	3.12	3.85	4.87	5.72	6.52	7.33	8.20	9.22	10.50	12.47	14.26
May	2.35	2.86	3.57	4.16	4.70	5.26	5.85	6.54	7.41	8.73	9.93
Jun	1.43	1.81	2.36	2.83	3.27	3.72	4.22	4.79	5.53	6.67	7.71
Jul	.15	.39	.77	1.13	1.50	1.91	2.39	2.97	3.76	5.06	6.32
Aug	.31	.51	.86	1.20	1.56	1.96	2.42	2.99	3.76	5.03	6.26
Sep	.55	.91	1.58	2.25	2.96	3.75	4.68	5.83	7.39	9.98	12.49
Oct	1.67	2.53	3.99	5.36	6.76	8.29	10.04	12.17	15.01	19.62	24.02
Nov	5.66	7.37	9.91	12.09	14.20	16.38	18.77	21.58	25.21	30.85	36.07
Dec	6.29	7.84	10.06	11.91	13.67	15.46	17.40	19.65	22.52	26.93	30.96
Ann	78.14	84.29	92.17	98.16	103.48	108.62	113.93	119.79	126.91	137.24	146.16

\+ 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: 1970-2001
(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	18.8	15.3	7	4
Feb	9.0	6.3	4	2
Mar	3.7	1.3	1	#
Apr	.8	.0	#	0
May	.0	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	#	0
Sep	.0	.0	0	0
Oct	.0	.0	#	0
Nov	5.3	.8	1	#
Dec	15.5	10.0	3	2
Ann	53.1	33.7	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	15.5	1971	22	64.0	1982	32	1972	10	24	1972
Feb	12.5	1982	11	48.5	1990	27	1985	10	17	1985
Mar	6.0	1980	15	17.0	1971	19	1971	4	8	1971
Apr	5.0	1972	21	7.5	1972	5	1972	21	#+	1991
May	.5	1985	11	.5	1985	#	1975	24	#	1975
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	#	1997	6	#	1997
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	.5	1991	28	1.0	1991	#+	1996	16	#+	1996
Nov	13.0	1975	30	31.5	1985	18	1985	27	5	1985
Dec	15.0	1996	27	68.5	1996	41	1996	29	13	1971
Ann	15.5	Jan 1971	22	68.5	Dec 1996	41	Dec 1996	29	24	Jan 1972

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	5.6	4.8	2.7	1.4	.3
Feb	3.5	2.6	1.1	.6	.1
Mar	1.6	1.3	.4	.2	.0
Apr	.5	.4	@	@	.0
May	@	.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	.0	.0	.0	.0
Nov	2.2	1.7	.7	.4	.1
Dec	5.4	4.2	2.0	1.1	.3
Ann	18.9	15.0	6.9	3.7	.8

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	16.7	14.5	11.8	6.9
Feb	11.8	10.3	8.7	5.2
Mar	4.1	2.8	2.2	.7
Apr	.2	.1	@	.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	3.9	2.4	1.5	.4
Dec	12.5	10.0	7.1	2.8
Ann	49.2	40.1	31.3	16.0

+ 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	6/03	5/28	5/23	5/20	5/16	5/13	5/09	5/05	4/29
32	5/15	5/08	5/03	4/28	4/24	4/20	4/16	4/11	4/03
28	4/14	4/03	3/27	3/21	3/15	3/09	3/02	2/23	2/13
24	3/14	3/04	2/24	2/18	2/12	2/06	1/30	1/22	1/09
20	3/06	2/22	2/13	2/05	1/29	1/21	1/12	12/31	0/00
16	2/16	2/01	1/21	1/10	12/29	12/11	0/00	0/00	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	9/17	9/24	9/29	10/03	10/06	10/10	10/14	10/19	10/25
32	10/04	10/10	10/14	10/18	10/22	10/25	10/29	11/02	11/08
28	10/24	11/01	11/07	11/12	11/16	11/21	11/26	12/02	12/10
24	11/09	11/18	11/25	12/01	12/07	12/12	12/19	12/26	1/07
20	11/24	12/06	12/15	12/23	12/31	1/08	1/18	2/02	0/00
16	12/02	12/16	12/27	1/06	1/18	2/08	0/00	0/00	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	170	161	154	148	142	137	131	124	114
32	211	200	193	186	180	173	167	159	148
28	281	269	260	253	246	239	232	223	211
24	357	333	319	309	300	291	282	271	256
20	>365	>365	360	343	333	323	314	304	290
16	>365	>365	>365	>365	>365	>365	360	333	312

***** 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	911	729	687	502	340	200	94	85	206	460	727	910	5851
60	756	589	532	352	199	87	24	20	105	308	577	755	4304
57	663	505	439	266	129	43	8	6	62	223	487	662	3493
55	601	449	378	212	92	23	3	2	40	172	428	600	3000
50	448	315	237	100	28	3	0	0	10	71	288	445	1945
32	56	20	5	0	0	0	0	0	0	0	13	46	140

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	169	215	340	489	685	798	970	981	805	563	276	159	6450
55	0	0	1	10	64	131	260	270	155	22	0	0	913
57	0	0	0	4	39	91	203	212	117	11	0	0	677
60	0	0	0	1	15	45	126	133	71	3	0	0	394
65	0	0	0	0	2	8	41	43	22	0	0	0	116
70	0	0	0	0	0	0	6	6	4	0	0	0	16

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	21	51	113	256	433	549	718	724	545	315	77	22	21	72	185	441	874	1423	2141	2865	3410	3725	3802	3824
45	0	9	32	126	282	399	563	569	396	173	21	0	0	9	41	167	449	848	1411	1980	2376	2549	2570	2570
50	0	1	2	53	149	249	408	414	250	69	0	0	0	1	3	56	205	454	862	1276	1526	1595	1595	1595
55	0	0	0	13	63	126	253	260	120	19	0	0	0	0	0	13	76	202	455	715	835	854	854	854
60	0	0	0	1	22	45	122	123	37	1	0	0	0	0	0	1	23	68	190	313	350	351	351	351
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	25	66	149	238	297	420	426	299	151	17	0	0	25	91	240	478	775	1195	1621	1920	2071	2088	2088

(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