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: BICKLETON, WA **COOP ID: 450668**

Climate Division: WA 8 **NWS Call Sign:** **Elevation: 3,015 Feet** **Lat: 46˚00N** **Lon: 120˚18W**

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	36.1	22.8	29.5	66	1971	31	38.4	1994	-13+	1950	30	17.7	1979	1102	0	.0	.0	1.7	8.6	26.2	.9
Feb	40.3	25.9	33.1	65+	1963	23	40.3	1991	-12	1996	3	23.3	1989	893	0	.0	.0	3.8	5.1	23.1	.6
Mar	48.2	30.5	39.4	70+	1966	29	44.6	1992	1	1955	5	33.5	1971	794	0	.0	.0	11.8	.4	19.5	.0
Apr	55.9	34.4	45.2	85	1977	24	50.2	1987	13	1960	12	39.8	1975	596	0	.0	.0	23.4	.0	12.7	.0
May	64.5	40.1	52.3	92	1986	31	57.4	1993	20+	1960	21	47.6	1977	396	3	.0	.1	30.2	.0	4.9	.0
Jun	72.8	46.1	59.5	101	1992	24	66.8	1992	27	1976	2	54.4	1980	204	38	.1	.5	30.0	.0	.6	.0
Jul	81.4	52.4	66.9	102+	1960	18	74.2	1985	30	1973	22	59.7	1993	73	133	.4	6.9	31.0	.0	@	.0
Aug	81.9	53.0	67.5	102	1961	4	73.1	1986	30	1964	28	62.0	1975	61	137	.1	5.1	31.0	.0	.0	.0
Sep	72.4	46.2	59.3	97	1998	2	65.1	1987	27+	1972	27	53.6	1971	216	45	.0	1.0	29.8	.0	.5	.0
Oct	60.1	37.4	48.8	87	1980	8	57.3	1988	9	1935	30	43.9	1984	505	2	.0	.0	26.7	@	7.6	.0
Nov	43.5	28.7	36.1	69	1936	19	41.5	1995	-6+	1955	15	23.8	1985	867	0	.0	.0	6.5	2.9	20.4	.2
Dec	36.1	22.8	29.5	65+	1950	21	36.8	1980	-17+	1990	30	20.6+	1985	1103	0	.0	.0	1.4	8.9	26.9	.9
Ann	57.8	36.7	47.3	102+	Aug 1961	4	74.2	Jul 1985	-17+	Dec 1990	30	17.7	Jan 1979	6810	358	.6	13.6	227.3	25.9	142.4	2.6

\+ 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

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: BICKLETON, WA **COOP ID: 450668**

Climate Division: WA 8 **NWS Call Sign:** **Elevation: 3,015 Feet** **Lat: 46°00N** **Lon: 120°18W**

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	2.08	1.88	1.78	1974	15	5.50	1974	.16	1977
Feb	1.62	1.65	1.42	1961	9	3.71	1999	.05	1988
Mar	1.27	1.08	1.20	1935	25	3.65	1983	.06	1981
Apr	.81	.69	1.05+	1962	27	1.91	1996	.00	1977
May	.91	.81	1.06	1995	8	2.11	1995	.14	1973
Jun	.69	.53	1.29	1991	19	2.91	1991	.03	1996
Jul	.35	.16	1.35	1966	2	2.20	1978	.00+	1984
Aug	.38	.19	1.16	1990	21	1.58	1990	.00+	1996
Sep	.55	.44	1.07	1971	1	2.08	1971	.00+	1991
Oct	.80	.74	1.23	1997	31	2.30	1997	.00	1993
Nov	2.10	1.88	2.08	1996	19	5.48	1984	.10	1976
Dec	2.25	1.89	3.30	1964	22	5.53	1987	.26	1976
Ann	13.81	13.95	3.30	Dec 1964	22	5.53	Dec 1987	.00+	Aug 1996

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.9	6.3	1.1	.1
Feb	10.2	5.2	.5	@
Mar	10.2	4.0	.3	.0
Apr	7.3	2.5	.3	.0
May	7.4	2.7	.2	@
Jun	5.3	1.9	.2	@
Jul	3.0	.9	.2	.0
Aug	2.9	1.2	.1	@
Sep	4.0	1.7	.2	@
Oct	5.7	2.3	.3	.1
Nov	11.9	5.5	.9	.1
Dec	11.1	6.5	.8	.2
Ann	89.9	40.7	5.1	.5

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	.30	.47	.77	1.05	1.36	1.69	2.07	2.54	3.17	4.19	5.18
Feb	.38	.53	.76	.98	1.19	1.41	1.67	1.97	2.36	2.99	3.58
Mar	.21	.32	.50	.67	.85	1.05	1.27	1.55	1.91	2.51	3.07
Apr	.07	.17	.30	.42	.54	.67	.82	1.00	1.24	1.63	2.01
May	.14	.22	.35	.48	.61	.75	.91	1.12	1.38	1.82	2.24
Jun	.05	.09	.18	.27	.38	.50	.65	.84	1.10	1.54	1.98
Jul	.00	.00	.03	.08	.14	.21	.30	.42	.59	.90	1.20
Aug	.00	.00	.00	.03	.09	.17	.28	.43	.66	1.07	1.49
Sep	.00	.00	.07	.15	.25	.36	.49	.67	.91	1.32	1.74
Oct	.01	.05	.15	.26	.38	.54	.72	.96	1.30	1.89	2.48
Nov	.31	.49	.79	1.08	1.38	1.72	2.10	2.57	3.20	4.22	5.21
Dec	.36	.56	.88	1.19	1.51	1.86	2.26	2.75	3.40	4.45	5.47
Ann	8.22	9.23	10.56	11.60	12.54	13.47	14.43	15.52	16.86	18.84	20.58

\+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Services

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: BICKLETON, WA **COOP ID: 450668**

Climate Division: WA 8 **NWS Call Sign:** **Elevation: 3,015 Feet** **Lat: 46˚00N** **Lon: 120˚18W**

Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

Snow Fall >= Thresholds

Snow Depth >= Thresholds

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year	0.1	1.0	3.0	5.0	10.0	1	3	5	10
Jan	8.8	6.6	3	2	10.0	1980	9	28.5	1993	37	1993	20	22	1993	5.0	3.3	1.0	.1	@	13.2	6.7	4.2	1.8
Feb	5.1	4.7	1	1	7.0	1994	24	13.8	1994	13	1993	27	5	1993	3.5	1.8	.5	.2	.0	6.4	3.4	2.3	.8
Mar	1.8	.5	#	#	4.0	1985	27	7.5	1985	10	1993	1	2	1993	1.6	.7	.1	.0	.0	1.5	.4	.2	@
Apr	.7	.0	#	0	5.7	1978	6	6.5	1982	6	1978	6	#+	1996	.4	.2	.1	.1	.0	.1	.1	.1	.0
May	.1	.0	#	0	1.5	1981	5	1.5	1981	1	1981	5	#+	1996	.1	@	.0	.0	.0	@	.0	.0	.0
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.2	.0	#	0	3.0	1971	30	3.5	1971	3	1971	30	#+	1991	.2	.1	@	.0	.0	.2	@	.0	.0
Nov	4.3	1.4	1	#	16.0	1996	19	19.7	1973	19	1978	23	4	1996	2.5	1.3	.5	.2	.1	3.6	2.3	.9	.2
Dec	9.0	7.3	2	1	8.0	1981	15	36.0	1992	15	1992	31	7	1992	5.2	3.5	1.1	.2	.0	13.6	8.6	4.5	.6
Ann	30.0	20.5	N/A	N/A	16.0	Nov 1996	19	36.0	Dec 1992	37	Jan 1993	20	22	Jan 1993	18.5	10.9	3.3	.8	.1	38.6	21.5	12.2	3.4

+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: BICKLETON, WA **COOP ID: 450668**

Climate Division: WA 8 **NWS Call Sign:** **Elevation: 3,015 Feet** **Lat: 46˚00N** **Lon: 120˚18W**

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	7/16	7/06	6/29	6/23	6/18	6/12	6/07	5/31	5/21
32	6/17	6/10	6/04	5/31	5/27	5/22	5/18	5/12	5/05
28	5/23	5/17	5/12	5/08	5/04	5/01	4/27	4/22	4/15
24	5/01	4/19	4/11	4/04	3/28	3/21	3/14	3/06	2/22
20	4/02	3/22	3/14	3/07	3/01	2/22	2/16	2/07	1/27
16	3/10	2/26	2/17	2/10	2/03	1/27	1/20	1/12	12/31

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	9/08	9/13	9/17	9/21	9/24	9/27	9/30	10/04	10/10
32	9/22	9/28	10/02	10/06	10/10	10/13	10/17	10/21	10/28
28	10/06	10/11	10/15	10/19	10/22	10/25	10/29	11/02	11/07
24	10/20	10/26	10/30	11/03	11/06	11/10	11/13	11/18	11/24
20	10/25	11/02	11/08	11/14	11/19	11/23	11/29	12/05	12/13
16	11/02	11/12	11/18	11/24	11/30	12/05	12/11	12/18	12/28

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	130	119	111	104	97	91	84	76	64
32	162	153	146	141	135	130	124	118	108
28	195	187	180	175	170	165	160	153	145
24	261	248	238	230	222	215	207	197	184
20	304	290	279	270	262	254	245	234	220
16	341	321	310	302	294	287	279	270	257

***** 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: BICKLETON, WA **COOP ID: 450668**

Climate Division: WA 8 **NWS Call Sign:** **Elevation: 3,015 Feet** **Lat: 46˚00N** **Lon: 120˚18W**

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	1102	893	794	596	396	204	73	61	216	505	867	1103	6810
60	947	753	639	447	255	111	25	19	123	357	717	948	5341
57	854	669	546	360	181	69	12	9	81	276	627	855	4539
55	792	613	484	305	139	47	6	4	58	227	569	793	4037
50	644	473	336	181	60	14	0	0	21	124	428	638	2919
32	201	94	18	3	0	0	0	0	0	2	75	176	569

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	122	125	247	397	629	824	1083	1099	819	521	198	96	6160
55	0	0	0	9	55	180	376	389	187	33	2	0	1231
57	0	0	0	4	35	142	319	332	150	21	0	0	1003
60	0	0	0	1	16	94	240	250	103	8	0	0	712
65	0	0	0	0	3	38	133	137	45	2	0	0	358
70	0	0	0	0	0	11	58	59	15	0	0	0	143

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	9	22	63	185	410	581	860	852	600	284	41	4	9	31	94	279	689	1270	2130	2982	3582	3866	3907	3911
45	0	1	14	91	265	431	705	697	452	164	10	0	0	1	15	106	371	802	1507	2204	2656	2820	2830	2830
50	0	0	0	40	152	289	550	542	313	79	0	0	0	0	0	40	192	481	1031	1573	1886	1965	1965	1965
55	0	0	0	10	75	168	402	393	193	29	0	0	0	0	0	10	85	253	655	1048	1241	1270	1270	1270
60	0	0	0	1	35	85	265	246	101	10	0	0	0	0	0	1	36	121	386	632	733	743	743	743
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	7	30	112	250	360	547	544	371	172	15	0	0	7	37	149	399	759	1306	1850	2221	2393	2408	2408

(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