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: BUCKLEY 1 NE, WA **COOP ID: 450945**

Climate Division: WA 4 **NWS Call Sign:** **Elevation: 685 Feet** **Lat: 47˚10N** **Lon: 122˚00W**

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	44.5	31.7	38.1	70	1940	28	44.0	1995	-3	1950	18	30.7	1980	834	0	.0	.0	9.5	.9	13.1	.0
Feb	49.0	33.4	41.2	72	1986	27	47.3	1991	1	1956	15	34.4	1989	666	0	.0	.0	14.4	.3	10.5	.0
Mar	53.5	35.3	44.4	76	1934	10	48.7	1992	10	1955	5	39.9	1971	640	0	.0	.0	23.3	@	7.9	.0
Apr	58.8	38.5	48.7	86	1976	30	52.1	1992	25	1975	5	44.2	1975	491	0	.0	.0	28.3	.0	3.6	.0
May	64.6	43.2	53.9	95+	1983	29	57.9	1997	30+	1964	2	50.3	1974	345	1	.0	.2	30.8	.0	.1	.0
Jun	69.8	47.9	58.9	96+	1955	9	62.6	1992	35+	1975	9	55.0	1971	194	9	.0	.5	30.0	.0	.0	.0
Jul	75.7	50.9	63.3	102	1941	16	67.7	1985	37+	1971	3	58.1	1993	97	45	.0	2.0	31.0	.0	.0	.0
Aug	77.0	50.5	63.8	103+	1981	10	67.7+	1986	36	1973	31	59.6	1973	92	53	.1	1.8	31.0	.0	.0	.0
Sep	71.2	46.3	58.8	97	1988	3	62.4	1995	29	1983	30	54.5	1985	205	16	.0	.4	30.0	.0	@	.0
Oct	60.1	40.6	50.4	89	1987	1	53.1	1987	24	1935	30	46.7	1984	454	0	.0	.0	29.6	.0	2.2	.0
Nov	49.6	35.8	42.7	70+	1999	7	48.4	1997	2	1955	12	31.3	1985	670	0	.0	.0	16.8	.5	6.9	.0
Dec	44.1	32.1	38.1	65+	1965	3	42.2	1991	-1	1968	30	31.4	1985	834	0	.0	.0	8.6	1.3	13.9	@
Ann	59.8	40.5	50.2	103+	Aug 1981	10	67.7+	Aug 1986	-3	Jan 1950	18	30.7	Jan 1980	5522	124	.1	4.9	283.3	3.0	58.2	@

+ 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: BUCKLEY 1 NE, WA **COOP ID: 450945**

Climate Division: WA 4 **NWS Call Sign:** **Elevation: 685 Feet** **Lat: 47˚10N** **Lon: 122˚00W**

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	5.92	6.28	2.70	1965	29	10.34	1990	.85	1985
Feb	4.93	4.71	3.79	1996	8	10.20	1996	.20	1993
Mar	4.68	4.91	2.11	1993	22	7.46	1988	2.26	1992
Apr	4.09	4.23	2.92	1991	4	7.30	1991	1.69	1998
May	3.42	3.40	1.60	1997	31	6.46	1984	.94	1982
Jun	2.87	2.68	2.08	1968	1	5.26	1993	.50	1987
Jul	1.57	1.50	1.28	1979	1	5.24	1983	.00	1984
Aug	1.67	1.19	2.48	1975	18	5.85	1977	.15	1986
Sep	2.40	2.58	1.83	1959	26	6.77	1978	.01	1993
Oct	4.01	3.53	3.11	1934	25	7.93	1975	1.03	1987
Nov	7.13	7.41	3.17	1986	24	12.60	1999	1.96	1976
Dec	6.00	5.51	3.14	1933	9	10.91	1996	1.19	1985
Ann	48.69	49.07	3.79	Feb 1996	8	12.60	Nov 1999	.00	Jul 1984

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	18.6	13.2	3.8	1.1
Feb	16.7	11.8	3.0	.8
Mar	18.6	12.9	2.5	.2
Apr	17.0	11.7	2.0	.3
May	15.5	9.8	1.7	.3
Jun	11.8	7.6	1.7	.2
Jul	7.3	3.7	1.0	.2
Aug	6.7	4.1	1.0	.2
Sep	9.8	6.3	1.4	.2
Oct	14.3	10.0	2.7	.4
Nov	20.0	15.0	4.8	1.5
Dec	19.6	13.5	3.9	1.0
Ann	175.9	119.6	29.5	6.4

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	1.98	2.54	3.37	4.06	4.73	5.42	6.18	7.06	8.19	9.94	11.56
Feb	1.25	1.71	2.43	3.06	3.69	4.35	5.09	5.96	7.10	8.91	10.60
Mar	2.45	2.83	3.35	3.76	4.13	4.51	4.90	5.35	5.91	6.75	7.50
Apr	1.74	2.11	2.63	3.05	3.45	3.86	4.29	4.79	5.42	6.38	7.26
May	1.38	1.69	2.14	2.50	2.85	3.20	3.58	4.02	4.57	5.42	6.19
Jun	.94	1.21	1.61	1.95	2.28	2.62	2.99	3.43	3.99	4.85	5.65
Jul	.06	.19	.42	.65	.90	1.18	1.51	1.93	2.51	3.47	4.42
Aug	.15	.26	.48	.71	.97	1.26	1.60	2.03	2.63	3.62	4.59
Sep	.12	.25	.53	.85	1.22	1.65	2.19	2.88	3.86	5.53	7.21
Oct	1.22	1.60	2.17	2.66	3.13	3.63	4.17	4.81	5.63	6.92	8.12
Nov	2.64	3.31	4.27	5.07	5.83	6.61	7.46	8.44	9.70	11.63	13.40
Dec	2.14	2.71	3.53	4.21	4.87	5.54	6.27	7.12	8.21	9.89	11.44
Ann	37.05	39.37	42.30	44.50	46.44	48.31	50.23	52.33	54.87	58.52	61.65

\+ 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: BUCKLEY 1 NE, WA **COOP ID: 450945**

Climate Division: WA 4 **NWS Call Sign:** **Elevation: 685 Feet** **Lat: 47°10N** **Lon: 122°00W**

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	2.4	.0	#	0	8.8	1972	25	18.2	1972	12+	1980	10	5	1980	1.4	1.0	.5	.3	.0	1.0	.7	.4	.1
Feb	2.2	.0	#	0	10.0	1994	23	11.0+	1994	7	1985	9	2	1985	.9	.7	.2	.2	@	1.0	.8	.4	.0
Mar	.9	.0	#	0	11.3	1989	1	11.3	1989	1+	1976	1	#+	1976	.3	.3	.1	@	@	.2	.0	.0	.0
Apr	.0	.0	#	0	1.0	1980	6	1.0	1980	#+	1984	25	#+	1984	@	@	.0	.0	.0	.0	.0	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.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	.1	.0	#	0	2.0	1971	27	2.0	1971	#	1971	27	#	1971	@	@	.0	.0	.0	.0	.0	.0	.0
Nov	1.3	.0	#	0	8.0	1996	19	18.5	1985	11	1985	28	3	1985	.5	.5	.2	.1	.0	.6	.4	.4	.1
Dec	2.9	.5	#	0	15.0	1974	27	15.0	1974	15	1974	27	2	1972	1.3	.9	.3	.1	@	1.3	.7	.3	.1
Ann	9.8	.5	N/A	N/A	15.0	Dec 1974	27	18.5	Nov 1985	15	Dec 1974	27	5	Jan 1980	4.4	3.4	1.3	.7	@	4.1	2.6	1.5	.3

+ 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: BUCKLEY 1 NE, WA **COOP ID: 450945**

Climate Division: WA 4 **NWS Call Sign:** **Elevation: 685 Feet** **Lat: 47˚10N** **Lon: 122˚00W**

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	5/26	5/20	5/15	5/11	5/06	5/01	4/25	4/17
32	5/09	5/03	4/27	4/23	4/19	4/15	4/11	4/06	3/30
28	4/12	4/02	3/26	3/20	3/14	3/08	3/02	2/23	2/13
24	3/08	2/26	2/19	2/13	2/07	2/02	1/27	1/19	1/10
20	2/23	2/11	2/03	1/27	1/20	1/13	1/05	12/24	0/00
16	2/17	2/02	1/22	1/10	12/27	0/00	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	9/18	9/24	9/28	10/01	10/04	10/07	10/11	10/15	10/20
32	10/05	10/10	10/14	10/17	10/20	10/23	10/26	10/29	11/03
28	10/20	10/30	11/05	11/11	11/17	11/22	11/28	12/04	12/14
24	11/11	11/21	11/28	12/05	12/10	12/16	12/23	12/30	1/09
20	11/26	12/07	12/16	12/23	12/31	1/07	1/17	1/31	0/00
16	12/10	12/22	1/01	1/12	1/26	0/00	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	178	167	159	152	146	140	133	125	114
32	207	199	193	188	183	178	173	167	158
28	288	274	263	255	247	238	230	220	205
24	348	332	321	313	305	297	289	279	265
20	>365	>365	>365	351	340	331	322	312	299
16	>365	>365	>365	>365	>365	>365	>365	348	318

***** 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: BUCKLEY 1 NE, WA **COOP ID: 450945**

Climate Division: WA 4 **NWS Call Sign:** **Elevation: 685 Feet** **Lat: 47˚10N** **Lon: 122˚00W**

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	834	666	640	491	345	194	97	92	205	454	670	834	5522
60	679	526	485	341	201	83	27	25	99	300	520	679	3965
57	586	442	392	253	128	40	9	9	54	211	435	586	3145
55	524	386	332	198	89	21	4	3	32	158	379	524	2650
50	380	256	192	86	24	2	0	0	6	58	249	376	1629
32	40	9	1	0	0	0	0	0	0	0	15	31	96

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	230	267	384	499	678	805	970	984	802	569	335	220	6743
55	0	0	2	8	54	136	261	274	144	14	9	0	902
57	0	0	0	3	31	95	204	218	105	5	5	0	666
60	0	0	0	0	11	48	129	141	61	1	0	0	391
65	0	0	0	0	1	9	45	53	16	0	0	0	124
70	0	0	0	0	0	0	8	10	3	0	0	0	21

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	83	115	179	281	463	586	741	758	593	350	151	70	83	198	377	658	1121	1707	2448	3206	3799	4149	4300	4370
45	28	42	69	150	308	436	586	603	443	205	60	20	28	70	139	289	597	1033	1619	2222	2665	2870	2930	2950
50	1	5	18	60	168	286	431	448	293	92	13	0	1	6	24	84	252	538	969	1417	1710	1802	1815	1815
55	0	0	0	18	73	150	278	294	156	25	0	0	0	0	0	18	91	241	519	813	969	994	994	994
60	0	0	0	1	26	58	138	147	60	3	0	0	0	0	0	1	27	85	223	370	430	433	433	433
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	22	43	90	152	254	328	443	461	346	177	49	11	22	65	155	307	561	889	1332	1793	2139	2316	2365	2376

(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