

Climatography of the United States No. 20

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: BATTLE GROUND, WA

1971-2000

COOP ID: 450482

Climate Division: WA 4

NWS Call Sign:

Elevation: 284 Feet

Lat: 45° 47N

Lon: 122° 32W

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	46.0	31.8	38.9	68	1981	22	43.5	1983	-11	1950	31	31.4	1979	809	0	.0	.0	9.3	.7	16.0	.0
Feb	50.5	33.5	42.0	74	1968	29	47.3	1992	-9	1950	2	33.9	1989	644	0	.0	.0	15.5	.3	12.0	.0
Mar	55.3	36.0	45.7	80	1994	27	50.2	1992	16	1955	5	40.9	1975	599	0	.0	.0	24.2	.0	9.5	.0
Apr	59.8	38.9	49.4	91	1957	30	53.1	1992	25+	2001	3	43.8	1975	470	0	.0	@	27.8	.0	4.3	.0
May	65.9	43.8	54.9	101	1983	29	58.7	1997	26	1954	1	51.7	1977	317	1	@	.5	30.7	.0	.3	.0
Jun	71.2	48.1	59.7	100	1982	19	63.3	1978	32	1966	4	56.2	1971	172	11	@	.9	30.0	.0	.0	.0
Jul	77.7	50.8	64.3	107	1956	20	68.3	1985	35	1968	6	60.0	1993	82	59	.1	3.2	31.0	.0	.0	.0
Aug	79.1	50.2	64.7	105	1981	11	68.8	1977	35+	1948	14	59.4	1975	78	66	.5	3.9	31.0	.0	.0	.0
Sep	74.8	46.2	60.5	105	1988	3	64.8	1974	26	1950	30	56.3	1985	158	23	.1	1.8	30.0	.0	.4	.0
Oct	63.8	40.0	51.9	93+	1987	2	55.2	1979	22	1949	19	49.5	1990	407	0	.0	.1	30.2	.0	4.3	.0
Nov	51.9	36.5	44.2	72+	1970	3	48.9	1995	4	1955	15	36.1	1985	623	0	.0	.0	19.2	.2	8.9	.0
Dec	45.4	32.6	39.0	65	1993	10	43.8	1979	-1	1978	31	32.1	1985	806	0	.0	.0	8.2	1.2	14.2	@
Ann	61.8	40.7	51.3	107	Jul 1956	20	68.8	Aug 1977	-11	Jan 1950	31	31.4	Jan 1979	5165	160	.7	10.4	287.1	2.4	69.9	@

+ 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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1948-2001

(3) Derived from 1971-2000 serially complete daily data

006-A

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Elevation: 284 Feet Lat: 45°47N

Lon: 122°32W

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	7.05	7.70	2.75	1982	23	12.01	1990	.36	1985	19.6	14.4	5.1	1.2	1.81	2.47	3.50	4.40	5.29	6.23	7.27	8.51	10.13	12.69	15.08
Feb	5.92	5.74	2.86	1949	10	12.38	1996	.76	1993	17.6	13.1	3.7	1.0	2.05	2.61	3.42	4.11	4.76	5.44	6.18	7.04	8.14	9.85	11.41
Mar	5.52	5.43	2.11	1993	23	8.87	1989	1.95	1992	18.7	13.5	3.6	.5	2.65	3.12	3.78	4.30	4.78	5.27	5.79	6.38	7.12	8.23	9.24
Apr	4.24	4.22	2.20	1991	5	10.02	1993	1.60	1977	17.0	11.4	2.4	.2	1.66	2.06	2.61	3.08	3.51	3.96	4.44	5.00	5.70	6.79	7.78
May	3.26	3.27	1.60	1991	18	6.44	1998	.29	1992	14.2	8.5	1.7	.3	.81	1.12	1.59	2.01	2.43	2.87	3.36	3.94	4.70	5.90	7.03
Jun	2.47	2.41	2.30	1985	7	5.87	1981	.77	1987	10.4	6.4	1.3	.3	.78	1.02	1.36	1.66	1.95	2.25	2.57	2.96	3.45	4.22	4.93
Jul	1.02	.81	1.45+	1995	10	4.33	1983	.00+	1984	5.3	2.5	.5	.2	.00	.06	.20	.35	.52	.72	.96	1.25	1.66	2.36	3.06
Aug	1.27	.95	2.08	1977	24	4.80	1976	.00	1998	5.4	2.8	.8	.2	.03	.10	.26	.44	.64	.88	1.17	1.55	2.07	2.96	3.85
Sep	2.47	2.26	2.32	1996	15	6.46	1977	.00	1993	9.7	5.6	1.6	.4	.10	.31	.67	1.03	1.42	1.87	2.39	3.04	3.93	5.42	6.88
Oct	4.15	3.50	2.34	1994	27	9.10	1997	.14	1987	14.2	8.6	2.8	.6	.62	.97	1.57	2.15	2.74	3.40	4.15	5.07	6.31	8.32	10.26
Nov	7.98	7.94	3.44	1996	19	13.74	1973	1.54	1976	20.9	15.5	5.7	1.3	2.60	3.36	4.47	5.42	6.34	7.28	8.32	9.53	11.09	13.51	15.74
Dec	8.02	7.59	2.55	1980	25	14.47	1996	2.43	1985	20.7	15.1	5.7	1.8	3.21	3.95	5.00	5.86	6.68	7.51	8.40	9.43	10.74	12.75	14.58
Ann	53.37	53.21	3.44	Nov 1996	19	14.47	Dec 1996	.00+	Aug 1998	173.7	117.4	34.9	8.0	39.18	41.96	45.51	48.18	50.55	52.84	55.19	57.78	60.91	65.44	69.35

+ 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: 1948-2001

(3) Derived from 1971-2000 serially complete daily data

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Station: BATTLE GROUND, WA

COOP ID: 450482

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NWS Call Sign:

Elevation: 284 Feet

Lat: 45° 47N

Lon: 122° 32W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	1.4	.0	#	0	4.5	1996	27	9.0	1971	5	1971	14	#+	1996	.9	.6	.1	.0	.0	.6	.2	.1	.0
Feb	1.8	.0	#	0	5.0	1971	26	11.0	1990	5	1971	28	1	1971	.8	.8	.2	.1	.0	.4	.2	.1	.0
Mar	.2	.0	#	0	3.0	1974	3	3.5	1971	11	1989	3	7	1989	.2	.1	.0	.0	.0	.3	.2	.0	.0
Apr	#	.0	0	0	#	1976	15	#+	1976	0	0	0	0	0	.0	.0	.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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.1	.0	#	0	1.1	1977	18	1.1	1977	5	1977	22	1	1977	.1	.1	.0	.0	.0	.3	.0	.0	.0
Dec	1.0	.0	#	0	6.0	1971	29	9.0	1971	3	1975	13	#+	2000	.7	.4	.1	.1	.0	.1	.0	.0	.0
Ann	4.5	.0	N/A	N/A	6.0	Dec 1971	29	11.0	Feb 1990	11	Mar 1989	3	7	Mar 1989	2.7	2.0	.4	.2	.0	1.7	.6	.2	.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

Complete documentation available from:

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NWS Call Sign:

Elevation: 284 Feet

Lat: 45° 47N

Lon: 122° 32W

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	6/07	6/01	5/28	5/24	5/21	5/17	5/14	5/10	5/04
32	5/12	5/06	5/01	4/28	4/24	4/21	4/17	4/13	4/07
28	4/16	4/06	3/30	3/24	3/19	3/14	3/08	3/01	2/19
24	3/03	2/23	2/17	2/12	2/07	2/02	1/28	1/22	1/14
20	2/22	2/12	2/04	1/28	1/21	1/14	1/04	12/18	0/00
16	2/09	1/28	1/19	1/10	12/29	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	9/10	9/17	9/22	9/26	9/29	10/03	10/07	10/12	10/18
32	9/27	10/02	10/06	10/10	10/13	10/16	10/20	10/24	10/29
28	10/17	10/25	10/30	11/04	11/08	11/13	11/17	11/23	12/01
24	11/03	11/13	11/20	11/26	12/02	12/08	12/14	12/21	12/31
20	11/24	12/06	12/16	12/24	1/01	1/10	1/21	2/11	0/00
16	12/08	12/23	1/03	1/15	1/29	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	157	148	142	136	131	126	120	114	105
32	195	187	181	176	171	167	162	156	148
28	264	254	246	240	234	228	221	213	203
24	337	324	314	305	298	290	281	272	258
20	>365	>365	>365	>365	353	337	325	313	298
16	>365	>365	>365	>365	>365	>365	>365	355	326

* 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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Elevation: 284 Feet Lat: 45°47N Lon: 122°32W

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	809	644	599	470	317	172	82	78	158	407	623	806	5165
60	654	504	444	320	176	68	20	19	63	254	473	651	3646
57	561	420	353	234	109	30	7	7	28	168	388	558	2863
55	499	365	296	180	73	14	2	2	14	118	332	497	2392
50	351	236	164	75	18	1	0	0	1	35	206	349	1436
32	22	6	0	0	0	0	0	0	0	0	7	21	56

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	237	286	424	521	708	829	1001	1011	855	616	374	238	7100
55	0	1	6	11	68	153	289	300	179	21	9	0	1037
57	0	0	2	5	42	108	232	243	133	9	5	0	779
60	0	0	0	0	16	57	153	162	79	2	0	0	469
65	0	0	0	0	1	11	59	66	23	0	0	0	160
70	0	0	0	0	0	0	12	14	4	0	0	0	30

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	67	114	190	291	468	595	757	769	623	376	160	71	67	181	371	662	1130	1725	2482	3251	3874	4250	4410	4481
45	17	36	81	153	315	445	602	614	473	228	68	22	17	53	134	287	602	1047	1649	2263	2736	2964	3032	3054
50	0	4	22	62	175	296	447	459	324	104	15	0	0	4	26	88	263	559	1006	1465	1789	1893	1908	1908
55	0	0	0	20	82	159	293	307	184	36	0	0	0	0	0	20	102	261	554	861	1045	1081	1081	1081
60	0	0	0	2	31	66	156	162	82	7	0	0	0	0	0	2	33	99	255	417	499	506	506	506
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	22	50	99	157	257	337	458	468	380	222	60	20	22	72	171	328	585	922	1380	1848	2228	2450	2510	2530

(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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normal/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 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.

- | | |
|---|---|
| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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