

# 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: CENTRALIA, WA

1971-2000

COOP ID: 451276

Climate Division: WA 3

NWS Call Sign:

Elevation: 185 Feet

Lat: 46° 43N

Lon: 122° 57W

## 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	47.3	35.1	41.2	68	1935	31	45.3	1994	1	1979	1	34.3	1979	738	0	.0	.0	10.0	.6	11.5	.0
Feb	51.6	36.5	44.1	75	1938	27	48.8	1991	0	1989	4	36.0	1989	587	0	.0	.0	15.7	.2	9.3	@
Mar	56.5	38.4	47.5	82+	1947	16	51.5	1992	16	1960	1	43.2	1971	544	0	.0	.0	25.8	.0	7.1	.0
Apr	62.1	41.0	51.6	91	1934	20	54.7	1989	24	1936	4	46.9	1975	403	0	.0	.0	29.0	.0	3.3	.0
May	68.3	46.2	57.3	98	1983	28	61.5	1993	27	1954	1	53.7	1996	246	6	.0	.3	31.0	.0	.2	.0
Jun	73.6	50.5	62.1	100+	1955	9	65.7	1992	31	1933	10	58.5	1971	115	26	.0	1.1	30.0	.0	.0	.0
Jul	79.2	54.0	66.6	104+	1941	16	70.3	1998	37+	1962	2	63.2	1993	38	87	.2	3.1	31.0	.0	.0	.0
Aug	80.0	54.0	67.0	103+	1981	10	70.5	1977	34	1932	8	63.1	1973	38	100	.1	2.9	31.0	.0	.0	.0
Sep	74.8	49.7	62.3	100+	1988	2	65.9	1974	30+	1972	27	58.6	1983	119	36	@	.9	30.0	.0	.1	.0
Oct	63.5	43.5	53.5	92	1987	1	57.0	1988	21	1971	28	50.9	1984	357	0	.0	@	30.3	.0	1.3	.0
Nov	52.5	39.1	45.8	75	1937	7	50.4	1995	5	1955	15	37.2	1985	576	0	.0	.0	19.4	.2	5.7	.0
Dec	46.8	35.6	41.2	68+	1952	12	45.6	1979	0	1978	31	34.8	1990	739	0	.0	.0	8.8	1.1	10.4	@
Ann	63.0	43.6	53.4	104+	Jul 1941	16	70.5	Aug 1977	0+	Feb 1989	4	34.3	Jan 1979	4500	255	.3	8.3	292.0	2.1	48.9	.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](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Issue Date: February 2004

(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

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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	6.50	6.09	4.13	1990	9	14.63	1990	.34	1985	20.3	13.4	4.2	1.1	1.60	2.21	3.16	4.00	4.83	5.71	6.69	7.86	9.39	11.81	14.08
Feb	5.53	5.23	3.34	1996	8	12.56	1999	.17	1993	18.6	12.7	3.6	.9	1.44	1.97	2.77	3.48	4.17	4.90	5.71	6.68	7.93	9.91	11.76
Mar	4.92	4.71	1.90	1987	3	8.94	1997	1.57	1992	19.0	12.9	3.1	.3	2.29	2.72	3.31	3.79	4.24	4.68	5.16	5.70	6.39	7.42	8.35
Apr	3.46	2.89	2.71	1991	4	7.69	1996	.92	1977	15.9	9.4	1.9	.2	1.19	1.51	1.99	2.39	2.78	3.17	3.61	4.11	4.76	5.76	6.68
May	2.52	2.38	1.38	1948	5	5.10	1984	.34	1992	13.0	7.6	1.0	.1	.72	.96	1.32	1.63	1.94	2.26	2.61	3.02	3.56	4.41	5.19
Jun	1.93	1.91	1.70	1936	7	4.52	1984	.24	1987	10.2	5.5	1.1	.1	.61	.79	1.07	1.30	1.53	1.76	2.01	2.31	2.70	3.30	3.86
Jul	.81	.72	1.63	1995	9	2.38	1974	.00	1984	5.5	2.4	.4	.1	.07	.15	.29	.41	.53	.66	.82	1.01	1.26	1.67	2.06
Aug	1.14	.89	2.21	1963	23	4.15	1977	.02	1998	5.6	3.2	.6	@	.08	.15	.29	.44	.62	.82	1.06	1.38	1.81	2.54	3.27
Sep	2.00	2.09	1.73	1979	3	6.73	1978	.00	1990	8.6	5.1	1.4	.1	.01	.08	.26	.51	.81	1.20	1.69	2.35	3.30	4.98	6.69
Oct	4.03	3.42	3.22	1942	31	8.39	1997	.44	1978	13.8	8.7	2.6	.7	.74	1.10	1.69	2.24	2.80	3.40	4.09	4.92	6.02	7.79	9.48
Nov	7.29	7.10	3.96	1990	24	12.84	1995	1.24	1976	21.2	14.6	5.3	1.3	2.25	2.94	3.98	4.86	5.72	6.61	7.58	8.73	10.21	12.52	14.66
Dec	7.36	7.87	3.95	1933	9	14.32	1996	2.08	1985	21.9	14.0	5.0	1.8	2.63	3.32	4.33	5.17	5.97	6.79	7.69	8.73	10.06	12.12	14.01
Ann	47.49	48.11	4.13	Jan 1990	9	14.63	Jan 1990	.00+	Sep 1990	173.6	109.5	30.2	6.7	33.42	36.13	39.61	42.25	44.60	46.88	49.23	51.83	54.99	59.57	63.54

+ 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:  
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**Climate Division: WA 3**

**NWS Call Sign:**

**Elevation: 185 Feet**

**Lat: 46° 43N**

**Lon: 122° 57W**

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	1.1	.0	#	0	5.0	1971	13	9.0	1971	11	1980	10	2	1972	.7	.6	.1	.1	.0	.4	.1	.1	.0
Feb	1.2	.0	#	0	5.5	1971	27	10.0	1980	8	1980	15	1	1980	.5	.4	.2	.1	.0	.3	.1	.1	.0
Mar	.1	.0	#	0	1.8	1989	1	1.8	1989	#+	1974	3	#+	1974	.1	.1	.0	.0	.0	.0	.0	.0	.0
Apr	#	.0	0	0	#	1975	4	#+	1975	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	.3	.0	0	0	3.5	1985	21	3.5	1985	4	1985	23	1	1985	.1	.1	.1	.0	.0	.4	.4	.0	.0
Dec	.7	.0	#	0	4.0	1983	21	4.0	1971	5	1972	12	2	1984	.6	.6	.1	.0	.0	.2	.1	.0	.0
Ann	3.4	.0	N/A	N/A	5.5	Feb 1971	27	10.0	Feb 1980	11	Jan 1980	10	2+	Dec 1984	2.0	1.8	.5	.2	.0	1.3	.7	.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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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	5/26	5/20	5/16	5/12	5/09	5/05	5/02	4/27	4/21
32	5/08	5/01	4/26	4/22	4/18	4/13	4/09	4/04	3/28
28	4/12	3/30	3/21	3/13	3/05	2/26	2/18	2/09	1/27
24	3/06	2/23	2/15	2/08	2/02	1/26	1/19	1/09	12/23
20	2/21	2/10	2/01	1/24	1/17	1/08	12/29	12/10	0/00
16	2/08	1/25	1/13	1/01	12/18	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	9/27	10/02	10/06	10/09	10/12	10/15	10/18	10/21	10/26
32	10/05	10/14	10/20	10/25	10/30	11/04	11/09	11/15	11/24
28	10/24	11/03	11/10	11/16	11/22	11/28	12/04	12/11	12/21
24	11/07	11/18	11/25	12/02	12/09	12/15	12/23	1/01	1/19
20	11/24	12/06	12/16	12/24	1/01	1/11	1/23	0/00	0/00
16	12/02	12/17	12/28	1/09	1/24	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	181	172	166	160	155	150	145	138	130
32	232	219	210	202	195	187	180	170	158
28	313	292	279	268	258	249	238	226	209
24	>365	352	330	318	308	299	290	280	266
20	>365	>365	>365	>365	351	333	321	309	294
16	>365	>365	>365	>365	>365	>365	>365	350	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:  
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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	738	587	544	403	246	115	38	38	119	357	576	739	4500
60	583	447	389	256	120	36	5	6	40	207	426	584	3099
57	490	363	299	174	67	12	0	1	15	128	342	491	2382
55	429	311	241	127	40	5	0	0	7	85	287	430	1962
50	286	185	119	43	7	0	0	0	0	22	168	286	1116
32	11	2	0	0	0	0	0	0	0	0	3	11	27

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	296	339	479	587	783	902	1073	1085	907	666	418	296	7831
55	1	4	8	24	110	217	360	372	224	38	11	1	1370
57	0	0	3	11	75	164	298	310	172	19	6	0	1058
60	0	0	0	3	35	97	210	223	107	4	0	0	679
65	0	0	0	0	6	26	87	100	36	0	0	0	255
70	0	0	0	0	0	3	19	27	7	0	0	0	56

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	94	134	215	329	521	645	809	821	649	403	183	93	94	228	443	772	1293	1938	2747	3568	4217	4620	4803	4896
45	33	51	91	189	366	495	654	666	499	254	79	30	33	84	175	364	730	1225	1879	2545	3044	3298	3377	3407
50	1	6	25	82	215	345	499	511	350	125	19	0	1	7	32	114	329	674	1173	1684	2034	2159	2178	2178
55	0	0	0	27	98	199	344	356	207	39	0	0	0	0	0	27	125	324	668	1024	1231	1270	1270	1270
60	0	0	0	3	35	83	193	203	89	7	0	0	0	0	0	3	38	121	314	517	606	613	613	613
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	22	45	102	179	286	370	491	508	387	203	53	18	22	67	169	348	634	1004	1495	2003	2390	2593	2646	2664

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

- 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/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)