

# Climatography of the United States

No. 20

1971-2000

Station: WENATCHEE, WA

COOP ID: 459074

Climate Division: WA 8

NWS Call Sign:

Elevation: 640 Feet

Lat: 47° 25N

Lon: 120° 19W

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	35.1	23.2	29.2	65	1989	31	37.0	1990	-17	1950	30	16.7	1979	1111	0	.0	.0	1.9	10.0	26.5	.5
Feb	42.8	27.4	35.1	66	1988	22	41.5	1991	-18	1950	1	26.9	1989	837	0	.0	.0	6.8	3.1	21.4	.3
Mar	54.9	33.9	44.4	78	1939	24	49.6	1992	5	1960	4	39.4	1971	638	0	.0	.0	24.6	.1	11.9	.0
Apr	64.6	40.8	52.7	93	1977	25	57.9	1990	20	1935	2	48.8	1972	371	1	.0	.1	29.7	.0	2.1	.0
May	73.1	48.6	60.9	104+	1986	31	64.9	1993	27	1954	1	56.0	1977	161	32	.1	1.1	31.0	.0	.0	.0
Jun	80.1	55.5	67.8	107	1992	24	73.6	1992	39+	1976	5	64.1	1981	47	129	.3	4.8	30.0	.0	.0	.0
Jul	87.8	61.0	74.4	110+	1941	18	79.6	1985	40	1979	2	68.9	1993	7	298	2.2	14.4	31.0	.0	.0	.0
Aug	87.2	60.2	73.7	106	1977	18	79.0	1971	41+	1977	27	68.7	1995	7	277	1.7	12.7	31.0	.0	.0	.0
Sep	77.7	51.2	64.5	101	1987	2	70.5	1998	21	1936	12	59.8	1972	110	94	@	2.1	30.0	.0	.1	.0
Oct	63.7	40.8	52.3	90	1932	3	57.3	1988	19	1972	30	49.1	1984	396	1	.0	.0	30.0	.0	3.1	.0
Nov	46.0	32.2	39.1	76	1967	1	45.2	1990	0	1985	24	27.9	1985	778	0	.0	.0	11.1	1.4	15.2	@
Dec	35.7	25.2	30.5	67	1949	28	37.4	1999	-19	1968	30	21.3	1984	1070	0	.0	.0	1.6	9.1	25.1	.3
Ann	62.4	41.7	52.1	110+	Jul 1941	18	79.6	Jul 1985	-19	Dec 1968	30	16.7	Jan 1979	5533	832	4.3	35.2	258.7	23.7	105.4	1.1

+ 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](http://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: 1877-2001

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

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## No. 20 1971-2000

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

**Station: WENATCHEE, WA**

**COOP ID: 459074**

**Climate Division: WA 8**

**NWS Call Sign:**

**Elevation: 640 Feet Lat: 47°25N**

**Lon: 120°19W**

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	1.35	1.30	1.09	1946	24	3.32	1995	.10	1977	9.3	4.5	.4	@	.26	.38	.57	.76	.94	1.14	1.37	1.64	2.00	2.58	3.13
Feb	.94	.99	1.10	1963	3	2.22	1998	.02	1988	6.9	3.2	.3	.0	.10	.17	.30	.43	.57	.73	.92	1.15	1.47	1.99	2.50
Mar	.64	.53	.71	1937	20	2.07	1983	.00	1994	5.9	2.4	.1	.0	.02	.07	.17	.26	.36	.48	.61	.79	1.02	1.42	1.81
Apr	.51	.34	.80	1992	10	1.60	1992	.00+	1999	4.6	1.6	.1	.0	.00	.04	.12	.20	.28	.38	.49	.63	.82	1.14	1.45
May	.51	.31	1.04	1948	20	1.95	1981	.00	1992	4.5	1.6	.2	.0	.02	.05	.12	.20	.28	.37	.48	.63	.82	1.15	1.48
Jun	.69	.59	2.04	1972	10	2.44	1972	.00	1989	4.0	1.9	.3	.1	.01	.04	.12	.21	.32	.45	.62	.83	1.12	1.64	2.16
Jul	.30	.16	.94	1992	23	1.40	1987	.00+	1988	2.1	.9	.2	.0	.00	.00	.02	.06	.11	.17	.24	.35	.50	.78	1.06
Aug	.41	.13	2.72	1975	18	3.09	1975	.00+	2000	2.3	.9	.2	@	.00	.00	.00	.02	.08	.17	.29	.45	.70	1.15	1.61
Sep	.40	.15	1.17	1934	23	2.14	1986	.00+	1999	2.5	1.1	.2	.0	.00	.00	.00	.01	.07	.15	.28	.45	.70	1.16	1.64
Oct	.49	.37	1.03	1934	25	1.91	1997	.00+	1987	3.8	1.4	.2	.0	.00	.00	.06	.13	.21	.31	.43	.59	.82	1.22	1.62
Nov	1.36	1.31	1.30	1983	24	4.45	1983	.03	1976	9.2	4.1	.4	.1	.25	.37	.57	.75	.94	1.15	1.38	1.66	2.04	2.64	3.22
Dec	1.52	1.44	1.38	1987	10	4.17	1996	.08	1976	9.4	4.9	.5	.1	.22	.35	.56	.78	1.00	1.24	1.52	1.86	2.32	3.07	3.80
Ann	9.12	8.75	2.72	Aug 1975	18	4.45	Nov 1983	.00+	Aug 2000	64.5	28.5	3.1	.3	5.53	6.18	7.04	7.71	8.31	8.90	9.52	10.22	11.07	12.33	13.44

+ 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: 1877-2001

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

Complete documentation available from:

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**Station: WENATCHEE, WA**

**COOP ID: 459074**

**Climate Division: WA 8**

**NWS Call Sign:**

**Elevation: 640 Feet**

**Lat: 47°25N**

**Lon: 120°19W**

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	8.0	4.9	4	3	7.1	1972	18	23.8	1993	31	1993	10	19	1993	4.4	2.9	1.0	.2	.0	16.7	12.9	10.1	3.1
Feb	4.2	1.3	1	#	9.0	2000	1	21.5	1986	13	1980	17	9	1980	1.7	1.2	.5	.2	.0	4.8	3.4	2.5	.5
Mar	.5	.0	#	0	3.0	1972	1	5.0	1989	3	1989	6	#+	1997	.4	.3	@	.0	.0	.5	.1	.0	.0
Apr	.0	.0	0	0	.0	0	0	.0	0	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	.3	1991	29	.3	1991	#	1991	29	#	1991	@	.0	.0	.0	.0	.0	.0	.0	.0
Nov	2.1	.0	#	0	11.0	1975	30	12.0	1985	11	1975	30	3+	1996	.9	.6	.3	.2	@	1.7	1.4	1.0	.1
Dec	10.2	6.2	2	1	17.7	1971	9	56.5	1971	26	1996	29	15	1971	4.2	2.9	1.1	.6	.1	9.2	5.4	3.3	1.2
Ann	25.0	12.4	N/A	N/A	17.7	Dec 1971	9	56.5	Dec 1971	31	Jan 1993	10	19	Jan 1993	11.6	7.9	2.9	1.2	.1	32.9	23.2	16.9	4.9

+ 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	5/13	5/08	5/03	4/30	4/27	4/23	4/20	4/15	4/10
32	4/24	4/19	4/16	4/13	4/10	4/08	4/05	4/01	3/28
28	3/31	3/25	3/20	3/16	3/12	3/09	3/05	2/28	2/22
24	3/16	3/09	3/03	2/26	2/22	2/18	2/13	2/07	1/31
20	3/03	2/23	2/17	2/12	2/07	2/02	1/28	1/21	1/11
16	2/24	2/16	2/10	2/05	1/31	1/27	1/21	1/15	1/05
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	10/05	10/08	10/11	10/13	10/16	10/19	10/24
32	10/08	10/13	10/17	10/20	10/24	10/27	10/30	11/03	11/08
28	10/18	10/25	10/30	11/03	11/06	11/10	11/14	11/19	11/26
24	10/30	11/07	11/12	11/17	11/21	11/26	11/30	12/06	12/13
20	11/07	11/18	11/25	12/01	12/08	12/14	12/20	12/28	1/10
16	11/16	11/27	12/05	12/12	12/18	12/25	1/01	1/09	1/22
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	192	183	177	171	166	161	156	150	141
32	221	212	206	201	196	191	185	179	170
28	269	259	251	244	238	232	226	218	207
24	304	293	285	278	272	265	258	250	239
20	>365	329	317	309	301	294	287	278	266
16	>365	346	334	326	319	312	304	296	285

\* 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)**

<b>Base</b>	<b>Heating Degree Days (1)</b>												
<b>Below</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Ann</b>
<b>65</b>	1111	837	638	371	161	47	7	7	110	396	778	1070	5533
<b>60</b>	956	697	483	232	69	11	0	1	46	248	628	915	4286
<b>57</b>	863	613	392	159	34	4	0	0	23	168	538	822	3616
<b>55</b>	801	557	333	118	19	1	0	0	13	123	481	760	3206
<b>50</b>	648	422	199	45	3	0	0	0	2	44	343	608	2314
<b>32</b>	198	70	4	0	0	0	0	0	0	0	44	167	483

<b>Base</b>	<b>Cooling Degree Days (1)</b>												
<b>Above</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Ann</b>
<b>32</b>	110	157	388	620	894	1073	1313	1293	974	628	256	120	7826
<b>55</b>	0	0	4	48	201	384	600	580	297	37	3	0	2154
<b>57</b>	0	0	1	29	154	326	538	518	247	21	0	0	1834
<b>60</b>	0	0	0	11	95	244	445	426	180	8	0	0	1409
<b>65</b>	0	0	0	1	32	129	298	277	94	1	0	0	832
<b>70</b>	0	0	0	0	6	53	168	150	40	0	0	0	417

**Growing Degree Units (2)**

<b>Base</b>	<b>Growing Degree Units (Monthly)</b>												<b>Growing Degree Units (Accumulated Monthly)</b>											
	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
<b>40</b>	4	25	170	394	655	840	1068	1050	739	392	75	4	4	29	199	593	1248	2088	3156	4206	4945	5337	5412	5416
<b>45</b>	0	0	64	245	500	690	913	895	589	246	20	0	0	0	64	309	809	1499	2412	3307	3896	4142	4162	4162
<b>50</b>	0	0	16	126	346	540	758	740	440	123	3	0	0	0	16	142	488	1028	1786	2526	2966	3089	3092	3092
<b>55</b>	0	0	1	51	204	392	603	585	296	47	0	0	0	0	1	52	256	648	1251	1836	2132	2179	2179	2179
<b>60</b>	0	0	0	14	97	249	449	430	169	13	0	0	0	0	0	14	111	360	809	1239	1408	1421	1421	1421
<b>Base</b>	<b>Growing Degree Units for Corn (Monthly)</b>												<b>Growing Degree Units for Corn (Accumulated Monthly)</b>											
<b>50/86</b>	1	15	105	238	391	528	690	679	465	228	27	0	1	16	121	359	750	1278	1968	2647	3112	3340	3367	3367

(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.

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
|---|---|

## 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)