

Climatography of the United States

No. 20

1971-2000

Station: QUILCENE 2 SW, WA

COOP ID: 456846

Climate Division: WA 4

NWS Call Sign:

Elevation: 123 Feet

Lat: 47°49N

Lon: 122°55W

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	45.0	30.9	38.0	64+	1986	8	42.9	1994	3+	1950	31	32.0	1979	839	0	.0	.0	6.4	.9	19.1	.0
Feb	50.1	32.6	41.4	71	1986	27	46.8	1991	5	1950	1	33.8	1989	661	0	.0	.0	14.4	.2	14.7	.0
Mar	55.8	34.8	45.3	75+	1995	30	49.4	1992	12	1955	5	41.0	1971	611	0	.0	.0	26.0	.0	11.4	.0
Apr	61.3	38.2	49.8	84	1987	28	52.9	1992	27+	1986	6	45.1	1972	457	0	.0	.0	28.9	.0	4.9	.0
May	67.1	43.2	55.2	91+	1983	29	60.0	1993	27	1985	8	51.3	1996	308	2	.0	.2	30.9	.0	.4	.0
Jun	71.8	47.6	59.7	96+	1982	19	64.2	1992	34	1984	1	56.2	1971	172	12	.0	.9	30.0	.0	.0	.0
Jul	77.4	50.6	64.0	100	1951	12	67.7	1985	35	1954	24	60.2	1993	77	46	.0	2.4	31.0	.0	.0	.0
Aug	78.6	50.5	64.6	98+	1981	11	68.6	1977	38+	1973	19	60.7	1976	82	67	.0	2.4	31.0	.0	.0	.0
Sep	73.2	45.7	59.5	99	1988	3	63.9	1974	29	1983	29	54.4	1978	186	21	.0	.3	30.0	.0	.1	.0
Oct	62.0	39.6	50.8	83	1964	22	53.7	1993	23	1971	29	47.8	1977	441	0	.0	.0	30.4	.0	3.5	.0
Nov	50.5	34.7	42.6	74	1980	4	46.3	1995	5	1955	15	34.1	1985	673	0	.0	.0	16.0	.2	10.6	.0
Dec	44.2	31.4	37.8	65	1976	15	42.1	1979	4+	1983	24	31.6	1983	844	0	.0	.0	5.7	1.1	18.0	.0
Ann	61.4	40.0	50.7	100	Jul 1951	12	68.6	Aug 1977	3+	Jan 1950	31	31.6	Dec 1983	5351	148	.0	6.2	280.7	2.4	82.7	.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/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

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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: QUILCENE 2 SW, WA

COOP ID: 456846

Climate Division: WA 4

NWS Call Sign:

Elevation: 123 Feet Lat: 47° 49N

Lon: 122° 55W

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	7.39	6.74	4.69	1999	29	19.69	1998	.31	1985	16.3	10.1	4.3	2.1	.99	1.59	2.65	3.67	4.76	5.95	7.33	9.03	11.33	15.09	18.73
Feb	7.38	6.32	4.60	1999	24	25.08	1999	.21	1993	16.4	10.2	4.3	2.0	1.22	1.86	2.94	3.95	4.99	6.13	7.43	9.01	11.12	14.54	17.82
Mar	5.93	5.02	3.56	1999	29	13.34	1971	1.04	1996	16.7	9.6	3.3	1.5	1.55	2.12	2.98	3.73	4.48	5.26	6.13	7.16	8.51	10.63	12.62
Apr	3.81	3.93	3.00	1996	23	7.83	1996	1.11	1973	15.0	8.3	2.1	.6	1.17	1.53	2.07	2.54	2.99	3.45	3.97	4.57	5.35	6.56	7.69
May	2.82	2.62	2.64	1963	5	6.05	1996	.65	1992	13.9	6.9	1.3	.3	.85	1.11	1.52	1.86	2.20	2.55	2.93	3.39	3.97	4.89	5.74
Jun	2.13	2.17	1.55	1980	8	4.63	1993	.24	1989	11.0	5.6	1.0	.1	.38	.57	.88	1.17	1.47	1.79	2.15	2.60	3.18	4.13	5.04
Jul	1.29	1.21	1.21	1954	20	3.41	1993	.00	1984	7.7	3.7	.5	@	.24	.42	.64	.81	.98	1.16	1.35	1.58	1.88	2.34	2.78
Aug	1.24	.96	1.80	1975	18	3.80	1975	.17	1988	6.6	3.1	.6	.1	.15	.25	.42	.60	.78	.98	1.22	1.51	1.91	2.56	3.19
Sep	1.60	1.11	2.90	1978	10	4.61	1978	.10	1990	7.7	3.8	.6	.3	.11	.21	.42	.64	.88	1.17	1.51	1.94	2.54	3.55	4.56
Oct	4.13	3.50	5.12	1982	23	12.57	1997	.00	1987	10.8	6.2	1.9	1.2	.19	.55	1.17	1.77	2.43	3.15	4.01	5.08	6.54	8.96	11.33
Nov	7.99	8.05	3.84	1999	9	23.88	1983	.59	1976	15.9	9.6	4.2	2.3	1.19	1.86	3.02	4.12	5.28	6.54	7.99	9.77	12.15	16.04	19.77
Dec	8.65	6.69	4.88	1969	11	19.19	1982	1.73	1985	16.2	10.0	4.5	2.5	2.09	2.90	4.16	5.29	6.40	7.59	8.91	10.48	12.54	15.80	18.86
Ann	54.36	53.80	5.12	Oct 1982	23	25.08	Feb 1999	.00+	Oct 1987	154.2	87.1	28.6	13.0	32.02	36.04	41.36	45.51	49.27	52.97	56.85	61.20	66.57	74.52	81.53

+ 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: QUILCENE 2 SW, WA

COOP ID: 456846

Climate Division: WA 4

NWS Call Sign:

Elevation: 123 Feet

Lat: 47° 49N

Lon: 122° 55W

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	1.8	.0	1	0	7.5	1971	13	20.5	1971	14	1971	14	5	1985	.9	.8	.4	.2	.0	.3	.3	.3	.2
Feb	.8	.0	#	0	4.0	1971	28	7.0	1971	7	1972	1	1	1972	.6	.4	.2	.0	.0	.0	.0	.0	.0
Mar	.1	.0	#	0	1.0	1974	6	1.0	1974	1+	1989	1	#+	1989	.1	.1	.0	.0	.0	.1	.0	.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	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.5	.0	#	0	4.0	1978	18	6.5	1978	6	1985	24	1+	1985	.3	.2	.1	.0	.0	.3	.2	.0	.0
Dec	.8	.0	#	0	14.0	1996	29	14.0	1996	6	1992	29	#+	1995	.7	.4	.2	.1	@	.0	.0	.0	.0
Ann	4.0	.0	N/A	N/A	14.0	Dec 1996	29	20.5	Jan 1971	14	Jan 1971	14	5	Jan 1985	2.6	1.9	.9	.3	@	.7	.5	.3	.2

+ 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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1971-2000**

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Climate Division: WA 4

NWS Call Sign:

Elevation: 123 Feet

Lat: 47° 49N

Lon: 122° 55W

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	6/08	5/31	5/26	5/21	5/17	5/13	5/08	5/03	4/25
32	5/06	5/01	4/27	4/23	4/20	4/17	4/14	4/10	4/04
28	4/12	4/02	3/26	3/19	3/14	3/08	3/01	2/22	2/12
24	3/06	2/25	2/18	2/12	2/07	2/02	1/27	1/20	1/09
20	2/26	2/16	2/09	2/03	1/28	1/21	1/12	0/00	0/00
16	2/06	1/20	1/04	12/15	0/00	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	9/15	9/21	9/25	9/28	10/01	10/04	10/08	10/12	10/17
32	10/03	10/08	10/11	10/14	10/17	10/20	10/23	10/26	10/31
28	10/22	10/30	11/05	11/10	11/15	11/20	11/25	12/01	12/09
24	11/08	11/20	11/28	12/06	12/13	12/20	12/27	1/05	1/19
20	11/29	12/10	12/19	12/27	1/04	1/13	1/24	0/00	0/00
16	12/07	12/22	1/05	1/22	0/00	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	164	155	148	142	136	131	125	118	109
32	203	194	189	184	179	174	169	164	156
28	291	275	264	255	246	237	228	217	201
24	>365	336	323	314	305	298	290	280	268
20	>365	>365	>365	>365	347	333	322	311	297
16	>365	>365	>365	>365	>365	>365	>365	>365	354

* 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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Climate Division: WA 4 NWS Call Sign: Elevation: 123 Feet Lat: 47° 49N Lon: 122° 55W

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	839	661	611	457	308	172	77	82	186	441	673	844	5351
60	684	521	456	308	169	70	15	22	86	287	523	689	3830
57	591	437	363	222	104	32	4	8	45	199	433	596	3034
55	529	381	303	169	70	16	1	3	26	146	374	534	2552
50	380	248	164	67	16	2	0	0	4	48	236	381	1546
32	28	6	0	0	0	0	0	0	0	0	6	25	65

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	212	268	412	533	717	830	992	1008	825	582	324	205	6908
55	0	0	1	12	74	156	280	298	160	16	1	0	998
57	0	0	0	5	46	112	221	241	119	6	0	0	750
60	0	0	0	1	18	60	140	161	71	1	0	0	452
65	0	0	0	0	2	12	46	67	21	0	0	0	148
70	0	0	0	0	0	0	7	15	4	0	0	0	26

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	46	85	177	297	471	591	745	758	583	345	122	47	46	131	308	605	1076	1667	2412	3170	3753	4098	4220	4267
45	6	25	62	158	318	441	590	603	433	199	44	5	6	31	93	251	569	1010	1600	2203	2636	2835	2879	2884
50	0	0	10	62	173	292	435	448	283	81	9	0	0	0	10	72	245	537	972	1420	1703	1784	1793	1793
55	0	0	0	15	72	148	283	293	150	21	0	0	0	0	0	15	87	235	518	811	961	982	982	982
60	0	0	0	0	25	57	142	151	54	0	0	0	0	0	0	0	25	82	224	375	429	429	429	429
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	9	40	100	175	270	336	448	459	353	191	40	8	9	49	149	324	594	930	1378	1837	2190	2381	2421	2429

(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