

Climatology of the United States

No. 20

1971-2000

Station: CONCONULLY, WA

COOP ID: 451666

Climate Division: WA 7

NWS Call Sign:

Elevation: 2,320 Feet Lat: 48° 33N

Lon: 119° 45W

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	31.9	14.6	23.3	61	1989	31	31.1	1981	-29	1950	25	11.9	1979	1295	0	.0	.0	.2	16.1	30.7	4.3
Feb	38.7	19.6	29.2	70	1963	22	37.1	1992	-22+	1956	15	21.2	1975	1004	0	.0	.0	2.2	5.2	26.9	1.6
Mar	48.1	27.1	37.6	70+	1994	31	45.5	1992	-17	1955	4	30.2	1971	849	0	.0	.0	14.2	.5	25.2	.1
Apr	57.5	34.7	46.1	88	1977	24	51.1	1987	16	1951	19	40.8	1972	567	0	.0	.0	26.2	.0	11.7	.0
May	66.1	42.3	54.2	96	1986	31	60.4	1993	20	1966	22	48.7	1974	343	9	.0	.3	30.4	.0	1.1	.0
Jun	72.8	48.3	60.6	97	1992	23	67.5	1992	30	1952	13	55.1	1981	172	38	.0	1.1	30.0	.0	.1	.0
Jul	80.7	53.6	67.2	102+	1979	20	74.6	1985	35	1979	1	60.1	1993	73	140	.1	5.8	31.0	.0	.0	.0
Aug	81.3	53.5	67.4	100+	1981	12	72.7	1986	36	1965	29	61.7	1975	61	135	@	6.2	31.0	.0	.0	.0
Sep	72.3	45.3	58.8	98	1988	3	65.6	1998	22	1972	27	51.9	1972	236	50	.0	.6	29.9	.0	.7	.0
Oct	57.9	35.4	46.7	83	1970	3	52.1	1988	6	1984	31	42.4	1984	570	0	.0	.0	25.9	@	9.9	.0
Nov	40.9	26.0	33.5	66	1989	11	38.4	1999	-18	1985	30	21.5	1985	946	0	.0	.0	3.5	3.5	24.6	.4
Dec	31.8	15.9	23.9	53+	1980	27	30.3	1991	-31	1968	28	13.9	1984	1276	0	.0	.0	.1	14.8	29.8	2.6
Ann	56.7	34.7	45.7	102+	Jul 1979	20	74.6	Jul 1985	-31	Dec 1968	28	11.9	Jan 1979	7392	372	.1	14.0	224.6	40.1	160.7	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/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

020-A

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: CONCONULLY, WA

COOP ID: 451666

Climate Division: WA 7

NWS Call Sign:

Elevation: 2,320 Feet Lat: 48°33N

Lon: 119°45W

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	1.37	1.36	1.95	1959	8	3.20	1998	.00	1977	7.0	4.3	1.0	.1	.19	.36	.60	.79	.98	1.19	1.42	1.69	2.05	2.62	3.16
Feb	1.44	1.44	2.16	1956	20	3.83	1998	.00+	1997	6.6	3.9	.8	.2	.00	.39	.69	.91	1.11	1.31	1.54	1.80	2.13	2.66	3.14
Mar	1.18	.97	1.09	1998	2	3.85	1983	.11	1996	5.7	3.4	.5	@	.15	.25	.42	.58	.75	.94	1.16	1.44	1.80	2.41	2.99
Apr	1.07	1.24	1.27	1953	27	2.51	1978	.04	1999	6.7	3.3	.4	@	.08	.15	.29	.44	.60	.79	1.01	1.30	1.69	2.35	3.00
May	1.70	1.31	1.65	1998	27	5.51	1990	.24	1992	8.2	4.3	.9	.1	.25	.39	.64	.88	1.12	1.39	1.70	2.08	2.59	3.42	4.22
Jun	1.58	1.11	1.57	1992	13	3.94	1982	.02	1974	7.2	3.9	.9	.2	.13	.24	.44	.66	.91	1.18	1.51	1.92	2.50	3.46	4.40
Jul	.88	.87	1.27	1974	9	3.42	1992	.00+	1985	4.9	2.5	.3	.1	.00	.02	.11	.23	.37	.54	.76	1.05	1.47	2.19	2.93
Aug	.82	.62	2.29	1951	28	3.13	1976	.00+	1998	4.5	2.4	.4	.1	.00	.04	.15	.27	.41	.57	.76	1.00	1.35	1.93	2.51
Sep	.76	.57	2.02	1973	23	3.22	1973	.00+	1999	4.1	2.0	.2	.1	.00	.00	.00	.14	.29	.47	.67	.94	1.31	1.94	2.56
Oct	.88	.68	1.15	1981	7	2.91	1981	.00	1987	4.1	2.2	.5	.1	.02	.07	.18	.30	.44	.60	.80	1.06	1.42	2.04	2.65
Nov	1.53	1.28	1.15	1983	10	7.16	1983	.00	1976	8.0	4.2	.6	.1	.10	.25	.49	.72	.95	1.21	1.51	1.88	2.38	3.20	4.00
Dec	1.55	1.39	1.35	1973	13	3.53	1973	.13	1989	9.2	5.0	.7	.2	.23	.36	.59	.80	1.03	1.27	1.55	1.89	2.35	3.10	3.82
Ann	14.76	14.39	2.29	Aug 1951	28	7.16	Nov 1983	.00+	Sep 1999	76.2	41.4	7.2	1.3	8.06	9.23	10.79	12.02	13.15	14.27	15.45	16.78	18.43	20.88	23.07

+ 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Station: CONCONULLY, WA

COOP ID: 451666

Climate Division: WA 7

NWS Call Sign:

Elevation: 2,320 Feet

Lat: 48° 33N

Lon: 119° 45W

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	2.7	-99.9	0	0	3.0	1972	11	13.5	1972	0	0	0	0	0	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9
Feb	3.8	-99.9	0	0	16.0	1973	4	19.0	1973	0	0	0	0	0	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9
Mar	2.1	#	0	0	8.0	1985	26	12.5	1972	0	0	0	0	0	-9.9	-9.9	-9.9	-9.9	-9.9	.0	.0	.0	.0
Apr	.4	.0	0	0	2.5	1972	7	4.0	1972	0	0	0	0	0	.2	.2	.0	.0	.0	.0	.0	.0	.0
May	#	.0	0	0	#	1987	19	#	1987	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	#	1977	31	#+	1977	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.8	-99.9	0	0	1.0	1972	18	2.5	1972	0	0	0	0	0	-9.9	-9.9	-9.9	-9.9	-9.9	.0	.0	.0	.0
Dec	.7	-99.9	#	0	1.7	1972	15	2.2	1972	2	1972	15	#	1972	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9
Ann	10.5	-9.9	N/A	N/A	16.0	Feb 1973	4	19.0	Feb 1973	2	Dec 1972	15	#	Dec 1972	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9

+ 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

Complete documentation available from:

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Climate Division: WA 7

NWS Call Sign:

Elevation: 2,320 Feet

Lat: 48°33N

Lon: 119°45W

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	6/15	6/08	6/02	5/29	5/25	5/20	5/16	5/11	5/03
32	5/24	5/17	5/12	5/08	5/04	4/30	4/25	4/20	4/13
28	5/02	4/27	4/23	4/20	4/16	4/13	4/10	4/06	4/01
24	4/16	4/08	4/03	3/29	3/25	3/21	3/16	3/11	3/03
20	3/30	3/23	3/17	3/12	3/08	3/04	2/27	2/21	2/14
16	3/19	3/11	3/05	2/28	2/24	2/19	2/15	2/09	2/01
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	9/12	9/16	9/20	9/22	9/25	9/27	9/30	10/03	10/08
32	9/26	10/01	10/04	10/07	10/10	10/12	10/15	10/19	10/23
28	10/07	10/12	10/15	10/18	10/20	10/23	10/26	10/29	11/03
24	10/18	10/24	10/28	11/01	11/04	11/08	11/11	11/15	11/21
20	10/29	11/04	11/08	11/11	11/15	11/18	11/21	11/26	12/01
16	11/04	11/12	11/18	11/23	11/27	12/02	12/07	12/12	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	146	138	132	127	122	118	113	107	99
32	185	176	169	164	158	153	147	141	132
28	210	202	196	191	186	182	177	171	163
24	253	243	236	229	224	218	212	204	194
20	280	270	263	257	251	245	239	232	221
16	310	298	290	282	276	269	261	253	241

* 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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NWS Call Sign:

Elevation: 2,320 Feet Lat: 48° 33N Lon: 119° 45W

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	1295	1004	849	567	343	172	73	61	236	570	946	1276	7392
60	1140	864	694	419	213	84	25	19	142	417	796	1121	5934
57	1047	780	601	333	150	47	12	9	97	329	706	1028	5139
55	985	724	540	279	114	29	7	4	72	272	646	966	4638
50	830	584	393	160	47	7	0	0	29	149	498	811	3508
32	329	160	46	2	0	0	0	0	0	1	101	312	951

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	57	80	220	425	688	856	1090	1097	804	454	145	59	5975
55	0	0	0	12	90	195	383	387	186	13	0	0	1266
57	0	0	0	6	63	153	327	330	150	7	0	0	1036
60	0	0	0	2	33	100	247	248	105	3	0	0	738
65	0	0	0	0	9	38	140	135	50	0	0	0	372
70	0	0	0	0	1	10	64	57	19	0	0	0	151

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	0	0	46	211	466	641	859	865	577	240	15	0	0	0	46	257	723	1364	2223	3088	3665	3905	3920	3920
45	0	0	7	106	312	491	704	710	429	121	0	0	0	0	7	113	425	916	1620	2330	2759	2880	2880	2880
50	0	0	0	44	179	341	549	555	288	49	0	0	0	0	0	44	223	564	1113	1668	1956	2005	2005	2005
55	0	0	0	9	87	205	396	400	170	17	0	0	0	0	0	9	96	301	697	1097	1267	1284	1284	1284
60	0	0	0	1	35	101	251	255	80	2	0	0	0	0	0	1	36	137	388	643	723	725	725	725
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	1	42	138	275	383	540	542	357	149	8	0	0	1	43	181	456	839	1379	1921	2278	2427	2435	2435

(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/normal/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