

Climatography of the United States

No. 20

1971-2000

Station: WINTHROP 1 WSW, WA

COOP ID: 459376

Climate Division: WA 6

NWS Call Sign:

Elevation: 1,755 Feet Lat: 48° 27N

Lon: 120° 12W

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	29.7	12.6	21.2	57	1989	30	30.6	1981	-32+	1950	30	9.9	1979	1360	0	.0	.0	.1	17.9	30.7	5.6
Feb	38.3	17.6	28.0	62	1991	27	37.6	1991	-28+	1950	2	18.8	1985	1037	0	.0	.0	1.4	5.7	26.9	2.6
Mar	50.5	25.1	37.8	77	1994	31	45.2	1992	-10	1955	5	30.2	1971	843	0	.0	.0	16.6	.4	26.8	.3
Apr	62.3	31.5	46.9	89+	1977	24	51.5+	1994	13+	1936	3	42.0	1972	544	0	.0	.0	29.3	.0	17.3	.0
May	71.1	38.9	55.0	100	1986	31	60.5	1993	20	1954	1	50.4	1984	315	4	@	.5	31.0	.0	5.5	.0
Jun	78.0	45.1	61.6	100+	1992	24	68.0	1992	28+	1976	3	56.7	1981	150	45	.1	2.8	30.0	.0	.5	.0
Jul	85.6	49.0	67.3	106	1939	27	71.9	1998	31	1981	8	62.5	1993	51	124	.8	10.7	31.0	.0	.1	.0
Aug	85.9	48.5	67.2	105	1961	4	72.0	1986	30	1980	29	62.1	1995	48	116	.8	10.6	31.0	.0	.1	.0
Sep	77.0	39.6	58.3	100+	1988	4	63.8	1998	18	1983	29	51.9	1972	235	35	.1	2.3	30.0	.0	4.5	.0
Oct	62.4	30.6	46.5	87	1958	4	51.4	1988	5	1935	31	42.6	1984	574	0	.0	.0	28.4	@	19.3	.0
Nov	40.9	24.1	32.5	68	1989	9	39.4	1999	-17	1958	27	20.1	1985	974	0	.0	.0	4.9	4.0	25.2	.7
Dec	28.9	13.6	21.3	54	1999	16	29.4	1999	-48	1968	30	10.3	1983	1356	0	.0	.0	.1	19.1	30.7	4.8
Ann	59.2	31.4	45.3	106	Jul 1939	27	72.0	Aug 1986	-48	Dec 1968	30	9.9	Jan 1979	7487	324	1.8	26.9	233.8	47.1	187.6	14.0

+ 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: 1931-2001

(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: WINTHROP 1 WSW, WA

COOP ID: 459376

Climate Division: WA 6

NWS Call Sign:

Elevation: 1,755 Feet Lat: 48°27N

Lon: 120°12W

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	2.00	1.95	4.16	1935	21	4.43	1995	.09	1977	10.7	6.2	.9	.2	.37	.54	.84	1.11	1.39	1.69	2.03	2.44	2.99	3.87	4.72
Feb	1.50	1.54	1.51	1949	16	3.12	1972	.19	1988	8.5	4.8	.5	.1	.36	.51	.72	.92	1.11	1.32	1.54	1.82	2.17	2.73	3.26
Mar	1.05	.80	1.17	1972	5	3.48	1995	.01	1976	6.6	3.2	.4	.1	.08	.14	.28	.42	.58	.77	.99	1.27	1.66	2.32	2.96
Apr	.77	.68	1.11	1975	14	2.34	1993	.00	1973	5.9	2.4	.2	@	.05	.13	.25	.36	.48	.62	.77	.95	1.21	1.62	2.02
May	1.02	.88	1.45	1948	29	3.21	1990	.00	1992	7.1	3.0	.5	@	.06	.17	.33	.48	.63	.81	1.01	1.26	1.60	2.15	2.69
Jun	1.06	.77	1.98	1936	2	3.33	1992	.13	1974	7.7	2.8	.5	.2	.16	.25	.41	.55	.71	.87	1.06	1.30	1.61	2.13	2.62
Jul	.80	.68	2.58	1958	29	3.52	1993	.02	1984	4.8	2.2	.3	@	.04	.08	.17	.28	.40	.55	.73	.96	1.29	1.87	2.44
Aug	.72	.47	1.25	1971	31	3.35	1976	.00	1973	4.8	2.0	.3	.1	.01	.05	.13	.23	.35	.48	.65	.87	1.17	1.70	2.23
Sep	.61	.34	1.08	1959	14	2.49	1978	.00+	1976	4.5	1.8	.3	.0	.00	.01	.04	.11	.20	.31	.47	.69	1.01	1.60	2.21
Oct	.93	.65	1.59	1934	24	3.51	1975	.04	1987	5.8	2.2	.4	.1	.05	.09	.20	.33	.47	.64	.85	1.12	1.50	2.16	2.81
Nov	1.99	1.78	1.65	1990	24	5.28	1983	.12	1993	11.8	6.1	.7	.1	.33	.51	.80	1.07	1.35	1.66	2.00	2.43	3.00	3.91	4.79
Dec	2.60	2.26	2.16	1996	29	7.17	1996	.21	1976	12.2	7.4	1.4	.1	.42	.64	1.02	1.38	1.75	2.15	2.61	3.18	3.93	5.16	6.33
Ann	15.05	14.80	4.16	Jan 1935	21	7.17	Dec 1996	.00+	May 1992	90.4	44.1	6.4	1.0	9.23	10.30	11.70	12.78	13.76	14.72	15.72	16.84	18.22	20.25	22.04

+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Climate Division: WA 6

NWS Call Sign:

Elevation: 1,755 Feet

Lat: 48° 27N

Lon: 120° 12W

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	17.3	16.6	17	16	20.0	1971	15	38.4	1975	46	1971	15	34	1997	8.8	5.9	1.7	.6	.2	-9.9	-9.9	-9.9	-9.9
Feb	9.0	7.1	17	18	16.0	2000	1	21.2	1975	34	1997	1	30+	1997	4.4	3.3	1.0	.3	.1	-9.9	-9.9	-9.9	-9.9
Mar	3.2	.5	9	6	12.0	1972	5	17.5	1972	35	1971	7	31	1971	1.9	1.5	.4	@	@	13.7	13.1	12.0	7.8
Apr	.1	.0	#	0	2.0	1972	8	2.0	1972	24	1971	1	7	1971	@	@	.0	.0	.0	.9	.8	.7	.5
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	.9	.0	#	0	5.1	1994	31	6.0	1996	6	1996	18	#+	1999	.4	.3	.2	@	.0	.3	.2	.1	.0
Nov	8.8	6.5	2	1	13.0	1995	11	29.0	1995	18	1994	26	9	1994	4.7	2.8	.9	.3	.1	9.8	5.0	3.0	.4
Dec	22.2	19.1	10	9	18.0	1996	29	76.8	1996	47	1996	31	22	1996	10.8	7.1	3.1	1.0	.1	26.9	25.9	20.3	14.8
Ann	61.5	49.8	N/A	N/A	20.0	Jan 1971	15	76.8	Dec 1996	47	Dec 1996	31	34	Jan 1997	31.0	20.9	7.3	2.2	.5	-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

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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	7/04	6/26	6/19	6/14	6/09	6/04	5/29	5/23	5/14
32	6/14	6/07	6/02	5/28	5/24	5/20	5/15	5/10	5/02
28	5/21	5/15	5/10	5/07	5/03	4/30	4/26	4/21	4/15
24	5/06	4/29	4/25	4/21	4/17	4/13	4/09	4/05	3/29
20	4/16	4/10	4/05	4/01	3/28	3/24	3/20	3/16	3/09
16	3/23	3/18	3/14	3/11	3/08	3/05	3/02	2/26	2/21
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	8/22	8/27	8/30	9/02	9/05	9/08	9/11	9/14	9/19
32	9/02	9/07	9/11	9/14	9/17	9/20	9/23	9/27	10/02
28	9/17	9/22	9/25	9/28	9/30	10/03	10/06	10/09	10/14
24	9/28	10/03	10/06	10/09	10/12	10/15	10/18	10/21	10/26
20	10/11	10/16	10/20	10/23	10/26	10/28	10/31	11/04	11/09
16	10/23	10/30	11/04	11/08	11/13	11/17	11/21	11/26	12/03
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	116	106	99	93	87	82	76	69	59
32	139	131	125	120	116	111	106	100	92
28	174	166	160	154	150	145	140	134	126
24	204	195	188	183	177	172	166	160	150
20	236	227	221	216	211	206	200	194	185
16	277	268	261	255	249	243	237	230	220

* 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	1360	1037	843	544	315	150	51	48	235	574	974	1356	7487
60	1205	897	688	395	181	69	13	12	135	420	824	1201	6040
57	1112	813	595	309	116	35	4	4	89	330	734	1108	5249
55	1050	757	533	255	82	21	2	2	64	272	674	1046	4758
50	895	617	385	139	25	4	0	0	22	146	529	891	3653
32	371	184	41	1	0	0	0	0	0	1	130	375	1103

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	33	72	221	447	713	885	1096	1091	790	450	146	42	5986
55	0	0	0	11	81	216	384	380	163	8	0	0	1243
57	0	0	0	5	54	170	325	320	128	4	0	0	1006
60	0	0	0	1	25	114	241	235	84	1	0	0	701
65	0	0	0	0	4	45	124	116	35	0	0	0	324
70	0	0	0	0	0	12	47	40	11	0	0	0	110

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	41	226	473	655	854	848	558	223	17	0	0	0	41	267	740	1395	2249	3097	3655	3878	3895	3895
45	0	0	6	113	322	505	699	693	410	119	1	0	0	0	6	119	441	946	1645	2338	2748	2867	2868	2868
50	0	0	0	44	182	356	544	538	266	43	0	0	0	0	0	44	226	582	1126	1664	1930	1973	1973	1973
55	0	0	0	12	82	213	389	384	148	13	0	0	0	0	0	12	94	307	696	1080	1228	1241	1241	1241
60	0	0	0	0	27	101	240	240	63	1	0	0	0	0	0	0	27	128	368	608	671	672	672	672
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	56	189	334	424	535	543	403	206	10	0	0	0	56	245	579	1003	1538	2081	2484	2690	2700	2700

(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