

Climatology of the United States

No. 20

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

Station: WESTFALL, OR

1971-2000

COOP ID: 359176

Climate Division: OR 9

NWS Call Sign:

Elevation: 3,040 Feet Lat: 43° 59N

Lon: 117° 43W

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	37.0	19.1	28.1	56	1971	31	33.9	1998	-14+	1979	31	16.3	1979	1147	0	.0	.0	1.0	10.1	29.6	2.2
Feb	44.4	24.2	34.3	68+	1995	25	40.5	1995	-18	1989	7	22.0	1989	861	0	.0	.0	6.7	3.5	24.6	.8
Mar	54.7	29.1	41.9	80	1966	30	48.0	1986	-4	1993	1	36.9	1971	716	0	.0	.0	20.6	.1	22.3	@
Apr	63.2	34.5	48.9	89+	1987	28	55.7	1987	14+	1968	13	43.2	1975	484	1	.0	.0	28.2	.0	12.1	.0
May	71.2	42.6	56.9	100+	1986	30	63.2	1973	24	1964	23	51.4	1977	269	17	.1	1.0	30.9	.0	2.8	.0
Jun	79.7	49.2	64.5	102+	1986	2	70.0	1974	30	1987	1	59.2	1980	105	88	.2	5.5	30.0	.0	.4	.0
Jul	89.5	55.9	72.7	105+	2000	31	77.5	1994	33	1977	5	63.9	1993	16	254	2.5	19.1	31.0	.0	.0	.0
Aug	88.9	54.8	71.9	105+	1992	13	80.8	1971	25	1964	27	65.9	1976	34	245	2.6	18.4	31.0	.0	.0	.0
Sep	78.7	45.2	62.0	98+	1998	5	67.7	1990	25+	2000	24	54.9	1985	148	56	.0	4.1	30.0	.0	1.8	.0
Oct	64.8	35.6	50.2	90+	1988	2	57.7	1988	10	1969	13	45.2	1995	460	1	.0	.1	29.7	.0	12.4	.0
Nov	47.0	26.6	36.8	71	1962	1	42.4	1976	-6	1993	27	25.6	1985	845	0	.0	.0	11.8	1.9	23.8	.2
Dec	37.1	19.3	28.2	62	1995	13	36.3	1977	-28	1990	22	14.3	1985	1141	0	.0	.0	1.8	8.6	29.5	2.2
Ann	63.0	36.3	49.7	105+	Jul 2000	31	80.8	Aug 1971	-28	Dec 1990	22	14.3	Dec 1985	6226	662	5.4	48.2	252.7	24.2	159.3	5.4

+ 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: 1962-2001

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

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Elevation: 3,040 Feet Lat: 43°59N

Lon: 117°43W

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	1.24	1.22	.70	1963	31	2.71	1995	.13	1985	8.8	4.2	.2	.0	.31	.43	.61	.77	.93	1.10	1.28	1.50	1.79	2.25	2.68
Feb	.97	.89	.78	1986	17	2.58	1986	.03	1997	7.5	3.1	.1	.0	.12	.20	.34	.47	.62	.77	.96	1.18	1.49	1.99	2.47
Mar	.92	.82	.54	1983	4	2.09	1983	.04	1994	8.4	3.5	.1	.0	.15	.22	.36	.48	.62	.76	.92	1.12	1.39	1.83	2.25
Apr	.81	.64	1.11	1978	26	3.68	1978	.00	1977	7.3	2.9	.1	@	.05	.13	.26	.38	.51	.65	.81	1.00	1.27	1.71	2.13
May	1.18	1.06	1.30	1964	28	3.81	1998	.03	1976	7.3	3.5	.3	.0	.09	.17	.32	.49	.67	.88	1.13	1.44	1.88	2.61	3.33
Jun	.93	.89	.84	1964	6	2.12	1980	.06	1994	5.2	2.5	.3	.0	.13	.20	.34	.47	.60	.75	.93	1.14	1.43	1.90	2.35
Jul	.47	.22	1.63	1982	1	2.01	1982	.00+	1999	2.8	1.2	.2	.1	.00	.00	.04	.10	.17	.27	.39	.55	.78	1.20	1.62
Aug	.51	.39	1.50	1979	13	2.18	1979	.00+	2000	3.7	1.6	.1	@	.00	.00	.07	.15	.25	.36	.48	.64	.86	1.23	1.59
Sep	.43	.27	.65	1980	13	1.45	1986	.00+	1999	2.9	1.4	.1	.0	.00	.00	.04	.11	.19	.28	.39	.53	.72	1.05	1.37
Oct	.53	.47	.94	1982	29	1.71	2000	.00+	1998	4.3	1.8	.1	.0	.00	.00	.12	.25	.36	.46	.57	.70	.87	1.12	1.39
Nov	1.17	1.15	.75+	1984	10	3.17	1981	.00	1986	7.3	3.9	.4	.0	.07	.19	.37	.54	.73	.93	1.16	1.45	1.84	2.48	3.10
Dec	1.30	1.06	.85	1979	24	3.36	1996	.00	1976	8.1	4.1	.3	.0	.10	.24	.45	.64	.84	1.05	1.30	1.60	2.01	2.67	3.31
Ann	10.46	9.57	1.63	Jul 1982	1	3.81	May 1998	.00+	Aug 2000	73.6	33.7	2.3	.1	5.98	6.78	7.84	8.67	9.43	10.17	10.96	11.84	12.93	14.55	15.98

+ 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: 1962-2001

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

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

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Station: WESTFALL, OR

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Climate Division: OR 9

NWS Call Sign:

Elevation: 3,040 Feet

Lat: 43° 59N

Lon: 117° 43W

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	8.6	7.8	3	1	6.0	1979	10	22.0	1979	17	1982	3	10	1979	3.4	2.6	1.1	.4	.0	17.4	12.4	8.4	3.1
Feb	4.4	3.8	1	#	6.5	1973	11	13.5	1984	12	1979	7	8	1979	2.1	1.4	.4	.1	.0	7.3	5.4	3.3	.4
Mar	1.4	.3	#	0	4.0	1985	4	16.0	1985	4	1989	6	1	1989	.8	.4	.1	.0	.0	.6	.1	.0	.0
Apr	.3	.0	#	0	2.0	1975	5	4.5	1975	1	1975	5	#+	1998	.3	.2	.0	.0	.0	.1	.0	.0	.0
May	#	.0	#	0	#	1974	17	#	1974	#	1974	17	#	1974	.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	.1	.0	#	0	2.0	1971	31	2.8	1971	2	1971	31	#	1971	.1	@	.0	.0	.0	@	.0	.0	.0
Nov	3.6	2.0	#	#	6.0	1977	22	11.5	1977	6	1977	21	1	1983	1.4	1.1	.4	@	.0	1.6	.6	.1	.0
Dec	11.1	9.0	1	1	11.0	1988	25	28.3	1983	13	1988	29	6	1983	4.0	2.6	1.1	.4	@	8.9	6.6	3.5	.9
Ann	29.5	22.9	N/A	N/A	11.0	Dec 1988	25	28.3	Dec 1983	17	Jan 1982	3	10	Jan 1979	12.1	8.3	3.1	.9	@	35.9	25.1	15.3	4.4

+ 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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Elevation: 3,040 Feet

Lat: 43° 59N

Lon: 117° 43W

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	6/28	6/20	6/15	6/10	6/06	6/02	5/28	5/23	5/15
32	6/10	6/03	5/29	5/25	5/22	5/18	5/14	5/09	5/02
28	5/14	5/08	5/03	4/29	4/26	4/22	4/18	4/14	4/07
24	4/27	4/20	4/15	4/10	4/06	4/02	3/28	3/23	3/15
20	4/16	4/06	3/29	3/23	3/17	3/10	3/04	2/24	2/14
16	3/26	3/14	3/06	2/27	2/20	2/13	2/06	1/29	1/17
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	9/04	9/09	9/12	9/15	9/18	9/21	9/24	9/28	10/03
32	9/12	9/17	9/21	9/24	9/27	9/30	10/04	10/08	10/13
28	9/22	9/28	10/02	10/06	10/10	10/13	10/17	10/21	10/27
24	10/06	10/12	10/16	10/19	10/23	10/26	10/30	11/03	11/09
20	10/18	10/24	10/29	11/01	11/05	11/08	11/12	11/17	11/23
16	10/29	11/05	11/09	11/14	11/17	11/21	11/25	11/30	12/07
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	129	120	114	109	103	98	93	86	78
32	152	144	138	133	128	123	118	112	104
28	193	184	177	171	166	161	156	149	140
24	229	219	211	205	199	193	187	180	170
20	270	257	248	240	233	225	217	208	195
16	309	296	286	278	270	262	253	244	230

* 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

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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	1147	861	716	484	269	105	16	34	148	460	845	1141	6226
60	992	721	561	342	153	42	2	11	66	311	695	986	4882
57	899	637	468	263	100	21	0	4	35	230	605	893	4155
55	837	581	407	214	71	12	0	2	21	182	546	831	3704
50	683	450	265	117	24	2	0	0	4	87	407	679	2718
32	221	97	10	0	0	0	0	0	0	0	67	224	619

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	97	160	317	507	771	973	1262	1234	898	564	212	107	7102
55	0	0	2	31	129	295	549	522	229	33	1	0	1791
57	0	0	0	19	96	244	487	463	183	19	0	0	1511
60	0	0	0	8	56	176	396	377	125	6	0	0	1144
65	0	0	0	1	17	88	254	245	56	1	0	0	662
70	0	0	0	0	3	33	139	143	19	0	0	0	337

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	19	99	275	535	751	1028	993	665	325	48	4	0	19	118	393	928	1679	2707	3700	4365	4690	4738	4742
45	0	2	34	152	382	601	873	838	516	194	12	0	0	2	36	188	570	1171	2044	2882	3398	3592	3604	3604
50	0	0	5	68	244	452	718	683	369	95	0	0	0	0	5	73	317	769	1487	2170	2539	2634	2634	2634
55	0	0	0	24	132	313	563	528	238	39	0	0	0	0	0	24	156	469	1032	1560	1798	1837	1837	1837
60	0	0	0	5	60	186	414	376	131	11	0	0	0	0	0	5	65	251	665	1041	1172	1183	1183	1183
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	14	89	202	350	476	637	616	443	248	35	3	0	14	103	305	655	1131	1768	2384	2827	3075	3110	3113

(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