

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: BARNES STATION, OR

1971-2000

COOP ID: 350501

Climate Division: OR 7

NWS Call Sign:

Elevation: 3,970 Feet Lat: 43° 57N

Lon: 120° 13W

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	39.6	19.0	29.3	60	1999	10	35.5	1994	-31	1962	22	17.9	1979	1108	0	.0	.0	2.6	6.1	27.9	2.6
Feb	44.6	23.2	33.9	70	1995	23	40.5	1991	-26	1985	4	22.9	1989	871	0	.0	.0	6.6	2.2	24.3	1.1
Mar	51.3	26.5	38.9	77	1966	31	43.6	1986	-3	1962	2	34.5	1975	810	0	.0	.0	16.3	.3	24.9	.1
Apr	58.9	29.3	44.1	86	1987	27	50.3	1987	6	1968	13	37.9	1975	628	0	.0	.0	23.1	.0	20.1	.0
May	66.9	34.9	50.9	94	1986	30	57.2	1992	13	1964	6	45.2	1977	437	1	.0	.2	29.5	.0	11.7	.0
Jun	76.0	40.5	58.3	97	1992	23	63.5	1986	22	1962	4	54.1	1991	222	21	.0	1.8	29.9	.0	3.4	.0
Jul	85.4	45.4	65.4	100+	2001	4	69.7	1985	27+	1981	8	57.3	1993	86	98	.1	9.8	31.0	.0	.7	.0
Aug	85.1	44.2	64.7	102+	1972	8	69.2	1971	26	1992	24	59.5	1980	92	80	.3	8.9	31.0	.0	.6	.0
Sep	77.0	36.6	56.8	100	1998	1	61.9	1990	17+	1970	25	50.1	1985	266	20	@	2.1	29.9	.0	7.9	.0
Oct	65.1	29.9	47.5	91	1996	9	55.3	1988	-1	1991	30	42.3	1984	543	0	.0	.1	27.8	.1	18.9	@
Nov	47.6	25.0	36.3	72+	1999	13	44.3	1999	-18	1993	24	24.6	1985	861	0	.0	.0	10.8	1.2	23.2	.5
Dec	39.9	19.0	29.5	62	1972	1	34.9	1980	-30	1972	9	21.7	1990	1102	0	.0	.0	2.8	5.4	28.1	2.0
Ann	61.5	31.1	46.3	102+	Aug 1972	8	69.7	Jul 1985	-31	Jan 1962	22	17.9	Jan 1979	7026	220	.4	22.9	241.3	15.3	191.7	6.3

+ 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: 1961-2001

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

010-A

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Lon: 120° 13W

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	1.44	1.35	1.02	1980	12	3.96	1995	.29	1974	10.9	5.1	.3	@	.35	.48	.69	.88	1.07	1.26	1.48	1.74	2.09	2.63	3.14
Feb	1.10	.90	1.04	1986	18	2.57	1986	.28	1971	9.9	4.6	.1	@	.28	.38	.54	.68	.82	.97	1.13	1.33	1.58	1.98	2.35
Mar	1.24	1.11	.92	1974	14	3.08	1993	.35	1977	12.4	4.4	.2	.0	.39	.50	.68	.83	.98	1.13	1.29	1.49	1.74	2.13	2.49
Apr	1.05	.93	.79	1979	30	2.36	1993	.17	1973	10.7	3.6	.1	.0	.23	.32	.48	.62	.76	.91	1.07	1.28	1.54	1.96	2.36
May	1.42	1.11	1.10	1977	10	4.74	1998	.08	1975	9.8	4.6	.4	.1	.28	.41	.61	.80	1.00	1.21	1.44	1.73	2.10	2.71	3.28
Jun	1.04	.84	1.38	1980	12	3.31	1980	.01	1973	7.2	3.3	.4	.1	.09	.16	.30	.45	.60	.79	1.00	1.27	1.64	2.26	2.87
Jul	.79	.64	1.91	1987	22	3.47	1987	.00+	1994	4.3	2.1	.4	.1	.00	.00	.16	.30	.43	.59	.77	1.00	1.30	1.81	2.31
Aug	.86	.59	2.20	1991	5	4.77	1976	.00+	2000	4.6	2.4	.4	.1	.00	.00	.10	.22	.37	.55	.76	1.05	1.44	2.14	2.83
Sep	.68	.73	.65	1966	14	2.87	1986	.00+	1999	5.0	2.2	.2	.0	.00	.00	.12	.24	.37	.51	.67	.87	1.14	1.57	2.00
Oct	.86	.66	1.14	1982	29	2.18	1984	.00+	1988	6.5	2.9	.2	@	.00	.14	.32	.45	.59	.73	.89	1.07	1.32	1.72	2.10
Nov	1.62	1.39	.88	1971	26	3.67	1983	.29	1976	12.6	5.7	.4	.0	.34	.49	.73	.95	1.16	1.39	1.65	1.97	2.38	3.04	3.66
Dec	1.62	1.23	1.40	1964	22	4.97	1983	.19	1989	10.9	5.4	.6	@	.24	.38	.61	.84	1.07	1.33	1.62	1.98	2.47	3.25	4.01
Ann	13.72	13.10	2.20	Aug 1991	5	4.97	Dec 1983	.00+	Aug 2000	104.8	46.3	3.7	.4	8.11	9.12	10.46	11.50	12.45	13.37	14.35	15.44	16.79	18.78	20.54

+ 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: 1961-2001

(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: BARNES STATION, OR

COOP ID: 350501

Climate Division: OR 7

NWS Call Sign:

Elevation: 3,970 Feet

Lat: 43° 57N

Lon: 120° 13W

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	7.5	3	2	12.0	1976	7	20.5	1996	19	1993	16	12	1982	4.8	4.1	1.3	.3	@	17.2	11.2	6.3	2.2
Feb	7.9	6.0	2	1	11.0	1990	1	23.0	1993	15	1993	28	10	1993	4.1	3.4	1.0	.3	@	8.6	4.7	3.0	.5
Mar	4.0	3.0	#	#	10.0	1972	1	11.0	1974	17	1993	1	8	1993	2.2	1.7	.3	.1	@	1.6	.6	.4	.2
Apr	1.7	.8	#	#	3.0	1991	16	7.0	1993	1	1985	21	#+	1999	1.3	.9	@	.0	.0	.1	.0	.0	.0
May	.4	#	#	0	5.0	1974	18	6.0	1974	1	1977	15	#+	1995	.2	.2	@	@	.0	@	.0	.0	.0
Jun	#	.0	#	0	#	1995	7	#+	1995	#+	1996	15	#+	1996	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	#	.0	#	0	#	1986	4	#	1986	#	1974	17	#	1974	.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	.1	.0	0	0	3.0	1978	17	3.0	1978	0	0	0	0	0	.1	@	@	.0	.0	.0	.0	.0	.0
Oct	1.1	.0	#	0	6.0	1984	19	11.0	1984	5	1991	29	1	1991	.5	.4	.1	.1	.0	.4	.2	@	.0
Nov	7.8	6.0	1	#	9.0	1983	30	22.5	1973	10	1985	30	5	1985	3.5	3.0	1.0	.3	.0	4.6	2.3	1.1	.1
Dec	11.9	10.0	2	1	10.0	1981	26	34.0	1981	15	1981	31	9	1985	5.1	4.5	1.6	.6	.1	13.3	8.5	4.6	.8
Ann	42.9	33.3	N/A	N/A	12.0	Jan 1976	7	34.0	Dec 1981	19	Jan 1993	16	12	Jan 1982	21.8	18.2	5.3	1.7	.1	45.8	27.5	15.4	3.8

+ 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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Elevation: 3,970 Feet

Lat: 43° 57N

Lon: 120° 13W

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	7/27	7/22	7/18	7/15	7/12	7/09	7/06	7/02	6/27
32	7/17	7/11	7/07	7/04	6/30	6/27	6/24	6/20	6/14
28	6/29	6/21	6/15	6/11	6/06	6/02	5/28	5/22	5/14
24	6/07	5/30	5/24	5/19	5/15	5/10	5/05	4/30	4/22
20	5/16	5/08	5/03	4/28	4/24	4/20	4/15	4/10	4/02
16	4/25	4/17	4/11	4/06	4/02	3/28	3/23	3/18	3/10
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	8/06	8/11	8/14	8/17	8/20	8/23	8/26	8/30	9/04
32	8/17	8/23	8/27	8/30	9/03	9/06	9/10	9/14	9/20
28	8/31	9/06	9/10	9/14	9/17	9/21	9/24	9/29	10/05
24	9/14	9/20	9/24	9/28	10/01	10/05	10/08	10/13	10/18
20	9/23	9/30	10/05	10/10	10/14	10/18	10/22	10/27	11/04
16	10/12	10/18	10/22	10/26	10/30	11/02	11/06	11/10	11/16
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	59	52	47	43	39	35	30	25	18
32	90	81	75	69	64	58	53	46	37
28	135	124	116	109	102	96	89	81	70
24	168	158	151	145	139	133	127	119	109
20	201	191	184	178	172	166	160	153	143
16	241	231	223	216	210	204	198	190	179

* 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:

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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	1108	871	810	628	437	222	86	92	266	543	861	1102	7026
60	953	731	655	479	291	117	28	31	155	390	711	947	5488
57	860	647	562	394	212	71	13	13	103	301	621	854	4651
55	798	591	500	338	166	47	7	6	75	247	563	792	4130
50	645	457	347	212	78	13	0	1	27	131	424	638	2973
32	192	92	14	7	0	0	0	0	0	1	76	172	554

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	108	145	227	369	586	789	1034	1011	744	482	205	93	5793
55	0	0	0	10	39	145	328	304	129	14	2	0	971
57	0	0	0	6	23	109	272	249	98	6	0	0	763
60	0	0	0	2	10	65	195	174	59	2	0	0	507
65	0	0	0	0	1	21	98	80	20	0	0	0	220
70	0	0	0	0	0	4	34	23	5	0	0	0	66

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	4	22	64	158	344	548	788	760	504	253	49	5	4	26	90	248	592	1140	1928	2688	3192	3445	3494	3499
45	0	0	19	81	207	400	633	605	358	136	17	0	0	0	19	100	307	707	1340	1945	2303	2439	2456	2456
50	0	0	0	29	110	264	479	451	229	62	1	0	0	0	0	29	139	403	882	1333	1562	1624	1625	1625
55	0	0	0	3	49	148	331	304	122	16	0	0	0	0	0	3	52	200	531	835	957	973	973	973
60	0	0	0	0	15	66	193	172	52	1	0	0	0	0	0	0	15	81	274	446	498	499	499	499
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	1	21	65	143	261	382	520	510	387	236	41	1	1	22	87	230	491	873	1393	1903	2290	2526	2567	2568

(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