

Climatography of the United States No. 20

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

Station: MILTON FREEWATER, OR

1971-2000

COOP ID: 355593

Climate Division: OR 6

NWS Call Sign:

Elevation: 970 Feet

Lat: 45° 57N

Lon: 118° 25W

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	41.5	27.4	34.5	70+	1997	1	43.4	1999	-17+	1957	27	15.8	1979	946	0	.0	.0	9.8	7.2	20.2	.9
Feb	47.5	31.7	39.6	78	1995	21	46.2	1991	-17+	1996	3	27.2	1989	713	0	.0	.0	13.8	3.0	13.6	.4
Mar	56.2	37.4	46.8	81	1960	25	50.7	1992	6	1993	1	42.5	1975	564	0	.0	.0	26.6	.2	5.9	.0
Apr	63.8	42.2	53.0	90	1934	22	57.6	1990	15	1936	1	46.7	1975	364	4	.0	.0	29.7	.0	1.2	.0
May	71.6	48.3	60.0	99	1947	26	64.7	1992	25	1954	1	56.0	1977	181	24	.0	1.1	31.0	.0	.1	.0
Jun	79.4	54.3	66.9	105	1961	17	72.8	1986	38+	1995	7	62.9	1971	63	119	.2	4.6	30.0	.0	.0	.0
Jul	87.9	59.8	73.9	109	1960	17	80.4	1998	39	1971	7	67.7	1993	11	286	2.3	14.4	31.0	.0	.0	.0
Aug	87.2	58.9	73.1	111	1961	4	77.7	1986	40	1965	30	67.6	1980	15	265	1.8	12.6	31.0	.0	.0	.0
Sep	77.5	50.9	64.2	100+	1998	3	71.2	1990	28+	1983	29	58.2	1971	123	100	@	2.2	30.0	.0	.4	.0
Oct	64.9	41.7	53.3	92	1997	2	59.3	1988	13+	1935	31	50.3	1971	364	1	.0	@	30.0	.0	3.5	.0
Nov	50.3	34.3	42.3	82	1999	13	48.3	1999	-12+	1985	24	28.4	1985	681	0	.0	.0	17.9	1.7	11.9	.1
Dec	42.0	28.2	35.1	71	1980	27	41.3	1973	-24	1968	30	21.9	1985	926	0	.0	.0	9.5	7.0	20.9	.8
Ann	64.2	42.9	53.6	111	Aug 1961	4	80.4	Jul 1998	-24	Dec 1968	30	15.8	Jan 1979	4951	799	4.3	34.9	290.3	19.1	77.7	2.2

+ 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: 1928-2001

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

086-A

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Climate Division: OR 6

NWS Call Sign:

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Lat: 45°57N

Lon: 118°25W

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	1.70	1.66	1.20	1937	23	3.55	1975	.19	1985	13.1	5.6	.6	@	.45	.62	.86	1.08	1.29	1.51	1.76	2.05	2.44	3.04	3.60
Feb	1.37	1.32	.96	2000	15	3.58	2000	.23	1988	12.2	5.0	.3	.0	.39	.52	.72	.89	1.05	1.23	1.42	1.65	1.95	2.41	2.84
Mar	1.74	1.64	1.09	1983	4	3.59	1989	.32	1994	12.1	5.4	.7	@	.60	.76	1.00	1.20	1.40	1.60	1.81	2.07	2.39	2.89	3.35
Apr	1.48	1.27	1.70	1944	20	3.35	1993	.15	1973	9.9	4.6	.7	.1	.33	.46	.68	.88	1.07	1.28	1.52	1.80	2.17	2.77	3.32
May	1.61	1.49	2.09	1991	19	5.88	1991	.22	1974	8.8	3.9	.9	.3	.28	.42	.65	.87	1.10	1.35	1.63	1.97	2.42	3.16	3.86
Jun	1.05	.82	1.52	1991	7	2.97	1991	.14	1973	6.6	3.3	.4	.1	.16	.25	.41	.55	.70	.86	1.05	1.28	1.59	2.08	2.56
Jul	.56	.34	1.95	1992	23	2.38	1992	.00	1999	3.2	1.7	.2	@	.01	.03	.08	.16	.24	.35	.48	.66	.92	1.36	1.81
Aug	.69	.53	2.45	1993	16	2.99	1993	.00+	2000	3.7	1.8	.4	.1	.00	.00	.02	.11	.23	.38	.57	.82	1.19	1.83	2.49
Sep	.76	.83	.90	1955	14	2.50	1986	.00+	1999	4.8	2.3	.3	.0	.00	.00	.06	.15	.28	.43	.63	.90	1.28	1.96	2.66
Oct	1.14	1.15	1.43	1980	14	2.28	1980	.00+	1987	7.6	3.1	.5	.1	.00	.22	.46	.64	.81	.99	1.19	1.42	1.73	2.23	2.69
Nov	2.07	1.82	1.98	1996	19	4.32	1991	.18	1993	13.6	6.2	.9	.1	.51	.71	1.01	1.28	1.54	1.82	2.13	2.50	2.99	3.75	4.47
Dec	1.79	1.61	1.15+	1958	11	4.47	1996	.44	1976	12.5	5.8	.6	.0	.51	.68	.93	1.16	1.37	1.60	1.85	2.15	2.53	3.14	3.70
Ann	15.96	15.35	2.45	Aug 1993	16	5.88	May 1991	.00+	Aug 2000	108.1	48.7	6.5	.8	10.30	11.35	12.73	13.79	14.74	15.67	16.63	17.71	19.02	20.95	22.64

+ 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: 1928-2001

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

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Station: MILTON FREEWATER, OR

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Climate Division: OR 6

NWS Call Sign:

Elevation: 970 Feet

Lat: 45° 57N

Lon: 118° 25W

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	3.4	2.5	1	#	5.5	1980	9	12.5	1980	13	1980	11	9	1978	2.3	1.5	.4	.1	.0	3.0	1.8	.2	.1
Feb	2.2	.5	#	0	7.5	1993	24	13.5	1993	9	1979	3	2+	1993	1.3	.8	.3	.1	.0	1.2	.6	.4	.0
Mar	.5	.0	#	0	3.5	1989	2	3.5	1989	6	1993	3	#+	1993	.3	.3	.1	.0	.0	.2	.1	.1	.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	.1	.0	#	0	1.7	1971	31	1.8	1971	#	1973	31	#	1973	.1	@	.0	.0	.0	.0	.0	.0	.0
Nov	1.1	.0	#	0	4.5	1977	22	6.0+	1978	12	1985	25	4	1985	.6	.4	.1	.0	.0	.5	.2	.2	.0
Dec	3.6	1.6	1	0	5.5	1985	2	11.7	1992	13	1985	2	4	1985	2.0	1.5	.5	.1	.0	1.5	.8	.3	.0
Ann	10.9	4.6	N/A	N/A	7.5	Feb 1993	24	13.5	Feb 1993	13+	Dec 1985	2	9	Jan 1978	6.6	4.5	1.4	.3	.0	6.4	3.5	1.2	.1

+ 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: OR 6

NWS Call Sign:

Elevation: 970 Feet

Lat: 45° 57N

Lon: 118° 25W

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	5/10	5/05	5/01	4/27	4/24	4/20	4/17	4/13	4/07
32	4/22	4/15	4/10	4/06	4/02	3/30	3/25	3/21	3/14
28	4/08	4/01	3/26	3/21	3/16	3/12	3/07	3/01	2/21
24	3/24	3/14	3/07	2/28	2/23	2/17	2/11	2/03	1/24
20	2/28	2/20	2/13	2/08	2/02	1/28	1/22	1/15	1/05
16	2/23	2/14	2/07	2/01	1/27	1/21	1/14	1/05	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	9/18	9/24	9/27	10/01	10/04	10/07	10/10	10/14	10/19
32	9/28	10/04	10/08	10/12	10/15	10/19	10/23	10/27	11/02
28	10/09	10/17	10/22	10/27	10/31	11/05	11/09	11/15	11/22
24	10/26	11/03	11/09	11/14	11/19	11/24	11/29	12/05	12/13
20	11/09	11/18	11/24	11/30	12/05	12/10	12/16	12/23	1/03
16	11/16	11/27	12/06	12/14	12/21	12/29	1/08	1/22	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	190	180	174	168	162	157	151	144	134
32	226	215	208	201	195	189	183	175	165
28	263	251	242	235	228	221	214	205	193
24	306	293	284	276	269	261	253	244	231
20	356	334	322	312	304	296	287	278	264
16	>365	>365	353	338	328	318	309	298	284

* 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: OR 6 NWS Call Sign: Elevation: 970 Feet Lat: 45° 57N Lon: 118° 25W

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	946	713	564	364	181	63	11	15	123	364	681	926	4951
60	800	573	409	229	83	18	1	3	56	216	539	771	3698
57	713	493	318	160	44	7	0	1	30	140	455	681	3042
55	655	441	260	122	26	3	0	0	19	97	402	625	2650
50	518	315	132	50	5	0	0	0	5	32	281	481	1819
32	163	44	1	0	0	0	0	0	0	0	38	115	361

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	240	255	459	630	866	1046	1297	1274	966	660	347	212	8252
55	19	8	6	62	179	359	584	561	295	45	21	9	2148
57	15	5	2	40	135	303	522	500	246	26	14	3	1811
60	9	0	0	19	81	224	430	409	182	9	8	0	1371
65	0	0	0	4	24	119	286	265	100	1	0	0	799
70	0	0	0	0	4	49	161	146	45	0	0	0	405

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	70	112	241	405	634	819	1062	1038	739	429	151	70	70	182	423	828	1462	2281	3343	4381	5120	5549	5700	5770
45	27	46	116	260	479	669	907	883	589	280	71	29	27	73	189	449	928	1597	2504	3387	3976	4256	4327	4356
50	4	13	43	138	324	519	752	728	441	153	28	4	4	17	60	198	522	1041	1793	2521	2962	3115	3143	3147
55	0	0	9	61	189	371	597	573	296	66	6	0	0	0	9	70	259	630	1227	1800	2096	2162	2168	2168
60	0	0	0	20	94	231	442	419	174	23	0	0	0	0	0	20	114	345	787	1206	1380	1403	1403	1403
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	30	51	116	226	369	512	685	668	466	251	70	32	30	81	197	423	792	1304	1989	2657	3123	3374	3444	3476

(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.

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| <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 |
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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