

Climatography of the United States

No. 20

1971-2000

Station: MORO, OR

COOP ID: 355734

Climate Division: OR 6

NWS Call Sign:

Elevation: 1,870 Feet Lat: 45° 29N

Lon: 120° 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	38.3	24.7	31.5	63	1971	31	40.1	1994	-22+	1957	27	15.2	1979	1038	0	.0	.0	4.4	8.1	24.7	1.2
Feb	43.4	27.6	35.5	68	1932	26	41.8	1991	-23	1950	2	24.4	1989	827	0	.0	.0	7.4	4.3	20.2	.7
Mar	51.2	31.7	41.5	75	1939	23	45.8	1986	3	1993	1	37.5	1971	730	0	.0	.0	18.2	.2	15.8	.0
Apr	58.0	35.6	46.8	87+	1977	25	51.3	1987	19+	1966	19	41.3	1975	547	0	.0	.0	25.8	.0	8.3	.0
May	65.6	41.5	53.6	100	1986	31	58.5	1993	20	1954	1	48.6	1977	359	3	@	.2	30.5	.0	2.1	.0
Jun	73.2	47.4	60.3	102+	1992	24	66.8	1992	27	1976	3	55.8	1971	175	34	.1	1.8	30.0	.0	.2	.0
Jul	81.6	53.0	67.3	111	1939	27	72.9	1985	34+	1955	2	60.8	1993	62	134	.8	7.6	31.0	.0	.0	.0
Aug	81.8	52.6	67.2	106	1998	5	71.7	1986	31	1980	29	62.5	1975	57	125	.6	7.1	31.0	.0	@	.0
Sep	73.8	44.8	59.3	100	1998	2	65.4	1998	23+	1980	26	53.4	1985	211	40	@	1.3	30.0	.0	1.1	.0
Oct	61.9	36.6	49.3	88	1991	1	55.9	1988	8	1935	30	45.0	1984	488	0	.0	.0	28.7	.0	8.0	.0
Nov	46.7	30.8	38.8	71+	1999	14	44.0	1995	-15	1985	24	26.0	1985	788	0	.0	.0	11.6	2.3	16.8	.3
Dec	38.5	25.5	32.0	63+	1989	5	37.4	1973	-16+	1990	21	18.4	1985	1024	0	.0	.0	4.2	8.4	24.5	1.0
Ann	59.5	37.7	48.6	111	Jul 1939	27	72.9	Jul 1985	-23	Feb 1950	2	15.2	Jan 1979	6306	336	1.5	18.0	252.8	23.3	121.7	3.2

+ 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/normals/usnormals.html

Issue Date: February 2004

088-A

(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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No. 20 1971-2000

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

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COOP ID: 355734

Climate Division: OR 6

NWS Call Sign:

Elevation: 1,870 Feet Lat: 45°29N

Lon: 120°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	1.57	1.55	1.67	1953	9	3.67	1995	.17	1984	11.5	4.7	.5	.1	.36	.51	.74	.94	1.15	1.37	1.61	1.91	2.29	2.90	3.48
Feb	1.14	1.04	1.14	1961	10	2.43+	2000	.12	1971	10.4	3.7	.3	.0	.22	.32	.49	.64	.80	.97	1.16	1.39	1.70	2.19	2.66
Mar	1.09	.99	.63	1983	30	2.74	1983	.40	1973	10.9	3.6	.2	.0	.37	.47	.62	.75	.87	1.00	1.14	1.30	1.50	1.82	2.11
Apr	.88	.82	1.21	1988	21	2.38	1992	.06	1999	9.3	2.5	.3	@	.11	.18	.30	.42	.55	.70	.87	1.07	1.35	1.81	2.26
May	.89	.61	1.52	1977	11	3.15	1998	.04	1992	7.4	3.0	.2	.1	.12	.19	.32	.44	.57	.71	.88	1.08	1.35	1.80	2.23
Jun	.62	.42	1.21	1956	10	1.70	1972	.02	1974	5.1	2.0	.2	.0	.04	.08	.16	.24	.34	.45	.58	.75	.99	1.38	1.78
Jul	.31	.20	.74	1995	9	1.10	1995	.00+	2000	3.1	1.1	.1	.0	.00	.02	.07	.12	.17	.23	.30	.39	.51	.70	.90
Aug	.38	.15	.69	1979	21	1.43	1990	.00+	2000	3.0	1.1	.1	.0	.00	.00	.01	.06	.12	.20	.31	.45	.65	1.00	1.36
Sep	.52	.49	1.41	1947	28	1.52	1986	.00+	1999	3.9	1.7	.2	.0	.00	.00	.08	.17	.26	.37	.50	.66	.87	1.23	1.58
Oct	.85	.81	1.08	1982	29	2.59	1979	.01+	1987	6.9	2.6	.3	.1	.03	.07	.17	.28	.41	.56	.76	1.01	1.38	2.00	2.64
Nov	1.64	1.52	1.50	1996	19	3.70	1973	.41	1993	13.4	5.3	.5	.1	.43	.58	.82	1.03	1.24	1.46	1.70	1.98	2.36	2.95	3.50
Dec	1.54	1.08	1.46	1929	18	4.73	1981	.20	1976	11.4	5.2	.7	.1	.18	.30	.52	.73	.96	1.22	1.51	1.88	2.39	3.21	4.02
Ann	11.43	10.84	1.67	Jan 1953	9	4.73	Dec 1981	.00+	Aug 2000	96.3	36.5	3.6	.5	7.09	7.89	8.93	9.74	10.47	11.18	11.93	12.76	13.78	15.28	16.60

+ 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: MORO, OR

COOP ID: 355734

Climate Division: OR 6

NWS Call Sign:

Elevation: 1,870 Feet

Lat: 45° 29N

Lon: 120° 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	5.7	3.7	2	1	8.0	1979	10	19.9	1979	16	1979	15	9	1979	3.7	2.4	.5	.1	.0	9.9	5.6	3.6	.9
Feb	3.4	1.5	1	#	9.0	1985	8	12.6	1993	11	1986	15	7	1993	2.3	1.4	.4	.1	.0	4.5	2.5	1.4	.1
Mar	.8	.0	#	#	3.5	1972	2	4.0	1997	9	1993	3	2	1993	.6	.4	@	.0	.0	.8	.3	.1	.0
Apr	.1	.0	#	0	1.0	1975	4	1.0	1975	1	1982	6	#+	1999	.1	@	.0	.0	.0	@	.0	.0	.0
May	#	.0	0	0	#	1974	16	#	1974	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	.3	.0	#	0	4.0	1971	30	6.0	1971	4+	1991	29	#+	1991	.1	.1	.1	.0	.0	.2	.1	.0	.0
Nov	2.5	.5	#	#	6.0	1996	19	14.0	1975	9	1977	24	2	1985	1.4	.9	.3	.1	.0	2.4	1.1	.4	.0
Dec	5.1	3.0	1	#	5.0	1985	2	17.5	1992	11	1972	17	6	1985	3.7	2.2	.5	.1	.0	7.9	3.6	2.0	.2
Ann	17.9	8.7	N/A	N/A	9.0	Feb 1985	8	19.9	Jan 1979	16	Jan 1979	15	9	Jan 1979	11.9	7.4	1.8	.4	.0	25.7	13.2	7.5	1.2

+ 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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Lon: 120° 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	6/25	6/18	6/12	6/08	6/04	5/31	5/27	5/21	5/14
32	5/28	5/22	5/18	5/14	5/11	5/07	5/04	4/29	4/23
28	5/14	5/05	4/29	4/24	4/19	4/15	4/09	4/03	3/26
24	4/21	4/11	4/03	3/28	3/22	3/15	3/09	3/01	2/19
20	3/20	3/09	2/28	2/21	2/15	2/08	2/01	1/23	1/12
16	3/01	2/18	2/10	2/03	1/27	1/21	1/14	1/06	12/26
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	9/01	9/08	9/12	9/16	9/20	9/23	9/27	10/01	10/08
32	9/17	9/23	9/27	10/01	10/04	10/08	10/12	10/16	10/22
28	9/27	10/04	10/08	10/12	10/16	10/19	10/23	10/28	11/03
24	10/07	10/15	10/21	10/26	10/31	11/04	11/09	11/15	11/23
20	10/29	11/07	11/14	11/20	11/25	12/01	12/06	12/13	12/22
16	11/03	11/16	11/25	12/03	12/10	12/17	12/25	1/03	1/16
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	136	126	119	113	107	101	95	87	77
32	173	164	157	151	146	141	135	129	120
28	211	200	192	185	179	172	166	158	147
24	260	247	238	230	222	215	207	198	185
20	330	314	302	292	283	274	264	252	236
16	>365	343	330	320	312	303	295	285	272

* 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	1038	827	730	547	359	175	62	57	211	488	788	1024	6306
60	883	687	575	399	221	84	19	16	116	336	638	869	4843
57	790	603	482	313	152	46	8	6	73	249	549	776	4047
55	734	547	420	259	114	28	4	3	51	197	494	714	3565
50	589	413	270	142	44	6	0	0	16	91	357	568	2496
32	184	66	4	0	0	0	0	0	0	0	50	148	452

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	169	163	297	443	668	850	1095	1090	820	535	252	147	6529
55	6	0	0	12	68	188	386	380	180	19	6	0	1245
57	0	0	0	6	44	146	328	321	143	9	1	0	998
60	0	0	0	2	20	93	246	239	95	3	0	0	698
65	0	0	0	0	3	34	134	125	40	0	0	0	336
70	0	0	0	0	0	8	58	49	13	0	0	0	128

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	25	39	107	233	439	630	869	866	599	313	75	23	25	64	171	404	843	1473	2342	3208	3807	4120	4195	4218
45	1	8	38	120	293	480	714	711	450	178	25	2	1	9	47	167	460	940	1654	2365	2815	2993	3018	3020
50	0	0	3	50	167	333	559	556	311	85	3	0	0	0	3	53	220	553	1112	1668	1979	2064	2067	2067
55	0	0	0	17	84	201	406	402	187	32	0	0	0	0	0	17	101	302	708	1110	1297	1329	1329	1329
60	0	0	0	2	37	110	268	259	96	10	0	0	0	0	0	2	39	149	417	676	772	782	782	782
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	4	22	59	132	256	375	543	544	378	199	31	5	4	26	85	217	473	848	1391	1935	2313	2512	2543	2548

(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