U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

Climatography of the United States No. 20 1971-2000

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

Station: COVE, OR **COOP ID: 351926**

Climate Division: OR 8 **NWS Call Sign:** **Elevation: 2,915 Feet** **Lat: 45˚18N** **Lon: 117˚48W**

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	37.3	21.5	29.4	64+	1971	31	35.7	1994	-21+	1957	26	16.2	1979	1104	0	.0	.0	2.1	8.3	27.3	2.0
Feb	43.3	24.5	33.9	67+	1995	23	41.1	1992	-22	1989	4	21.6	1989	871	0	.0	.0	6.6	2.2	24.2	.9
Mar	50.6	29.1	39.9	76	1960	25	44.7	1992	-14	1955	5	34.8	1976	780	0	.0	.0	16.2	.1	23.6	.0
Apr	57.4	33.7	45.6	82+	1994	18	51.0	1987	17+	1956	6	39.1	1975	584	0	.0	.0	25.1	.0	13.7	.0
May	65.6	39.5	52.6	94	2001	24	57.5	1993	21	1999	8	48.2	1977	388	1	.0	.3	30.3	.0	4.7	.0
Jun	72.9	45.0	59.0	99	1970	3	64.2	1992	27	1991	4	54.4	1994	203	21	.0	.7	29.9	.0	.5	.0
Jul	82.5	49.6	66.1	103	1960	18	70.6	1998	32	1971	7	58.4	1993	68	101	@	4.3	31.0	.0	@	.0
Aug	83.4	49.4	66.4	107	1961	4	71.9	1999	30	1992	24	61.4	1980	73	117	.1	5.9	31.0	.0	@	.0
Sep	74.1	42.9	58.5	100	1950	2	65.4	1998	23+	1965	18	52.3	1985	231	37	.0	1.0	30.0	.0	3.9	.0
Oct	61.6	35.9	48.8	88	2001	2	56.1	1988	7	1971	29	45.1	1984	503	0	.0	.0	28.4	.0	15.0	.0
Nov	45.7	28.7	37.2	75+	1999	13	47.0	1999	-15	1955	15	24.9	1985	834	0	.0	.0	9.8	1.7	22.5	.2
Dec	38.0	22.8	30.4	61	1989	13	36.3	1973	-24	1990	29	20.1	1985	1074	0	.0	.0	2.2	6.2	29.1	.8
Ann	59.4	35.2	47.3	107	Aug 1961	4	71.9	Aug 1999	-24	Dec 1990	29	16.2	Jan 1979	6713	277	.1	12.2	242.6	18.5	164.5	3.9

\+ 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

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1948-2001

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

Issue Date: February 2004

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	2.17	2.24	1.60	1989	9	3.69	1993	.38	1985
Feb	1.86	1.68	1.08	1953	3	4.50	1986	.26	1973
Mar	1.87	1.76	.99	1995	17	3.91	1983	.48	1994
Apr	2.41	2.07	2.70	1955	22	5.66	1978	.58	1977
May	2.90	2.80	2.42	1952	8	7.60	1998	.53	1992
Jun	2.21	2.16	1.30	1951	5	4.14	1993	.85	1999
Jul	.77	.58	1.09	1954	16	2.84	1997	.05	1999
Aug	.91	.70	1.33	1965	3	3.32	1989	.00	1994
Sep	1.16	.89	1.35	1955	13	4.03	1973	.00+	1993
Oct	1.66	1.65	1.11	1996	24	3.60	1975	.01	1987
Nov	2.75	2.74	1.63	1999	25	6.23	1973	.81	1976
Dec	2.14	2.28	1.66	1958	12	4.63	1996	.50	1986
Ann	22.81	23.09	2.70	Apr 1955	22	7.60	May 1998	.00+	Aug 1994

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	14.6	6.5	.6	.1
Feb	13.5	5.7	.5	.0
Mar	14.2	4.6	.3	.0
Apr	12.9	4.9	.6	.1
May	13.3	6.4	1.1	.3
Jun	10.3	4.9	.9	.1
Jul	6.0	2.3	.4	.1
Aug	5.9	2.6	.3	.1
Sep	6.3	3.1	.5	.1
Oct	6.4	3.0	.5	@
Nov	15.6	7.2	.8	.1
Dec	15.0	6.8	.5	.1
Ann	134.0	58.0	7.0	1.1

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.78	.98	1.28	1.53	1.76	2.00	2.27	2.57	2.97	3.57	4.12
Feb	.58	.76	1.02	1.25	1.47	1.69	1.94	2.23	2.60	3.19	3.73
Mar	.86	1.02	1.25	1.44	1.61	1.78	1.97	2.18	2.44	2.85	3.21
Apr	.62	.85	1.20	1.51	1.81	2.13	2.49	2.91	3.46	4.34	5.15
May	.88	1.15	1.57	1.92	2.27	2.62	3.02	3.48	4.08	5.02	5.89
Jun	.81	1.01	1.31	1.56	1.80	2.05	2.31	2.62	3.02	3.63	4.19
Jul	.06	.10	.20	.31	.43	.56	.73	.94	1.23	1.72	2.21
Aug	.01	.05	.15	.27	.42	.59	.81	1.09	1.50	2.19	2.90
Sep	.00	.04	.18	.34	.53	.76	1.04	1.40	1.92	2.82	3.72
Oct	.19	.31	.55	.78	1.03	1.30	1.63	2.03	2.58	3.48	4.37
Nov	1.02	1.28	1.65	1.96	2.25	2.55	2.88	3.25	3.74	4.48	5.16
Dec	.62	.82	1.13	1.39	1.65	1.92	2.22	2.58	3.03	3.75	4.41
Ann	16.10	17.40	19.07	20.34	21.46	22.55	23.68	24.93	26.44	28.64	30.54

\+ 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: 1948-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	8.5	8.4	1	0
Feb	4.9	4.5	#	0
Mar	5.8	5.0	#	0
Apr	.7	.0	#	0
May	#	.0	0	0
Jun	#	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	#	.0	#	0
Oct	.7	.0	#	0
Nov	.7	-99.9	#	0
Dec	11.4	11.4	1	0
Ann	32.7	-9.9	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	11.0	1998	11	15.8	1971	6	1972	26	3	1972
Feb	6.5	1995	13	13.2	1995	6	1972	14	2	1972
Mar	5.5	1972	24	12.1	1971	4	1971	1	1	1971
Apr	4.5	1998	15	4.5	1998	1	1972	13	#+	1972
May	#	1972	8	#	1972	0	0	0	0	0
Jun	#	1973	17	#	1973	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	#	1971	29	#	1971	#	1971	29	#	1971
Oct	3.5	1971	27	4.0	1971	4	1971	27	#	1971
Nov	2.8	1994	4	2.9	1971	#+	2000	14	#+	2000
Dec	12.0	1998	25	29.4	1971	10	1971	15	3	1972
Ann	12.0	Dec 1998	25	29.4	Dec 1971	10	Dec 1971	15	3+	Dec 1972

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	5.2	3.2	.9	.4	.1
Feb	3.4	1.5	.5	.2	.0
Mar	2.0	1.4	.4	.2	.0
Apr	1.2	.6	.3	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.4	.2	.1	.0	.0
Nov	1.4	1.0	.0	.0	.0
Dec	5.3	2.5	1.1	.5	.0
Ann	18.9	10.4	3.3	1.3	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	-9.9	-9.9	-9.9	-9.9
Feb	-9.9	-9.9	-9.9	-9.9
Mar	-9.9	-9.9	-9.9	-9.9
Apr	-9.9	-9.9	-9.9	-9.9
May	-9.9	-9.9	-9.9	-9.9
Jun	-9.9	-9.9	-9.9	-9.9
Jul	-9.9	-9.9	-9.9	-9.9
Aug	-9.9	-9.9	-9.9	-9.9
Sep	-9.9	-9.9	-9.9	-9.9
Oct	-9.9	-9.9	-9.9	-9.9
Nov	-9.9	-9.9	-9.9	-9.9
Dec	-9.9	-9.9	-9.9	-9.9
Ann	-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	7/16	7/09	7/03	6/29	6/25	6/21	6/16	6/11	6/04
32	6/18	6/11	6/06	6/02	5/29	5/25	5/21	5/16	5/09
28	5/26	5/17	5/10	5/04	4/29	4/23	4/18	4/11	4/02
24	4/27	4/19	4/13	4/08	4/04	3/30	3/25	3/19	3/11
20	4/06	4/01	3/28	3/24	3/21	3/18	3/14	3/10	3/04
16	3/26	3/17	3/11	3/06	3/01	2/24	2/18	2/12	2/03

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	8/28	9/01	9/03	9/06	9/08	9/10	9/12	9/14	9/18
32	9/06	9/10	9/13	9/16	9/18	9/20	9/23	9/26	9/30
28	9/13	9/18	9/22	9/25	9/28	10/02	10/05	10/09	10/14
24	9/26	10/02	10/06	10/10	10/13	10/17	10/20	10/24	10/30
20	10/07	10/13	10/18	10/22	10/25	10/29	11/02	11/06	11/13
16	10/21	10/30	11/05	11/10	11/15	11/20	11/25	12/01	12/10

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	100	91	85	79	74	69	63	57	48
32	136	127	121	116	111	107	102	96	87
28	187	175	166	159	152	145	138	129	117
24	222	212	204	198	192	186	179	171	161
20	241	233	227	222	218	213	208	202	194
16	297	284	274	266	259	251	243	233	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

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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	1104	871	780	584	388	203	68	73	231	503	834	1074	6713
60	949	731	625	434	244	101	19	24	133	352	684	919	5215
57	856	647	532	348	169	58	8	11	87	266	594	826	4402
55	794	591	470	292	127	37	3	5	62	215	537	764	3897
50	645	458	320	168	50	8	0	1	22	108	399	613	2792
32	201	95	13	1	0	0	0	0	0	1	68	175	554

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	120	147	256	407	636	809	1056	1067	796	521	224	124	6163
55	0	0	0	8	51	155	346	359	168	22	4	0	1113
57	0	0	0	4	30	117	289	303	133	11	0	0	887
60	0	0	0	1	12	70	207	223	88	4	0	0	605
65	0	0	0	0	1	21	101	117	37	0	0	0	277
70	0	0	0	0	0	4	34	45	12	0	0	0	95

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	8	30	69	187	398	572	815	822	540	262	52	3	8	38	107	294	692	1264	2079	2901	3441	3703	3755	3758
45	0	4	22	82	250	423	660	667	393	139	14	0	0	4	26	108	358	781	1441	2108	2501	2640	2654	2654
50	0	0	1	30	136	278	505	512	246	58	1	0	0	0	1	31	167	445	950	1462	1708	1766	1767	1767
55	0	0	0	3	57	151	352	358	126	14	0	0	0	0	0	3	60	211	563	921	1047	1061	1061	1061
60	0	0	0	0	20	68	203	211	49	1	0	0	0	0	0	0	20	88	291	502	551	552	552	552
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	19	59	141	264	365	535	529	387	212	32	0	0	19	78	219	483	848	1383	1912	2299	2511	2543	2543

(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:
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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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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 are 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.

a. Temperature/ Precipitation Tables
   1. 1971-2000 Monthly Normals
   2. Cooperative Summary of the Day
   3. National Weather Service station records
   4. 1971-2000 serially complete daily data

b. Degree Day Table
   1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
   2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data

c. Snow Tables
   1. Snow Climatology
   2. Cooperative Summary of the Day

d. Freeze Data Table
   1971-2000 serially complete daily data

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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