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: ELGIN, OR **COOP ID: 352597**

Climate Division: OR 8 **NWS Call Sign:** **Elevation: 2,655 Feet** **Lat: 45˚34N** **Lon: 117˚55W**

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	38.1	22.9	30.5	65	1971	31	38.1	1994	-27	1959	4	17.4	1979	1070	0	.0	.0	1.9	6.9	26.0	2.5
Feb	44.4	26.1	35.3	68	1992	28	42.6	1992	-26	1956	1	22.9	1989	833	0	.0	.0	7.5	2.3	22.4	1.1
Mar	52.5	30.0	41.3	78	1978	29	46.6	1986	-17	1955	5	36.3	1971	737	0	.0	.0	20.0	.0	21.7	@
Apr	60.6	33.7	47.2	91	1987	27	53.6	1987	11	1966	19	41.5	1975	536	0	.0	.1	26.8	.0	15.3	.0
May	68.7	39.3	54.0	98	1983	28	59.1	1993	17	1954	1	50.4	1974	344	2	.0	.8	30.8	.0	6.0	.0
Jun	76.4	44.4	60.4	100	1961	16	64.7	1986	26	1976	26	57.1	1971	160	22	.0	3.4	30.0	.0	1.0	.0
Jul	85.0	46.8	65.9	108	1960	18	69.7	1975	29	1999	3	60.2	1993	56	84	1.2	13.1	31.0	.0	.2	.0
Aug	85.6	45.7	65.7	110	1961	4	68.9	1986	25	1980	29	61.0	1980	65	85	2.0	14.0	31.0	.0	.8	.0
Sep	76.9	38.4	57.7	103	1955	5	63.5	1998	19+	1999	28	51.4	1971	245	24	.1	4.4	30.0	.0	7.8	.0
Oct	64.3	31.5	47.9	92+	1992	1	55.8	1988	11+	1978	31	43.7	1984	531	0	.0	.2	29.0	.0	18.7	.0
Nov	47.0	28.9	38.0	73+	1999	12	43.6	1999	-24	1955	15	27.1	1985	812	0	.0	.0	11.3	1.2	20.4	.3
Dec	38.6	23.4	31.0	64	1956	18	37.0	1979	-31	1990	29	20.9	1985	1055	0	.0	.0	2.4	5.5	25.8	1.8
Ann	61.5	34.3	47.9	110	Aug 1961	4	69.7	Jul 1975	-31	Dec 1990	29	17.4	Jan 1979	6444	217	3.3	36.0	251.7	15.9	166.1	5.7

+ 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

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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	3.16	3.36	1.72	1982	23	5.85	1975	.27	1985
Feb	2.60	2.47	1.80	1957	1	5.28	1996	.72	1973
Mar	2.14	1.98	1.19	1972	2	4.04	1983	.52	1994
Apr	1.96	1.97	1.38	1962	27	3.80	1995	.31	1977
May	1.95	1.74	1.54	1991	19	5.39	1998	.56	1992
Jun	1.58	1.41	1.51	1950	11	3.32	1998	.42	1978
Jul	.80	.61	1.26	1975	12	2.94	1982	.00	1973
Aug	.72	.37	1.18	1984	31	2.59	1989	.00	1981
Sep	1.04	.88	1.32	1959	26	3.14	1973	.00+	1999
Oct	1.68	1.59	1.21	1980	14	3.43	1975	.00	1987
Nov	3.27	3.07	2.55	1995	28	7.74	1973	.49	1976
Dec	3.39	3.42	1.85	1977	13	7.78	1996	.54	1976
Ann	24.29	23.89	2.55	Nov 1995	28	7.78	Dec 1996	.00+	Sep 1999

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	14.7	8.1	1.7	.4
Feb	13.3	6.8	1.1	.3
Mar	14.2	6.8	.6	.1
Apr	12.6	6.1	.6	.1
May	11.7	5.9	1.0	@
Jun	9.4	4.7	.7	.1
Jul	5.1	2.4	.4	.1
Aug	5.0	2.2	.4	@
Sep	6.1	3.1	.5	.1
Oct	9.1	4.8	.8	.1
Nov	15.5	9.2	1.7	.1
Dec	14.3	8.4	2.1	.3
Ann	131.0	68.5	11.6	1.7

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	1.01	1.31	1.75	2.13	2.50	2.88	3.30	3.78	4.41	5.39	6.30
Feb	.78	1.03	1.40	1.72	2.02	2.35	2.70	3.11	3.65	4.49	5.27
Mar	.73	.93	1.23	1.48	1.72	1.96	2.23	2.55	2.95	3.58	4.15
Apr	.60	.79	1.07	1.31	1.54	1.78	2.04	2.35	2.75	3.37	3.95
May	.63	.81	1.09	1.32	1.55	1.78	2.03	2.33	2.72	3.31	3.87
Jun	.56	.71	.92	1.10	1.28	1.46	1.65	1.88	2.17	2.62	3.03
Jul	.01	.06	.15	.26	.39	.54	.73	.97	1.31	1.90	2.49
Aug	.01	.04	.12	.22	.33	.47	.64	.87	1.19	1.74	2.29
Sep	.00	.00	.11	.25	.42	.63	.90	1.24	1.74	2.60	3.47
Oct	.18	.38	.66	.90	1.15	1.41	1.71	2.08	2.56	3.34	4.07
Nov	.92	1.23	1.70	2.11	2.51	2.93	3.39	3.94	4.65	5.77	6.81
Dec	.75	1.06	1.56	2.01	2.46	2.93	3.47	4.12	4.97	6.32	7.60
Ann	16.65	18.11	19.99	21.43	22.71	23.96	25.25	26.68	28.42	30.95	33.16

\+ 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

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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	15.2	12.5	4	3
Feb	8.8	8.2	2	#
Mar	3.3	2.0	#	0
Apr	.9	.0	#	0
May	#	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.1	.0	#	0
Nov	7.3	2.0	1	#
Dec	15.3	10.6	2	#
Ann	50.9	35.3	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	12.0	1996	28	43.1	1989	24	1989	16	20	1989
Feb	8.2	1975	2	25.3	1999	23	1989	17	20	1989
Mar	6.5	1982	30	13.4	1976	20	1989	2	5	1989
Apr	4.0	1982	19	6.3	1975	1	1972	12	#+	1984
May	#	1978	4	#+	1978	#	1971	15	#	1971
Jun	.0	0	0	.0	0	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	.0	0	0	.0	0	0	0	0	0	0
Oct	1.2	1972	29	1.2	1972	#+	1972	29	#+	1972
Nov	14.4	1975	30	31.1	1985	13	1973	25	6	1985
Dec	13.0	1992	27	48.5	1971	23	1971	15	12	1971
Ann	14.4	Nov 1975	30	48.5	Dec 1971	24	Jan 1989	16	20+	Feb 1989

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	7.3	4.7	2.3	1.0	.2
Feb	4.8	2.7	.9	.3	.0
Mar	1.7	.9	.5	.1	.0
Apr	.6	.4	.1	.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	.1	@	.0	.0	.0
Nov	3.5	2.0	.8	.3	@
Dec	6.9	4.4	2.0	.8	.2
Ann	24.9	15.1	6.6	2.5	.4

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	19.6	16.0	13.4	7.1
Feb	5.7	3.6	1.4	.5
Mar	.9	.2	.1	.0
Apr	@	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	3.5	2.3	1.6	.7
Dec	10.9	7.9	5.5	1.2
Ann	40.6	30.0	22.0	9.5

+ 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	7/27	7/20	7/15	7/10	7/06	7/02	6/28	6/23	6/16
32	6/27	6/19	6/14	6/09	6/05	5/31	5/27	5/21	5/13
28	6/05	5/28	5/23	5/18	5/14	5/09	5/05	4/29	4/21
24	5/08	5/01	4/26	4/21	4/17	4/13	4/09	4/04	3/28
20	4/22	4/14	4/08	4/04	3/30	3/26	3/21	3/15	3/08
16	3/28	3/17	3/09	3/03	2/24	2/18	2/11	2/03	1/24

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	8/07	8/12	8/16	8/19	8/22	8/25	8/28	9/01	9/06
32	8/19	8/25	8/29	9/02	9/05	9/09	9/12	9/17	9/22
28	9/06	9/11	9/15	9/17	9/20	9/23	9/26	9/29	10/04
24	9/17	9/23	9/27	9/30	10/03	10/07	10/10	10/14	10/20
20	10/03	10/08	10/12	10/16	10/19	10/22	10/26	10/30	11/05
16	10/12	10/21	10/26	11/01	11/05	11/10	11/15	11/21	11/29

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	68	60	55	50	46	41	37	31	24
32	122	111	104	98	92	86	80	72	62
28	155	146	139	134	129	124	118	112	103
24	195	186	179	174	168	163	157	151	142
20	234	223	215	208	202	196	189	181	171
16	294	280	270	261	253	245	236	226	212

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1070	833	737	536	344	160	56	65	245	531	812	1055	6444
60	915	693	582	389	204	67	11	17	139	378	662	900	4957
57	822	609	489	305	135	32	3	6	90	288	572	807	4158
55	760	553	427	253	98	17	1	3	64	233	514	745	3668
50	613	424	280	141	34	2	0	0	21	115	375	594	2599
32	181	85	9	0	0	0	0	0	0	0	53	162	490

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	134	175	295	454	681	853	1051	1043	769	492	231	130	6308
55	0	0	0	17	66	180	338	332	143	11	2	0	1089
57	0	0	0	9	41	134	278	273	109	5	0	0	849
60	0	0	0	3	17	80	194	192	67	1	0	0	554
65	0	0	0	0	2	22	84	85	24	0	0	0	217
70	0	0	0	0	0	3	21	22	6	0	0	0	52

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	7	30	94	222	437	623	825	819	546	264	62	12	7	37	131	353	790	1413	2238	3057	3603	3867	3929	3941
45	0	3	26	113	288	474	670	664	399	144	18	1	0	3	29	142	430	904	1574	2238	2637	2781	2799	2800
50	0	0	0	46	166	327	515	509	264	57	3	0	0	0	0	46	212	539	1054	1563	1827	1884	1887	1887
55	0	0	0	12	73	194	360	358	146	15	0	0	0	0	0	12	85	279	639	997	1143	1158	1158	1158
60	0	0	0	0	26	94	217	215	64	3	0	0	0	0	0	0	26	120	337	552	616	619	619	619
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	22	80	180	307	411	529	531	414	243	35	0	0	22	102	282	589	1000	1529	2060	2474	2717	2752	2752

(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