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: ESTACADA 2 SE, OR **COOP ID: 352693**

Climate Division: OR 2 **NWS Call Sign:** **Elevation: 450 Feet** **Lat: 45˚16N** **Lon: 122˚19W**

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	45.7	33.7	39.7	67	1986	18	45.0	1995	-1	1950	31	31.8	1979	784	0	.0	.0	9.4	1.1	11.6	.0
Feb	49.7	35.6	42.7	71+	1992	25	48.5	1992	0	1950	2	35.6	1989	626	0	.0	.0	14.0	.4	7.7	.0
Mar	54.9	38.0	46.5	77	1966	25	51.0	1992	22	1971	1	42.6	1976	576	0	.0	.0	24.7	.0	4.4	.0
Apr	60.3	41.0	50.7	90+	1987	26	54.2	1989	26	1951	21	45.8	1975	431	0	.0	@	28.4	.0	1.4	.0
May	66.3	45.5	55.9	105	1983	28	60.8	1992	31	1964	2	52.3	1977	286	4	@	.4	30.9	.0	@	.0
Jun	71.8	49.8	60.8	101	1951	29	65.0	1992	35	1976	3	57.7	1991	142	16	.1	1.0	30.0	.0	.0	.0
Jul	78.4	53.3	65.9	107+	1956	19	70.3	1985	38	1962	2	62.1	1993	51	77	.1	3.5	31.0	.0	.0	.0
Aug	78.6	53.3	66.0	105+	1981	8	69.4	1986	40+	1965	30	62.5	1975	47	77	.4	2.9	31.0	.0	.0	.0
Sep	73.3	49.5	61.4	105	1988	2	65.6	1974	32+	1965	17	58.1	1996	139	31	@	1.6	30.0	.0	.0	.0
Oct	61.3	43.9	52.6	90	2001	1	56.5	1988	15	1969	13	49.0	1984	386	0	.0	@	29.8	.0	.5	.0
Nov	51.0	38.7	44.9	69	1970	1	50.9	1997	8	1955	15	36.9	1985	605	0	.0	.0	17.9	.2	4.7	.0
Dec	45.4	34.1	39.8	68	1993	10	44.0	1979	6	1990	21	33.0	1985	783	0	.0	.0	8.8	1.3	11.1	.0
Ann	61.4	43.0	52.2	107+	Jul 1956	19	70.3	Jul 1985	-1	Jan 1950	31	31.8	Jan 1979	4856	205	.6	9.4	285.9	3.0	41.4	.0

\+ 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

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: ESTACADA 2 SE, OR **COOP ID: 352693**

Climate Division: OR 2 **NWS Call Sign:** **Elevation: 450 Feet** **Lat: 45˚16N** **Lon: 122˚19W**

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	8.04	8.42	3.80	1972	20	12.95	1990	.51	1985
Feb	6.95	6.54	3.63	1949	17	15.68	1996	1.41	1993
Mar	6.18	6.09	2.40	1966	9	13.10	1997	2.08	1992
Apr	5.08	4.78	2.95	1990	27	8.74	1993	2.47+	1999
May	4.04	4.02	2.64	1949	1	7.13	1984	.33	1992
Jun	2.68	2.36	2.26	1969	23	6.76	1984	.53	1992
Jul	1.07	.98	1.42	1983	19	4.46	1983	.00	1984
Aug	1.28	1.14	1.82	1954	19	4.24	1975	.02	1994
Sep	2.47	2.42	1.86	1949	15	5.58	1977	.00	1975
Oct	4.77	4.74	5.27	1994	27	14.05	1994	.36	1988
Nov	8.45	8.74	3.31	1960	24	15.87	1973	1.64	1976
Dec	8.47	7.58	3.10	1998	28	18.00	1996	2.69	1976
Ann	59.48	61.38	5.27	Oct 1994	27	18.00	Dec 1996	.00+	Jul 1984

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	19.9	13.9	6.0	1.7
Feb	18.2	13.1	4.8	1.6
Mar	20.4	14.1	4.1	.8
Apr	18.1	12.3	3.2	.7
May	15.9	10.0	2.5	.4
Jun	11.4	6.4	1.4	.4
Jul	6.3	3.2	.5	@
Aug	5.5	3.0	.8	.1
Sep	9.4	5.4	1.8	.4
Oct	14.0	9.1	3.2	.9
Nov	20.9	14.7	6.2	2.1
Dec	21.1	15.2	5.9	2.2
Ann	181.1	120.4	40.4	11.3

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	2.17	2.94	4.10	5.12	6.12	7.16	8.32	9.70	11.50	14.30	16.93
Feb	2.40	3.06	4.01	4.82	5.60	6.39	7.26	8.27	9.57	11.58	13.43
Mar	2.77	3.32	4.08	4.70	5.28	5.86	6.48	7.19	8.09	9.45	10.68
Apr	2.54	2.96	3.55	4.01	4.44	4.87	5.33	5.84	6.49	7.46	8.33
May	1.42	1.80	2.36	2.82	3.26	3.72	4.22	4.79	5.53	6.68	7.73
Jun	.59	.84	1.23	1.59	1.94	2.32	2.74	3.25	3.91	4.98	5.98
Jul	.08	.19	.36	.52	.68	.86	1.07	1.32	1.67	2.23	2.77
Aug	.04	.09	.21	.37	.57	.81	1.11	1.51	2.09	3.10	4.13
Sep	.11	.33	.70	1.06	1.45	1.88	2.39	3.03	3.91	5.35	6.77
Oct	.79	1.21	1.90	2.56	3.23	3.96	4.80	5.82	7.18	9.39	11.50
Nov	3.03	3.83	4.98	5.94	6.86	7.81	8.83	10.03	11.56	13.91	16.08
Dec	3.07	3.87	5.02	5.98	6.89	7.83	8.85	10.04	11.55	13.89	16.03
Ann	43.88	46.95	50.84	53.79	56.39	58.90	61.48	64.32	67.76	72.73	77.00

\+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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

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: ESTACADA 2 SE, OR **COOP ID: 352693**

Climate Division: OR 2 **NWS Call Sign:** **Elevation: 450 Feet** **Lat: 45°16N** **Lon: 122°19W**

Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	1.0	.0	#	0	3.0	1971	11	6.2	1971	5	1971	13	1	1982	.7	.4	.1	.0	.0	.3	.2	@	.0
Feb	1.1	.0	#	0	5.0	1993	19	8.0	1971	5	1993	19	#+	1993	.6	.4	.3	.1	.0	.4	.3	@	.0
Mar	.2	.0	#	0	1.5	1974	6	1.5+	1989	3	1971	1	#+	1989	.2	.1	.0	.0	.0	.2	@	.0	.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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.4	.0	#	0	5.0	1977	22	5.0	1977	3	1977	22	#+	1993	.1	.1	.1	.1	.0	.1	@	.0	.0
Dec	.8	.0	#	0	3.0	1978	30	4.0	1978	3+	1978	30	#+	1984	.6	.4	.1	.0	.0	.3	.1	.0	.0
Ann	3.5	.0	N/A	N/A	5.0+	Feb 1993	19	8.0	Feb 1971	5+	Feb 1993	19	1	Jan 1982	2.2	1.4	.6	.2	.0	1.3	.6	@	.0

+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: ESTACADA 2 SE, OR **COOP ID: 352693**

Climate Division: OR 2 **NWS Call Sign:** **Elevation: 450 Feet** **Lat: 45˚16N** **Lon: 122˚19W**

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	5/27	5/19	5/13	5/08	5/03	4/28	4/23	4/16	4/08
32	5/02	4/22	4/15	4/09	4/03	3/29	3/23	3/16	3/06
28	3/18	3/08	3/01	2/23	2/18	2/12	2/06	1/30	1/20
24	2/25	2/15	2/07	2/01	1/25	1/19	1/11	12/30	0/00
20	2/01	1/20	1/10	12/31	12/16	0/00	0/00	0/00	0/00
16	1/22	1/04	12/16	0/00	0/00	0/00	0/00	0/00	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	10/03	10/08	10/11	10/14	10/17	10/20	10/23	10/27	11/01
32	10/20	10/28	11/03	11/08	11/13	11/17	11/22	11/28	12/06
28	11/05	11/15	11/22	11/28	12/04	12/09	12/15	12/22	1/01
24	11/30	12/12	12/21	12/29	1/06	1/15	1/26	2/15	0/00
20	12/05	12/21	1/03	1/17	2/09	0/00	0/00	0/00	0/00
16	12/15	12/30	1/16	0/00	0/00	0/00	0/00	0/00	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	196	186	179	173	167	161	155	148	137
32	263	249	239	230	223	215	206	196	182
28	333	316	304	295	287	278	269	259	245
24	>365	>365	>365	>365	353	337	324	312	296
20	>365	>365	>365	>365	>365	>365	>365	>365	338
16	>365	>365	>365	>365	>365	>365	>365	>365	>365

***** 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: ESTACADA 2 SE, OR **COOP ID: 352693**

Climate Division: OR 2 **NWS Call Sign:** **Elevation: 450 Feet** **Lat: 45˚16N** **Lon: 122˚19W**

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	784	626	576	431	286	142	51	47	139	386	605	783	4856
60	629	486	421	283	153	50	8	7	54	236	455	628	3410
57	536	402	329	200	93	20	1	1	24	157	372	535	2670
55	474	347	272	149	61	9	0	0	12	113	316	473	2226
50	331	219	142	56	14	0	0	0	1	38	194	327	1322
32	22	5	0	0	0	0	0	0	0	0	6	18	51

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	260	303	447	559	741	864	1049	1053	882	638	391	259	7446
55	0	1	6	18	89	183	336	340	204	37	11	1	1226
57	0	0	1	9	58	133	275	279	156	20	6	0	937
60	0	0	0	2	25	74	189	192	96	5	0	0	583
65	0	0	0	0	4	16	77	77	31	0	0	0	205
70	0	0	0	0	0	1	16	15	6	0	0	0	38

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	89	130	212	323	499	630	807	805	646	395	176	84	89	219	431	754	1253	1883	2690	3495	4141	4536	4712	4796
45	28	44	91	181	344	480	652	650	496	246	69	26	28	72	163	344	688	1168	1820	2470	2966	3212	3281	3307
50	1	5	26	79	197	330	497	495	346	114	17	0	1	6	32	111	308	638	1135	1630	1976	2090	2107	2107
55	0	0	0	32	92	185	342	340	204	38	0	0	0	0	0	32	124	309	651	991	1195	1233	1233	1233
60	0	0	0	4	34	77	193	190	92	12	0	0	0	0	0	4	38	115	308	498	590	602	602	602
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	21	45	99	167	268	350	488	492	377	193	53	21	21	66	165	332	600	950	1438	1930	2307	2500	2553	2574

(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.
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