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: FOREST GROVE, OR **COOP ID: 352997**

Climate Division: OR 2 **NWS Call Sign:** **Elevation: 180 Feet** **Lat: 45˚31N** **Lon: 123˚06W**

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	46.0	32.2	39.1	63	1976	31	43.1	1992	-18	1950	31	29.6	1979	803	0	.0	.0	10.8	1.1	14.7	@
Feb	51.0	34.0	42.5	72	1986	28	48.3	1992	-15	1950	2	34.9	1989	630	0	.0	.0	16.9	.4	11.1	.0
Mar	56.9	36.6	46.8	82	1930	28	52.1	1992	13	1971	1	42.2	1971	567	0	.0	.0	26.8	.0	6.8	.0
Apr	62.4	39.3	50.9	89+	1998	30	55.0	1992	25+	1965	6	46.3	1972	425	0	.0	.0	29.2	.0	3.4	.0
May	69.5	44.8	57.2	98	1995	30	63.4	1992	28+	1964	2	53.1	1977	262	17	.0	.9	31.0	.0	.4	.0
Jun	75.4	49.9	62.7	105	1992	23	69.6	1992	32+	1999	2	58.6	1971	114	43	.1	2.0	30.0	.0	@	.0
Jul	82.7	54.3	68.5	109	1956	19	73.2	1985	34	1955	2	63.7	1986	38	146	1.1	7.1	31.0	.0	.0	.0
Aug	83.7	53.8	68.8	108+	1981	9	72.1	1986	36	1957	26	64.7	2000	24	140	1.3	7.5	31.0	.0	.0	.0
Sep	78.0	48.8	63.4	104+	1988	3	68.6	1974	30+	1965	17	59.5	1996	109	61	.1	3.7	30.0	.0	@	.0
Oct	66.1	41.1	53.6	93	1988	2	58.3	1979	23	1971	29	50.2	1990	355	2	.0	.2	30.1	.0	2.3	.0
Nov	52.7	36.9	44.8	72	1975	3	49.9	1995	6	1985	24	37.4	1985	606	0	.0	.0	21.0	.3	8.1	.0
Dec	45.9	32.8	39.4	64	1980	25	44.5	1979	-4	1972	8	31.9	1990	796	0	.0	.0	9.7	1.3	13.3	.1
Ann	64.2	42.0	53.1	109	Jul 1956	19	73.2	Jul 1985	-18	Jan 1950	31	29.6	Jan 1979	4729	409	2.6	21.4	297.5	3.1	60.1	.1

\+ 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: 1928-2001

(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: FOREST GROVE, OR **COOP ID: 352997**

Climate Division: OR 2 **NWS Call Sign:** **Elevation: 180 Feet** **Lat: 45˚31N** **Lon: 123˚06W**

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	7.09	7.76	3.10	1936	12	12.25	1990	.44	1985
Feb	6.13	5.75	3.30	1999	10	20.83	1999	.80	1993
Mar	4.91	4.74	2.30	1938	18	9.34	1997	1.18	1992
Apr	3.04	2.55	2.04	1962	27	7.96	1996	.39	1977
May	2.03	1.82	1.38	1949	1	4.77	1996	.04	1992
Jun	1.45	1.32	1.80	1985	7	3.64	1997	.39	1987
Jul	.53	.42	1.06	1983	18	2.32	1983	.00	1984
Aug	.76	.43	1.62	1977	24	2.93	1977	.00+	1998
Sep	1.55	1.27	2.02	1945	4	3.70	1997	.00+	1993
Oct	3.09	3.02	2.62	1994	27	7.76	1997	.14	1988
Nov	7.47	6.62	3.00	1997	20	18.12	1999	1.30	1993
Dec	7.83	8.05	3.58	1937	27	17.01	1996	1.57	1976
Ann	45.88	43.95	3.58	Dec 1937	27	20.83	Feb 1999	.00+	Aug 1998

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	19.2	13.0	5.3	1.5
Feb	17.2	12.6	4.5	1.1
Mar	18.0	12.1	3.0	.7
Apr	14.7	8.3	1.9	.2
May	11.8	6.1	1.0	@
Jun	8.6	3.9	.6	.1
Jul	3.8	1.7	.2	@
Aug	3.8	2.1	.3	@
Sep	6.7	4.3	.8	.1
Oct	11.0	7.2	2.0	.5
Nov	19.2	14.1	5.2	1.4
Dec	18.9	13.5	6.0	2.0
Ann	152.9	98.9	30.8	7.6

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	1.83	2.50	3.53	4.44	5.33	6.27	7.32	8.56	10.18	12.73	15.13
Feb	1.54	2.12	3.01	3.80	4.58	5.40	6.32	7.41	8.84	11.09	13.20
Mar	1.77	2.23	2.90	3.46	3.99	4.53	5.13	5.82	6.70	8.06	9.31
Apr	.74	1.03	1.47	1.87	2.26	2.67	3.14	3.68	4.40	5.54	6.61
May	.39	.57	.87	1.15	1.42	1.72	2.06	2.47	3.02	3.89	4.72
Jun	.34	.47	.68	.87	1.06	1.26	1.49	1.76	2.11	2.67	3.20
Jul	.01	.04	.11	.18	.27	.37	.49	.64	.86	1.22	1.59
Aug	.00	.00	.08	.21	.35	.50	.69	.94	1.27	1.84	2.40
Sep	.00	.09	.32	.56	.82	1.11	1.47	1.91	2.52	3.56	4.58
Oct	.40	.65	1.09	1.52	1.97	2.48	3.06	3.78	4.75	6.34	7.89
Nov	1.98	2.69	3.77	4.72	5.65	6.63	7.72	9.01	10.69	13.34	15.81
Dec	2.19	2.94	4.06	5.04	6.00	7.00	8.11	9.42	11.12	13.78	16.27
Ann	28.07	31.32	35.59	38.90	41.89	44.82	47.89	51.32	55.53	61.74	67.20

\+ 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

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: FOREST GROVE, OR **COOP ID: 352997**

Climate Division: OR 2 **NWS Call Sign:** **Elevation: 180 Feet** **Lat: 45˚31N** **Lon: 123˚06W**

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	1.7	.3	#	0	4.0	1971	13	10.5	1971	8	1971	14	1	1979	1.0	.7	.2	.0	.0	1.1	.2	.1	.0
Feb	1.8	.0	#	0	8.0	1990	15	16.0	1990	6	1993	19	#+	1993	.9	.6	.2	.1	.0	.2	.1	.0	.0
Mar	.3	.0	#	0	2.0	1971	6	4.0	1971	3	1971	1	#+	1972	.3	.2	.0	.0	.0	.2	@	.0	.0
Apr	.0	.0	0	0	.3	1972	17	.3	1972	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	.6	.0	#	0	6.0	1977	22	6.0+	1978	6	1977	22	#	1977	.3	.3	.1	.1	.0	@	@	@	.0
Dec	1.2	.0	#	0	4.0	1972	12	7.7	1972	7	1972	13	2	1972	.6	.4	.1	.0	.0	.1	.0	.0	.0
Ann	5.6	.3	N/A	N/A	8.0	Feb 1990	15	16.0	Feb 1990	8	Jan 1971	14	2	Dec 1972	3.1	2.2	.6	.2	.0	1.6	.3	.1	.0

+ Also occurred on an earlier date(s) #Denotes trace amounts

(1) Derived from Snow Climatology and 1971-2000 daily data

@ Denotes mean number of days greater than 0 but less than .05

(2) Derived from 1971-2000 daily data

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

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: FOREST GROVE, OR **COOP ID: 352997**

Climate Division: OR 2 **NWS Call Sign:** **Elevation: 180 Feet** **Lat: 45˚31N** **Lon: 123˚06W**

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	6/01	5/24	5/19	5/14	5/10	5/06	5/01	4/26	4/19
32	5/16	5/08	5/02	4/27	4/23	4/18	4/13	4/07	3/30
28	4/07	3/29	3/22	3/17	3/11	3/06	2/28	2/21	2/12
24	3/03	2/23	2/17	2/11	2/06	2/01	1/27	1/20	1/10
20	2/21	2/10	2/02	1/25	1/18	1/10	12/30	0/00	0/00
16	2/14	1/30	1/19	1/07	12/25	12/02	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	9/21	9/25	9/29	10/02	10/05	10/08	10/11	10/14	10/19
32	10/07	10/13	10/17	10/20	10/24	10/27	10/31	11/04	11/10
28	10/23	11/01	11/07	11/13	11/18	11/23	11/28	12/04	12/13
24	11/06	11/17	11/25	12/02	12/09	12/15	12/23	12/31	1/14
20	11/25	12/08	12/17	12/25	1/03	1/12	1/24	0/00	0/00
16	12/06	12/21	1/03	1/15	1/30	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	173	164	158	152	147	142	136	130	121
32	212	203	195	189	183	178	172	164	154
28	289	276	266	258	251	243	235	226	213
24	>365	337	323	313	304	296	287	277	263
20	>365	>365	>365	>365	357	339	325	313	297
16	>365	>365	>365	>365	>365	>365	>365	345	320

***** 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: FOREST GROVE, OR **COOP ID: 352997**

Climate Division: OR 2 **NWS Call Sign:** **Elevation: 180 Feet** **Lat: 45˚31N** **Lon: 123˚06W**

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	803	630	567	425	262	114	38	24	109	355	606	796	4729
60	648	490	412	278	147	41	9	3	40	213	459	641	3381
57	555	406	319	197	96	17	2	0	18	141	375	548	2674
55	493	351	262	149	67	9	0	0	9	102	320	486	2248
50	347	223	133	59	21	1	0	0	1	37	200	340	1362
32	24	5	0	0	0	0	0	0	0	0	8	20	57

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	244	299	457	566	778	919	1131	1139	942	669	392	248	7784
55	0	0	6	25	132	237	418	426	261	58	14	1	1578
57	0	0	1	13	99	186	358	364	210	36	9	0	1276
60	0	0	0	4	57	119	272	274	142	15	3	0	886
65	0	0	0	0	17	43	146	140	61	2	0	0	409
70	0	0	0	0	3	9	62	51	17	0	0	0	142

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	79	125	224	330	529	673	868	875	690	417	179	73	79	204	428	758	1287	1960	2828	3703	4393	4810	4989	5062
45	21	47	94	189	375	523	713	720	540	266	77	24	21	68	162	351	726	1249	1962	2682	3222	3488	3565	3589
50	0	6	29	87	227	373	558	565	390	137	19	0	0	6	35	122	349	722	1280	1845	2235	2372	2391	2391
55	0	1	1	33	119	229	405	410	246	50	1	0	0	1	2	35	154	383	788	1198	1444	1494	1495	1495
60	0	0	0	4	51	113	256	261	129	13	0	0	0	0	0	4	55	168	424	685	814	827	827	827
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	24	51	116	186	301	396	538	541	421	247	66	19	24	75	191	377	678	1074	1612	2153	2574	2821	2887	2906

(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