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: VALLEY FALLS, OR **COOP ID: 358812**

Climate Division: OR 7 **NWS Call Sign:** **Elevation: 4,325 Feet** **Lat: 42˚29N** **Lon: 120˚17W**

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	41.5	22.7	32.1	63+	1963	21	37.8	1996	-34	1962	22	26.7	1979	1020	0	.0	.0	3.7	4.6	26.8	.9
Feb	45.3	25.9	35.6	68+	1995	26	43.8	1991	-20	1989	5	24.3	1989	824	0	.0	.0	8.2	1.7	22.6	.4
Mar	51.4	27.1	39.3	76	1992	26	45.9	1986	-1	1955	5	34.1	1999	800	0	.0	.0	17.8	.3	24.4	@
Apr	56.6	31.5	44.1	85	1987	27	51.8	1990	6	1999	8	37.1	1975	629	0	.0	.0	23.1	.0	17.6	.0
May	65.7	37.8	51.8	94	1986	29	62.5	1992	15+	1964	3	45.4	1977	420	8	.0	.3	29.5	@	8.0	.0
Jun	76.0	43.5	59.8	98+	1988	25	66.9	1986	23+	1960	20	54.4	1984	192	33	.0	1.9	29.9	.0	2.1	.0
Jul	84.9	47.5	66.2	103	1960	18	71.4	1996	25	1957	17	57.0	1993	84	121	.3	10.4	31.0	.0	.1	.0
Aug	83.6	45.9	64.8	105	1961	4	69.0	1986	22	1954	16	59.6	1989	81	72	.1	7.5	31.0	.0	3.2	.0
Sep	73.8	39.5	56.7	102	1950	3	62.4	1990	9	1954	30	49.7	1985	266	15	.0	.8	29.8	.0	4.9	.0
Oct	63.0	34.1	48.6	88	1952	2	56.2	1988	3+	1954	28	42.7	1984	511	1	.0	.0	28.2	@	13.6	.0
Nov	49.5	26.6	38.1	75	1949	3	45.4	1995	-15	1955	15	27.6	1985	809	0	.0	.0	13.3	.7	22.1	.2
Dec	42.5	19.3	30.9	65+	1962	15	36.8	1995	-24+	1990	22	22.9	1990	1058	0	.0	.0	5.3	3.9	27.8	1.1
Ann	61.2	33.5	47.3	105	Aug 1961	4	71.4	Jul 1996	-34	Jan 1962	22	22.9	Dec 1990	6694	250	.4	20.9	250.8	11.2	173.2	2.6

\+ 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	.00	.00	2.10	1964	20	.00	0	.00	0
Feb	.00	.00	1.70	1960	8	.00	0	.00+	0
Mar	.00	.00	1.40	1990	31	.00	0	.00	0
Apr	.00	.00	1.00	2001	18	.00	0	.00	0
May	.00	.00	1.54	1998	8	.00	0	.00	0
Jun	.00	.00	1.78	1992	30	.00	0	.00	0
Jul	.00	.00	1.77	1987	17	.00	0	.00+	0
Aug	.00	.00	1.53	1984	31	.00	0	.00+	0
Sep	.00	.00	1.44	1985	8	.00	0	.00+	0
Oct	.00	.00	2.08	1962	10	.00	0	.00+	0
Nov	.00	.00	1.35	1992	30	.00	0	.00	0
Dec	.00	.00	1.62	1964	22	.00	0	.00	0
Ann	.00	.00	2.10	Jan 1964	20	#	0	9.99+	0

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.9	4.1	.6	.2
Feb	10.1	4.3	.5	.1
Mar	12.0	4.7	.4	.1
Apr	9.7	2.9	.1	.0
May	9.1	4.0	.4	@
Jun	5.8	2.7	.3	.1
Jul	1.9	.9	.1	@
Aug	2.6	.9	@	@
Sep	4.0	2.1	.3	@
Oct	6.1	3.0	.2	.1
Nov	7.4	3.0	.6	.1
Dec	10.5	4.8	.6	@
Ann	90.1	37.4	4.1	.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	**	**	**	**	**	**	**	**	**	**	**
Feb	**	**	**	**	**	**	**	**	**	**	**
Mar	**	**	**	**	**	**	**	**	**	**	**
Apr	**	**	**	**	**	**	**	**	**	**	**
May	**	**	**	**	**	**	**	**	**	**	**
Jun	**	**	**	**	**	**	**	**	**	**	**
Jul	**	**	**	**	**	**	**	**	**	**	**
Aug	**	**	**	**	**	**	**	**	**	**	**
Sep	**	**	**	**	**	**	**	**	**	**	**
Oct	**	**	**	**	**	**	**	**	**	**	**
Nov	**	**	**	**	**	**	**	**	**	**	**
Dec	**	**	**	**	**	**	**	**	**	**	**
Ann	**	**	**	**	**	**	**	**	**	**	**

+ 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	.3	-99.9	0	0
Feb	.1	-99.9	#	0
Mar	.3	.0	#	0
Apr	.1	.0	#	0
May	.2	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.2	.0	0	0
Nov	.5	.0	#	0
Dec	7.7	-99.9	#	0
Ann	9.4	-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	1.0	1998	19	1.0	1998	0	0	0	0	0
Feb	.5	1998	2	.5	1998	4	1984	22	#+	1998
Mar	2.0	1985	5	2.0	1985	#	1997	3	#	1997
Apr	.5	1997	24	.5	1997	1	1984	29	#+	1997
May	2.0	1998	8	2.0	1998	#+	1999	13	#+	1999
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	2.0	1984	17	2.0	1984	0	0	0	0	0
Nov	4.0	1997	24	4.0	1997	#+	2000	7	#+	2000
Dec	11.0	1983	24	30.6	1983	#	1997	20	#	1997
Ann	11.0	Dec 1983	24	30.6	Dec 1983	4	Feb 1984	22	#+	Nov 2000

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	-9.9	-9.9	-9.9	-9.9	-9.9
Feb	-9.9	-9.9	-9.9	-9.9	-9.9
Mar	.3	.1	.0	.0	.0
Apr	.1	.0	.0	.0	.0
May	.1	.1	.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	.1	.0	.0	.0
Nov	.1	.1	.1	.0	.0
Dec	-9.9	-9.9	-9.9	-9.9	-9.9
Ann	-9.9	-9.9	-9.9	-9.9	-9.9

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	.0	.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	.0	.0	.0	.0
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	7/14	7/09	7/05	7/02	6/29	6/26	6/23	6/19	6/14
32	7/03	6/26	6/21	6/17	6/13	6/08	6/04	5/30	5/23
28	6/13	6/05	5/31	5/26	5/22	5/18	5/13	5/08	4/30
24	5/28	5/18	5/12	5/06	4/30	4/25	4/19	4/12	4/03
20	5/07	4/30	4/25	4/20	4/16	4/12	4/07	4/02	3/26
16	4/21	4/10	4/02	3/26	3/20	3/14	3/07	2/27	2/16

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	7/29	8/05	8/11	8/16	8/20	8/25	8/30	9/05	9/13
32	8/03	8/13	8/20	8/27	9/01	9/07	9/13	9/20	9/30
28	8/13	8/24	9/01	9/07	9/14	9/20	9/27	10/05	10/16
24	9/04	9/17	9/25	10/03	10/10	10/17	10/25	11/02	11/15
20	10/02	10/10	10/17	10/22	10/27	11/01	11/06	11/13	11/21
16	10/11	10/20	10/27	11/02	11/08	11/14	11/20	11/27	12/07

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	82	72	64	58	52	46	39	31	21
32	118	105	96	88	80	72	64	55	41
28	160	144	133	123	114	105	95	84	68
24	217	198	185	173	162	151	139	126	107
20	234	220	210	201	193	185	177	167	153
16	285	267	254	243	232	222	211	198	180

***** 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:
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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	1020	824	800	629	420	192	84	81	266	511	809	1058	6694
60	865	684	645	485	283	99	29	23	153	366	659	903	5194
57	772	600	552	401	213	58	14	9	101	285	572	810	4387
55	710	544	490	348	173	38	8	3	74	237	515	748	3888
50	555	410	341	228	93	10	0	0	26	137	379	593	2772
32	109	61	17	14	1	0	0	0	0	3	57	122	384

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	112	162	240	375	612	831	1060	1014	739	517	238	88	5988
55	0	0	0	19	71	179	355	304	123	37	6	0	1094
57	0	0	0	12	49	140	299	248	91	24	3	0	866
60	0	0	0	6	26	90	221	169	52	12	0	0	576
65	0	0	0	0	8	33	121	72	15	1	0	0	250
70	0	0	0	0	0	9	50	19	2	0	0	0	80

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	4	34	67	169	394	582	845	719	514	291	68	14	4	38	105	274	668	1250	2095	2814	3328	3619	3687	3701
45	0	3	27	83	254	433	690	565	367	166	23	0	0	3	30	113	367	800	1490	2055	2422	2588	2611	2611
50	0	0	1	32	143	291	535	413	232	77	1	0	0	0	1	33	176	467	1002	1415	1647	1724	1725	1725
55	0	0	0	6	65	165	381	268	125	21	0	0	0	0	0	6	71	236	617	885	1010	1031	1031	1031
60	0	0	0	0	26	77	237	139	47	7	0	0	0	0	0	0	26	103	340	479	526	533	533	533
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	2	26	68	134	268	390	537	515	371	233	51	6	2	28	96	230	498	888	1425	1940	2311	2544	2595	2601

(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