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: OWYHEE DAM, OR **COOP ID: 356405**

Climate Division: OR 9 **NWS Call Sign:** **Elevation: 2,400 Feet** **Lat: 43˚39N** **Lon: 117˚15W**

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	38.7	21.8	30.3	67	1997	1	37.2	1998	-22	1962	22	17.0	1979	1078	0	.0	.0	4.1	7.8	26.9	1.4
Feb	45.8	26.3	36.1	70	1971	11	42.5	1995	-13	1979	1	22.7	1989	811	0	.0	.0	10.0	2.8	21.3	.3
Mar	55.7	31.8	43.8	80	1966	30	49.0	1986	11+	1960	1	38.2	1976	659	0	.0	.0	24.3	.1	15.3	.0
Apr	64.3	36.9	50.6	92	1987	28	55.9	1990	14	1987	20	44.0	1975	433	1	.0	.1	28.9	.0	6.7	.0
May	73.5	43.9	58.7	100+	1986	31	64.5	1992	24	1987	20	54.2	1977	210	16	.1	2.0	31.0	.0	.9	.0
Jun	82.9	50.5	66.7	106	1961	20	72.7	1986	34+	1996	19	62.7	1993	63	115	.8	8.2	30.0	.0	.0	.0
Jul	91.9	55.3	73.6	111	1960	19	78.2	1994	35	1986	6	65.9	1993	11	278	5.7	20.6	31.0	.0	.0	.0
Aug	91.2	54.4	72.8	111	1961	4	77.5	1971	36+	1993	30	67.8	1976	17	259	4.0	19.9	31.0	.0	.0	.0
Sep	80.3	46.9	63.6	103+	1955	6	69.4	1990	27+	1995	22	56.7	1985	125	83	.2	5.9	30.0	.0	.9	.0
Oct	67.4	38.2	52.8	93	1997	2	60.7	1988	14	1971	30	49.1	1985	380	2	.0	.1	30.3	.0	7.0	.0
Nov	50.0	29.5	39.8	75	1988	2	44.2	1995	-4	1955	15	31.2	1985	757	0	.0	.0	16.0	.9	19.6	@
Dec	39.4	22.3	30.9	68+	1964	23	39.5	1977	-16	1972	10	15.4	1985	1059	0	.0	.0	4.5	6.4	27.7	1.4
Ann	65.1	38.2	51.6	111+	Aug 1961	4	78.2	Jul 1994	-22	Jan 1962	22	15.4	Dec 1985	5603	754	10.8	56.8	271.1	18.0	126.3	3.1

\+ 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: 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	1.12	.87	4.13	2000	11	5.24	2000	.12	1990
Feb	.83	.70	.80	1986	13	2.76	1986	.04	1997
Mar	.98	.90	.67	1982	18	2.61	1983	.11	1994
Apr	.94	.77	.94	1981	20	3.37	1978	.06	1977
May	1.09	.80	1.65	1957	12	4.96	1998	.16+	1975
Jun	.94	.90	1.48	1964	15	2.48	1975	.05	1974
Jul	.51	.36	1.05	1998	9	1.82	1995	.00+	1999
Aug	.47	.21	1.85	1979	14	2.70	1979	.00+	1994
Sep	.51	.42	2.46	1949	29	1.61	1980	.00+	1999
Oct	.60	.44	1.18	1991	31	2.36	1991	.00+	1988
Nov	.92	.83	.68	1981	22	2.40	1981	.11	1986
Dec	1.09	.81	.89	1980	25	3.53	1983	.00	1989
Ann	10.00	9.30	4.13	Jan 2000	11	5.24	Jan 2000	.00+	Sep 1999

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.0	3.5	.2	@
Feb	7.7	2.9	.2	.0
Mar	8.3	3.7	.1	.0
Apr	8.3	3.3	.1	.0
May	7.6	3.6	.3	@
Jun	5.9	2.8	.3	.1
Jul	3.4	1.4	.2	.1
Aug	3.1	1.3	.1	@
Sep	3.6	1.5	.2	.0
Oct	4.6	1.9	.2	.1
Nov	8.6	3.3	.1	.0
Dec	9.1	3.8	.2	.0
Ann	79.2	33.0	2.2	.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	.17	.26	.43	.58	.74	.92	1.12	1.37	1.71	2.25	2.77
Feb	.09	.16	.27	.39	.51	.65	.82	1.02	1.29	1.75	2.19
Mar	.22	.31	.45	.58	.71	.85	1.01	1.19	1.44	1.82	2.19
Apr	.16	.25	.38	.51	.65	.79	.95	1.15	1.42	1.84	2.25
May	.16	.25	.41	.56	.72	.89	1.09	1.33	1.66	2.20	2.72
Jun	.13	.20	.33	.46	.60	.75	.93	1.14	1.43	1.91	2.37
Jul	.00	.00	.06	.13	.21	.32	.45	.61	.85	1.26	1.68
Aug	.00	.00	.02	.07	.14	.24	.36	.54	.80	1.26	1.74
Sep	.00	.00	.04	.14	.24	.35	.48	.64	.86	1.23	1.60
Oct	.00	.00	.16	.26	.37	.48	.61	.77	.97	1.31	1.64
Nov	.19	.27	.41	.53	.65	.79	.94	1.12	1.35	1.73	2.09
Dec	.13	.26	.44	.60	.76	.92	1.11	1.34	1.64	2.12	2.58
Ann	5.44	6.24	7.30	8.14	8.91	9.67	10.48	11.39	12.51	14.19	15.69

+ 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	4.5	4.5	1	0
Feb	1.4	1.1	#	0
Mar	.6	.0	#	0
Apr	.0	.0	#	0
May	.0	.0	0	0
Jun	.0	.0	#	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	#	.0	#	0
Nov	1.3	.0	#	0
Dec	4.8	3.5	#	#
Ann	12.6	9.1	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	7.0	1977	3	13.7	1979	12	1982	2	6+	1982
Feb	1.7	1976	19	3.2	1975	11	1979	6	4	1979
Mar	4.0	1976	1	4.0	1976	4	1976	1	#+	1993
Apr	.5	1973	19	.5	1973	1	1973	19	#+	1982
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	#	1976	20	#	1976
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	#	1975	24	#+	1975	#	1971	27	#	1971
Nov	5.0	1977	22	6.0	1977	6	1977	22	#+	1981
Dec	6.0	1981	30	15.6	1981	12	1972	16	4	1972
Ann	7.0	Jan 1977	3	15.6	Dec 1981	12+	Jan 1982	2	6+	Jan 1982

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	3.5	2.0	.4	.1	.0
Feb	1.8	.8	.0	.0	.0
Mar	.3	.1	.1	.0	.0
Apr	.1	.0	.0	.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	.0	.0	.0	.0	.0
Nov	.7	.5	.1	.1	.0
Dec	3.0	1.9	.4	.1	.0
Ann	9.4	5.3	1.0	.3	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	5.8	3.5	2.4	.3
Feb	1.7	.5	.3	.3
Mar	.1	.1	.0	.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	.5	.1	@	.0
Dec	3.5	1.3	.7	.3
Ann	11.6	5.5	3.4	.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	6/13	6/05	5/30	5/25	5/20	5/15	5/10	5/03	4/25
32	5/12	5/08	5/04	5/01	4/29	4/26	4/23	4/20	4/15
28	4/27	4/19	4/13	4/08	4/03	3/29	3/24	3/18	3/10
24	4/11	4/02	3/27	3/22	3/18	3/13	3/08	3/02	2/22
20	3/21	3/12	3/05	2/28	2/22	2/17	2/11	2/05	1/26
16	3/11	2/28	2/21	2/14	2/08	2/02	1/27	1/19	1/09

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	9/07	9/13	9/18	9/22	9/26	9/30	10/04	10/09	10/16
32	9/21	9/27	10/01	10/05	10/08	10/11	10/15	10/19	10/25
28	9/29	10/05	10/10	10/14	10/17	10/21	10/25	10/29	11/04
24	10/16	10/22	10/26	10/30	11/02	11/06	11/09	11/14	11/20
20	10/30	11/06	11/10	11/15	11/19	11/23	11/27	12/02	12/08
16	11/09	11/16	11/22	11/26	12/01	12/05	12/10	12/15	12/23

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	163	151	143	136	129	122	115	107	95
32	184	176	171	166	162	157	152	147	139
28	224	215	208	202	196	191	185	178	169
24	254	246	239	234	229	224	219	212	204
20	304	292	283	276	269	262	254	245	233
16	330	318	309	302	295	288	280	272	260

***** 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	1078	811	659	433	210	63	11	17	125	380	757	1059	5603
60	923	671	504	292	101	18	1	3	56	236	607	904	4316
57	830	587	412	215	56	7	0	1	29	163	518	811	3629
55	768	531	351	170	35	3	0	0	18	120	460	749	3205
50	622	402	213	83	7	0	0	0	4	46	323	604	2304
32	187	71	4	0	0	0	0	0	0	0	36	180	478

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	132	184	368	558	829	1041	1290	1265	948	646	269	143	7673
55	0	0	2	38	151	354	577	552	276	53	2	0	2005
57	0	0	1	23	110	298	515	491	227	33	0	0	1698
60	0	0	0	10	62	220	423	400	164	14	0	0	1293
65	0	0	0	1	16	115	278	259	83	2	0	0	754
70	0	0	0	0	2	46	154	143	33	0	0	0	378

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	13	49	161	337	587	800	1034	1004	701	401	84	21	13	62	223	560	1147	1947	2981	3985	4686	5087	5171	5192
45	1	13	68	203	434	650	879	849	551	257	30	4	1	14	82	285	719	1369	2248	3097	3648	3905	3935	3939
50	0	1	18	100	288	500	724	694	404	138	5	0	0	1	19	119	407	907	1631	2325	2729	2867	2872	2872
55	0	0	1	43	164	353	569	539	266	62	0	0	0	0	1	44	208	561	1130	1669	1935	1997	1997	1997
60	0	0	0	12	82	222	415	390	153	19	0	0	0	0	0	12	94	316	731	1121	1274	1293	1293	1293
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	5	28	112	224	375	497	622	608	456	281	55	7	5	33	145	369	744	1241	1863	2471	2927	3208	3263	3270

(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