

# Climatology of the United States No. 20

Station: HOWARD PRAIRIE DAM, OR

1971-2000

COOP ID: 354060

Climate Division: OR 3

NWS Call Sign:

Elevation: 4,567 Feet Lat: 42° 14N

Lon: 122° 23W

## 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	36.9	21.2	29.1	55+	1971	31	35.3	1981	-20	1962	22	24.8+	1993	1115	0	.0	.0	.7	7.0	29.5	1.1
Feb	41.4	22.5	32.0	67	1978	21	38.4	1991	-20	1989	5	24.4	1989	926	0	.0	.0	4.3	2.7	26.6	.8
Mar	46.5	25.0	35.8	73	1986	30	41.2	1986	-2	1969	8	30.5	1975	908	0	.0	.0	10.2	.6	28.9	@
Apr	53.1	28.9	41.0	82	1987	28	47.3	1987	7	1975	6	32.3	1975	720	0	.0	.0	17.1	.1	23.5	.0
May	62.0	34.3	48.2	92	1986	31	55.8	1992	20	1967	1	42.7	1977	522	0	.0	.1	25.5	.0	14.0	.0
Jun	70.5	40.4	55.5	95+	1985	19	60.8	1986	26	1976	4	50.9	1980	296	9	.0	.3	29.1	.0	3.6	.0
Jul	79.2	45.3	62.3	97	1987	15	66.2	1998	29	1976	1	56.3	1993	133	47	.0	3.0	31.0	.0	.3	.0
Aug	79.5	44.6	62.1	100	1981	8	66.5	1986	29	1975	31	57.1	1976	133	41	@	2.9	31.0	.0	.2	.0
Sep	72.9	38.7	55.8	97	1988	4	60.4	1991	22+	1970	15	50.4	1986	285	10	.0	.5	29.5	.0	4.4	.0
Oct	61.0	33.0	47.0	89	1960	1	54.1	1987	8	1971	29	41.0	1984	558	0	.0	.0	24.7	.1	15.9	.0
Nov	42.9	27.4	35.2	71	1967	1	41.3	1976	1+	1985	13	27.8	1994	896	0	.0	.0	7.1	2.2	25.7	.0
Dec	36.0	22.6	29.3	55	1980	27	33.7	1981	-20	1990	22	22.0	1990	1106	0	.0	.0	.3	8.4	29.8	.6
Ann	56.8	32.0	44.4	100	Aug 1981	8	66.5	Aug 1986	-20+	Dec 1990	22	22.0	Dec 1990	7598	107	@	6.8	210.5	21.1	202.4	2.5

+ 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/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1960-2001

(3) Derived from 1971-2000 serially complete daily data

059-A

# 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: HOWARD PRAIRIE DAM, OR**

**COOP ID: 354060**

**Climate Division: OR 3**

**NWS Call Sign:**

**Elevation: 4,567 Feet Lat: 42°14N**

**Lon: 122°23W**

#### Precipitation (inches)

	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount											
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution											
Month	Mean	Med- ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95	
Jan	4.85	5.01	3.93	1974	16	10.57	1996	.45	1985	14.3	10.1	2.6	1.0	1.21	1.67	2.38	3.00	3.62	4.27	5.00	5.86	6.99	8.78	10.45	
Feb	3.86	3.53	2.23	1999	7	9.18	1986	.31	1988	13.8	9.5	2.3	.6	.95	1.31	1.87	2.37	2.87	3.39	3.97	4.67	5.58	7.01	8.36	
Mar	3.72	2.97	2.57	1972	2	7.86	1995	.82	1994	15.3	10.3	1.7	.4	1.07	1.42	1.95	2.42	2.87	3.34	3.86	4.47	5.27	6.51	7.67	
Apr	2.39	2.36	1.34	1961	22	4.74	1995	.50	1977	12.3	7.8	.9	.1	.96	1.18	1.49	1.75	1.99	2.24	2.50	2.81	3.20	3.80	4.34	
May	2.06	1.82	1.57	1993	31	4.96	1998	.23	1976	10.0	5.9	1.0	.1	.38	.56	.86	1.14	1.42	1.73	2.08	2.51	3.07	3.98	4.85	
Jun	1.28	1.12	1.26	1977	11	3.40	1995	.01	1999	6.2	3.8	.6	.1	.09	.17	.34	.51	.71	.93	1.20	1.55	2.02	2.83	3.62	
Jul	.58	.24	2.14	1987	18	4.21	1987	.00+	1999	2.9	1.4	.3	.1	.00	.00	.03	.11	.20	.33	.48	.69	.99	1.51	2.05	
Aug	.72	.34	1.48	1999	24	4.27	1976	.00+	2000	2.9	1.7	.5	.1	.00	.00	.00	.06	.19	.35	.56	.85	1.25	1.96	2.68	
Sep	1.07	.70	1.10	1966	18	3.31	1986	.00+	1999	4.7	2.7	.6	@	.00	.00	.22	.42	.62	.83	1.07	1.37	1.77	2.39	3.01	
Oct	2.04	1.71	1.87	1973	22	5.15	1975	.07	1988	7.7	5.3	1.2	.3	.20	.35	.63	.91	1.22	1.57	1.98	2.49	3.19	4.36	5.50	
Nov	4.79	3.65	3.31	1984	28	11.06	1973	.58	1993	14.6	10.7	2.9	1.0	.92	1.36	2.06	2.71	3.36	4.07	4.87	5.83	7.11	9.17	11.12	
Dec	5.21	4.16	4.34	1964	22	13.38	1996	.62	1976	14.5	11.0	3.4	.9	.88	1.34	2.10	2.81	3.54	4.34	5.25	6.35	7.83	10.21	12.49	
Ann	32.57	30.65	4.34	Dec 1964	22	13.38	Dec 1996	.00+	Aug 2000	119.2	80.2	18.0	4.7	20.98	23.13	25.94	28.10	30.05	31.94	33.92	36.12	38.81	42.75	46.20	

+ 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: 1960-2001

(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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**Climate Division: OR 3**

**NWS Call Sign:**

**Elevation: 4,567 Feet**

**Lat: 42° 14N**

**Lon: 122° 23W**

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	23.4	21.4	19	18	14.4	1996	24	62.6	1993	58	1993	22	45	1993	9.1	7.2	3.4	1.4	.2	29.6	29.4	28.8	26.0
Feb	22.6	18.4	22	22	20.5	1999	7	65.5	1975	56	1993	24	45	1993	8.6	6.8	3.4	1.3	.2	27.2	26.9	26.0	23.2
Mar	20.8	20.2	15	12	13.0	1975	22	48.0	1975	52+	1975	25	43	1971	8.5	6.7	2.6	.9	.1	22.6	21.3	20.6	16.7
Apr	9.4	8.0	5	1	8.0	1974	1	21.2	1999	45	1975	8	34	1975	4.8	3.7	1.1	.4	.0	7.6	5.6	4.8	3.4
May	2.9	1.0	#	#	5.0	1975	5	11.0	1975	18	1975	5	4	1975	1.6	1.1	.3	@	.0	1.7	.7	.4	.2
Jun	.3	.0	#	0	2.5	1975	24	2.5	1975	3	1975	24	#+	1999	.1	.1	.0	.0	.0	.1	@	.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	.2	.0	#	0	3.0	1971	30	4.0	1971	3	1971	30	#+	1986	.1	.1	@	.0	.0	.1	@	.0	.0
Oct	1.6	.0	#	#	6.0	1972	29	10.5	1971	7	1996	26	1	1996	.8	.7	.2	@	.0	1.2	.4	.2	.0
Nov	17.5	13.5	4	2	17.0	1977	21	57.4	1973	34	1994	18	20	1994	6.5	5.6	2.7	1.2	.2	11.9	8.6	6.0	2.7
Dec	27.0	28.0	11	9	14.0	1982	23	71.0	1982	46	1982	24	28	1994	9.1	7.6	3.5	1.6	.1	27.4	26.3	23.1	13.1
Ann	125.7	110.5	N/A	N/A	20.5	Feb 1999	7	71.0	Dec 1982	58	Jan 1993	22	45+	Feb 1993	49.2	39.6	17.2	6.8	.8	129.4	119.2	109.9	85.3

+ 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	7/24	7/18	7/13	7/09	7/06	7/02	6/28	6/24	6/18
32	7/07	6/30	6/26	6/22	6/18	6/14	6/10	6/05	5/30
28	6/06	5/30	5/25	5/21	5/17	5/13	5/09	5/04	4/27
24	5/13	5/04	4/28	4/23	4/18	4/13	4/08	4/01	3/24
20	4/20	4/11	4/04	3/30	3/25	3/19	3/14	3/07	2/27
16	4/07	3/30	3/23	3/18	3/13	3/08	3/03	2/25	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	8/05	8/12	8/17	8/22	8/26	8/30	9/03	9/08	9/15
32	8/28	9/03	9/08	9/12	9/15	9/19	9/23	9/28	10/04
28	9/14	9/21	9/26	9/30	10/04	10/08	10/13	10/18	10/25
24	10/13	10/20	10/24	10/28	11/01	11/05	11/09	11/13	11/20
20	10/26	11/02	11/06	11/10	11/14	11/18	11/22	11/27	12/03
16	10/25	11/06	11/14	11/21	11/28	12/05	12/12	12/20	1/01
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	80	70	62	56	50	44	38	31	20
32	116	107	100	94	89	83	78	71	62
28	166	157	150	145	140	135	129	123	114
24	227	216	209	202	196	190	184	177	166
20	270	258	249	241	234	227	219	210	197
16	301	287	277	268	259	251	242	232	217

\* 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	1115	926	908	720	522	296	133	133	285	558	896	1106	7598
60	960	786	753	570	373	173	54	52	163	408	746	951	5989
57	867	702	660	483	289	115	25	23	108	323	656	858	5109
55	805	646	598	426	237	84	14	12	78	271	596	796	4563
50	650	506	444	291	132	29	2	1	26	159	449	641	3330
32	149	102	49	21	1	0	0	0	0	3	63	151	539

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	57	100	164	290	502	703	938	931	715	469	157	68	5094
55	0	0	0	6	25	96	239	231	102	23	0	0	722
57	0	0	0	3	15	68	188	179	72	14	0	0	539
60	0	0	0	0	6	36	123	115	38	6	0	0	324
65	0	0	0	0	0	9	47	41	10	0	0	0	107
70	0	0	0	0	0	1	11	9	1	0	0	0	22

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	0	8	34	103	262	457	680	674	472	239	25	0	0	8	42	145	407	864	1544	2218	2690	2929	2954	2954
45	0	0	3	43	147	318	525	520	330	128	4	0	0	0	3	46	193	511	1036	1556	1886	2014	2018	2018
50	0	0	0	10	72	188	373	368	204	55	0	0	0	0	0	10	82	270	643	1011	1215	1270	1270	1270
55	0	0	0	0	31	92	232	225	102	15	0	0	0	0	0	0	31	123	355	580	682	697	697	697
60	0	0	0	0	5	37	118	111	34	0	0	0	0	0	0	0	5	42	160	271	305	305	305	305
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	9	39	91	195	311	449	452	348	197	19	0	0	9	48	139	334	645	1094	1546	1894	2091	2110	2110

(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](http://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.  
Complete documentation for the 1971-2000 Normals is available on the internet from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/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 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.

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
|---|---|

## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)