

Climatography of the United States

No. 20

1971-2000

Station: LA GRANDE, OR

COOP ID: 354622

Climate Division: OR 8

NWS Call Sign:

Elevation: 2,755 Feet Lat: 45° 19N

Lon: 118° 04W

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	37.3	23.1	30.2	61	1971	31	36.6	1994	-17	1996	31	18.7	1979	1078	0	.0	.0	2.1	7.6	25.8	1.2
Feb	42.8	26.4	34.6	66	1986	25	41.7	1992	-14	1996	1	23.9	1989	852	0	.0	.0	6.4	2.6	20.8	.6
Mar	50.3	30.5	40.4	79	1966	30	45.8	1992	9	1976	5	34.9	1985	762	0	.0	.0	16.7	.1	18.9	.0
Apr	57.7	35.1	46.4	88+	1977	25	52.1	1987	16	1968	13	39.9	1975	558	0	.0	.0	24.6	.0	10.5	.0
May	66.2	41.8	54.0	95+	1986	31	59.4	1992	25+	1982	5	49.1	1977	344	4	.0	.4	29.9	.0	2.1	.0
Jun	74.9	48.3	61.6	100	1992	24	67.4	1992	29	1976	26	57.4	1971	149	46	@	2.6	29.9	.0	.2	.0
Jul	84.7	53.0	68.9	104	2000	31	74.4	1985	32	1971	7	60.4	1993	42	161	1.0	11.5	31.0	.0	.1	.0
Aug	85.0	51.8	68.4	104+	1992	14	72.6	1971	32	1980	28	62.8	1976	53	159	1.0	11.9	31.0	.0	.1	.0
Sep	75.6	43.5	59.6	100+	1998	5	66.6	1990	23	1985	29	52.0	1985	213	49	.1	2.8	29.9	.0	1.9	.0
Oct	62.6	35.4	49.0	89	2001	2	55.9	1988	13	1971	29	43.9	1984	496	0	.0	.0	28.0	@	10.9	.0
Nov	45.6	29.8	37.7	71	1988	1	44.0	1999	-14	1985	23	25.9	1985	820	0	.0	.0	10.0	1.5	17.7	.1
Dec	38.2	24.2	31.2	59	1995	13	37.1	1979	-18	1983	23	22.3	1985	1049	0	.0	.0	2.1	5.9	24.8	.9
Ann	60.1	36.9	48.5	104+	Jul 2000	31	74.4	Jul 1985	-18	Dec 1983	23	18.7	Jan 1979	6416	419	2.1	29.2	241.6	17.7	133.8	2.8

+ 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

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1965-2001

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

068-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: LA GRANDE, OR

COOP ID: 354622

Climate Division: OR 8

NWS Call Sign:

Elevation: 2,755 Feet Lat: 45°19N

Lon: 118°04W

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	1.83	1.94	1.99	1984	2	5.35	1975	.16	1985	10.7	5.4	.8	.3	.47	.64	.91	1.14	1.37	1.62	1.89	2.21	2.63	3.29	3.91
Feb	1.32	1.14	1.50	1986	23	3.91	1986	.16	1973	9.3	4.1	.3	@	.33	.45	.65	.82	.98	1.16	1.36	1.59	1.90	2.38	2.84
Mar	1.50	1.56	1.04	1995	15	3.36	1983	.37	1985	11.7	5.5	.3	@	.54	.68	.89	1.06	1.22	1.39	1.57	1.78	2.06	2.48	2.86
Apr	1.58	1.54	1.64	1990	30	3.50	1993	.26	1999	10.4	5.0	.4	.1	.39	.54	.77	.98	1.18	1.39	1.63	1.91	2.28	2.87	3.41
May	1.90	1.61	2.30	1991	20	5.20	1991	.60	1997	10.0	5.4	.8	.1	.61	.79	1.06	1.29	1.51	1.73	1.98	2.27	2.65	3.24	3.78
Jun	1.53	1.44	1.00	1998	8	3.59	1993	.35	1977	8.6	4.6	.7	@	.50	.65	.86	1.04	1.22	1.40	1.59	1.82	2.12	2.58	3.00
Jul	.70	.59	1.43	1998	3	2.58	1998	.00	1988	4.5	2.0	.3	.1	.03	.09	.19	.29	.40	.53	.67	.86	1.11	1.53	1.95
Aug	.86	.51	1.90	1984	31	2.94	1976	.00+	2000	4.5	2.4	.3	.1	.00	.02	.11	.23	.37	.54	.75	1.03	1.43	2.13	2.83
Sep	.84	.72	.92	1972	12	1.89	1980	.00+	1999	5.4	2.7	.3	.0	.00	.00	.12	.24	.39	.56	.77	1.03	1.40	2.03	2.66
Oct	1.26	1.06	.78	2000	2	2.91	2000	.00	1987	7.6	3.8	.5	.0	.15	.31	.52	.70	.88	1.07	1.29	1.55	1.89	2.44	2.97
Nov	2.22	1.80	2.70	1999	26	5.64	1995	.36	1993	11.9	6.4	.8	.3	.59	.80	1.12	1.40	1.68	1.97	2.29	2.68	3.18	3.96	4.69
Dec	1.94	1.85	1.85	1977	2	5.13	1977	.14	1986	11.6	5.9	.7	.2	.34	.51	.80	1.06	1.33	1.63	1.96	2.37	2.91	3.79	4.63
Ann	17.48	17.04	2.70	Nov 1999	26	5.64	Nov 1995	.00+	Aug 2000	106.2	53.2	6.2	1.2	12.34	13.33	14.60	15.57	16.43	17.27	18.13	19.08	20.23	21.91	23.36

+ 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: 1965-2001

(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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Station: LA GRANDE, OR

COOP ID: 354622

Climate Division: OR 8

NWS Call Sign:

Elevation: 2,755 Feet

Lat: 45° 19N

Lon: 118° 04W

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	6.9	6.0	2	2	12.0	1989	9	23.0	1976	20	1982	23	7	1989	3.3	2.7	.8	.2	.1	9.4	6.3	2.9	.7
Feb	3.4	3.0	1	#	6.0	1975	1	14.0	1985	8	1985	8	3	1989	1.8	1.4	.3	.1	.0	2.2	.6	.1	.0
Mar	1.5	1.0	#	#	7.0	1971	13	9.0	1971	5	1971	13	#+	2000	1.1	.7	.1	@	.0	.6	@	@	.0
Apr	.5	.0	#	0	2.0	1975	14	5.0	1975	2	1984	29	#+	1984	.4	.3	.0	.0	.0	.1	.0	.0	.0
May	#	.0	#	0	#	1986	11	#+	1986	#+	1977	6	#+	1977	.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	.1	.0	#	0	2.0	1971	27	2.0	1971	1	1971	31	#+	1975	.1	.1	.0	.0	.0	.1	.0	.0	.0
Nov	2.0	.5	#	0	12.0	1975	30	14.0	1975	12	1975	30	4	1985	1.5	1.0	.2	.1	@	1.3	.9	.8	@
Dec	6.0	2.7	1	#	6.0	1973	28	29.5	1971	12	1971	16	5	1971	3.9	2.6	.7	.2	.0	7.2	2.3	1.0	.4
Ann	20.4	13.2	N/A	N/A	12.0+	Jan 1989	9	29.5	Dec 1971	20	Jan 1982	23	7	Jan 1989	12.1	8.8	2.1	.6	.1	20.9	10.1	4.8	1.1

+ 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:

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Elevation: 2,755 Feet

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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	6/30	6/22	6/16	6/11	6/07	6/02	5/29	5/23	5/15
32	6/18	6/09	6/02	5/27	5/21	5/16	5/10	5/02	4/23
28	5/18	5/11	5/06	5/01	4/27	4/23	4/19	4/14	4/07
24	4/24	4/18	4/13	4/09	4/06	4/02	3/29	3/25	3/19
20	3/31	3/22	3/16	3/11	3/06	3/01	2/24	2/18	2/09
16	3/10	3/02	2/24	2/19	2/14	2/09	2/04	1/29	1/21
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	8/27	9/02	9/06	9/10	9/14	9/17	9/21	9/25	10/01
32	9/11	9/15	9/19	9/22	9/24	9/27	9/30	10/03	10/08
28	9/24	9/29	10/03	10/06	10/08	10/11	10/14	10/18	10/23
24	10/06	10/12	10/17	10/20	10/24	10/27	10/31	11/05	11/11
20	10/18	10/26	11/01	11/06	11/11	11/16	11/21	11/27	12/05
16	11/02	11/12	11/19	11/25	12/01	12/07	12/13	12/20	12/30
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	131	120	111	104	98	91	84	76	65
32	155	145	138	131	125	119	113	106	96
28	191	181	174	169	163	158	152	146	136
24	225	217	211	205	200	195	190	184	175
20	283	271	263	256	249	243	236	227	216
16	328	315	305	297	289	281	273	263	250

* 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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Elevation: 2,755 Feet Lat: 45° 19N Lon: 118° 04W

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	1078	852	762	558	344	149	42	53	213	496	820	1049	6416
60	923	712	607	410	207	67	11	17	120	345	670	894	4983
57	830	628	514	326	140	35	3	7	78	258	580	801	4200
55	768	572	452	272	103	21	1	4	55	206	520	739	3713
50	620	439	305	156	38	4	0	0	19	98	382	587	2648
32	183	85	13	1	0	0	0	0	0	0	54	155	491

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	128	158	274	433	683	887	1142	1128	826	527	224	129	6539
55	0	0	0	14	72	218	430	419	191	20	1	0	1365
57	0	0	0	7	47	172	370	360	154	10	0	0	1120
60	0	0	0	2	22	114	285	277	106	4	0	0	810
65	0	0	0	0	4	46	161	159	49	0	0	0	419
70	0	0	0	0	0	13	75	75	18	0	0	0	181

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	11	37	97	229	457	669	911	904	607	310	67	17	11	48	145	374	831	1500	2411	3315	3922	4232	4299	4316
45	0	7	34	119	309	519	756	749	459	181	21	0	0	7	41	160	469	988	1744	2493	2952	3133	3154	3154
50	0	0	6	53	181	373	601	594	320	88	5	0	0	0	6	59	240	613	1214	1808	2128	2216	2221	2221
55	0	0	0	16	91	240	448	440	191	29	0	0	0	0	0	16	107	347	795	1235	1426	1455	1455	1455
60	0	0	0	0	37	129	302	294	96	7	0	0	0	0	0	0	37	166	468	762	858	865	865	865
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	17	63	146	279	411	570	566	402	222	31	0	0	17	80	226	505	916	1486	2052	2454	2676	2707	2707

(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/normal/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
- 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">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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