

Climatology of the United States

No. 20

1971-2000

Station: BEND, OR

COOP ID: 350694

Climate Division: OR 7

NWS Call Sign:

Elevation: 3,660 Feet Lat: 44°03N

Lon: 121°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	39.7	22.6	31.2	67	1971	31	38.4	1994	-26	1950	31	19.6	1979	1049	0	.0	.0	5.7	4.8	25.7	1.1
Feb	44.1	24.7	34.4	73	1995	24	40.8	1991	-26	1933	9	22.5	1989	858	0	.0	.0	9.3	2.8	23.4	.7
Mar	50.6	27.2	38.9	78+	1939	21	44.4	1986	-6	1960	1	34.1	1971	808	0	.0	.0	17.3	.3	24.4	.1
Apr	57.4	30.0	43.7	86	1987	28	50.3	1987	9+	1972	18	38.2	1975	639	0	.0	.0	23.3	.0	19.4	.0
May	64.9	35.6	50.3	93	2001	23	55.2	1993	13+	1965	6	44.9	1977	458	0	.0	.1	29.6	.0	11.4	.0
Jun	72.8	41.2	57.0	99	1937	28	62.5	1986	23+	1976	2	52.0	1976	254	14	.0	1.0	29.9	.0	3.1	.0
Jul	80.7	46.2	63.5	104+	1939	27	69.1	1998	27+	1977	5	56.2	1993	118	69	.0	5.5	31.0	.0	.6	.0
Aug	80.6	45.6	63.1	102	1972	8	66.9	1986	27+	1965	30	58.8	1975	114	54	.1	5.9	31.0	.0	.5	.0
Sep	72.4	38.6	55.5	100	1998	2	61.1	1998	16	1970	24	49.6	1985	295	10	@	1.1	29.9	.0	6.8	.0
Oct	61.7	32.2	47.0	90	1979	6	54.0	1988	3	1971	29	41.7	1971	558	0	.0	@	27.3	.1	16.1	.0
Nov	46.3	27.6	37.0	77+	1949	2	44.3	1999	-14	1955	15	25.9	1985	841	0	.0	.0	12.0	1.3	21.3	.4
Dec	39.6	22.7	31.2	66+	1980	16	37.9	1980	-24+	1972	11	23.2	1990	1050	0	.0	.0	5.3	4.3	26.1	1.1
Ann	59.2	32.9	46.1	104+	Jul 1939	27	69.1	Jul 1998	-26+	Jan 1950	31	19.6	Jan 1979	7042	147	.1	13.6	251.6	13.6	178.8	3.4

+ 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

Issue Date: February 2004

(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

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No. 20 1971-2000

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: BEND, OR

COOP ID: 350694

Climate Division: OR 7

NWS Call Sign:

Elevation: 3,660 Feet Lat: 44°03N

Lon: 121°17W

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	1.76	1.85	1.87	1990	8	3.47	1974	.12	1985	9.9	4.7	1.0	.2	.31	.46	.72	.96	1.20	1.47	1.77	2.14	2.63	3.42	4.18
Feb	1.13	.99	1.56	1956	21	3.65	1986	.10	1991	8.8	3.8	.5	@	.17	.26	.43	.58	.75	.93	1.13	1.38	1.72	2.27	2.79
Mar	.92	.66	.91	1983	30	2.76	1974	.10	1973	7.3	2.8	.3	.0	.13	.20	.34	.46	.60	.75	.92	1.13	1.41	1.87	2.32
Apr	.70	.64	1.26	1978	26	2.18	1978	.00	1977	6.5	2.1	.2	@	.07	.16	.27	.38	.48	.59	.72	.87	1.07	1.40	1.71
May	.90	.62	1.65	1956	8	4.11	1998	.03	1975	5.9	2.5	.5	@	.05	.11	.22	.34	.48	.64	.84	1.09	1.45	2.05	2.65
Jun	.75	.57	1.74	1950	12	2.83	1980	.00	2000	4.6	2.4	.2	.1	.01	.04	.13	.23	.35	.49	.67	.90	1.23	1.81	2.38
Jul	.62	.36	1.28	1987	22	3.73	1987	.00+	1994	3.7	1.9	.2	@	.00	.01	.06	.14	.24	.36	.52	.73	1.04	1.59	2.16
Aug	.60	.41	1.62	1950	9	2.76	1999	.00+	2000	4.0	1.9	.2	.0	.00	.00	.00	.08	.19	.32	.49	.72	1.04	1.61	2.18
Sep	.49	.43	1.17	1982	20	1.74	1982	.00+	1999	4.1	1.7	.1	@	.00	.00	.06	.14	.23	.33	.45	.61	.82	1.17	1.52
Oct	.62	.64	2.72	1950	29	1.45	1979	.00+	1988	4.6	2.1	.1	.0	.00	.07	.18	.28	.38	.50	.62	.78	.99	1.33	1.66
Nov	1.46	1.01	2.64	1960	24	4.58	1973	.08	1972	9.0	3.5	.6	.2	.10	.18	.37	.57	.79	1.05	1.36	1.76	2.32	3.27	4.21
Dec	1.78	1.34	2.30	1945	28	6.32	1981	.00	1976	9.7	5.0	.9	.2	.08	.23	.49	.75	1.03	1.35	1.72	2.19	2.82	3.89	4.93
Ann	11.73	11.10	2.72	Oct 1950	29	6.32	Dec 1981	.00+	Aug 2000	78.1	34.4	4.8	.7	6.88	7.75	8.90	9.81	10.62	11.43	12.27	13.22	14.39	16.12	17.65

+ 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

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Station: BEND, OR

COOP ID: 350694

Climate Division: OR 7

NWS Call Sign:

Elevation: 3,660 Feet

Lat: 44°03N

Lon: 121°17W

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	7.0	6.1	2	1	15.0	1982	4	27.4	1982	23	1982	4	17	1993	4.9	3.0	.8	.3	.1	7.8	3.3	1.5	.7
Feb	5.4	3.4	1	#	8.4	1986	13	20.0	1986	13	1993	1	9	1993	4.0	2.2	.5	.2	.0	4.0	1.3	.4	.2
Mar	3.0	1.5	#	#	10.0	1974	14	17.2	1974	8	1993	1	1	1996	2.0	1.1	.2	.1	@	1.8	.3	.1	.0
Apr	.9	.0	#	0	8.0	1978	6	11.0	1978	7	1978	6	#+	1999	.7	.3	@	@	.0	.4	@	@	.0
May	.1	.0	#	0	1.8	1974	18	3.4	1974	1	1974	18	#+	2000	.1	.1	.0	.0	.0	.1	.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	.3	.0	#	0	1.8	1971	28	3.0	1971	1+	1999	27	#+	1999	.3	.2	.0	.0	.0	.2	.0	.0	.0
Nov	4.7	1.0	#	#	24.1	1973	6	51.9	1973	26	1973	6	3	1973	2.1	1.1	.4	.2	.1	2.5	1.1	.4	.1
Dec	6.2	6.5	1	1	8.0	1992	31	15.3	1972	17	1992	31	7	1992	4.4	2.6	.8	.3	.0	7.8	3.6	1.9	.1
Ann	27.6	18.5	N/A	N/A	24.1	Nov 1973	6	51.9	Nov 1973	26	Nov 1973	6	17	Jan 1993	18.5	10.6	2.7	1.1	.2	24.6	9.6	4.3	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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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	7/25	7/20	7/17	7/14	7/11	7/08	7/05	7/01	6/26
32	7/14	7/07	7/02	6/28	6/24	6/21	6/17	6/12	6/05
28	6/23	6/15	6/10	6/05	5/31	5/26	5/21	5/16	5/08
24	5/27	5/20	5/15	5/11	5/08	5/04	4/30	4/25	4/18
20	5/11	5/03	4/27	4/22	4/17	4/12	4/07	4/01	3/24
16	4/25	4/12	4/02	3/25	3/17	3/10	3/01	2/20	2/06
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	8/11	8/16	8/19	8/23	8/26	8/30	9/03	9/09
32	8/21	8/27	8/31	9/03	9/07	9/10	9/14	9/18	9/24
28	9/07	9/12	9/16	9/19	9/21	9/24	9/27	9/30	10/05
24	9/23	9/29	10/03	10/07	10/10	10/14	10/17	10/21	10/27
20	10/02	10/10	10/16	10/21	10/26	10/31	11/05	11/12	11/20
16	10/20	10/30	11/07	11/13	11/19	11/25	12/01	12/09	12/19
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	67	58	52	47	42	37	32	26	18
32	101	92	85	79	74	68	62	55	46
28	145	134	126	119	113	106	99	92	81
24	186	176	168	161	155	149	142	134	123
20	228	216	207	199	192	184	177	167	155
16	293	277	265	255	246	237	227	215	199

* 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)													
Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1049	858	808	639	458	254	118	114	295	558	841	1050	7042
60	894	718	653	490	310	139	47	41	174	405	691	895	5457
57	801	634	560	404	228	88	22	18	117	318	601	802	4593
55	739	578	498	348	180	60	13	10	86	263	543	740	4058
50	587	442	345	219	87	17	2	1	31	146	403	585	2865
32	151	78	14	7	0	0	0	0	0	2	61	137	450

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	125	145	228	358	565	750	974	963	705	467	209	110	5599
55	0	0	0	8	32	121	274	260	101	15	2	0	813
57	0	0	0	4	19	88	221	206	72	7	0	0	617
60	0	0	0	0	8	50	153	136	39	2	0	0	388
65	0	0	0	0	0	14	69	54	10	0	0	0	147
70	0	0	0	0	0	2	20	13	1	0	0	0	36

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	27	40	76	161	333	519	742	734	486	265	66	23	27	67	143	304	637	1156	1898	2632	3118	3383	3449	3472
45	1	4	29	81	203	373	587	579	341	152	23	1	1	5	34	115	318	691	1278	1857	2198	2350	2373	2374
50	0	0	4	37	108	240	435	425	217	75	3	0	0	0	4	41	149	389	824	1249	1466	1541	1544	1544
55	0	0	0	8	53	134	291	279	113	26	0	0	0	0	0	8	61	195	486	765	878	904	904	904
60	0	0	0	0	18	62	166	151	48	5	0	0	0	0	0	0	18	80	246	397	445	450	450	450
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	11	33	69	132	242	353	485	482	354	218	45	13	11	44	113	245	487	840	1325	1807	2161	2379	2424	2437

(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