

Climatology of the United States No. 20

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

Station: THE DALLES, OR

1971-2000

COOP ID: 358407

Climate Division: OR 6

NWS Call Sign:

Elevation: 150 Feet

Lat: 45° 36N

Lon: 121° 12W

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	40.8	29.0	34.9	65+	1994	14	41.6	1994	-15	1950	31	17.9	1979	933	0	.0	.0	6.7	4.2	19.4	.1
Feb	47.2	31.8	39.5	70	1964	24	44.6	1992	-21	1950	3	30.1	1989	713	0	.0	.0	13.8	1.6	13.7	.2
Mar	56.8	36.6	46.7	80	1960	24	51.4	1992	14	1993	1	42.0	1971	567	0	.0	.0	26.8	.1	7.0	.0
Apr	64.7	42.2	53.5	94	1977	25	57.7	1990	27+	2001	14	48.7	1975	348	2	.0	.1	29.3	.0	2.2	.0
May	72.9	48.8	60.9	107	1986	31	64.9	1993	30	1999	10	56.0	1999	163	34	.1	1.7	30.8	.0	.1	.0
Jun	79.2	55.2	67.2	110	1961	17	73.3	1992	38+	2000	2	63.3	1971	54	120	.5	5.4	30.0	.0	.0	.0
Jul	86.8	60.1	73.5	112	1956	20	79.4	1998	41	1999	3	67.4	1993	12	273	3.0	12.2	31.0	.0	.0	.0
Aug	87.3	58.8	73.1	110	1958	25	77.7	1977	35	1975	11	68.1	1975	10	259	2.8	12.3	31.0	.0	.0	.0
Sep	79.9	50.9	65.4	107	1950	3	70.7	1990	27	2000	24	59.7	1985	91	103	.4	5.4	30.0	.0	.2	.0
Oct	66.8	41.7	54.3	93	1958	4	61.3	1988	24+	1991	31	51.5	1975	337	3	.0	.1	30.4	.0	2.7	.0
Nov	50.2	35.4	42.8	75	1975	4	48.1	1995	0	1985	24	32.8	1985	665	0	.0	.0	18.8	.6	9.3	@
Dec	41.7	30.6	36.2	68+	1975	3	40.7	1973	-6	1990	30	24.4	1985	895	0	.0	.0	7.4	3.3	16.6	.3
Ann	64.5	43.4	54.0	112	Jul 1956	20	79.4	Jul 1998	-21	Feb 1950	3	17.9	Jan 1979	4788	794	6.8	37.2	286.0	9.8	71.2	.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/normal/usnormals.html

Issue Date: February 2004

(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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Elevation: 150 Feet Lat: 45°36N

Lon: 121°12W

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	2.62	2.65	2.19	1956	15	5.69	1996	.08	1985	13.9	7.4	1.6	.3	.53	.76	1.15	1.50	1.86	2.24	2.67	3.19	3.87	4.97	6.01
Feb	2.07	1.86	1.78	1961	10	4.87	1986	.17	1988	12.5	5.6	.8	.1	.42	.61	.92	1.20	1.48	1.78	2.12	2.52	3.06	3.92	4.74
Mar	1.20	1.05	1.06	1965	26	3.21	1983	.29	1981	11.1	4.0	.2	.0	.39	.51	.68	.82	.96	1.10	1.26	1.44	1.67	2.04	2.38
Apr	.85	.87	1.03	1990	28	1.87	1992	.00	1977	7.9	2.7	.1	@	.11	.21	.36	.48	.60	.73	.88	1.05	1.28	1.65	2.00
May	.54	.43	1.05	1953	27	1.84	1990	.00	1992	6.5	2.2	.1	.0	.07	.13	.22	.30	.38	.46	.55	.66	.81	1.04	1.26
Jun	.42	.36	.93	1958	6	1.53	1981	.00	1978	4.2	1.4	.1	.0	.03	.08	.15	.21	.27	.34	.42	.52	.65	.86	1.07
Jul	.18	.07	1.04	1981	6	1.32	1995	.00+	2000	1.9	.6	.1	@	.00	.00	.00	.01	.04	.08	.14	.21	.32	.51	.71
Aug	.36	.14	.82	1983	28	1.77	1983	.00+	2000	2.8	1.0	.1	.0	.00	.00	.01	.05	.11	.18	.29	.42	.62	.98	1.34
Sep	.48	.44	1.07	1948	24	1.90	1982	.00+	1999	4.0	1.4	.3	.0	.00	.00	.05	.11	.19	.29	.41	.57	.80	1.20	1.60
Oct	.96	.74	1.63	1994	27	3.42	1994	.00	1988	7.3	3.1	.4	.1	.05	.14	.28	.43	.58	.74	.94	1.18	1.51	2.06	2.59
Nov	2.03	2.00	1.31	2001	29	4.32	1984	.35	1993	14.3	6.2	1.0	.1	.50	.70	.99	1.25	1.51	1.79	2.09	2.45	2.93	3.68	4.38
Dec	2.77	2.34	2.00	1964	22	6.82	1996	.33	1976	13.6	7.1	1.5	.3	.47	.71	1.12	1.50	1.89	2.31	2.79	3.38	4.16	5.42	6.63
Ann	14.48	14.18	2.19	Jan 1956	15	6.82	Dec 1996	.00+	Aug 2000	100.0	42.7	6.3	.9	8.46	9.54	10.97	12.09	13.10	14.10	15.15	16.33	17.78	19.93	21.83

+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Station: THE DALLES, OR

COOP ID: 358407

Climate Division: OR 6

NWS Call Sign:

Elevation: 150 Feet

Lat: 45° 36N

Lon: 121° 12W

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	6.5	3.2	1	#	12.0	1996	19	25.5	1980	26	1980	10	7	1979	1.9	1.6	.9	.4	.1	-9.9	-9.9	-9.9	-9.9
Feb	1.5	.0	#	0	5.0	1986	12	12.5	1975	9	1979	1	2	1979	.9	.5	.3	.1	.0	.7	.6	.3	.0
Mar	.2	.0	#	0	2.0	1989	2	2.7	1989	1+	1993	3	#+	1993	.3	.1	.0	.0	.0	.2	.0	.0	.0
Apr	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	1.9	.0	#	0	8.2	1985	22	14.8	1977	12	1977	23	1	1977	.7	.5	.3	.1	.0	.1	.1	.1	.0
Dec	1.3	.5	#	0	7.0	1996	29	9.8	1992	10	1996	29	2	1983	1.2	.7	.2	.2	.0	.2	.0	.0	.0
Ann	11.4	3.7	N/A	N/A	12.0	Jan 1996	19	25.5	Jan 1980	26	Jan 1980	10	7	Jan 1979	5.0	3.4	1.7	.8	.1	-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

Complete documentation available from:

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Climate Division: OR 6

NWS Call Sign:

Elevation: 150 Feet

Lat: 45°36N

Lon: 121°12W

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	5/15	5/07	5/01	4/26	4/21	4/16	4/12	4/06	3/29
32	4/28	4/19	4/12	4/06	4/01	3/27	3/21	3/14	3/05
28	4/08	3/27	3/19	3/12	3/06	2/28	2/21	2/13	2/01
24	3/09	2/25	2/17	2/10	2/04	1/28	1/21	1/13	1/02
20	2/23	2/14	2/07	2/01	1/27	1/21	1/15	1/07	12/24
16	2/13	2/04	1/28	1/21	1/15	1/07	12/27	0/00	0/00
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	9/21	9/28	10/03	10/08	10/12	10/15	10/20	10/25	11/01
32	10/04	10/12	10/18	10/23	10/27	11/01	11/06	11/11	11/19
28	10/12	10/23	10/31	11/07	11/13	11/19	11/26	12/04	12/15
24	10/27	11/09	11/19	11/27	12/05	12/13	12/22	12/31	1/14
20	11/21	12/05	12/14	12/22	12/30	1/07	1/16	1/28	2/18
16	11/27	12/11	12/22	12/31	1/10	1/22	2/13	0/00	0/00
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	208	196	187	180	173	166	158	149	137
32	254	239	227	218	209	200	190	179	163
28	307	288	274	262	251	240	228	215	195
24	>365	342	324	312	301	290	279	266	249
20	>365	>365	>365	353	338	326	315	304	288
16	>365	>365	>365	>365	>365	>365	342	323	304

* 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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Climate Division: OR 6 NWS Call Sign: Elevation: 150 Feet Lat: 45°36N Lon: 121°12W

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	933	713	567	348	163	54	12	10	91	337	665	895	4788
60	778	573	412	211	72	14	1	1	34	199	517	740	3552
57	691	489	321	141	37	5	0	0	16	130	432	647	2909
55	633	434	263	102	21	2	0	0	9	93	377	585	2519
50	490	304	136	34	3	0	0	0	1	33	251	440	1692
32	124	26	0	0	0	0	0	0	0	0	18	70	238

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	215	237	456	644	893	1056	1284	1272	1002	689	343	197	8288
55	10	1	6	56	201	368	571	559	320	69	12	0	2173
57	6	0	2	34	155	311	509	497	267	44	7	0	1832
60	0	0	0	14	98	230	417	405	196	20	2	0	1382
65	0	0	0	2	34	120	273	259	103	3	0	0	794
70	0	0	0	0	7	47	151	137	43	0	0	0	385

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	41	87	229	397	637	799	1016	1009	767	458	152	52	41	128	357	754	1391	2190	3206	4215	4982	5440	5592	5644
45	10	24	105	252	482	649	861	854	617	308	61	11	10	34	139	391	873	1522	2383	3237	3854	4162	4223	4234
50	0	0	29	133	333	499	706	699	468	172	16	2	0	0	29	162	495	994	1700	2399	2867	3039	3055	3057
55	0	0	2	56	199	351	551	544	324	76	0	0	0	0	2	58	257	608	1159	1703	2027	2103	2103	2103
60	0	0	0	21	96	219	400	391	191	26	0	0	0	0	0	21	117	336	736	1127	1318	1344	1344	1344
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	14	42	130	231	375	489	644	637	474	285	63	20	14	56	186	417	792	1281	1925	2562	3036	3321	3384	3404

(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