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

COOP ID: 357277

Lon: 117°07W

Station: ROCKVILLE 5 N, OR

Climate Division: OR 9 NWS Call Sign:

Temperature (°F) Degree Days (1) Mean (1) Mean Number of Days (3) **Extremes** Base Temp 65 Max Max Max Max Min Min Highest Lowest Daily Daily Highest Lowest Month(1) Month(1) Cooling >= >= >= <= <= <= Month Mean Year Day Year Year Day Year Heating Max Min Daily(2) Daily(2) Mean Mean 100 90 50 32 32 0 38.0 18.9 28.5 62 +1971 31 37.1 1998 -24 1979 15.9 1979 1133 0 .0 .0 3.3 8.5 28.0 2.6 Jan 44.5 22.7 33.6 1986 25 39.0 1983 -28 1985 4 23.4 1989 880 0 .0 .0 8.5 2.9 24.7 .9 Feb 69+ Mar 53.8 26.5 40.2 79+ 1978 29 44.8 1986 -5 1976 3 34.5 1976 771 0 .0 .0 21.6 .3 25.0 .1 52.2 8 1975 Apr 62.7 30.4 46.6 88+ 1987 27 1987 1988 8 39.5 553 0 .0 .0 27.7 .0 19.4 .0 May 70.8 37.0 53.9 95 1966 26 58.2 1992 18+ 1999 10 50.2 1977 345 1 .0 .5 30.7 .0 9.9 .0 43.0 .0 79.8 61.4 100 +2000 28 66.6 1977 25+1984 1 56.6 1993 153 44 .1 4.2 30.0 .0 2.4 Jun Jul 88.4 47.6 68.0 103 21 72.2 1985 28+ 17 59.7 1993 46 137 .4 15.2 31.0 .3 .0 1988 1986 .0 72.5 87.4 46.7 67.1 102 1998 5 1991 26 +1992 24 62.3 1993 54 118 .6 13.4 31.0 .0 .6 .0 Aug 234 Sep 77.0 38.4 57.7 96+ 1998 6 62.1 1998 17 +1972 25 52.7 1985 15 .0 1.9 30.0 .0 8.7 .0 54.1 3 29 43.8 554 Oct 63.9 30.3 47.1 90 1992 1 1988 1971 1995 0 .0 (a) 29.2 .0 20.5 .0 47.8 24.3 36.1 73 1999 7 41.2 1995 -14 1977 20 27.1 1985 869 0 .0 .0 12.8 1.5 24.3 Nov .6 Dec 38.3 18.5 28.4 64 1972 1 35.0 1977 -33 1990 22 14.7 1985 1134 0 .0 .0 4.1 8.1 28.5 2.7 Jul Aug Dec Dec 62.7 32.0 47.4 103 1988 21 72.5 1991 -33 1990 22 14.7 1985 6726 315 1.1 35.2 259.9 21.3 192.3 6.9 Ann

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

Issue Date: February 2004 117-A

Elevation: 3,670 Feet Lat: 43°22N

⁺ Also occurred on an earlier date(s)

[@] Denotes mean number of days greater than 0 but less than .05

⁽¹⁾ From the 1971-2000 Monthly Normals

⁽²⁾ Derived from station's available digital record: 1963-2001

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

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										Pı	recipi	tation	(incl	nes)										
	Mea	ans/	P	recipi	itatio	on Total						ays (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										
	Medi	ans(1)				Extremes	•			Daily Precipitation					Th	ese value	were det	ermined i	from the i	ncomplet	e gamma	distributi	on	
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	1.01	.98	.92	1969	20	3.15	1997	.10	1992	5.5	5.1	.3	.0	.16	.25	.40	.54	.68	.83	1.01	1.23	1.52	1.99	2.44
Feb	.95	1.02	.80	1983	13	2.17	1986	.00	1971	4.9	4.4	.1	.0	.13	.25	.41	.55	.68	.82	.98	1.17	1.42	1.81	2.18
Mar	1.41	1.34	1.21	1993	17	3.12	1993	.20	1976	5.9	5.5	.5	.1	.28	.41	.61	.80	.99	1.20	1.43	1.71	2.09	2.68	3.25
Apr	1.35	1.30	1.18	1969	6	3.94	1978	.30	1989	5.8	5.2	.5	.1	.34	.47	.66	.84	1.01	1.19	1.39	1.63	1.94	2.44	2.90
May	1.64	1.37	2.00	1987	26	5.14	1998	.12	1976	5.6	5.4	.7	.1	.24	.37	.61	.84	1.08	1.34	1.64	2.00	2.50	3.30	4.08
Jun	1.11	.88	1.10	1991	29	2.57	1993	.10	1989	4.1	3.8	.6	@	.16	.26	.42	.57	.73	.91	1.11	1.36	1.69	2.24	2.76
Jul	.54	.26	1.18	1985	30	2.15	1985	+00.	2000	1.9	1.8	.2	@	.00	.00	.00	.10	.21	.33	.48	.67	.93	1.37	1.81
Aug	.53	.23	1.85	1979	13	3.28	1979	+00.	2000	1.7	1.7	.3	.1	.00	.00	.00	.00	.13	.27	.44	.66	.95	1.45	1.95
Sep	.62	.41	.96	1970	4	2.10	1982	.00+	1999	2.3	2.1	.3	.0	.00	.00	.00	.13	.28	.43	.60	.80	1.08	1.53	1.97
Oct	.85	.70	1.08	2000	13	3.10	2000	.00+	1998	3.3	3.2	.4	@	.00	.00	.25	.43	.58	.73	.90	1.10	1.36	1.76	2.14
Nov	1.16	.95	.72	1996	22	2.37	1984	.10	1999	5.8	5.2	.2	.0	.27	.37	.54	.70	.85	1.01	1.19	1.40	1.68	2.13	2.55
Dec	1.11	.89	1.16	1964	23	3.46	1983	.10	1989	5.5	5.2	.1	.0	.21	.31	.47	.62	.77	.94	1.12	1.35	1.65	2.13	2.59
Ann	12.28	11.55	2.00	May 1987	26	5.14	May 1998	.00+	Aug 2000	52.3	48.6	4.2	.4	7.07	7.99	9.22	10.18	11.06	11.92	12.83	13.85	15.10	16.97	18.62

⁺ Also occurred on an earlier date(s)

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

[#] 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

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										Snov	w (incl	nes)												
						Sn	ow To	tals							Mean Number of Days (1)									
	Means/Medians (1)					Extremes (2)											Snow Fall >= Thresholds						n ds	
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	4.2	3.3	1	#	6.0	1989	22	15.0	1993	10	1989	7	5	1984	2.1	2.0	.4	.1	.0	6.9	4.1	1.9	.1	
Feb	2.6	1.0	#	#	8.0	1995	13	14.0	1976	8	1995	14	2	1995	1.2	1.2	.5	.2	.0	2.9	1.5	.5	.0	
Mar	1.9	.5	#	0	10.0	1980	21	10.0	1980	6	1980	21	1	1976	.8	.8	.2	.1	@	.4	@	@	.0	
Apr	.3	.0	#	0	3.0	1973	19	4.0	1982	#+	1988	7	#+	1988	.2	.2	@	.0	.0	.0	.0	.0	.0	
May	.2	.0	#	0	2.0	1975	3	4.0	1983	1	1975	3	#	1975	.1	.1	.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	#	1971	29	#	1971	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0	
Oct	.2	.0	#	0	3.0	1991	29	3.0	1991	1	1991	30	#	1991	.1	.1	@	.0	.0	.1	.0	.0	.0	
Nov	2.1	1.0	#	#	4.5	1977	21	11.0	1985	10	1985	30	3	1985	1.1	1.1	.2	.0	.0	1.3	.5	@	.0	
Dec	6.0	5.0	1	#	6.5	1983	24	19.5	1983	14	1985	2	4	1983	2.4	2.3	.8	.2	.0	6.4	3.2	1.8	.2	
Ann	17.5	10.8	N/A	N/A	10.0	Mar 1980	21	19.5	Dec 1983	14	Dec 1985	2	5	Jan 1984	8.0	7.8	2.1	.6	@	18.0	9.3	4.2	.3	

⁺ Also occurred on an earlier date(s) #Denotes trace amounts

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[@] 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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				Freez	ze Data						
			Spri	ng Freeze D	ates (Month	/Day)					
Temp (F)		P	robability of	later date i	n spring (thr	ru Jul 31) tha	n indicated((*)			
Temp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90		
36	7/21	7/16	7/12	7/09	7/06	7/03	6/30	6/26	6/21		
32	7/08	7/02	6/28	6/24	6/21	6/17	6/14	6/09	6/03		
28	6/24	6/14	6/08	6/02	5/28	5/22	5/16	5/10	4/30		
24	5/21	5/15	5/10	5/06	5/03	4/29	4/25	4/21	4/15		
20	5/16	5/08	5/01	4/26	4/22	4/17	4/12	4/05	3/28		
16	4/22	4/12	4/06	3/31	3/26	3/21	3/15	3/09	2/28		
<u>'</u>			Fal	l Freeze Da	tes (Month/I	Day)	•	1	•		
Probability of earlier date in fall (beginning Aug 1) than indicated(*)											
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90		
36	8/05	8/11	8/16	8/20	8/23	8/27	8/31	9/05	9/11		
32	8/23	8/28	8/31	9/03	9/06	9/09	9/12	9/16	9/21		
28	9/06	9/10	9/12	9/15	9/17	9/19	9/22	9/25	9/29		
24	9/15	9/20	9/23	9/26	9/28	10/01	10/03	10/07	10/11		
20	9/24	9/30	10/04	10/08	10/11	10/15	10/19	10/23	10/29		
16	10/08	10/14	10/18	10/21	10/25	10/28	11/01	11/05	11/11		
			•	Freeze F	ree Period			•	•		
Tomas (E)			Probability	of longer th	an indicated	freeze free p	eriod (Days)				
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90		
36	74	65	59	53	48	43	37	31	22		
32	102	93	87	82	77	72	67	60	52		
28	144	133	125	118	112	106	99	91	80		
24	170	162	157	152	148	143	138	133	125		
20	204	193	185	178	172	166	159	152	141		
16	242	232	224	218	212	206	200	193	182		

^{*} 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						Heatin	g Degree l	Days (1)							
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann		
65	1133	880	771	553	345	153	46	54	234	554	869	1134	6726		
60	978	740	616	406	202	69	11	14	121	399	719	979	5254		
57	885	656	523	322	131	35	3	4	71	308	629	886	4453		
55	823	600	461	269	92	21	1	2	46	250	569	824	3958		
50	674	460	311	155	29	4	0	0	10	125	428	669	2865		
32	222	85	11	2	0	0	0	0	0	1	72	211	604		

Base						Coolin	g Degree l	Days (1)					
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	111	129	263	439	679	881	1115	1087	771	470	193	101	6239
55	0	0	0	16	58	211	403	375	127	5	0	0	1195
57	0	0	0	9	35	166	343	316	92	2	0	0	963
60	0	0	0	3	13	110	258	232	52	0	0	0	668
65	0	0	0	0	1	44	137	118	15	0	0	0	315
70	0	0	0	0	0	12	56	44	3	0	0	0	115

	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	10	27	81	205	424	633	855	827	512	228	49	12	10	37	118	323	747	1380	2235	3062	3574	3802	3851	3863
45	0	2	23	104	278	483	700	672	368	119	18	2	0	2	25	129	407	890	1590	2262	2630	2749	2767	2769
50	0	0	1	44	154	335	545	518	235	48	2	0	0	0	1	45	199	534	1079	1597	1832	1880	1882	1882
55	0	0	0	12	71	202	390	363	122	9	0	0	0	0	0	12	83	285	675	1038	1160	1169	1169	1169
60	0 0 0 0 0 25 102 246 219 48 2 0 0									0	0	0	0	25	127	373	592	640	642	642	642			
Base				Gro	wing De	gree Unit	s for Co	rn (Mont	thly)						Gr	owing D	egree Ur	its for C	orn (Acc	umulate	d Month	ly)		
50/86	1	21	88	198	324	440	551	547	412	228	50	5	1	22	110	308	632	1072	1623	2170	2582	2810	2860	2865

(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

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

- c. Snow Tables
 - 1. Snow Climatology
 - 2. Cooperative Summary of the Day
- d. Freeze Data Table

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

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