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: 353542

Station: GRIZZLY, OR

Climate Division: OR 7

NWS Call Sign:

Elevation: 3,635 Feet Lat: 44°31N Lon: 120°56W

									r	Tempe	eratui	re (°F)									
	Mea	n (1)						Extr	emes					Degree Base To	Days (1) emp 65		Mean	Numb	er of I	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	40.3	22.5	31.4	66	1992	31	38.2	1994	-28+	1957	26	18.4	1979	1041	0	.0	.0	5.2	5.7	26.2	1.5
Feb	44.7	24.8	34.8	74	1995	22	41.7	1995	-18+	1989	5	23.3	1989	847	0	.0	.0	8.1	2.6	23.9	.8
Mar	50.8	26.8	38.8	78	1966	29	43.5	1986	0	1964	13	34.6	1975	813	0	.0	.0	16.0	.2	25.3	.0
Apr	57.8	28.7	43.3	84	1977	23	48.6	1987	9+	1999	1	38.4	1975	652	0	.0	.0	22.6	.1	21.0	.0
May	65.6	33.4	49.5	96	1986	31	56.8	1992	8	1964	25	43.7	1985	483	2	.0	.2	28.9	.0	14.0	.0
Jun	73.9	38.2	56.1	98+	1992	23	62.7	1974	19	1976	2	50.1	1991	286	16	.0	1.1	30.0	.0	6.0	.0
Jul	82.5	41.9	62.2	102	1994	8	66.9	1975	25	1988	6	53.6	1993	149	62	.1	6.9	31.0	.0	1.9	.0
Aug	82.6	41.8	62.2	104	1972	8	68.0	1977	23	1964	31	57.3	1980	139	52	.2	7.3	31.0	.0	1.3	.0
Sep	73.0	36.3	54.7	99	1998	1	59.0	1979	14+	1983	20	49.8	1982	318	8	.0	.7	29.5	.0	8.2	.0
Oct	62.0	30.7	46.4	90	1980	6	53.6	1988	0	1991	30	41.9	1984	578	0	.0	@	26.8	.1	18.3	@
Nov	46.7	26.8	36.8	76	1961	9	43.9	1999	-16	1955	15	25.4	1985	848	0	.0	.0	11.2	1.7	22.3	.6
Dec	40.6	22.2	31.4	69	1980	15	39.5	1980	-29	1990	21	22.8	1990	1041	0	.0	.0	5.7	4.8	26.4	1.2
Ann	60.0	31.2	45.6	104	Aug 1972	8	68.0	Aug 1977	-29	Dec 1990	21	18.4	Jan 1979	7195	140	.3	16.2	246.0	15.2	194.8	4.1

⁺ Also occurred on an earlier date(s)

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

Issue Date: February 2004 051-A

- (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

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

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										Pı	recipit	tation	(incl	nes)										
	Mea	ans/	P	recip	itatio	on Total						ays (3)	Proba	bility th	nat the m		indic	orecipita ated am	ntion wil	ll be equ		less tha	n the
	Medi	ans(1)				Extremes	3			և	aily Pre	cipitatio	n		Th	ese value	s 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	1.61	1.64	1.98	1980	12	2.99	1998	.15	1985	8.7	5.0	.7	@	.39	.54	.78	.99	1.19	1.41	1.65	1.94	2.32	2.92	3.49
Feb	1.23	1.01	1.40	1956	21	3.29	1986	.22	1990	8.1	3.9	.3	.0	.18	.29	.46	.63	.81	1.00	1.23	1.50	1.86	2.46	3.03
Mar	1.29	1.33	1.50	1950	23	2.91	1983	.10	1977	8.0	4.3	.2	.0	.27	.39	.58	.75	.92	1.11	1.32	1.57	1.90	2.42	2.92
Apr	1.14	1.02	1.49	1978	26	3.15	1978	.04	1977	7.8	3.9	.3	@	.18	.27	.44	.60	.76	.93	1.14	1.39	1.72	2.26	2.78
May	1.39	1.12	1.70	1957	7	5.78	1998	.18	1975	6.7	4.3	.6	.2	.21	.33	.53	.72	.92	1.14	1.39	1.69	2.11	2.78	3.42
Jun	.95	.71	1.70	1958	6	2.80	1972	.00+	1986	5.0	2.9	.3	.1	.00	.11	.28	.43	.59	.76	.95	1.18	1.50	2.02	2.53
Jul	.52	.24	1.10	1995	20	2.02	1987	.00+	1994	3.1	1.6	.3	.1	.00	.00	.00	.08	.18	.30	.44	.64	.91	1.38	1.84
Aug	.68	.26	1.33	1983	31	3.93	1976	.00+	1995	3.0	1.8	.4	.1	.00	.00	.01	.09	.20	.34	.53	.78	1.16	1.83	2.53
Sep	.59	.40	1.63	1981	27	2.40	1986	.00+	1999	3.1	1.8	.2	.1	.00	.00	.00	.00	.19	.38	.57	.79	1.08	1.53	1.97
Oct	.93	.86	1.90	1950	28	1.94	1982	.00+	1988	5.9	3.4	.2	@	.00	.00	.43	.58	.72	.86	1.01	1.18	1.40	1.74	2.06
Nov	1.82	1.51	2.75	1984	2	5.47	1984	.23	1989	10.3	5.1	.7	.2	.29	.45	.71	.96	1.22	1.50	1.83	2.22	2.75	3.61	4.43
Dec	1.30	1.18	5.00	1952	7	4.00	1996	.10	1984	7.3	4.0	.4	.1	.17	.28	.46	.64	.83	1.04	1.29	1.59	1.99	2.65	3.29
Ann	13.45	12.80	5.00	Dec 1952	7	5.78	May 1998	.00+	Sep 1999	77.0	42.0	4.6	.9	8.21	9.16	10.41	11.38	12.26	13.12	14.02	15.03	16.26	18.09	19.69

⁺ 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

⁽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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Climate Division: OR 7 NWS Call Sign: Elevation: 3,635 Feet Lat: 44°31N Lon: 120°56W

										Snov	w (incl	hes)											$\overline{}$
						Sno	ow To	tals									Mea	n Nu	mber	of Day	yS (1)		
	Mean	s/Medi	ians (1))					Extre	mes (2)							ow Fa				Snow = Thr	_	
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	5.9	4.5	1	#	8.0	1998	11	18.0	1989	9	1998	12	3+	2000	2.7	2.3	.7	.3	.0	4.5	1.4	.4	.0
Feb	5.3	5.0	#	#	6.5	1986	12	14.0	1975	10	1976	25	3	1985	2.6	2.0	.4	.1	.0	2.6	.2	.0	.0
Mar	2.0	.9	#	0	8.0	1999	31	10.5	1985	7	1975	27	1	1975	1.4	1.1	.2	.2	.0	.8	.2	.2	.0
Apr	1.2	.0	#	0	3.0	1971	20	5.5	1971	6	1999	1	#+	1999	.7	.6	.1	.0	.0	.6	.1	.0	.0
May	.3	.0	#	0	4.0	1977	10	6.0	1977	4	1985	31	#+	1986	.2	.1	@	.0	.0	.2	.1	.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	.5	.0	#	0	4.0	1999	27	7.0	1971	3	1971	30	#+	1991	.4	.2	.1	.0	.0	.4	.2	.0	.0
Nov	3.0	2.0	#	0	12.0	1973	5	12.0	1973	20	1973	6	3	1973	1.6	1.4	.5	.2	.1	1.9	.7	.4	.2
Dec	3.3	3.7	#	#	6.0	1988	22	7.1	1974	8	1972	12	3	1972	2.4	2.0	.4	.2	.0	3.5	.7	.1	.0
Ann	21.5	16.1	N/A	N/A	12.0	Nov 1973	5	18.0	Jan 1989	20	Nov 1973	6	3+	Jan 2000	12.0	9.7	2.4	1.0	.1	14.5	3.6	1.1	.2

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

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

[@] 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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Elevation: 3,635 Feet I

Lat: 44°31N Lon: 120°56W

				Freez	e 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 (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	8/02	7/29	7/25	7/22	7/19	7/16	7/13	7/10	7/05
32	7/28	7/20	7/15	7/10	7/06	7/02	6/27	6/22	6/14
28	7/07	6/29	6/23	6/19	6/14	6/10	6/05	5/30	5/22
24	6/13	6/03	5/27	5/22	5/16	5/11	5/05	4/28	4/19
20	5/23	5/14	5/08	5/03	4/28	4/23	4/18	4/12	4/03
16	5/11	4/26	4/16	4/07	3/29	3/21	3/12	3/01	2/15
			Fal	l Freeze Da	tes (Month/D	Day)			
Temp (F)		Pro	bability of ea	arlier date i	n fall (beginn	ning Aug 1) t	han indicate	d(*)	
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	7/29	8/02	8/06	8/09	8/12	8/15	8/18	8/22	8/27
32	8/07	8/13	8/18	8/21	8/25	8/28	9/01	9/05	9/11
28	8/27	9/03	9/08	9/12	9/16	9/20	9/24	9/29	10/06
24	9/14	9/20	9/25	9/29	10/03	10/07	10/11	10/15	10/22
20	9/20	9/28	10/04	10/09	10/14	10/18	10/23	10/29	11/06
16	10/04	10/14	10/21	10/27	11/02	11/08	11/14	11/21	12/01
		•		Freeze F	ree Period	•		•	
Temp (F)			Probability	of longer th	an indicated	freeze free p	eriod (Days)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	44	37	32	27	23	19	14	9	2
32	77	67	60	55	49	43	37	31	21
28	127	115	107	100	93	86	79	71	60
24	178	164	155	147	139	131	123	114	100
20	201	189	181	174	168	162	155	147	135
16	274	254	240	228	217	206	194	179	160

^{*} 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.

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				Deg	ree Days t	o Selected	Base Tem	peratures	(°F)				
Base						Heatin	g Degree 1	Days (1)					
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1041	847	813	652	483	286	149	139	318	578	848	1041	7195
60	886	707	658	502	339	171	70	59	192	423	698	886	5591
57	793	623	565	414	260	118	37	29	131	333	608	793	4704
55	731	567	503	356	212	88	23	17	97	276	551	731	4152
50	582	431	348	222	118	33	6	2	36	151	412	579	2920
32	152	69	12	5	0	0	0	0	0	2	71	149	460

Base						Coolin	g Degree l	Days (1)					
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	134	145	222	343	542	720	935	936	680	447	212	131	5447
55	0	0	0	5	41	118	246	239	87	9	3	0	748
57	0	0	0	2	27	88	198	189	61	3	0	0	568
60	0	0	0	0	13	51	138	127	32	1	0	0	362
65	0	0	0	0	2	16	62	52	8	0	0	0	140
70	0	0	0	0	0	3	19	14	1	0	0	0	37

										Gro	wing 1	Degre	e Uni	ts (2)											
Base															Growing Degree Units (Accumulated Monthly)										
	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec													Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
40	20 33 59 139 286 479 696 702 456 234 56												20	53	112	251	537	1016	1712	2414	2870	3104	3160	3184	
45	2 6 20 59 160 331 541 547 311 126 18											0	2	8	28	87	247	578	1119	1666	1977	2103	2121	2121	
50	0	0	1	20	79	199	388	393	186	52	1	0	0	0	1	21	100	299	687	1080	1266	1318	1319	1319	
55	0	0	0	0	31	101	246	242	89	13	0	0	0	0	0	0	31	132	378	620	709	722	722	722	
60	0	0	0	0	5	39	127	123	28	1	0	0	0	0	0	0	5	44	171	294	322	323	323	323	
Base	ase Growing Degree Units for Corn (Monthly)														Gr	owing D	egree Un	its for C	orn (Acc	umulate	d Month	ly)			
50/86	/86 7 26 58 126 229 353 480 483 356 210 43 10											10	7	33	91	217	446	799	1279	1762	2118	2328	2371	2381	

(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