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: 355221

Station: MARION FRKS FISH HATCH, OR

Climate Division: OR 4 NWS Call Sign: Elevation: 2,475 Feet Lat: 44°37N Lon: 121°57W

									r	Гетр	eratui	re (°F)									
	Mea	n (1)						Extr	emes					Degree Base To	•		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	39.8	26.1	33.0	59	1961	22	38.5	1981	-9	1950	31	28.0	1979	994	0	.0	.0	1.2	2.1	27.3	.1
Feb	44.5	27.4	36.0	69	1977	19	42.2	1992	-8+	1989	5	28.6	1989	813	0	.0	.0	6.0	1.1	23.6	.2
Mar	50.1	29.5	39.8	77	1994	28	46.4	1992	6+	1969	11	34.4	1971	781	0	.0	.0	13.6	.2	23.6	.0
Apr	56.2	32.7	44.5	89	1987	28	49.9	1987	19	1975	5	38.9	1975	617	0	.0	.0	18.5	.0	16.3	.0
May	64.1	37.5	50.8	101	1986	31	57.4	1992	23	1954	1	45.4	1977	442	1	@	.5	26.7	.0	5.2	.0
Jun	72.0	42.8	57.4	100+	1992	24	62.7	1986	29+	1991	4	53.7	1980	241	13	.1	1.3	29.5	.0	.7	.0
Jul	80.4	46.4	63.4	102	1980	22	68.1	1985	33	1981	8	57.3	1993	106	55	@	5.9	31.0	.0	.0	.0
Aug	80.7	45.3	63.0	105	1972	7	67.1	1977	32+	1965	29	59.4	1995	105	43	.4	5.5	31.0	.0	.0	.0
Sep	73.8	39.8	56.8	99+	1998	2	60.7	1991	26+	1972	27	51.2	1985	260	14	.0	1.7	29.5	.0	2.7	.0
Oct	62.0	34.5	48.3	92	1987	2	54.7	1988	17	1971	29	44.5	1971	520	0	.0	@	26.0	.0	12.0	.0
Nov	46.1	30.7	38.4	74	1962	2	43.0	1995	1	1955	15	30.9	1985	800	0	.0	.0	8.4	.4	18.8	.0
Dec	39.1	26.7	32.9	56	1957	11	36.9	1995	-8+	1990	22	26.0	1990	995	0	.0	.0	.6	2.2	27.5	.2
Ann	59.1	35.0	47.0	105	Aug 1972	7	68.1	Jul 1985	-9	Jan 1950	31	26.0	Dec 1990	6674	126	.5	14.9	222.0	6.0	157.7	.5

⁺ Also occurred on an earlier date(s)

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

Issue Date: February 2004 079-A

[@] 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: 1948-2001

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

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										Pı	recipit	tation	(incl	nes)										
	Mea	ans/	P	recipi	itatio	on Total					ean N of D	ays (3	5)	Proba	ability th		nonthly/	annual j	precipita ated an	nount	ies (1)		less tha	an the
	Medi	ans(1)				Extremes	•			L	any Free	стриацо	11		Th	ese value	s were det	termined	from the	incomplet	te gamma	distribut	ion	
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	10.54	9.99	4.35	1972	21	19.50	1972	.31	1985	18.0	14.4	7.4	3.6	1.99	2.93	4.47	5.90	7.35	8.92	10.70	12.84	15.69	20.27	24.63
Feb	8.90	9.33	4.75	1996	7	18.16	1999	1.94	1989	16.4	13.2	6.1	2.8	2.78	3.63	4.88	5.96	7.00	8.08	9.26	10.65	12.44	15.24	17.82
Mar	7.32	6.81	3.03	1983	30	13.81	1983	1.90	1992	18.3	14.2	6.0	1.4	2.81	3.49	4.46	5.27	6.04	6.82	7.66	8.64	9.89	11.81	13.55
Apr	5.37	4.60	2.64	1996	24	12.82	1996	1.64	1999	16.9	12.1	3.4	.9	1.79	2.30	3.04	3.68	4.28	4.91	5.60	6.40	7.43	9.02	10.50
May	3.98	3.63	2.24	2001	15	8.83	1998	.57	1992	14.0	9.9	2.8	.5	1.13	1.50	2.07	2.57	3.06	3.56	4.12	4.79	5.64	6.99	8.24
Jun	2.67	2.60	2.52	1981	8	6.01	1981	.56	1979	9.9	6.6	1.5	.5	.79	1.04	1.42	1.75	2.07	2.40	2.77	3.20	3.76	4.63	5.45
Jul	1.11	.81	1.76	1987	18	5.03	1983	.03	1972	5.2	2.8	.7	.1	.07	.14	.27	.42	.60	.80	1.04	1.35	1.78	2.51	3.24
Aug	1.08	.75	.97	1957	30	3.34	1978	.00	1998	5.0	3.2	.5	.0	.01	.04	.13	.26	.42	.63	.90	1.26	1.79	2.73	3.70
Sep	2.27	1.67	2.16	1959	26	5.72	1986	.00+	1991	7.8	4.9	1.8	.3	.00	.06	.32	.62	.99	1.44	2.00	2.72	3.76	5.56	7.37
Oct	4.91	4.60	4.30	1994	27	12.39	1997	.14	1987	11.7	8.8	3.6	1.2	.61	1.00	1.69	2.38	3.10	3.90	4.84	6.00	7.56	10.13	12.63
Nov	11.21	10.02	5.55	1996	19	23.46	1973	2.68	1976	18.7	15.5	8.5	3.3	3.24	4.31	5.91	7.30	8.66	10.07	11.63	13.47	15.85	19.58	23.05
Dec	11.54	10.20	5.83	1964	22	32.86	1996	2.21	1976	18.0	14.8	8.1	4.1	2.75	3.83	5.52	7.02	8.52	10.10	11.87	13.97	16.74	21.12	25.23
Ann	70.90	70.33	5.83	Dec 1964	22	32.86	Dec 1996	.00+	Aug 1998	159.9	120.4	50.4	18.7	45.21	49.98	56.19	60.98	65.29	69.50	73.89	78.78	84.77	93.56	101.25

⁺ 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

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Climate Division: OR 4 NWS Call Sign: Elevation: 2,475 Feet Lat: 44°37N Lon: 121°57W

										Snov	w (incl	hes)											
						Sno	ow To	tals									Mea	n Nu	nber (of Day	ys (1)		
	Mean	s/Medi	ians (1)	1					Extre	mes (2)							ow Fa					Depth eshold	
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	17.3	12.5	10	6	20.0	1971	14	70.5	1996	64	1971	14	34	1971	6.3	4.9	2.0	1.2	.4	20.5	16.4	12.3	6.2
Feb	16.5	12.6	11	7	20.0	1986	12	59.5	1971	66	1971	28	38	1971	5.6	4.2	2.3	1.3	.4	11.8	9.4	7.9	5.9
Mar	13.2	9.3	7	3	12.0	1971	4	43.0	1999	66	1971	5	48	1971	5.4	4.0	1.8	.8	.1	9.2	6.7	5.2	3.5
Apr	6.5	5.0	1	#	12.0	1982	14	37.3	1982	37	1971	1	17	1971	3.0	2.1	.6	.3	.1	3.5	2.0	1.2	.5
May	.4	.0	#	0	3.0	1974	15	4.9	1974	3	1974	15	#+	2000	.4	.3	@	.0	.0	.3	@	.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	5.4	1972	28	6.0	1971	4	1971	30	#+	1996	.3	.1	.1	@	.0	.3	.1	.0	.0
Nov	9.0	3.2	1	#	15.0	1973	6	60.2	1973	24	1985	22	9	1985	3.2	2.2	1.1	.6	.1	4.9	3.2	2.3	1.1
Dec	14.2	13.6	5	4	15.0	1987	31	33.0	1996	38	1971	13	20	1971	6.6	4.8	2.0	1.4	.3	15.9	11.9	9.4	3.3
Ann	77.6	56.2	N/A	N/A	20.0+	Feb 1986	12	70.5	Jan 1996	66+	Mar 1971	5	48	Mar 1971	30.8	22.6	9.9	5.6	1.4	66.4	49.7	38.3	20.5

⁺ 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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Lon: 121°57W

Lat: 44°37N

Station: MARION FRKS FISH HATCH, OR

Climate Division: OR 4 NWS Call Sign:

				Freez	e Data									
			Spri	ng Freeze D	ates (Month/	Day)								
Spring Freeze Dates (Month/Day) Femp (F)														
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90					
36	7/06	6/29	6/24	6/19	6/15	6/11	6/07	6/02	5/26					
32	6/18	6/11	6/05	6/01	5/28	5/23	5/19	5/13	5/06					
28	5/13	5/06	5/01	4/27	4/23	4/19	4/14	4/09	4/02					
24	4/09	3/30	3/23	3/17	3/11	3/06	2/28	2/21	2/11					
20	3/22	3/07	2/24	2/15	2/07	1/29	1/19	1/08	12/21					
16	3/02	2/17	2/07	1/30	1/22	1/13	1/03	12/21	0/00					
•			Fal	l Freeze Dat	tes (Month/D	ay)	•							
To (E)		Pro	bability of ea	rlier date ii	ı fall (beginn	ing Aug 1) t	han indicate	d(*)						
Temp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90					
36	8/18	8/23	8/27	8/31	9/03	9/06	9/10	9/14	9/19					
32	9/04	9/11	9/15	9/19	9/23	9/27	10/01	10/06	10/12					
28	9/26	10/03	10/07	10/11	10/15	10/18	10/22	10/27	11/02					
24	10/26	11/04	11/10	11/16	11/21	11/26	12/02	12/08	12/17					
20	11/09	11/18	11/25	12/01	12/07	12/13	12/19	12/26	1/07					
16	11/21	12/03	12/12	12/20	12/28	1/05	1/15	1/30	0/00					
			•	Freeze F	ree Period									
Tomp (F)			Probability	of longer th	an indicated	freeze free p	eriod (Days)							
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90					
36	107	97	90	84	79	73	67	60	51					
32	149	139	131	124	118	112	105	97	86					
28	196	189	183	179	174	170	165	160	152					
24	295	281	271	262	254	246	237	227	213					
20	>365	342	325	313	302	292	281	269	252					
16	>365	>365	>365	355	338	325	312	299	282					

^{*} 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.

Complete documentation available from:

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				Deg	ree Days t	o Selected	Base Tem	peratures	(°F)				
Base						Heatin	g Degree l	Days (1)					
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	994	813	781	617	442	241	106	105	260	520	800	995	6674
60	839	673	626	467	296	128	35	33	146	367	650	840	5100
57	746	589	533	379	217	78	14	12	94	280	560	747	4249
55	684	533	471	321	171	52	7	5	67	226	500	685	3722
50	529	395	321	190	82	14	0	0	21	114	355	530	2551
32	71	43	13	1	0	0	0	0	0	0	27	73	228

Base						Coolin	g Degree I	Days (1)					
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	101	153	255	374	582	762	972	961	745	504	218	101	5728
55	0	0	0	4	40	124	267	253	121	17	0	0	826
57	0	0	0	2	24	90	211	198	89	8	0	0	622
60	0	0	0	0	10	50	139	125	50	3	0	0	377
65	0	0	0	0	1	13	55	43	14	0	0	0	126
70	0	0	0	0	0	1	12	7	2	0	0	0	22

										Gro	wing	Degre	e Uni	ts (2)										
Base					Growin	g Degree	Units (N	(Ionthly)					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	0	19	58	160	337	520	730	713	506	264	41	1	0	19	77	237	574	1094	1824	2537	3043	3307	3348	3349
45	0 0 14 74 202 371 575 558 357 139 6												0	0	14	88	290	661	1236	1794	2151	2290	2296	2296
50	0 0 0 29 109 237 420 403 223 56 0												0	0	0	29	138	375	795	1198	1421	1477	1477	1477
55	0	0	0	4	51	133	273	258	117	17	0	0	0	0	0	4	55	188	461	719	836	853	853	853
60	0 0 0 0 19 56 144 135 44 1 0										0	0	0	0	0	19	75	219	354	398	399	399	399	
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0/86 0 15 57 117 217 326 454 461 348 197 17												0	15	72	189	406	732	1186	1647	1995	2192	2209	2209

(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