

Climatology of the United States

No. 20

1971-2000

Station: SUMMER LAKE 1 S, OR

COOP ID: 358173

Climate Division: OR 5

NWS Call Sign:

Elevation: 4,192 Feet Lat: 42° 58N

Lon: 120° 47W

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	41.5	23.7	32.6	61+	1992	30	39.9	1986	-27	1962	22	24.7	1993	1005	0	.0	.0	5.4	4.6	24.7	.5
Feb	46.6	26.6	36.6	70	1995	23	43.0	1995	-16	1989	5	26.1	1989	795	0	.0	.0	9.5	1.9	21.4	.3
Mar	52.2	29.7	41.0	75	1986	29	45.7	1978	1	1971	17	34.6	1971	746	0	.0	.0	18.1	.3	19.9	.0
Apr	59.9	33.3	46.6	86	1987	27	52.9	1990	15	1968	13	39.5	1975	553	0	.0	.0	24.3	@	14.1	.0
May	68.9	39.7	54.3	96+	1986	30	61.6	1992	20	1964	3	48.0	1977	339	7	.0	.3	30.0	.0	4.5	.0
Jun	78.4	46.2	62.3	99	1992	23	66.8	1974	29+	1999	10	58.3	1980	134	52	.0	2.0	30.0	.0	.5	.0
Jul	87.4	51.2	69.3	103	1994	21	73.0	1994	33	1976	1	61.6	1993	37	171	.4	11.6	31.0	.0	.0	.0
Aug	86.6	49.8	68.2	103	1972	7	72.5	1971	23	1980	31	62.7	1976	37	136	.5	10.6	31.0	.0	.1	.0
Sep	78.1	42.8	60.5	102	1988	3	64.7	1998	21	1970	14	53.6+	1986	182	45	.1	2.5	29.9	.0	1.9	.0
Oct	65.6	35.0	50.3	90+	1996	9	57.0	1988	10	1971	29	45.6	1984	456	1	.0	.1	28.4	.1	12.2	.0
Nov	49.0	29.0	39.0	73	1990	10	45.5	1999	-1	1993	24	31.7	1985	781	0	.0	.0	13.6	1.0	20.3	@
Dec	41.7	24.0	32.9	65	1958	3	37.8+	1981	-16	1972	9	26.3	1990	997	0	.0	.0	4.7	3.8	25.6	.6
Ann	63.0	35.9	49.5	103+	Jul 1994	21	73.0	Jul 1994	-27	Jan 1962	22	24.7	Jan 1993	6062	412	1.0	27.1	255.9	11.7	145.2	1.4

+ 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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1957-2001

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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	1.56	1.20	2.18	1972	22	4.07	1997	.11	1991	10.4	4.3	.5	.3	.14	.25	.46	.67	.91	1.18	1.50	1.90	2.45	3.38	4.28	
Feb	1.25	.97	2.74	1982	21	4.31	1986	.15	1990	9.6	3.8	.4	.1	.18	.28	.46	.64	.82	1.02	1.25	1.53	1.91	2.53	3.12	
Mar	1.14	1.04	1.45	1983	30	3.38	1983	.11	1977	11.2	3.6	.2	.1	.20	.31	.47	.63	.79	.96	1.16	1.39	1.71	2.22	2.70	
Apr	.99	.73	1.09	1996	24	2.69	1978	.03	1977	9.2	3.1	.2	@	.14	.23	.37	.50	.65	.80	.98	1.20	1.50	1.99	2.45	
May	1.17	.96	1.62	1977	10	3.61	1998	.03	1992	8.5	3.7	.5	@	.15	.24	.41	.57	.74	.93	1.16	1.43	1.80	2.42	3.01	
Jun	.86	.87	1.22	1965	17	2.08	1987	.00	1973	6.2	2.8	.3	.0	.04	.12	.24	.37	.50	.65	.83	1.05	1.36	1.86	2.35	
Jul	.55	.37	1.62	1987	17	3.87	1987	.00+	1989	3.6	1.6	.3	.1	.00	.00	.03	.09	.18	.29	.43	.63	.93	1.45	2.00	
Aug	.53	.27	.95	1959	20	2.58	1976	.00+	2000	3.5	1.7	.2	.0	.00	.00	.02	.11	.20	.32	.46	.64	.90	1.34	1.79	
Sep	.61	.43	.94	1962	28	2.12	1977	.00+	1987	4.3	2.1	.2	.0	.00	.00	.12	.22	.33	.45	.59	.76	1.00	1.39	1.78	
Oct	.79	.74	2.08	1962	9	2.14	2000	.00+	1988	6.0	2.7	.2	@	.00	.00	.37	.50	.62	.73	.86	1.00	1.19	1.48	1.74	
Nov	1.67	1.20	1.88	1996	18	5.80	1988	.06	1976	10.6	4.5	.9	.2	.14	.26	.48	.71	.96	1.25	1.60	2.03	2.63	3.64	4.63	
Dec	1.66	1.04	3.34	1964	22	5.17	1996	.04	1976	10.0	4.5	.9	.1	.09	.18	.38	.60	.86	1.16	1.53	2.00	2.67	3.80	4.94	
Ann	12.78	12.28	3.34	Dec 1964	22	5.80	Nov 1988	.00+	Aug 2000	93.1	38.4	4.8	.9	7.21	8.19	9.50	10.53	11.47	12.40	13.37	14.47	15.83	17.84	19.63	

+ 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: 1957-2001

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

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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	2.9	1.3	1	#	10.0	1999	22	15.0	1999	50	1971	12	4	1993	2.7	1.5	.4	.2	@	4.2	1.3	.7	@
Feb	4.2	3.1	1	#	12.0	1975	2	22.5	1975	12	1975	2	4	1975	2.4	1.5	.4	.2	@	2.1	1.1	.4	.2
Mar	2.1	.3	#	0	8.0	1971	16	14.5	1971	10	1976	2	1	1976	1.6	.7	.1	.1	.0	.6	.2	.1	.0
Apr	1.0	.0	#	0	6.5	1985	21	6.8	1985	2	1983	11	##	1983	.8	.4	.1	@	.0	.1	.0	.0	.0
May	.2	.0	#	0	5.0	1974	18	5.0	1974	##	1981	5	##	1981	.2	@	@	@	.0	.0	.0	.0	.0
Jun	#	.0	0	0	#	1980	2	#	1980	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	.1	.0	#	0	.5	1979	30	1.0+	1984	##	1984	16	##	1984	.1	.0	.0	.0	.0	.0	.0	.0	.0
Nov	2.6	.2	#	#	11.5	1977	21	16.6	1985	11	1977	21	1	1985	1.5	.8	.2	.1	@	1.5	.5	.3	@
Dec	4.8	2.5	1	#	7.5	1983	3	20.5	1983	10	1985	1	3	1983	2.8	1.7	.5	.2	.0	4.2	1.7	.4	@
Ann	17.9	7.4	N/A	N/A	12.0	Feb 1975	2	22.5	Feb 1975	50	Jan 1971	12	4+	Jan 1993	12.1	6.6	1.7	.8	@	12.7	4.8	1.9	.2

+ 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

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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	7/07	7/01	6/26	6/22	6/18	6/14	6/10	6/06	5/30
32	6/14	6/09	6/05	6/01	5/29	5/26	5/23	5/19	5/13
28	5/21	5/16	5/12	5/08	5/05	5/02	4/29	4/25	4/19
24	5/06	4/28	4/22	4/17	4/12	4/08	4/03	3/28	3/20
20	4/11	4/01	3/25	3/19	3/14	3/08	3/02	2/23	2/13
16	3/16	3/06	2/27	2/21	2/15	2/10	2/03	1/27	1/17
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	8/25	8/31	9/04	9/07	9/11	9/14	9/18	9/22	9/28
32	9/06	9/11	9/15	9/19	9/22	9/25	9/28	10/02	10/08
28	9/17	9/24	9/28	10/02	10/06	10/09	10/13	10/18	10/24
24	10/01	10/08	10/14	10/18	10/22	10/26	10/31	11/05	11/12
20	10/23	10/29	11/02	11/05	11/08	11/11	11/15	11/19	11/24
16	11/01	11/09	11/16	11/21	11/26	12/01	12/06	12/12	12/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	108	100	94	89	84	79	74	68	60
32	139	131	125	120	115	110	105	99	90
28	178	169	163	158	153	148	142	136	128
24	222	212	204	198	192	186	180	172	162
20	272	260	252	245	239	232	225	217	206
16	318	306	297	290	283	276	268	260	248

* 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	1005	795	746	553	339	134	37	37	182	456	781	997	6062
60	850	655	591	408	207	57	10	8	94	308	631	842	4661
57	757	571	498	326	143	28	3	2	56	228	541	749	3902
55	695	515	437	274	108	16	1	1	37	179	483	687	3433
50	545	382	294	165	44	3	0	0	11	85	343	532	2404
32	125	51	14	4	0	0	0	0	0	0	34	88	316

Cooling Degree Days (1)

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	143	179	291	441	692	908	1157	1122	853	568	243	115	6712
55	0	0	2	22	87	234	445	410	200	34	2	0	1436
57	0	0	0	14	60	186	385	349	159	21	0	0	1174
60	0	0	0	6	30	125	299	262	107	8	0	0	837
65	0	0	0	0	7	52	171	136	45	1	0	0	412
70	0	0	0	0	0	15	82	52	13	0	0	0	162

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	28	45	100	221	445	661	905	871	607	326	80	28	28	73	173	394	839	1500	2405	3276	3883	4209	4289	4317
45	2	9	35	119	297	511	750	716	459	198	30	0	2	11	46	165	462	973	1723	2439	2898	3096	3126	3126
50	0	0	3	48	178	363	595	561	318	99	5	0	0	0	3	51	229	592	1187	1748	2066	2165	2170	2170
55	0	0	0	15	91	236	442	408	195	37	0	0	0	0	0	15	106	342	784	1192	1387	1424	1424	1424
60	0	0	0	1	35	125	293	263	95	10	0	0	0	0	0	1	36	161	454	717	812	822	822	822
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	6	33	70	158	288	425	569	551	414	251	52	5	6	39	109	267	555	980	1549	2100	2514	2765	2817	2822

(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 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.

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|---|---|
| <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