U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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

Station: SUMMERSVILLE LAKE, WV **COOP ID: 468614**

Climate Division: WV 4 **NWS Call Sign:** **Elevation: 1,760 Feet** **Lat: 38˚13N** **Lon: 80˚54W**

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	38.5	19.1	28.8	70+	1973	1	39.2	1974	-20	1985	21	13.8	1977	1123	0	.0	.0	7.5	9.8	26.0	2.7
Feb	42.4	20.6	31.5	78	1977	27	40.3	1990	-16+	1996	5	14.8	1978	939	0	.0	.0	9.3	7.1	23.5	1.7
Mar	51.4	28.0	39.7	83+	1973	15	46.1	1973	-9	1980	3	33.0	1971	785	0	.0	.0	17.6	2.8	20.1	.2
Apr	62.1	36.6	49.4	92	1986	29	54.6	1985	14	1982	7	44.5	1975	470	1	.0	.1	24.9	.2	10.1	.0
May	70.7	46.6	58.7	89+	1969	30	65.6	1991	27	1977	10	53.9	1997	228	31	.0	.0	30.5	.0	1.5	.0
Jun	77.7	55.2	66.5	93	1973	27	70.3	1984	33	1977	8	61.5	1972	54	97	.0	.5	29.9	.0	.0	.0
Jul	81.1	59.8	70.5	94+	1988	16	74.5	1986	41+	1983	8	66.2	1976	10	179	.0	1.8	31.0	.0	.0	.0
Aug	79.8	58.2	69.0	94+	1973	30	73.0	1995	39+	1986	29	64.4	1976	25	148	.0	1.0	31.0	.0	.0	.0
Sep	74.1	52.0	63.1	92+	1970	16	67.4	1978	32+	1983	24	57.7	1976	102	44	.0	.4	30.0	.0	.1	.0
Oct	63.7	39.9	51.8	86	1969	13	61.2	1984	15	1976	29	43.0	1976	425	16	.0	.0	28.2	.0	6.3	.0
Nov	53.0	31.5	42.3	80+	1975	7	52.7	1985	5	1977	27	31.5	1976	683	0	.0	.0	18.5	1.4	16.5	.0
Dec	42.9	23.9	33.4	75+	1982	3	42.4	1984	-16	1989	23	21.1	1989	980	0	.0	.0	10.5	6.5	24.5	.9
Ann	61.5	39.3	50.4	94+	Jul 1988	16	74.5	Jul 1986	-20	Jan 1985	21	13.8	Jan 1977	5824	516	.0	3.8	268.9	27.8	128.6	5.5

\+ 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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1967-2001

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

Issue Date: February 2004

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	3.63	3.55	2.65	1998	28	6.69	1994	.92	1993
Feb	3.05	3.00	1.79	1970	15	5.58	1982	.85	1978
Mar	3.90	3.41	1.78	1997	2	7.94	1994	2.05	1987
Apr	3.79	3.80	1.93	1987	24	8.35	1987	1.28	1976
May	4.77	5.19	2.93	1982	30	9.46	1996	1.44	1991
Jun	4.44	3.43	2.45	2000	6	10.95	1995	.91	1999
Jul	5.53	5.41	5.16	1986	2	9.29	1972	1.67	1995
Aug	4.71	4.29	2.49	1986	24	9.57	1989	1.84	1981
Sep	3.59	3.54	1.90	2000	26	8.29	1996	.60	1985
Oct	3.31	3.38	2.60	1976	9	8.67	1976	.94	1992
Nov	3.27	3.18	3.39	1985	5	9.59	1985	1.12	1976
Dec	3.49	2.85	2.64	1991	3	8.55	1991	1.31	1980
Ann	47.48	47.80	5.16	Jul 1986	2	10.95	Jun 1995	.60	Sep 1985

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	16.6	8.8	2.1	.4
Feb	14.2	8.0	1.7	.3
Mar	14.4	9.2	2.7	.5
Apr	14.8	9.0	2.2	.6
May	14.4	10.1	3.4	.9
Jun	12.7	9.0	2.7	.9
Jul	12.7	8.9	4.0	1.6
Aug	11.2	7.6	3.5	1.4
Sep	10.7	7.1	2.4	1.0
Oct	10.9	7.1	2.3	.6
Nov	12.0	7.2	1.9	.4
Dec	14.5	8.1	2.0	.6
Ann	159.1	100.1	30.9	9.2

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
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	1.15	1.49	2.00	2.44	2.86	3.30	3.78	4.34	5.07	6.20	7.25
Feb	1.24	1.52	1.92	2.24	2.55	2.86	3.19	3.58	4.07	4.82	5.50
Mar	1.73	2.08	2.56	2.96	3.32	3.70	4.09	4.55	5.12	6.00	6.78
Apr	1.49	1.84	2.34	2.75	3.14	3.54	3.97	4.47	5.10	6.07	6.96
May	2.03	2.46	3.06	3.56	4.03	4.50	5.00	5.58	6.32	7.44	8.46
Jun	1.28	1.70	2.34	2.89	3.43	3.99	4.60	5.33	6.28	7.76	9.14
Jul	2.72	3.19	3.83	4.34	4.82	5.29	5.80	6.37	7.09	8.17	9.14
Aug	1.98	2.41	3.01	3.50	3.97	4.43	4.94	5.51	6.25	7.36	8.37
Sep	1.10	1.44	1.95	2.39	2.81	3.25	3.73	4.30	5.03	6.18	7.23
Oct	1.01	1.33	1.80	2.20	2.59	3.00	3.44	3.96	4.64	5.69	6.67
Nov	1.13	1.44	1.89	2.27	2.63	3.01	3.41	3.89	4.50	5.44	6.30
Dec	1.35	1.68	2.14	2.52	2.88	3.25	3.65	4.11	4.70	5.60	6.43
Ann	36.41	38.62	41.41	43.50	45.35	47.12	48.93	50.93	53.33	56.78	59.74

\+ 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: 1967-2001
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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	12.9	11.1	2	2	14.0	1971	1	33.1	1985	17	1996	9	9	1977	7.3	6.0	1.8	.6	.2	11.5	6.8	4.3	1.0
Feb	9.4	7.5	2	1	10.0	1983	11	25.0	1985	12+	1985	14	7	1974	4.7	4.0	1.3	.4	.1	9.4	5.0	2.6	.3
Mar	4.8	4.8	1	#	15.0	1993	14	15.0	1993	18	1993	14	3	1993	2.6	2.3	.7	.2	@	4.0	1.6	.8	.2
Apr	1.5	.0	#	#	10.0	1987	4	20.0	1987	13	1987	5	2	1987	.8	.7	.2	.1	@	.9	.2	.1	.1
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	.2	.0	#	0	3.0	1993	31	3.0	1993	3	1993	31	#+	1993	.1	.1	@	.0	.0	.1	@	.0	.0
Nov	1.3	.9	#	#	8.0	1995	15	8.0	1995	10	1995	16	2	1995	1.3	.9	.2	@	.0	1.6	.4	.2	@
Dec	5.5	5.2	1	1	6.0	1995	7	16.0	1976	9	1997	31	3	1989	3.9	3.3	.8	.1	.0	6.2	2.4	.7	.0
Ann	35.6	29.5	N/A	N/A	15.0	Mar 1993	14	33.1	Jan 1985	18	Mar 1993	14	9	Jan 1977	20.7	17.3	5.0	1.4	.3	33.7	16.4	8.7	1.6

+ 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	5/31	5/25	5/20	5/17	5/13	5/10	5/06	5/02	4/26
32	5/14	5/11	5/08	5/05	5/03	5/01	4/28	4/25	4/21
28	5/03	4/28	4/25	4/21	4/19	4/16	4/12	4/09	4/04
24	4/17	4/13	4/09	4/06	4/03	4/01	3/29	3/25	3/20
20	4/06	3/31	3/27	3/24	3/21	3/18	3/14	3/10	3/05
16	3/27	3/19	3/14	3/09	3/05	2/28	2/24	2/18	2/10

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	9/24	9/28	9/30	10/03	10/05	10/07	10/09	10/12	10/16
32	9/29	10/04	10/08	10/10	10/13	10/16	10/19	10/22	10/27
28	10/09	10/15	10/19	10/23	10/26	10/30	11/03	11/07	11/13
24	10/18	10/25	10/30	11/03	11/07	11/11	11/15	11/20	11/27
20	10/31	11/08	11/13	11/18	11/23	11/28	12/03	12/08	12/16
16	11/07	11/15	11/21	11/26	11/30	12/05	12/10	12/16	12/24

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	165	158	153	148	144	140	135	130	122
32	178	172	169	165	162	159	156	152	147
28	215	206	200	195	190	185	180	174	165
24	243	234	228	222	217	212	206	200	191
20	277	266	259	252	246	240	234	226	216
16	300	290	282	276	270	264	258	250	240

***** 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	1123	939	785	470	228	54	10	25	102	425	683	980	5824
60	968	799	630	326	125	14	0	4	37	296	537	825	4561
57	875	715	543	246	79	5	0	0	17	231	453	732	3896
55	822	660	485	198	55	2	0	0	10	193	399	679	3503
50	675	531	347	102	18	0	0	0	2	114	273	534	2596
32	253	162	50	1	0	0	0	0	0	5	26	152	649

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	154	147	289	521	826	1033	1192	1147	932	619	333	195	7388
55	9	1	10	29	168	345	479	434	252	94	15	9	1845
57	0	0	6	17	130	287	417	372	199	70	10	0	1508
60	0	0	0	6	83	206	324	282	129	42	4	0	1076
65	0	0	0	1	31	97	179	148	44	16	0	0	516
70	0	0	0	0	8	29	72	59	8	4	0	0	180

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	59	163	342	599	805	959	919	711	404	185	67	41	100	263	605	1204	2009	2968	3887	4598	5002	5187	5254
45	14	25	87	227	447	655	804	764	561	269	104	33	14	39	126	353	800	1455	2259	3023	3584	3853	3957	3990
50	3	7	41	134	303	506	649	609	413	160	52	14	3	10	51	185	488	994	1643	2252	2665	2825	2877	2891
55	0	0	16	69	180	362	494	455	274	78	18	0	0	0	16	85	265	627	1121	1576	1850	1928	1946	1946
60	0	0	3	27	91	221	339	300	158	32	3	0	0	0	3	30	121	342	681	981	1139	1171	1174	1174
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	29	47	114	223	366	516	646	607	446	250	117	46	29	76	190	413	779	1295	1941	2548	2994	3244	3361	3407

(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:
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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

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

c. Snow Tables
   1. Snow Climatology
   2. Cooperative Summary of the Day

d. Freeze Data Table
   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