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: NEW CUMBERLAND L/D, WV **COOP ID: 466442**

Climate Division: WV 1 **NWS Call Sign:** **Elevation: 675 Feet** **Lat: 40˚32N** **Lon: 80˚38W**

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	35.8	19.0	27.4	76	1950	25	37.9	1990	-19	1985	21	12.5	1977	1166	0	.0	.0	5.0	10.8	26.1	1.8
Feb	39.9	20.2	30.1	73+	1957	25	39.0	1998	-12	1979	11	17.3	1979	980	0	.0	.0	7.4	6.3	22.5	1.1
Mar	50.2	27.1	38.7	84	1950	27	46.2	1973	-2	1980	2	32.0	1984	817	0	.0	.0	17.0	1.5	19.1	.1
Apr	61.4	35.8	48.6	91+	1976	18	53.6	1985	12	1964	1	43.7	1975	493	0	.0	.2	26.9	@	9.5	.0
May	71.9	47.0	59.5	97	1953	31	68.0	1991	24	1986	3	53.8	1997	215	43	.0	.5	30.9	.0	1.2	.0
Jun	78.7	56.4	67.6	100	1952	26	71.1	1994	33	1972	11	63.3	1980	44	120	.0	2.7	30.0	.0	.0	.0
Jul	82.2	61.0	71.6	102	1954	14	75.9	1999	41	1963	9	68.5	2000	6	212	.1	5.3	31.0	.0	.0	.0
Aug	80.5	59.4	70.0	102	1953	30	75.9	1995	38	1986	29	66.7	1976	18	171	@	2.8	31.0	.0	.0	.0
Sep	75.2	53.0	64.1	103	1953	3	67.7	1998	32	1974	23	59.3	1974	78	50	.0	1.0	30.0	.0	@	.0
Oct	64.0	40.3	52.2	91	1951	5	57.8	1971	20	1952	21	45.7	1976	403	4	.0	.0	29.4	.0	3.6	.0
Nov	51.4	31.8	41.6	85	1961	3	46.6	1994	1	1958	30	32.8	1976	703	0	.0	.0	17.2	.5	13.7	.0
Dec	40.1	24.2	32.2	77	1982	3	39.2	1982	-10+	1951	16	18.8	1989	1018	0	.0	.0	7.0	6.2	23.8	.5
Ann	60.9	39.6	50.3	103	Sep 1953	3	75.9+	Jul 1999	-19	Jan 1985	21	12.5	Jan 1977	5941	600	.1	12.5	262.8	25.3	119.5	3.5

\+ 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: 1948-2001

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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	2.50	2.28	2.38	1952	26	4.60	1999	.60	1981
Feb	2.08	1.82	1.75	1975	24	4.57	1975	.13	1978
Mar	3.36	3.33	1.75	1955	4	6.15	1997	1.13	1979
Apr	2.95	2.89	1.65	1970	24	6.15	1981	.23	1971
May	3.84	4.13	2.81	1971	6	6.59	1990	1.15	1986
Jun	3.76	3.68	5.39	1956	18	8.44	1980	.89	1988
Jul	4.36	3.68	2.60	1962	3	8.99	1992	1.81	1973
Aug	3.18	2.67	4.52	1952	16	8.46	1980	1.24	1993
Sep	3.03	3.10	2.40	1972	14	7.17	1975	.72+	1985
Oct	2.33	2.05	3.16	1954	15	4.92	1983	.21	1982
Nov	2.85	2.65	2.65	1985	4	11.89	1985	.83	1976
Dec	2.61	2.20	1.72	1986	2	5.93	1990	.98	1979
Ann	36.85	35.36	5.39	Jun 1956	18	11.89	Nov 1985	.13	Feb 1978

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	12.9	6.8	1.5	.4
Feb	10.4	5.5	1.1	.1
Mar	12.8	7.8	1.7	.2
Apr	12.8	7.4	1.6	.3
May	13.0	8.4	2.2	.7
Jun	12.4	7.9	2.1	.6
Jul	11.3	6.9	2.7	.7
Aug	10.6	6.3	1.9	.8
Sep	10.0	6.5	2.1	.4
Oct	9.9	5.3	1.5	.4
Nov	12.3	6.9	1.6	.3
Dec	13.2	6.4	1.5	.4
Ann	141.6	82.1	21.5	5.3

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
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.82	1.05	1.40	1.70	1.98	2.28	2.60	2.98	3.47	4.23	4.92
Feb	.54	.74	1.04	1.31	1.57	1.84	2.15	2.51	2.99	3.74	4.44
Mar	1.49	1.79	2.21	2.55	2.86	3.18	3.53	3.92	4.41	5.16	5.84
Apr	.91	1.19	1.61	1.97	2.31	2.67	3.07	3.54	4.14	5.07	5.94
May	1.25	1.61	2.15	2.61	3.05	3.51	4.01	4.59	5.35	6.52	7.60
Jun	1.18	1.54	2.07	2.52	2.96	3.41	3.91	4.50	5.26	6.43	7.52
Jul	2.02	2.40	2.93	3.35	3.75	4.14	4.57	5.05	5.66	6.58	7.41
Aug	1.11	1.41	1.84	2.21	2.56	2.93	3.32	3.78	4.37	5.28	6.11
Sep	1.01	1.29	1.72	2.07	2.42	2.77	3.16	3.62	4.20	5.11	5.94
Oct	.60	.82	1.16	1.46	1.75	2.06	2.41	2.82	3.35	4.20	4.99
Nov	.86	1.13	1.53	1.88	2.22	2.58	2.97	3.42	4.02	4.94	5.80
Dec	1.07	1.31	1.65	1.92	2.19	2.45	2.74	3.07	3.49	4.13	4.71
Ann	28.17	29.90	32.09	33.74	35.19	36.58	38.01	39.59	41.48	44.20	46.53

\+ 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: 1948-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	10.9	8.5	2	#
Feb	5.6	4.6	1	1
Mar	3.6	2.8	#	#
Apr	.5	.0	#	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	#	.0	0	0
Nov	1.5	.5	#	0
Dec	3.4	2.9	1	#
Ann	25.5	19.3	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	5.0	1978	17	30.6	1978	17	1978	21	9	1977
Feb	5.5	1986	11	12.0	1979	13	1979	19	7	1979
Mar	4.0	1980	14	9.4	1988	5	1971	4	1	1984
Apr	7.5	1987	4	7.5	1987	2	1972	7	#	1972
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	#	1974	2	#	1974	0	0	0	0	0
Nov	5.0	1980	18	7.5	1976	5	1980	18	1	1976
Dec	3.5	1981	17	5.5	1981	8	1973	31	8	1973
Ann	7.5	Apr 1987	4	30.6	Jan 1978	17	Jan 1978	21	9	Jan 1977

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	-9.9	-9.9	-9.9	-9.9	-9.9
Feb	4.0	2.3	.5	.1	.0
Mar	2.8	1.6	.2	.0	.0
Apr	.4	.3	.1	.1	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	1.1	.6	.1	.1	.0
Dec	-9.9	-9.9	-9.9	-9.9	-9.9
Ann	-9.9	-9.9	-9.9	-9.9	-9.9

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	-9.9	-9.9	-9.9	-9.9
Feb	8.0	5.1	3.1	.3
Mar	1.6	.6	.0	.0
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	.7	.1	.0	.0
Dec	3.3	.7	.0	.0
Ann	-9.9	-9.9	-9.9	-9.9

+ 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	5/29	5/23	5/19	5/16	5/13	5/09	5/06	5/02	4/26
32	5/14	5/10	5/08	5/05	5/03	5/01	4/29	4/26	4/22
28	5/04	4/29	4/26	4/23	4/21	4/18	4/15	4/12	4/07
24	4/21	4/17	4/13	4/10	4/08	4/05	4/02	3/30	3/25
20	4/11	4/05	3/31	3/28	3/24	3/21	3/17	3/13	3/07
16	3/30	3/25	3/20	3/17	3/13	3/10	3/06	3/02	2/24

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	9/21	9/25	9/29	10/02	10/05	10/08	10/11	10/14	10/19
32	10/06	10/11	10/14	10/17	10/19	10/22	10/25	10/28	11/02
28	10/18	10/22	10/26	10/28	10/31	11/03	11/06	11/09	11/14
24	10/30	11/04	11/07	11/10	11/13	11/16	11/19	11/22	11/27
20	11/09	11/15	11/20	11/24	11/27	12/01	12/04	12/09	12/15
16	11/17	11/24	11/30	12/04	12/08	12/13	12/17	12/22	12/30

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	167	159	153	149	144	140	135	130	122
32	186	180	176	172	169	165	161	157	151
28	210	204	200	196	193	190	186	182	176
24	238	232	227	223	219	215	211	206	199
20	273	264	257	252	247	242	236	230	221
16	296	287	280	275	269	264	259	252	243

***** 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	1166	980	817	493	215	44	6	18	78	403	703	1018	5941
60	1011	840	662	346	118	11	0	2	22	264	553	863	4692
57	918	756	569	262	75	4	0	0	7	193	465	770	4019
55	856	700	512	212	52	2	0	0	3	151	407	708	3603
50	712	568	369	106	17	0	0	0	0	74	273	567	2686
32	264	176	52	0	0	0	0	0	0	0	18	165	675

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	121	121	258	498	851	1066	1228	1176	962	624	305	170	7380
55	0	0	5	19	190	378	515	463	276	62	4	0	1912
57	0	0	0	10	151	320	453	401	220	42	1	0	1598
60	0	0	0	3	101	237	360	310	144	20	0	0	1175
65	0	0	0	0	43	120	212	171	50	4	0	0	600
70	0	0	0	0	13	42	92	73	9	0	0	0	229

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	36	50	159	354	661	886	1033	995	771	446	183	55	36	86	245	599	1260	2146	3179	4174	4945	5391	5574	5629
45	13	21	91	231	506	736	878	840	621	302	105	27	13	34	125	356	862	1598	2476	3316	3937	4239	4344	4371
50	2	5	50	137	358	586	723	685	472	181	48	8	2	7	57	194	552	1138	1861	2546	3018	3199	3247	3255
55	0	0	25	72	229	436	568	530	327	90	19	1	0	0	25	97	326	762	1330	1860	2187	2277	2296	2297
60	0	0	6	34	120	292	413	376	197	34	5	0	0	0	6	40	160	452	865	1241	1438	1472	1477	1477
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	19	34	111	235	419	587	705	675	491	268	106	32	19	53	164	399	818	1405	2110	2785	3276	3544	3650	3682

(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