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: MOOREFIELD 1 SSE, WV **COOP ID: 466163**

Climate Division: WV 6 **NWS Call Sign:** **Elevation: 890 Feet** **Lat: 39˚03N** **Lon: 78˚58W**

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	40.4	18.9	29.7	80+	1950	25	38.5	1974	-20	1982	27	17.7	1977	1096	0	.0	.0	8.1	6.1	26.4	1.6
Feb	45.0	20.9	33.0	82	1985	24	40.5	1990	-17	1996	5	19.5	1978	898	0	.0	.0	11.2	3.3	22.4	.8
Mar	54.7	29.1	41.9	89	1998	31	48.0	1973	-9	1980	3	36.2	1984	716	0	.0	.0	21.3	.5	18.0	@
Apr	65.2	37.2	51.2	95	1976	18	56.3	1994	15	1985	10	46.5	1975	415	1	.0	.3	28.1	.0	8.3	.0
May	74.8	48.8	61.8	98	1996	21	67.6	1991	26+	1968	7	56.2	1997	148	49	.0	1.3	31.0	.0	1.0	.0
Jun	82.4	57.3	69.9	105	1952	17	73.2	1994	33	1977	8	65.5	1972	16	161	.0	5.9	30.0	.0	.0	.0
Jul	86.1	61.5	73.8	106	1988	16	77.5	1999	39	1988	1	70.4	2000	0	273	.2	11.2	31.0	.0	.0	.0
Aug	84.8	60.0	72.4	103	1988	17	77.1	1988	38+	1982	29	69.5	1982	5	235	.2	8.4	31.0	.0	.0	.0
Sep	78.4	52.5	65.5	102	1953	3	69.3	1998	27	1957	28	62.0	1975	61	74	.0	3.0	30.0	.0	.2	.0
Oct	68.3	40.3	54.3	93	1951	5	61.6	1984	15+	1952	21	48.5	1988	342	10	.0	.1	30.3	.0	6.6	.0
Nov	55.6	30.9	43.3	87	1950	1	49.6	1985	8+	1970	25	37.0	1976	653	0	.0	.0	21.1	.2	15.1	.0
Dec	45.4	23.9	34.7	81	2001	6	42.8	1984	-10	1989	23	22.3	1989	941	0	.0	.0	11.8	3.1	23.8	.6
Ann	65.1	40.1	52.6	106	Jul 1988	16	77.5	Jul 1999	-20	Jan 1982	27	17.7	Jan 1977	5291	803	.4	30.2	284.9	13.2	121.8	3.0

\+ 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

Issue Date: February 2004

(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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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	1.99	1.72	2.00	1996	8	6.10	1996	.22	1981
Feb	1.75	1.43	1.75	1994	9	5.13	1994	.25	1978
Mar	2.57	2.30	2.00	1954	1	5.96	1994	.51	1981
Apr	2.32	1.93	1.57	1987	17	5.10	1973	.54	1985
May	3.59	3.51	2.38	1991	15	6.54	1988	1.34	1999
Jun	3.46	3.19	3.30	1995	26	6.87	1995	.74	1999
Jul	3.63	3.03	2.44	1991	5	7.78	1989	.63	1983
Aug	3.47	3.10	2.88	1971	16	7.04	1971	1.12	1981
Sep	2.92	2.31	3.38	1996	7	7.95	1987	.13	1985
Oct	2.74	2.33	5.65	1954	16	9.07	1976	.20+	2000
Nov	2.51	2.17	2.83	1985	5	6.67	1985	.41+	1998
Dec	1.93	1.66	1.93	1992	11	3.87+	1983	.27	1980
Ann	32.88	32.22	5.65	Oct 1954	16	9.07	Oct 1976	.13	Sep 1985

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	6.3	5.1	1.4	.2
Feb	5.5	4.4	1.1	.2
Mar	7.3	5.8	1.8	.5
Apr	7.2	5.7	1.4	.4
May	10.5	8.2	2.2	.6
Jun	9.3	7.4	2.0	.8
Jul	8.7	7.4	2.6	.9
Aug	8.6	7.2	2.2	.7
Sep	7.4	5.9	1.9	.6
Oct	6.2	5.0	1.8	.7
Nov	6.0	4.9	1.8	.6
Dec	5.6	4.3	1.2	.3
Ann	88.6	71.3	21.4	6.5

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	.39	.57	.86	1.13	1.40	1.69	2.03	2.42	2.95	3.80	4.60
Feb	.27	.42	.67	.91	1.16	1.44	1.75	2.14	2.65	3.49	4.30
Mar	.62	.86	1.23	1.56	1.90	2.25	2.64	3.11	3.72	4.69	5.60
Apr	.59	.81	1.15	1.45	1.74	2.05	2.39	2.80	3.33	4.17	4.96
May	1.45	1.78	2.25	2.63	2.99	3.36	3.76	4.22	4.80	5.69	6.50
Jun	1.15	1.48	1.96	2.37	2.76	3.16	3.61	4.12	4.79	5.82	6.77
Jul	.93	1.27	1.80	2.27	2.73	3.21	3.75	4.39	5.22	6.54	7.78
Aug	1.44	1.75	2.20	2.57	2.91	3.26	3.64	4.07	4.62	5.46	6.22
Sep	.41	.66	1.08	1.48	1.91	2.37	2.91	3.57	4.46	5.92	7.32
Oct	.25	.44	.81	1.19	1.60	2.07	2.63	3.33	4.30	5.91	7.49
Nov	.54	.77	1.14	1.47	1.81	2.17	2.57	3.05	3.69	4.70	5.66
Dec	.42	.60	.89	1.14	1.40	1.67	1.98	2.35	2.83	3.61	4.34
Ann	24.10	25.82	28.01	29.67	31.13	32.55	34.00	35.61	37.55	40.35	42.77

+ 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)

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	10.2	7.3	1	1	24.0	1996	8	39.0	1996	32	1996	8	7	1978	2.5	2.4	1.2	.5	.1	5.9	4.2	2.2	1.2
Feb	5.7	4.5	1	#	11.5	1983	12	24.0	1979	16	1983	13	9	1978	1.7	1.7	.6	.3	@	3.6	2.8	2.0	.5
Mar	4.3	1.0	#	#	12.0	1993	14	21.5	1993	16	1993	14	3	1978	1.1	1.1	.6	.2	@	1.8	1.0	.7	@
Apr	.5	.0	#	0	4.0	1971	7	4.0	1971	2	1990	7	#+	2000	.2	.2	@	.0	.0	.1	.0	.0	.0
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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	1.0	.0	#	0	9.5	1971	25	9.5	1971	8	1995	15	1	1995	.3	.3	.2	.1	.0	@	@	.0	.0
Dec	3.7	.5	1	0	17.5	1992	11	20.5	1992	18	1992	11	7	1973	1.0	.9	.4	.2	.1	.8	.2	.2	.1
Ann	25.4	13.3	N/A	N/A	24.0	Jan 1996	8	39.0	Jan 1996	32	Jan 1996	8	9	Feb 1978	6.8	6.6	3.0	1.3	.2	12.2	8.2	5.1	1.8

+ 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	5/28	5/23	5/19	5/16	5/13	5/10	5/07	5/04	4/29
32	5/14	5/10	5/07	5/04	5/01	4/28	4/26	4/22	4/18
28	5/01	4/26	4/23	4/20	4/17	4/15	4/12	4/09	4/04
24	4/16	4/11	4/09	4/06	4/04	4/01	3/30	3/27	3/23
20	4/12	4/05	4/01	3/28	3/25	3/21	3/17	3/13	3/07
16	3/28	3/21	3/16	3/12	3/08	3/04	2/28	2/23	2/17

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	9/19	9/23	9/26	9/28	10/01	10/03	10/05	10/08	10/12
32	9/26	10/01	10/04	10/07	10/10	10/13	10/16	10/20	10/24
28	10/06	10/10	10/13	10/16	10/19	10/22	10/24	10/28	11/01
24	10/16	10/21	10/25	10/28	10/31	11/04	11/07	11/11	11/16
20	10/25	10/31	11/05	11/09	11/13	11/17	11/21	11/26	12/02
16	11/12	11/18	11/22	11/26	11/30	12/03	12/07	12/11	12/17

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	156	150	146	143	140	136	133	129	123
32	179	173	169	165	161	158	154	149	143
28	202	196	191	187	184	180	177	172	166
24	230	223	218	214	210	206	202	197	190
20	261	251	244	238	233	227	221	214	204
16	292	283	276	271	266	260	255	248	239

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1096	898	716	415	148	16	0	5	61	342	653	941	5291
60	941	758	561	273	66	2	0	0	16	214	504	786	4121
57	848	674	470	196	35	0	0	0	6	152	417	693	3491
55	786	618	413	151	20	0	0	0	3	117	362	635	3105
50	642	488	275	66	4	0	0	0	0	53	234	491	2253
32	212	123	20	0	0	0	0	0	0	0	12	115	482

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	139	149	327	575	923	1135	1296	1252	1003	691	349	197	8036
55	0	0	7	37	231	445	583	539	316	94	9	4	2265
57	0	0	2	22	183	385	521	477	259	67	4	0	1920
60	0	0	0	8	121	297	428	384	179	37	1	0	1455
65	0	0	0	1	49	161	273	235	74	10	0	0	803
70	0	0	0	0	13	61	131	109	18	1	0	0	333

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	40	74	198	412	721	933	1079	1033	803	490	209	73	40	114	312	724	1445	2378	3457	4490	5293	5783	5992	6065
45	16	34	112	283	566	783	924	878	653	342	121	39	16	50	162	445	1011	1794	2718	3596	4249	4591	4712	4751
50	2	14	59	172	413	633	769	723	506	214	58	11	2	16	75	247	660	1293	2062	2785	3291	3505	3563	3574
55	0	2	28	96	268	483	614	568	360	113	23	2	0	2	30	126	394	877	1491	2059	2419	2532	2555	2557
60	0	0	8	45	156	339	459	414	229	55	4	0	0	0	8	53	209	548	1007	1421	1650	1705	1709	1709
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	35	55	147	288	465	619	724	692	527	326	148	56	35	90	237	525	990	1609	2333	3025	3552	3878	4026	4082

(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