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: BARTOW 1 S, WV **COOP ID: 460509**

Climate Division: WV 4 **NWS Call Sign:** **Elevation: 3,025 Feet** **Lat: 38˚33N** **Lon: 79˚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	34.3	16.7	25.5	69	1949	25	35.8	1974	-30+	1994	19	12.6	1977	1226	0	.0	.0	3.8	11.2	29.1	4.2
Feb	38.4	17.1	27.8	70	1976	29	35.6	1976	-23	1977	7	14.6	1978	1043	0	.0	.0	6.3	7.6	25.8	3.0
Mar	47.1	24.9	36.0	80	1998	31	43.1	1973	-11	1984	10	28.9	1981	899	0	.0	.0	15.6	2.9	24.8	.6
Apr	58.4	34.3	46.4	85+	1976	18	51.1	1985	11	1982	6	41.1	1997	560	0	.0	.0	23.6	.5	15.3	.0
May	67.6	43.3	55.5	91	1996	21	62.5	1991	20+	1980	9	50.6	1994	309	13	.0	.1	30.1	.0	4.9	.0
Jun	74.5	51.9	63.2	87+	1980	29	66.6	1994	28	1977	8	59.0	1972	98	45	.0	@	30.0	.0	.3	.0
Jul	78.1	56.1	67.1	92	1993	29	71.1	1993	35	1979	7	63.6	2000	33	97	.0	.4	31.0	.0	.0	.0
Aug	76.8	54.2	65.5	93	1948	27	69.7	1995	32+	1981	21	61.9	1976	55	70	.0	.2	31.0	.0	.1	.0
Sep	70.6	47.6	59.1	88+	1993	1	62.3	1998	18+	1983	24	55.9	1974	183	7	.0	.1	29.9	.0	2.1	.0
Oct	60.6	35.8	48.2	82+	1949	10	55.4	1984	11	1979	27	41.5	1988	521	0	.0	.0	27.7	.0	16.0	.0
Nov	48.1	27.9	38.0	74+	1948	1	45.6	1985	3+	1976	9	30.1	1976	810	0	.0	.0	16.5	2.2	22.2	@
Dec	38.5	20.4	29.5	72	1982	5	37.4	1984	-20	1983	25	18.3	1989	1102	0	.0	.0	6.6	7.2	27.7	1.9
Ann	57.8	35.9	46.8	93	Aug 1948	27	71.1	Jul 1993	-30+	Jan 1994	19	12.6	Jan 1977	6839	232	.0	.8	252.1	31.6	168.3	9.7

\+ 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

(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	3.69	3.58	2.30	1996	19	7.50	1996	.74	1981
Feb	3.23	3.10	2.42	1994	9	6.70	1989	.85	1978
Mar	4.22	4.06	2.10	1982	20	7.82	1994	1.87	1995
Apr	3.44	3.30	1.95	1977	5	5.78	1972	.69	1976
May	4.87	4.80	3.81	1996	17	11.54	1996	1.50	1977
Jun	3.69	3.21	2.52	1981	20	7.73	1981	1.33	1988
Jul	4.24	4.23	2.65	1978	28	8.42	1996	1.50	1997
Aug	3.30	3.30	1.72	1978	7	5.66	1996	1.33	1976
Sep	3.31	3.31	2.34	1996	7	8.06	1975	.31	1985
Oct	2.93	2.55	3.60	1976	9	11.22	1976	.32	2000
Nov	3.99	3.91	1.72	1982	29	12.27	1985	1.29	1981
Dec	3.23	2.84	1.87+	1948	15	6.86	1978	1.46	1980
Ann	44.14	42.85	3.81	May 1996	17	12.27	Nov 1985	.31	Sep 1985

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	14.7	8.5	2.4	.8
Feb	14.1	7.7	1.8	.4
Mar	15.6	9.5	2.5	.7
Apr	15.0	8.9	1.9	.4
May	14.8	9.5	3.0	.9
Jun	13.2	8.1	2.2	.4
Jul	15.0	9.1	2.7	.5
Aug	11.9	8.1	1.9	.6
Sep	12.0	6.2	2.2	.7
Oct	10.1	5.7	1.7	.6
Nov	13.2	7.9	2.1	.7
Dec	14.8	7.9	1.7	.4
Ann	164.4	97.1	26.1	7.1

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	1.23	1.58	2.10	2.53	2.95	3.38	3.85	4.40	5.10	6.20	7.21
Feb	1.27	1.56	1.99	2.34	2.68	3.02	3.38	3.81	4.35	5.17	5.93
Mar	1.96	2.33	2.83	3.25	3.63	4.01	4.42	4.89	5.48	6.37	7.17
Apr	1.39	1.71	2.16	2.52	2.87	3.22	3.60	4.04	4.60	5.45	6.22
May	2.13	2.57	3.18	3.67	4.14	4.60	5.10	5.68	6.41	7.51	8.51
Jun	1.48	1.82	2.30	2.69	3.07	3.45	3.86	4.34	4.94	5.86	6.70
Jul	1.76	2.15	2.69	3.14	3.56	3.99	4.44	4.97	5.64	6.66	7.59
Aug	1.62	1.90	2.29	2.59	2.88	3.16	3.46	3.81	4.23	4.88	5.46
Sep	.83	1.14	1.62	2.05	2.47	2.92	3.41	4.00	4.77	5.99	7.13
Oct	.62	.89	1.32	1.71	2.10	2.52	3.00	3.56	4.31	5.51	6.64
Nov	1.51	1.88	2.42	2.86	3.28	3.71	4.17	4.71	5.40	6.45	7.41
Dec	1.34	1.63	2.05	2.39	2.71	3.04	3.39	3.79	4.30	5.08	5.79
Ann	34.00	36.03	38.58	40.50	42.19	43.81	45.47	47.29	49.49	52.64	55.34

\+ 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	17.6	16.0	3	2
Feb	12.3	10.2	3	3
Mar	13.2	9.2	2	1
Apr	1.6	.7	#	#
May	.1	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.4	.0	#	#
Nov	3.7	2.5	#	#
Dec	10.9	8.8	2	1
Ann	59.8	47.4	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	11.0	1994	18	34.5	1996	25	1996	12	11	1996
Feb	7.0	1995	4	23.3	1996	12+	2000	2	6	1998
Mar	11.0	1993	14	35.7	1999	24	1993	14	8	1993
Apr	3.0	1997	18	8.2	1996	3	1997	18	#+	2000
May	.4	1997	16	1.0	1997	#+	1997	16	#+	1997
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	2.0	1993	31	2.0	1993	3	1979	10	#+	2000
Nov	6.0	1976	12	11.1	1997	8	1995	17	2	1995
Dec	16.5	1997	30	33.5	1993	22	1997	31	4	1993
Ann	16.5	Dec 1997	30	35.7	Mar 1999	25	Jan 1996	12	11	Jan 1996

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	9.7	4.9	1.7	.8	.2
Feb	6.9	4.1	1.3	.5	.0
Mar	6.7	4.1	1.5	.8	.2
Apr	1.6	.7	.1	.0	.0
May	.2	.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	.4	.2	.0	.0	.0
Nov	3.3	2.0	.6	.1	.0
Dec	7.4	3.8	1.2	.6	.1
Ann	36.2	19.8	6.4	2.8	.5

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	16.5	8.5	3.1	1.4
Feb	16.9	10.1	4.4	.6
Mar	10.7	5.5	3.0	1.1
Apr	.9	.1	.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	.2	.0	.0	.0
Nov	3.9	1.4	.6	.0
Dec	12.9	5.4	2.0	.5
Ann	62.0	31.0	13.1	3.6

+ 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	6/19	6/12	6/07	6/03	5/30	5/26	5/21	5/16	5/09
32	6/05	5/30	5/26	5/22	5/19	5/15	5/12	5/07	5/01
28	5/28	5/22	5/17	5/13	5/10	5/06	5/02	4/28	4/22
24	5/12	5/05	4/30	4/26	4/22	4/19	4/14	4/10	4/03
20	4/28	4/21	4/17	4/12	4/08	4/05	3/31	3/26	3/20
16	4/14	4/08	4/05	4/01	3/29	3/26	3/23	3/19	3/14

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	8/28	9/03	9/07	9/11	9/14	9/17	9/21	9/25	9/30
32	9/09	9/15	9/19	9/22	9/26	9/29	10/02	10/06	10/12
28	9/22	9/27	9/30	10/03	10/06	10/08	10/11	10/15	10/19
24	9/29	10/04	10/08	10/11	10/14	10/17	10/21	10/25	10/30
20	10/06	10/13	10/18	10/22	10/26	10/30	11/04	11/09	11/16
16	10/21	10/27	11/01	11/04	11/08	11/12	11/16	11/20	11/27

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	134	125	118	112	107	101	95	88	79
32	152	144	139	134	129	124	119	114	105
28	172	164	158	153	148	143	138	132	124
24	205	194	187	180	174	168	162	154	144
20	232	221	213	206	200	194	187	179	168
16	244	237	232	227	223	219	214	209	202

***** 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	1226	1043	899	560	309	98	33	55	183	521	810	1102	6839
60	1071	903	744	411	186	32	4	9	75	373	660	947	5415
57	978	819	651	324	128	13	0	1	37	291	570	854	4666
55	916	763	590	269	95	6	0	0	21	240	512	792	4204
50	761	623	446	149	37	1	0	0	3	137	372	640	3169
32	284	200	83	1	0	0	0	0	0	3	47	194	812

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	81	81	208	431	727	936	1087	1038	814	505	227	115	6250
55	0	0	1	9	109	253	374	325	145	30	2	0	1248
57	0	0	0	4	80	199	312	264	101	18	0	0	978
60	0	0	0	1	45	128	223	179	49	7	0	0	632
65	0	0	0	0	13	45	97	70	7	0	0	0	232
70	0	0	0	0	2	8	24	14	0	0	0	0	48

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	15	22	93	235	477	694	833	795	583	267	104	27	15	37	130	365	842	1536	2369	3164	3747	4014	4118	4145
45	3	5	41	138	330	544	678	640	435	152	50	6	3	8	49	187	517	1061	1739	2379	2814	2966	3016	3022
50	0	0	14	66	206	398	523	485	297	70	15	2	0	0	14	80	286	684	1207	1692	1989	2059	2074	2076
55	0	0	3	25	108	255	369	331	176	23	1	0	0	0	3	28	136	391	760	1091	1267	1290	1291	1291
60	0	0	0	3	39	136	219	183	79	3	0	0	0	0	0	3	42	178	397	580	659	662	662	662
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	10	23	84	179	304	440	532	501	372	211	84	20	10	33	117	296	600	1040	1572	2073	2445	2656	2740	2760

(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/normals/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.
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