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: BUCKHANNON, WV **COOP ID: 461220**

Climate Division: WV 2 **NWS Call Sign:** **Elevation: 1,455 Feet** **Lat: 38˚59N** **Lon: 80˚13W**

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	39.7	18.3	29.0	77	1950	25	39.6	1974	-30+	1994	19	14.7	1977	1116	0	.0	.0	8.4	9.2	25.9	2.9
Feb	43.8	19.6	31.7	77	2000	27	38.8	1990	-20+	1996	5	17.5	1978	934	0	.0	.0	10.5	6.1	23.3	2.0
Mar	53.1	27.3	40.2	85	1954	25	48.0	1973	-13	1980	3	33.3	1999	769	0	.0	.0	19.8	1.8	19.8	.2
Apr	63.1	35.2	49.2	90	1986	28	54.2	1981	12	1985	10	44.3	1997	476	0	.0	@	26.5	.1	11.4	.0
May	72.5	45.7	59.1	90+	1974	14	66.0	1991	21	1966	10	53.6	1997	213	31	.0	.1	30.8	.0	2.1	.0
Jun	79.7	54.5	67.1	95	1999	11	70.7	1994	29	1977	8	61.7	1972	42	106	.0	.8	30.0	.0	.1	.0
Jul	83.0	59.5	71.3	97	1952	28	75.6	1999	39+	1963	9	67.9	1976	7	201	@	3.5	31.0	.0	.0	.0
Aug	81.5	57.4	69.5	97+	1953	30	74.2	1995	34	1965	29	65.6	1976	19	157	.0	2.5	31.0	.0	.0	.0
Sep	75.7	50.6	63.2	100	1953	3	66.7	1978	26	1951	29	60.1	1984	96	41	.0	.5	30.0	.0	.3	.0
Oct	65.7	38.2	52.0	90	1951	3	59.5	1984	11+	1952	21	45.3	1988	411	6	.0	.0	29.1	.0	8.8	.0
Nov	54.1	29.8	42.0	82	1948	5	50.4	1985	-1	1958	30	33.1	1976	691	0	.0	.0	19.4	.9	17.4	.0
Dec	44.4	23.2	33.8	79	1951	7	42.5	1984	-13	1983	25	20.2	1989	967	0	.0	.0	11.2	5.3	23.5	.8
Ann	63.0	38.3	50.7	100	Sep 1953	3	75.6	Jul 1999	-30+	Jan 1994	19	14.7	Jan 1977	5741	542	@	7.4	277.7	23.4	132.6	5.9

\+ 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

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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	3.83	4.30	1.69	1952	27	6.65	1972	1.27	1981
Feb	3.42	3.14	3.43	1994	9	6.81	1994	1.32	1978
Mar	4.28	4.02	2.72	1967	6	8.38	1997	1.42	1987
Apr	3.82	3.68	1.96	1980	9	6.92	1972	1.07	1971
May	4.67	4.35	1.92+	1969	9	12.85	1996	1.43	1987
Jun	4.80	4.27	4.56	1950	25	10.09	1998	1.28	1988
Jul	4.80	4.73	2.73	1976	24	9.04	1996	1.88	1987
Aug	4.50	4.51	3.43	1949	15	8.80	1980	1.85	1976
Sep	4.00	4.11	3.07	1967	28	8.20	1993	.36	1985
Oct	3.14	3.20	3.54	1954	15	7.20	1976	.42	1994
Nov	3.76	3.82	3.26	1985	4	11.59	1985	1.43	1990
Dec	3.96	3.44	2.25	1948	15	8.18	1978	1.82	1971
Ann	48.98	49.41	4.56	Jun 1950	25	12.85	May 1996	.36	Sep 1985

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	18.0	9.6	2.1	.4
Feb	14.8	8.5	1.9	.4
Mar	15.1	9.3	3.2	.8
Apr	14.4	8.7	2.3	.6
May	13.8	9.4	2.8	1.0
Jun	13.3	8.7	3.0	1.2
Jul	12.3	8.4	3.0	1.2
Aug	12.4	8.0	3.3	1.1
Sep	10.3	6.7	2.7	.9
Oct	11.0	6.9	2.1	.6
Nov	13.7	8.2	2.4	.7
Dec	17.0	9.2	2.2	.7
Ann	166.1	101.6	31.0	9.6

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	1.37	1.73	2.25	2.69	3.11	3.53	4.00	4.54	5.23	6.30	7.28
Feb	1.46	1.77	2.20	2.56	2.89	3.22	3.58	4.00	4.52	5.32	6.04
Mar	1.85	2.24	2.77	3.21	3.63	4.04	4.49	5.00	5.65	6.64	7.53
Apr	1.57	1.92	2.41	2.82	3.20	3.59	4.00	4.49	5.09	6.02	6.87
May	1.55	1.99	2.64	3.19	3.72	4.27	4.86	5.56	6.46	7.86	9.14
Jun	1.69	2.14	2.80	3.35	3.88	4.42	5.01	5.70	6.59	7.95	9.20
Jul	2.33	2.75	3.31	3.76	4.18	4.59	5.04	5.54	6.18	7.13	7.98
Aug	2.08	2.47	3.02	3.46	3.87	4.28	4.72	5.23	5.86	6.82	7.68
Sep	1.23	1.61	2.18	2.67	3.14	3.62	4.16	4.79	5.60	6.87	8.05
Oct	.88	1.18	1.63	2.03	2.41	2.81	3.26	3.78	4.46	5.53	6.53
Nov	1.31	1.66	2.18	2.62	3.03	3.46	3.93	4.47	5.17	6.25	7.24
Dec	1.71	2.07	2.56	2.97	3.35	3.74	4.15	4.63	5.23	6.14	6.96
Ann	38.16	40.33	43.07	45.12	46.92	48.65	50.42	52.36	54.69	58.04	60.91

\+ 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	18.1	19.0	3	2
Feb	13.2	11.0	2	2
Mar	7.2	7.1	1	#
Apr	1.4	.2	#	#
May	#	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.1	.0	#	0
Nov	2.7	1.0	#	#
Dec	8.1	5.4	1	#
Ann	50.8	43.7	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	15.0	1996	8	44.0	1978	18	1996	10	8	1977
Feb	15.0	1983	11	28.9	1979	15	1983	11	9	1979
Mar	18.0	1993	14	19.4	1971	24	1993	14	4	1993
Apr	3.2	1973	12	5.7	1973	3	1982	6	#+	1997
May	#	1980	8	#	1980	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	2.0	1972	19	2.0	1972	1	1993	31	#+	1993
Nov	7.0	1995	15	17.1	1976	7	1995	15	1	1995
Dec	12.0	1973	9	25.0	1973	12	1973	9	3	1973
Ann	18.0	Mar 1993	14	44.0	Jan 1978	24	Mar 1993	14	9	Feb 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	9.4	6.1	2.0	.5	.1
Feb	6.6	4.0	1.1	.4	@
Mar	4.4	2.3	.7	.2	@
Apr	.9	.7	.1	.0	.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	.1	.1	.0	.0	.0
Nov	2.0	1.2	.4	.1	.0
Dec	5.5	3.3	.5	.2	@
Ann	28.9	17.7	4.8	1.4	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	14.4	9.4	6.2	1.8
Feb	10.5	6.4	4.3	1.1
Mar	3.9	1.7	.8	.0
Apr	.3	@	.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	1.6	.5	.1	.0
Dec	5.8	2.3	.8	.1
Ann	36.5	20.3	12.2	3.0

+ 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	6/06	5/31	5/27	5/23	5/20	5/16	5/13	5/08	5/02
32	5/27	5/21	5/17	5/14	5/10	5/07	5/04	4/30	4/24
28	5/13	5/07	5/03	4/30	4/27	4/24	4/21	4/17	4/12
24	4/29	4/24	4/20	4/17	4/13	4/10	4/07	4/03	3/29
20	4/18	4/12	4/08	4/05	4/02	3/30	3/26	3/23	3/17
16	4/08	4/01	3/26	3/22	3/18	3/14	3/09	3/04	2/25

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	9/17	9/21	9/24	9/26	9/28	9/30	10/03	10/05	10/09
32	9/25	9/29	10/02	10/05	10/07	10/10	10/13	10/16	10/20
28	10/04	10/08	10/11	10/14	10/17	10/19	10/22	10/25	10/29
24	10/14	10/19	10/23	10/27	10/30	11/02	11/06	11/10	11/16
20	10/24	10/29	11/02	11/05	11/08	11/11	11/14	11/18	11/23
16	11/06	11/13	11/18	11/22	11/26	11/30	12/04	12/09	12/16

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	150	143	138	134	131	127	123	118	111
32	171	164	158	154	149	145	140	135	127
28	191	184	179	175	172	168	164	159	153
24	224	215	209	204	199	194	189	183	174
20	243	235	229	224	219	215	209	204	195
16	284	273	265	259	252	246	239	231	221

***** 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	1116	934	769	476	213	42	7	19	96	411	691	967	5741
60	961	794	614	330	112	9	0	2	31	275	542	812	4482
57	868	710	523	249	68	3	0	0	13	205	455	719	3813
55	806	654	466	199	46	1	0	0	6	165	400	663	3406
50	663	521	326	99	13	0	0	0	1	86	269	519	2497
32	228	142	36	0	0	0	0	0	0	1	20	137	564

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	135	133	291	514	841	1054	1217	1162	934	619	320	193	7413
55	0	0	7	23	174	365	504	449	251	70	9	6	1858
57	0	0	2	13	134	307	442	387	197	49	4	0	1535
60	0	0	0	4	85	223	349	295	125	25	1	0	1107
65	0	0	0	0	31	106	201	157	41	6	0	0	542
70	0	0	0	0	7	32	85	62	6	0	0	0	192

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	43	59	175	339	622	837	993	946	724	402	176	76	43	102	277	616	1238	2075	3068	4014	4738	5140	5316	5392
45	19	24	95	223	467	687	838	791	574	264	101	36	19	43	138	361	828	1515	2353	3144	3718	3982	4083	4119
50	1	9	48	131	323	537	683	636	427	150	45	15	1	10	58	189	512	1049	1732	2368	2795	2945	2990	3005
55	0	0	19	66	196	389	528	482	288	73	11	1	0	0	19	85	281	670	1198	1680	1968	2041	2052	2053
60	0	0	3	25	101	248	373	327	164	24	2	0	0	0	3	28	129	377	750	1077	1241	1265	1267	1267
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	32	49	132	241	403	551	671	629	467	271	124	49	32	81	213	454	857	1408	2079	2708	3175	3446	3570	3619

(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