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: WARDENSVILLE R M FARM, WV **COOP ID: 469281**

Climate Division: WV 6 **NWS Call Sign:** **Elevation: 960 Feet** **Lat: 39˚07N** **Lon: 78˚35W**

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	18.2	29.3	79+	1932	14	37.5	1990	-24	1930	20	17.0	1977	1107	0	.0	.0	7.2	7.6	28.5	2.1
Feb	43.9	20.4	32.2	83	1932	12	38.8	1990	-20	1934	28	19.9	1978	919	0	.0	.0	8.9	5.1	24.6	1.0
Mar	52.8	28.0	40.4	86	1990	13	46.9	1973	-8	1960	11	35.4	1978	762	0	.0	.0	18.2	1.1	21.5	.1
Apr	63.5	36.5	50.0	93+	1941	23	54.3+	1994	14+	1982	12	44.8	1975	450	0	.0	.1	26.2	.0	9.8	.0
May	72.7	46.4	59.6	97	1930	11	67.1	1991	21+	1947	10	55.7	1971	203	34	.0	.5	30.7	.0	1.3	.0
Jun	80.8	55.4	68.1	100	1934	29	71.6	1994	32	1966	1	63.9	1972	30	123	.0	3.4	30.0	.0	.0	.0
Jul	84.9	59.8	72.4	105	1988	17	76.2	1999	39+	1928	16	68.8	2000	6	234	.2	8.4	31.0	.0	.0	.0
Aug	83.5	58.0	70.8	105	1930	5	74.5	1988	35+	1929	20	67.4	1976	12	189	.2	6.0	31.0	.0	.0	.0
Sep	77.2	50.5	63.9	103	1953	1	68.8	1998	23	1947	28	60.9	1975	85	51	.0	1.9	30.0	.0	.5	.0
Oct	66.5	37.7	52.1	99	1927	2	59.1	1984	15+	1928	29	46.6	1988	406	5	.0	.1	29.5	.0	9.8	.0
Nov	55.4	30.2	42.8	87	1971	3	49.3	1985	-5	1938	26	36.7	1976	665	0	.0	.0	20.3	.1	18.3	.0
Dec	44.8	22.8	33.8	78	1998	7	41.6	1984	-18	1942	21	21.8	1989	968	0	.0	.0	10.2	4.1	26.4	.5
Ann	63.9	38.7	51.3	105+	Jul 1988	17	76.2	Jul 1999	-24	Jan 1930	20	17.0	Jan 1977	5613	636	.4	20.4	273.2	18.0	140.7	3.7

\+ 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: 1926-2001

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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	2.31	2.03	2.04	1933	25	6.53	1996	.37	1981
Feb	2.00	1.65	1.88	1936	14	5.04	1998	.13	1977
Mar	2.88	2.55	3.93	1936	18	7.22	1993	.78	1981
Apr	2.73	2.20	4.20	1937	27	6.66	1987	.56	1985
May	3.55	3.79	2.36	1955	25	7.22	1971	.64	1977
Jun	3.43	3.36	4.42	1949	29	6.79	1972	1.01	1999
Jul	3.58	3.12	4.34	1933	3	8.13	1978	1.42	1987
Aug	3.48	3.36	4.78	1937	23	6.82	1975	.98	1983
Sep	3.26	2.52	5.00	1996	7	9.01	1996	.60	1986
Oct	3.00	2.74	5.37	1954	16	8.54	1976	.21	2000
Nov	2.93	2.91	3.13	1993	28	7.51	1985	.60	1998
Dec	2.18	1.91	3.00	1992	11	4.20	1972	.05	1980
Ann	35.33	34.30	5.37	Oct 1954	16	9.01	Sep 1996	.05	Dec 1980

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.6	5.7	1.4	.2
Feb	7.0	4.8	1.3	.4
Mar	9.4	6.3	1.9	.5
Apr	10.4	6.3	1.8	.6
May	11.7	7.6	2.5	.5
Jun	10.7	6.9	2.3	.7
Jul	11.3	7.2	2.3	.7
Aug	10.1	6.7	2.3	1.0
Sep	8.9	5.4	1.9	1.0
Oct	8.1	5.5	1.9	.9
Nov	8.2	5.1	1.8	.8
Dec	8.0	4.5	1.4	.5
Ann	112.4	72.0	22.8	7.8

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	.49	.70	1.04	1.35	1.66	1.99	2.36	2.81	3.40	4.34	5.24
Feb	.29	.45	.74	1.02	1.31	1.62	1.99	2.44	3.05	4.04	4.99
Mar	.83	1.10	1.52	1.87	2.22	2.59	2.99	3.47	4.08	5.05	5.95
Apr	.69	.95	1.34	1.69	2.04	2.41	2.81	3.30	3.93	4.93	5.87
May	.99	1.32	1.84	2.28	2.72	3.17	3.68	4.28	5.05	6.27	7.41
Jun	1.18	1.51	1.98	2.38	2.76	3.15	3.58	4.08	4.73	5.72	6.63
Jul	1.27	1.60	2.09	2.50	2.90	3.30	3.74	4.25	4.91	5.92	6.84
Aug	1.27	1.60	2.07	2.46	2.84	3.22	3.64	4.13	4.75	5.70	6.58
Sep	.52	.80	1.27	1.72	2.19	2.69	3.27	3.98	4.93	6.46	7.94
Oct	.45	.70	1.13	1.55	1.98	2.45	3.00	3.67	4.56	6.02	7.42
Nov	.70	.97	1.40	1.78	2.16	2.56	3.01	3.55	4.25	5.37	6.42
Dec	.41	.61	.93	1.23	1.53	1.85	2.22	2.66	3.25	4.19	5.09
Ann	25.75	27.63	30.02	31.83	33.43	34.98	36.57	38.33	40.45	43.53	46.18

\+ 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: 1926-2001
(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	9.5	6.3	2	#	22.0	1971	1	38.1	1996	30	1996	8	9	1996	2.9	2.0	.9	.4	.2	7.1	3.9	2.5	1.4
Feb	6.4	4.0	1	#	14.5	1979	19	24.3	1983	23	1983	12	6	1978	2.1	1.5	.8	.3	.2	4.8	3.0	1.7	.5
Mar	5.5	2.4	#	#	14.5	1994	3	21.7	1994	18	1994	3	2	1994	1.5	1.2	.6	.3	.1	1.6	.8	.4	.1
Apr	.7	.0	#	0	8.5	1971	7	8.5	1971	9	1971	7	#+	1997	.3	.1	.1	@	.0	.2	.1	@	.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	.1	.0	#	0	1.5	1979	10	1.5	1979	2	1979	10	#	1979	@	@	.0	.0	.0	@	.0	.0	.0
Nov	1.5	.0	#	0	8.5	1971	25	12.1	1995	9	1971	25	1	1995	.6	.4	.2	.1	.0	.8	.4	.2	.0
Dec	3.6	3.0	#	#	18.0	1992	11	18.0	1992	24	1992	12	4	1992	1.8	1.3	.4	.1	.1	2.2	.9	.2	.1
Ann	27.3	15.7	N/A	N/A	22.0	Jan 1971	1	38.1	Jan 1996	30	Jan 1996	8	9	Jan 1996	9.2	6.5	3.0	1.2	.6	16.7	9.1	5.0	2.1

+ 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	6/01	5/27	5/23	5/20	5/18	5/15	5/12	5/08	5/04
32	5/15	5/11	5/08	5/06	5/04	5/02	4/29	4/27	4/23
28	5/07	5/02	4/29	4/26	4/23	4/20	4/17	4/14	4/09
24	4/23	4/17	4/13	4/10	4/07	4/04	3/31	3/27	3/22
20	4/13	4/07	4/03	3/31	3/28	3/24	3/21	3/17	3/11
16	3/30	3/24	3/20	3/16	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	9/12	9/17	9/21	9/24	9/27	9/30	10/03	10/06	10/11
32	9/22	9/27	9/30	10/03	10/06	10/08	10/11	10/15	10/20
28	10/04	10/08	10/11	10/14	10/17	10/19	10/22	10/25	10/30
24	10/16	10/20	10/22	10/25	10/27	10/29	11/01	11/03	11/07
20	10/24	10/30	11/04	11/09	11/12	11/16	11/21	11/25	12/02
16	11/11	11/17	11/22	11/26	11/30	12/04	12/08	12/13	12/19

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	151	144	139	135	131	128	123	119	112
32	173	166	162	158	154	151	147	142	136
28	195	189	184	180	176	172	168	164	157
24	223	216	211	206	202	198	194	189	182
20	255	246	240	234	229	224	219	212	203
16	288	279	272	267	261	256	250	244	235

***** 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	1107	919	762	450	203	30	6	12	85	406	665	968	5613
60	952	779	607	304	105	5	0	0	27	269	515	813	4376
57	859	695	514	223	63	1	0	0	11	198	427	720	3711
55	797	639	455	174	42	0	0	0	5	158	371	658	3299
50	651	506	313	77	11	0	0	0	1	80	240	514	2393
32	210	126	27	0	0	0	0	0	0	0	11	120	494

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	126	131	288	540	854	1083	1251	1201	956	623	336	175	7564
55	0	0	3	23	183	393	538	488	271	68	6	0	1973
57	0	0	0	12	142	334	476	426	217	46	3	0	1656
60	0	0	0	4	91	248	383	333	143	24	0	0	1226
65	0	0	0	0	34	123	234	189	51	5	0	0	636
70	0	0	0	0	9	40	109	82	9	0	0	0	249

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	28	48	138	335	627	866	1024	973	735	402	169	55	28	76	214	549	1176	2042	3066	4039	4774	5176	5345	5400
45	10	20	73	212	473	716	869	818	585	261	92	25	10	30	103	315	788	1504	2373	3191	3776	4037	4129	4154
50	2	3	33	120	328	566	714	663	435	152	46	6	2	5	38	158	486	1052	1766	2429	2864	3016	3062	3068
55	0	0	12	59	204	419	559	508	296	73	15	1	0	0	12	71	275	694	1253	1761	2057	2130	2145	2146
60	0	0	3	20	108	276	405	355	174	25	2	0	0	0	3	23	131	407	812	1167	1341	1366	1368	1368
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	29	46	114	227	398	569	684	642	472	280	131	48	29	75	189	416	814	1383	2067	2709	3181	3461	3592	3640

(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