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: CHAMBERSBURG 1 ESE, PA **COOP ID: 361354**

Climate Division: PA 4 **NWS Call Sign:** **Elevation: 640 Feet** **Lat: 39˚56N** **Lon: 77˚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	37.3	19.8	28.6	73	1950	26	38.4	1990	-21+	1994	19	16.5	1977	1131	0	.0	.0	3.3	10.1	27.7	1.0
Feb	41.2	22.1	31.7	79	1997	27	38.7	1990	-16	1961	2	20.9	1979	934	0	.0	.0	5.9	6.3	23.2	.4
Mar	51.0	29.9	40.5	88	1998	30	47.0	2000	-2+	1960	11	34.0	1984	762	0	.0	.0	15.9	1.1	17.9	@
Apr	63.0	39.2	51.1	92	1976	18	56.0	1994	18+	1965	4	45.1	1975	419	1	.0	.2	26.7	.0	6.6	.0
May	72.7	49.3	61.0	96	1996	19	68.0	1991	27+	1957	4	57.0	1973	172	49	.0	.8	30.9	.0	.5	.0
Jun	81.0	58.1	69.6	98+	1959	30	72.5	1994	36	1966	1	65.3	1972	18	155	.0	3.1	30.0	.0	.0	.0
Jul	85.0	62.2	73.6	103	1988	16	78.7	1999	43	1988	1	69.9	2000	4	272	.2	7.0	31.0	.0	.0	.0
Aug	83.4	60.4	71.9	102+	1983	20	76.7	1995	37	1986	29	68.5	1982	10	223	.1	4.3	31.0	.0	.0	.0
Sep	76.1	52.8	64.5	100+	1953	2	70.0	1998	28	1963	24	60.0	1975	80	63	.0	1.1	30.0	.0	.1	.0
Oct	64.9	40.7	52.8	93	1951	5	58.6	1984	17	1988	31	47.9	1972	383	6	.0	.0	29.8	.0	4.5	.0
Nov	52.9	32.7	42.8	82	1950	1	48.2	1999	10+	1950	26	36.9	1976	666	0	.0	.0	17.9	.4	13.8	.0
Dec	42.0	24.4	33.2	75	1984	29	39.9	1984	-13	1960	23	22.0	1989	987	0	.0	.0	6.0	5.1	24.4	.3
Ann	62.5	41.0	51.8	103	Jul 1988	16	78.7	Jul 1999	-21+	Jan 1994	19	16.5	Jan 1977	5566	769	.3	16.5	258.4	23.0	118.7	1.7

\+ 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

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: CHAMBERSBURG 1 ESE, PA **COOP ID: 361354**

Climate Division: PA 4 **NWS Call Sign:** **Elevation: 640 Feet** **Lat: 39°56N** **Lon: 77°38W**

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	3.22	2.84	1.99	1967	27	7.78	1978	.18	1981
Feb	2.69	2.39	3.17	1984	14	5.50	1998	.50	1980
Mar	3.60	3.69	2.30	1984	29	7.43	1993	.89	1995
Apr	3.56	3.56	2.50	1992	21	7.00	1973	.41	1985
May	4.20	4.27	2.40	1975	31	7.95	1988	1.26	1977
Jun	3.94	3.70	4.65	1972	22	11.34	1972	.40	1991
Jul	3.54	3.34	4.35	1970	9	6.82	1996	.72	1983
Aug	3.34	3.40	3.19	1998	10	7.45	1994	1.13	1995
Sep	3.68	2.79	4.58	1952	1	9.96	1975	.91	1984
Oct	3.13	2.33	3.20	1954	15	10.19	1976	.77	1992
Nov	3.48	3.32	3.45	1997	7	8.04	1997	.60	1998
Dec	3.15	2.45	2.65	1992	11	6.77	1983	.63	1998
Ann	41.53	40.10	4.65	Jun 1972	22	11.34	Jun 1972	.18	Jan 1981

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.9	6.4	2.4	.9
Feb	9.2	5.8	1.7	.4
Mar	10.5	7.3	2.5	.9
Apr	11.1	7.1	2.5	.7
May	12.3	8.3	3.0	1.0
Jun	10.6	6.8	2.8	1.0
Jul	10.2	7.0	2.2	.8
Aug	9.9	6.1	2.2	.8
Sep	9.6	6.6	2.3	.9
Oct	8.8	5.4	2.1	.9
Nov	9.9	6.5	2.4	1.0
Dec	9.3	5.6	2.4	.9
Ann	121.3	78.9	28.5	10.2

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	.67	.96	1.43	1.86	2.29	2.76	3.28	3.91	4.74	6.07	7.32
Feb	.77	1.02	1.41	1.75	2.07	2.41	2.79	3.24	3.82	4.72	5.57
Mar	1.22	1.56	2.05	2.48	2.88	3.30	3.75	4.28	4.97	6.02	6.99
Apr	.98	1.32	1.83	2.28	2.72	3.18	3.69	4.29	5.08	6.31	7.46
May	1.69	2.07	2.62	3.07	3.50	3.93	4.40	4.94	5.63	6.68	7.63
Jun	1.03	1.40	1.97	2.48	2.97	3.50	4.08	4.76	5.66	7.07	8.39
Jul	1.40	1.73	2.19	2.58	2.94	3.31	3.71	4.17	4.75	5.65	6.47
Aug	1.25	1.56	2.01	2.38	2.74	3.10	3.50	3.95	4.54	5.44	6.26
Sep	.77	1.11	1.65	2.14	2.63	3.16	3.75	4.47	5.41	6.92	8.35
Oct	.74	1.03	1.49	1.90	2.30	2.74	3.22	3.79	4.55	5.74	6.87
Nov	.92	1.25	1.76	2.20	2.63	3.09	3.60	4.20	4.98	6.22	7.37
Dec	.87	1.17	1.62	2.02	2.41	2.82	3.27	3.80	4.49	5.58	6.60
Ann	29.77	32.05	34.98	37.19	39.16	41.06	43.02	45.19	47.81	51.61	54.90

\+ 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Services

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: CHAMBERSBURG 1 ESE, PA **COOP ID: 361354**

Climate Division: PA 4 **NWS Call Sign:** **Elevation: 640 Feet** **Lat: 39°56N** **Lon: 77°38W**

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	11.7	7.5	3	1	18.0	1994	17	34.7	1996	30	1996	12	11	1996	4.7	3.2	1.4	.6	.2	12.8	8.5	4.8	1.4
Feb	8.3	6.0	2	1	14.5	1983	12	24.7	1993	19	1978	14	14	1978	3.4	2.1	.9	.5	.1	10.1	7.4	5.0	2.4
Mar	4.6	3.0	1	#	18.0	1993	13	20.0	1993	18	1993	15	7	1994	2.1	1.4	.6	.3	.1	4.0	2.9	2.2	1.0
Apr	.5	.0	#	0	3.3	1985	9	8.0	1982	3	1982	10	#+	1992	.4	.2	.1	.0	.0	.2	.1	.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	.9	1972	19	.9	1972	0	0	0	0	0	@	.0	.0	.0	.0	.0	.0	.0	.0
Nov	2.0	.0	#	#	8.0	1971	24	15.2	1995	10	1971	25	1	1995	1.0	.5	.3	.1	.0	1.0	.5	.2	@
Dec	3.8	2.3	#	#	8.2	1992	10	14.0	1973	11	1990	28	2+	2000	2.2	1.2	.5	.2	.0	4.5	1.8	.7	@
Ann	30.9	18.8	N/A	N/A	18.0+	Jan 1994	17	34.7	Jan 1996	30	Jan 1996	12	14	Feb 1978	13.8	8.6	3.8	1.7	.4	32.6	21.2	12.9	4.8

+ 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: CHAMBERSBURG 1 ESE, PA **COOP ID: 361354**

Climate Division: PA 4 **NWS Call Sign:** **Elevation: 640 Feet** **Lat: 39˚56N** **Lon: 77˚38W**

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	5/21	5/16	5/13	5/10	5/07	5/04	5/01	4/28	4/23
32	5/12	5/07	5/03	4/30	4/27	4/24	4/21	4/18	4/12
28	4/23	4/19	4/16	4/14	4/12	4/09	4/07	4/04	3/31
24	4/14	4/09	4/05	4/01	3/29	3/26	3/23	3/19	3/13
20	4/01	3/27	3/23	3/20	3/17	3/14	3/11	3/07	3/02
16	3/22	3/16	3/13	3/09	3/06	3/03	2/28	2/24	2/18

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	9/20	9/24	9/27	9/30	10/02	10/04	10/07	10/10	10/14
32	10/01	10/06	10/10	10/14	10/17	10/20	10/23	10/27	11/01
28	10/11	10/16	10/20	10/23	10/26	10/29	11/01	11/05	11/10
24	10/21	10/28	11/01	11/05	11/09	11/12	11/16	11/21	11/27
20	11/03	11/10	11/16	11/20	11/25	11/29	12/03	12/09	12/16
16	11/22	11/28	12/03	12/07	12/11	12/15	12/19	12/24	12/31

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	165	159	154	151	147	144	140	136	130
32	194	186	181	176	172	167	163	157	149
28	218	211	205	201	197	192	188	183	175
24	250	241	234	229	224	218	213	206	197
20	279	270	263	257	252	247	241	234	225
16	301	294	288	284	279	275	270	265	257

***** 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: CHAMBERSBURG 1 ESE, PA **COOP ID: 361354**

Climate Division: PA 4 **NWS Call Sign:** **Elevation: 640 Feet** **Lat: 39˚56N** **Lon: 77˚38W**

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	1131	934	762	419	172	18	4	10	80	383	666	987	5566
60	976	794	607	276	85	3	0	0	25	248	516	832	4362
57	883	710	515	199	49	1	0	0	10	179	428	739	3713
55	821	654	455	154	32	0	0	0	5	140	371	677	3309
50	673	518	314	67	8	0	0	0	0	66	240	530	2416
32	222	132	28	0	0	0	0	0	0	0	10	125	517

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	114	122	289	573	900	1127	1291	1236	973	646	334	161	7766
55	0	0	3	36	218	437	578	523	288	72	5	0	2160
57	0	0	1	22	174	377	516	461	233	50	2	0	1836
60	0	0	0	8	116	289	423	368	158	25	0	0	1387
65	0	0	0	1	49	155	272	223	63	6	0	0	769
70	0	0	0	0	14	57	139	106	15	0	0	0	331

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	20	38	132	355	669	899	1061	1004	750	419	157	43	20	58	190	545	1214	2113	3174	4178	4928	5347	5504	5547
45	8	14	70	223	515	749	906	849	600	277	82	12	8	22	92	315	830	1579	2485	3334	3934	4211	4293	4305
50	0	4	30	126	363	599	751	694	451	161	36	5	0	4	34	160	523	1122	1873	2567	3018	3179	3215	3220
55	0	0	12	61	226	449	596	539	306	77	9	2	0	0	12	73	299	748	1344	1883	2189	2266	2275	2277
60	0	0	4	28	121	306	441	385	181	28	2	0	0	0	4	32	153	459	900	1285	1466	1494	1496	1496
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	9	27	88	219	409	595	718	681	475	250	90	19	9	36	124	343	752	1347	2065	2746	3221	3471	3561	3580

(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