

Climatology of the United States

No. 20

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: BELTZVILLE DAM, PA

1971-2000

COOP ID: 360560

Climate Division: PA 2

NWS Call Sign:

Elevation: 735 Feet

Lat: 40°46N

Lon: 75°44W

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	14.0	24.2	65+	1997	6	34.0	1990	-22	1994	21	14.6	1977	1266	0	.0	.0	2.6	11.7	29.9	2.8
Feb	37.9	15.2	26.6	73	1985	25	36.8	1998	-15+	1979	12	15.2	1979	1076	0	.0	.0	4.0	9.0	26.4	1.7
Mar	47.4	24.8	36.1	85	1998	31	42.7	2000	-6	1996	11	29.5	1984	896	0	.0	.0	12.3	1.8	24.1	.2
Apr	59.3	34.5	46.9	92	1976	19	50.5	1994	14	1982	7	42.5	1975	543	0	.0	.1	23.8	.1	12.3	.0
May	70.5	44.9	57.7	94	1996	21	64.2	1991	24	1978	2	54.1	1973	241	15	.0	.4	30.5	.0	1.2	.0
Jun	78.0	53.5	65.8	95	1999	8	69.3	1973	34+	1972	11	61.9	1977	57	80	.0	1.9	30.0	.0	.0	.0
Jul	83.4	58.3	70.9	101	1988	11	75.3	1999	39	1977	27	67.4	2000	8	188	.1	5.6	31.0	.0	.0	.0
Aug	81.8	56.6	69.2	98	1999	2	72.8	1980	35	1976	31	65.9	1992	16	146	.0	2.8	31.0	.0	.0	.0
Sep	73.9	48.8	61.4	96	1980	3	64.9	1971	27	1974	24	57.6	1975	132	22	.0	.9	30.0	.0	.7	.0
Oct	62.5	37.2	49.9	86+	1979	23	55.5	1971	13	1976	29	44.0	1976	473	3	.0	.0	28.4	.0	9.8	.0
Nov	50.6	28.4	39.5	78	1982	3	45.8	1982	4	1976	30	31.3	1976	764	0	.0	.0	15.9	.6	19.3	.0
Dec	39.0	20.5	29.8	71+	1998	8	37.0	1998	-12	1980	26	17.6	1989	1093	0	.0	.0	4.1	7.0	27.9	.8
Ann	59.9	36.4	48.2	101	Jul 1988	11	75.3	Jul 1999	-22	Jan 1994	21	14.6	Jan 1977	6565	454	.1	11.7	243.6	30.2	151.6	5.5

+ 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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1971-2001

(3) Derived from 1971-2000 serially complete daily data

003-A

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Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	3.85	3.36	2.72	1976	27	10.43	1979	.71	1981	8.5	5.8	2.4	1.2	.85	1.20	1.77	2.28	2.79	3.33	3.94	4.68	5.64	7.18	8.63
Feb	2.90	2.82	1.93	1981	2	7.42	1981	.43	1996	6.9	4.9	1.9	.6	.79	1.06	1.48	1.85	2.21	2.58	3.00	3.49	4.14	5.15	6.09
Mar	3.81	3.57	2.51	1978	27	8.41	1977	.89	1981	8.1	5.9	2.1	1.1	1.46	1.81	2.32	2.74	3.14	3.54	3.99	4.50	5.15	6.14	7.05
Apr	3.99	3.48	4.44	1983	16	11.02	1983	1.44	1988	8.7	6.0	2.4	.6	1.31	1.69	2.24	2.72	3.17	3.64	4.16	4.76	5.54	6.74	7.86
May	4.77	4.21	2.45	1989	6	11.30	1989	1.56	1977	10.2	7.8	2.7	1.3	1.57	2.02	2.68	3.25	3.79	4.35	4.97	5.69	6.61	8.05	9.37
Jun	4.78	4.18	3.85	1975	28	9.59	1975	1.58	1988	9.9	7.3	2.7	1.2	1.65	2.10	2.75	3.31	3.84	4.39	4.99	5.68	6.57	7.95	9.22
Jul	4.47	3.81	4.50	2000	31	10.86	1988	1.56	1983	8.1	6.1	2.6	1.1	1.47	1.89	2.51	3.04	3.55	4.08	4.66	5.33	6.20	7.54	8.79
Aug	4.64	4.48	5.79	1981	31	10.90	1978	1.22	1980	8.8	6.1	3.0	1.3	1.46	1.91	2.56	3.12	3.66	4.22	4.83	5.55	6.48	7.93	9.26
Sep	4.54	4.04	6.05	1985	27	11.30	1999	.62	1984	8.2	6.0	2.8	1.2	1.18	1.61	2.27	2.85	3.42	4.02	4.69	5.49	6.52	8.16	9.69
Oct	3.95	3.40	3.48	1975	19	8.79	1976	1.29	1974	7.9	5.5	2.1	1.0	1.23	1.61	2.17	2.64	3.11	3.58	4.11	4.73	5.52	6.76	7.91
Nov	4.22	4.01	3.07	1996	9	9.46	1972	.35	1976	7.3	5.4	2.3	1.2	1.14	1.54	2.15	2.69	3.21	3.76	4.37	5.09	6.03	7.50	8.88
Dec	3.78	2.94	3.71	2000	18	9.70	1983	.39	1989	8.0	5.4	2.4	1.0	.62	.95	1.50	2.02	2.56	3.14	3.80	4.61	5.69	7.44	9.12
Ann	49.70	48.74	6.05	Sep 1985	27	11.30+	Sep 1999	.35	Nov 1976	100.6	72.2	29.4	12.8	37.12	39.60	42.75	45.12	47.22	49.24	51.32	53.60	56.36	60.34	63.76

+ 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: 1971-2001

(3) Derived from 1971-2000 serially complete daily data

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NWS Call Sign:

Elevation: 735 Feet

Lat: 40°46N

Lon: 75°44W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	2.8	-99.9	2	#	14.0	1996	9	14.0+	1996	13	1987	23	8	1977	2.3	2.1	1.0	.5	.1	-9.9	-9.9	-9.9	-9.9
Feb	7.4	7.0	1	#	9.5	1988	12	18.0	1979	13	1977	8	7	1977	2.0	1.8	.9	.2	.0	-9.9	-9.9	-9.9	-9.9
Mar	2.7	1.0	1	0	10.0	1996	8	10.0	1996	17	1993	15	17	1993	1.0	.9	.3	.1	.1	.8	.3	.2	.0
Apr	1.1	.0	#	0	6.0	1982	6	12.0	1982	5	1983	20	#+	1983	.2	.2	.1	.1	.0	.0	.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	.1	.0	#	0	3.0	1972	19	3.0	1972	3	1972	19	#	1972	@	@	@	.0	.0	.1	.1	.0	.0
Nov	.3	.0	#	0	6.0	1971	25	6.0	1971	6	1971	26	#+	1995	.2	.2	.1	.1	.0	.2	.2	.2	.0
Dec	5.7	6.0	#	#	14.0	1995	20	14.0	1995	9	1990	28	1	1976	1.1	.9	.5	.3	.1	-9.9	-9.9	-9.9	-9.9
Ann	20.1	-9.9	N/A	N/A	14.0+	Jan 1996	9	18.0	Feb 1979	17	Mar 1993	15	17	Mar 1993	6.8	6.1	2.9	1.3	.3	-9.9	-9.9	-9.9	-9.9

+ 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:

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Climate Division: PA 2

NWS Call Sign:

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Lon: 75° 44W

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	6/03	5/29	5/25	5/21	5/18	5/15	5/12	5/07	5/02
32	5/15	5/11	5/09	5/07	5/04	5/02	4/30	4/28	4/24
28	5/07	5/03	4/29	4/26	4/23	4/20	4/17	4/14	4/09
24	4/21	4/16	4/13	4/10	4/07	4/04	4/01	3/29	3/24
20	4/08	4/04	4/01	3/30	3/27	3/25	3/22	3/19	3/15
16	4/03	3/29	3/25	3/21	3/18	3/15	3/11	3/07	3/01
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	9/08	9/13	9/17	9/20	9/23	9/26	9/29	10/03	10/08
32	9/22	9/27	9/30	10/03	10/05	10/08	10/11	10/14	10/18
28	10/04	10/08	10/12	10/15	10/18	10/21	10/24	10/27	11/01
24	10/15	10/21	10/26	10/29	11/02	11/06	11/09	11/14	11/20
20	10/26	11/01	11/05	11/09	11/12	11/16	11/19	11/24	11/30
16	11/12	11/18	11/23	11/27	12/01	12/05	12/09	12/13	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	152	143	137	132	127	122	117	111	103
32	171	165	160	157	153	149	146	141	135
28	196	190	185	181	177	173	169	164	157
24	234	225	219	213	208	203	198	191	182
20	251	244	238	234	229	225	220	215	207
16	282	274	268	262	257	252	247	241	232

* 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:

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Degree Days to Selected Base Temperatures (° F)													
Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1266	1076	896	543	241	57	8	16	132	473	764	1093	6565
60	1111	936	741	394	127	13	0	1	48	330	614	938	5253
57	1018	852	648	305	75	4	0	0	23	253	524	845	4547
55	956	796	586	248	50	2	0	0	13	207	466	783	4107
50	801	656	436	125	12	0	0	0	2	115	325	629	3101
32	311	220	64	0	0	0	0	0	0	2	25	183	805

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	68	68	191	447	797	1014	1204	1153	880	555	251	113	6741
55	0	0	0	5	134	325	491	440	203	47	2	0	1647
57	0	0	0	2	97	268	429	378	153	31	1	0	1359
60	0	0	0	0	56	187	336	286	88	15	0	0	968
65	0	0	0	0	15	80	188	146	22	3	0	0	454
70	0	0	0	0	3	20	75	51	2	0	0	0	151

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	7	12	73	242	557	794	985	919	660	322	112	14	7	19	92	334	891	1685	2670	3589	4249	4571	4683	4697
45	1	0	32	132	409	644	830	764	510	195	53	4	1	1	33	165	574	1218	2048	2812	3322	3517	3570	3574
50	0	0	13	65	263	495	675	609	365	102	19	1	0	0	13	78	341	836	1511	2120	2485	2587	2606	2607
55	0	0	3	29	149	348	521	455	230	42	4	0	0	0	3	32	181	529	1050	1505	1735	1777	1781	1781
60	0	0	0	9	71	216	367	300	122	11	0	0	0	0	0	9	80	296	663	963	1085	1096	1096	1096
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	7	12	59	159	345	509	653	606	417	205	74	7	7	19	78	237	582	1091	1744	2350	2767	2972	3046	3053

(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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normal/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 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/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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