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: FORD CITY 4 S DAM, PA **COOP ID: 362942**

Climate Division: PA 9 **NWS Call Sign:** **Elevation: 930 Feet** **Lat: 40˚43N** **Lon: 79˚30W**

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	36.5	17.2	26.9	76	1950	26	37.1	1998	-29+	1994	19	12.1	1977	1183	0	.0	.0	4.1	12.3	27.9	3.5
Feb	40.2	18.4	29.3	77	2000	27	39.2	1998	-21+	1948	9	15.8	1979	1000	0	.0	.0	6.0	8.3	24.3	2.7
Mar	50.5	26.5	38.5	87	1998	31	46.2	1973	-11	1960	8	30.9	1984	822	0	.0	.0	14.5	3.0	23.2	.3
Apr	62.5	35.7	49.1	90	1976	19	53.8	1985	12+	1950	14	42.9	1975	479	1	.0	@	24.4	.1	12.4	.0
May	73.0	45.2	59.1	96	2000	7	67.2	1991	21	1947	10	54.4	1997	226	43	.0	.4	30.7	.0	2.5	.0
Jun	81.1	54.5	67.8	99	1988	23	71.6	1996	32	1949	8	63.3	1972	48	132	.0	2.2	30.0	.0	.0	.0
Jul	84.9	59.2	72.1	101	1988	30	76.4	1999	40+	1945	12	68.6	2000	8	227	.1	4.9	31.0	.0	.0	.0
Aug	83.7	57.9	70.8	98+	1988	18	76.0	1995	36	1965	29	67.2	1982	14	194	.0	3.5	31.0	.0	.0	.0
Sep	76.8	50.7	63.8	98+	1953	3	67.9	1971	27+	1957	27	59.7	1975	91	53	.0	.9	30.0	.0	.2	.0
Oct	65.3	38.6	52.0	89	1953	1	58.5	1971	16	1952	21	47.1	1988	410	5	.0	.0	28.4	.0	7.7	.0
Nov	52.5	31.4	42.0	83	1961	4	47.5	1985	4	1976	30	34.6	1976	691	0	.0	.0	16.3	.7	17.8	.0
Dec	41.4	22.7	32.1	75+	1982	4	39.1	1982	-19	1945	23	18.1	1989	1022	0	.0	.0	6.6	7.0	26.5	1.1
Ann	62.4	38.2	50.3	101	Jul 1988	30	76.4	Jul 1999	-29+	Jan 1994	19	12.1	Jan 1977	5994	655	.1	11.9	253.0	31.4	142.5	7.6

\+ 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: 1943-2001

(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	2.73	2.46	1.90	1952	27	6.07	1978	.71	1983
Feb	2.34	2.33	1.82	1975	24	4.62	1975	.20	1987
Mar	3.19	3.08	2.33	1985	29	5.92	1994	1.13	1979
Apr	3.11	2.97	2.45	1948	12	6.59	1998	.90	1971
May	4.04	3.86	2.40+	1947	18	7.75	1989	1.69	1993
Jun	4.59	4.53	2.95	1956	24	10.93	1972	1.11	1988
Jul	4.11	3.63	3.96	1981	1	9.89	1977	1.03	1975
Aug	4.02	4.02	2.57	1953	5	7.40	1980	1.41	1991
Sep	3.75	3.72	3.20	1965	1	6.48	1996	.42	1984
Oct	2.64	2.47	4.75	1954	16	5.10	1976	.77	1982
Nov	3.40	3.15	2.03	1993	28	10.12	1985	.66	1976
Dec	2.79	2.42	1.95	2001	18	6.49	1990	1.39	1980
Ann	40.71	41.42	4.75	Oct 1954	16	10.93	Jun 1972	.20	Feb 1987

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	14.3	7.3	1.4	.2
Feb	11.1	6.3	1.2	.2
Mar	12.7	7.6	1.8	.5
Apr	13.2	7.5	1.9	.5
May	13.3	9.2	2.9	.7
Jun	12.3	8.1	3.5	1.2
Jul	11.5	8.1	3.0	.9
Aug	10.5	7.0	2.8	1.0
Sep	11.3	7.1	2.7	.8
Oct	11.4	6.2	1.7	.3
Nov	12.9	7.2	2.3	.6
Dec	13.5	7.1	1.7	.3
Ann	148.0	88.7	26.9	7.2

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	.86	1.12	1.51	1.83	2.15	2.48	2.84	3.26	3.81	4.66	5.44
Feb	.69	.91	1.25	1.53	1.82	2.11	2.43	2.81	3.31	4.08	4.79
Mar	1.34	1.63	2.04	2.37	2.68	3.00	3.35	3.74	4.24	5.00	5.69
Apr	1.11	1.40	1.82	2.18	2.52	2.87	3.25	3.70	4.26	5.14	5.94
May	1.91	2.26	2.74	3.13	3.49	3.86	4.24	4.68	5.24	6.07	6.83
Jun	1.57	2.00	2.63	3.17	3.68	4.21	4.79	5.46	6.32	7.66	8.89
Jul	1.30	1.69	2.27	2.77	3.24	3.74	4.28	4.92	5.74	7.01	8.19
Aug	1.66	2.03	2.55	2.97	3.37	3.78	4.22	4.72	5.36	6.33	7.22
Sep	1.25	1.61	2.13	2.57	2.99	3.43	3.91	4.47	5.18	6.30	7.32
Oct	.89	1.14	1.50	1.81	2.11	2.42	2.75	3.14	3.64	4.42	5.14
Nov	1.04	1.37	1.85	2.26	2.66	3.08	3.54	4.08	4.77	5.85	6.86
Dec	1.36	1.60	1.93	2.19	2.43	2.67	2.93	3.22	3.59	4.15	4.64
Ann	32.40	34.08	36.20	37.78	39.16	40.49	41.85	43.33	45.11	47.65	49.83

\+ 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: 1943-2001
(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	11.6	9.5	3	1	14.0	1994	5	38.5	1978	29	1978	22	12	1994	6.3	4.2	1.2	.3	.1	13.6	7.8	4.9	2.2
Feb	7.9	6.0	2	1	8.0	1971	14	23.5	1972	19	1977	9	11	1977	4.2	3.0	1.0	.3	.0	11.4	6.8	4.6	1.5
Mar	4.7	4.0	1	#	17.0	1993	14	23.0	1993	19	1993	15	4	1993	2.5	1.8	.6	.2	.1	3.7	1.7	.7	.0
Apr	.9	.0	#	#	5.0	1987	4	6.0	1987	2	1990	7	#+	2000	.7	.5	@	@	.0	.7	.0	.0	.0
May	#	.0	0	0	#	1976	20	#	1976	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	#	1992	18	#+	1992	#	1992	18	#	1992	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	1.6	.5	#	#	12.0	1980	18	12.0	1980	6	1980	18	1	1980	.9	.5	.1	.1	@	1.0	.2	.1	.0
Dec	5.7	4.5	1	#	17.0	1992	11	23.7	1992	19	1992	11	5	1992	3.5	2.1	.7	.1	@	6.8	2.8	1.3	.3
Ann	32.4	24.5	N/A	N/A	17.0+	Mar 1993	14	38.5	Jan 1978	29	Jan 1978	22	12	Jan 1994	18.1	12.1	3.6	1.0	.2	37.2	19.3	11.6	4.0

+ 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	6/08	6/02	5/28	5/24	5/21	5/17	5/13	5/09	5/02
32	5/18	5/14	5/11	5/09	5/06	5/04	5/01	4/28	4/24
28	5/10	5/06	5/02	4/30	4/27	4/24	4/21	4/18	4/13
24	4/22	4/18	4/15	4/13	4/10	4/08	4/05	4/02	3/29
20	4/17	4/12	4/09	4/06	4/03	3/31	3/28	3/25	3/20
16	4/05	3/31	3/28	3/25	3/22	3/19	3/16	3/13	3/08

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	9/18	9/22	9/25	9/27	9/30	10/02	10/04	10/07	10/11
32	9/29	10/04	10/07	10/10	10/12	10/15	10/17	10/21	10/25
28	10/12	10/16	10/19	10/22	10/24	10/27	10/29	11/02	11/06
24	10/17	10/22	10/26	10/30	11/02	11/05	11/09	11/13	11/18
20	10/28	11/03	11/08	11/13	11/17	11/21	11/25	11/30	12/07
16	11/14	11/21	11/26	11/30	12/04	12/08	12/12	12/17	12/24

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	127	123	118	111
32	178	171	166	162	158	154	150	145	139
28	197	191	187	183	180	176	173	169	163
24	224	217	213	209	205	201	197	193	186
20	252	243	237	232	227	222	217	211	202
16	280	272	266	261	256	251	246	240	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

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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	1183	1000	822	479	226	48	8	14	91	410	691	1022	5994
60	1028	860	667	333	128	14	0	1	30	272	541	867	4741
57	935	776	574	252	84	5	0	0	13	200	453	774	4066
55	873	720	516	203	60	3	0	0	6	159	395	716	3651
50	727	589	374	102	21	0	0	0	1	79	261	572	2726
32	271	193	55	0	0	0	0	0	0	0	16	171	706

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	111	117	256	512	839	1074	1242	1203	952	618	314	172	7410
55	0	0	4	25	186	387	529	490	268	64	4	4	1961
57	0	0	0	14	148	329	467	428	214	43	1	0	1644
60	0	0	0	5	100	248	374	336	142	22	0	0	1227
65	0	0	0	1	43	132	227	194	53	5	0	0	655
70	0	0	0	0	14	53	107	88	11	0	0	0	273

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	21	27	105	287	579	820	980	939	701	367	139	37	21	48	153	440	1019	1839	2819	3758	4459	4826	4965	5002
45	5	10	57	177	427	670	825	784	551	232	73	15	5	15	72	249	676	1346	2171	2955	3506	3738	3811	3826
50	1	0	28	97	288	522	670	629	404	128	33	4	1	1	29	126	414	936	1606	2235	2639	2767	2800	2804
55	0	0	8	50	171	375	515	475	268	60	11	1	0	0	8	58	229	604	1119	1594	1862	1922	1933	1934
60	0	0	1	17	85	238	361	323	151	18	1	0	0	0	1	18	103	341	702	1025	1176	1194	1195	1195
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	10	25	83	195	366	534	656	624	444	236	90	26	10	35	118	313	679	1213	1869	2493	2937	3173	3263	3289

(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