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: LANDISVILLE 2 NW, PA **COOP ID: 364778**

Climate Division: PA 4 **NWS Call Sign:** **Elevation: 360 Feet** **Lat: 40˚07N** **Lon: 76˚26W**

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	37.6	20.8	29.2	71	1967	26	38.5	1998	-24	1994	21	17.3	1977	1110	0	.0	.0	4.0	8.9	26.7	1.6
Feb	41.4	22.4	31.9	77	1985	24	39.9	1990	-20+	1967	8	20.1	1979	926	0	.0	.0	6.3	5.5	22.7	1.0
Mar	51.8	30.6	41.2	86	1998	30	46.6	2000	-2	1993	15	35.1	1994	738	0	.0	.0	17.2	.9	18.5	@
Apr	63.5	39.0	51.3	92	1976	18	55.5	1994	17	1964	1	46.6	1975	413	0	.0	.2	27.8	.0	8.0	.0
May	73.9	49.4	61.7	94+	1996	20	68.1	1991	22	1978	1	58.1	1973	148	43	.0	.9	31.0	.0	.4	.0
Jun	81.7	58.5	70.1	99+	1952	27	74.0	1994	34	1986	3	66.1	1972	16	169	.0	3.8	30.0	.0	.0	.0
Jul	85.4	62.1	73.8	102+	1966	4	77.2	1988	41	1966	21	70.1	2000	0	272	.1	7.6	31.0	.0	.0	.0
Aug	83.7	60.0	71.9	102	2001	9	75.0	1991	35	1982	29	68.7	1992	6	218	@	4.6	31.0	.0	.0	.0
Sep	76.8	52.9	64.9	101	1953	4	69.0	1998	27+	1957	28	61.2	1975	67	61	.0	1.5	30.0	.0	.2	.0
Oct	65.7	41.4	53.6	89+	1959	6	59.5	1984	18	1969	24	48.3	1988	364	8	.0	.0	30.3	.0	6.2	.0
Nov	53.1	33.6	43.4	81	1982	2	48.5	1985	12+	1955	29	38.6	1996	649	0	.0	.0	19.2	.1	14.9	.0
Dec	42.1	25.7	33.9	76	1984	29	40.1	1982	-12	1963	31	22.3	1989	964	0	.0	.0	7.1	4.4	23.4	.4
Ann	63.1	41.4	52.2	102+	Aug 2001	9	77.2	Jul 1988	-24	Jan 1994	21	17.3	Jan 1977	5401	771	.1	18.6	264.9	19.8	121.0	3.0

+ 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: 1952-2001

(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	3.25	2.59	2.05	1979	21	8.80	1979	.17	1981
Feb	2.36	2.11	1.66	1982	3	5.13	1971	.69	1978
Mar	3.37	3.64	2.06	1967	7	6.51	2000	1.41	1976
Apr	3.45	3.50	2.15	1986	16	9.85	1983	.60	1985
May	4.32	4.34	3.10	1989	6	9.29	1989	1.12	1977
Jun	4.49	4.01	7.74	1972	22	14.59	1972	.92	1991
Jul	4.75	3.95	4.63	1969	23	12.20	1994	.28	1983
Aug	3.24	3.15	4.10	1955	13	10.90	1986	1.09	1995
Sep	4.16	3.19	4.64	1999	16	11.91	1975	.90	1986
Oct	3.31	2.97	4.10	1995	21	7.84	1976	.65	2000
Nov	3.63	3.73	3.73	1993	28	7.23	1972	.63	1976
Dec	3.07	2.33	3.14	1993	5	8.31	1983	.52	1998
Ann	43.40	44.24	7.74	Jun 1972	22	14.59	Jun 1972	.17	Jan 1981

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.2	6.2	2.3	.7
Feb	9.0	5.3	1.7	.3
Mar	10.3	6.6	2.5	.8
Apr	10.6	6.7	2.5	.8
May	12.7	8.7	2.9	1.0
Jun	11.3	7.4	2.9	1.2
Jul	11.1	6.8	3.1	1.3
Aug	9.8	6.4	2.2	.7
Sep	10.1	6.5	2.6	1.0
Oct	8.7	5.9	2.1	.9
Nov	9.8	6.2	2.6	.9
Dec	10.1	5.8	2.1	.8
Ann	123.7	78.5	29.5	10.4

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	.62	.91	1.39	1.83	2.27	2.76	3.30	3.96	4.84	6.25	7.59
Feb	.74	.96	1.30	1.58	1.86	2.14	2.46	2.83	3.30	4.04	4.73
Mar	1.26	1.57	2.02	2.40	2.76	3.13	3.53	3.99	4.58	5.49	6.32
Apr	.88	1.21	1.71	2.15	2.59	3.05	3.56	4.17	4.96	6.22	7.39
May	1.63	2.04	2.61	3.09	3.55	4.02	4.52	5.11	5.85	7.00	8.05
Jun	1.23	1.66	2.31	2.87	3.43	4.01	4.65	5.41	6.40	7.95	9.40
Jul	1.11	1.55	2.24	2.87	3.49	4.14	4.88	5.76	6.91	8.74	10.47
Aug	.99	1.30	1.76	2.15	2.54	2.93	3.37	3.88	4.54	5.57	6.53
Sep	.85	1.23	1.84	2.40	2.96	3.56	4.24	5.06	6.14	7.87	9.50
Oct	.84	1.16	1.64	2.06	2.48	2.92	3.41	4.00	4.76	5.96	7.09
Nov	1.03	1.37	1.89	2.35	2.79	3.25	3.76	4.37	5.15	6.38	7.52
Dec	.63	.91	1.37	1.78	2.19	2.63	3.14	3.74	4.53	5.80	7.01
Ann	32.08	34.30	37.14	39.28	41.17	43.00	44.87	46.94	49.44	53.05	56.15

\+ 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: 1952-2001
(3) Derived from 1971-2000 serially complete daily data

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Climate Division: PA 4 **NWS Call Sign:** **Elevation: 360 Feet** **Lat: 40°07N** **Lon: 76°26W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	8.5	6.9	2	1
Feb	7.6	5.3	2	#
Mar	3.7	2.0	1	#
Apr	.4	.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	.1	.0	0	0
Nov	.8	.0	#	0
Dec	2.6	1.9	#	#
Ann	23.7	16.1	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	10.9	1996	7	29.1	1996	27	1996	12	11	1996
Feb	15.0	1979	19	28.1	1979	22	1979	19	9	1994
Mar	10.3	1993	13	14.0	1993	16	1994	4	11	1994
Apr	4.5	1982	6	6.9	1982	4	1982	6	#+	1997
May	.0	0	0	.0	0	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	1.0	1972	19	1.0	1972	0	0	0	0	0
Nov	4.0	1987	11	5.2	1995	4	1987	11	#+	1996
Dec	7.7	1990	28	9.9	1995	7	1990	29	2	1995
Ann	15.0	Feb 1979	19	29.1	Jan 1996	27	Jan 1996	12	11+	Jan 1996

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	4.8	2.7	.8	.4	.1
Feb	3.7	1.8	.8	.4	.1
Mar	1.8	1.2	.4	.1	@
Apr	.3	.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	@	.0	.0	.0
Nov	.5	.3	.1	.0	.0
Dec	2.1	.8	.3	.1	.0
Ann	13.3	6.9	2.4	1.0	.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	10.4	4.4	2.1	.1
Feb	7.9	5.1	3.1	.9
Mar	2.6	1.8	1.3	.8
Apr	.1	@	.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	.0
Nov	.4	.1	.0	.0
Dec	3.6	1.0	.3	.0
Ann	25.0	12.4	6.8	1.8

+ 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

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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	5/21	5/17	5/14	5/12	5/09	5/07	5/05	5/02	4/28
32	5/10	5/06	5/03	4/30	4/28	4/26	4/23	4/20	4/16
28	4/27	4/23	4/20	4/17	4/15	4/13	4/10	4/07	4/03
24	4/16	4/11	4/08	4/04	4/02	3/30	3/26	3/23	3/18
20	3/29	3/24	3/21	3/18	3/15	3/13	3/10	3/06	3/01
16	3/21	3/16	3/12	3/09	3/06	3/02	2/27	2/23	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	9/14	9/18	9/21	9/24	9/27	9/30	10/03	10/06	10/10
32	9/26	10/01	10/05	10/08	10/11	10/14	10/17	10/20	10/25
28	10/10	10/14	10/18	10/20	10/23	10/25	10/28	10/31	11/04
24	10/18	10/23	10/27	10/30	11/02	11/06	11/09	11/13	11/18
20	11/06	11/12	11/16	11/19	11/22	11/25	11/28	12/02	12/08
16	11/21	11/28	12/03	12/07	12/10	12/14	12/18	12/23	12/29

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	158	152	147	143	140	136	133	128	122
32	186	178	173	169	165	161	156	151	144
28	210	203	198	194	190	186	182	177	170
24	235	228	222	218	214	210	206	201	194
20	269	263	258	255	251	247	243	239	233
16	301	294	288	283	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

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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	1110	926	738	413	148	16	0	6	67	364	649	964	5401
60	955	786	583	268	63	2	0	0	18	233	499	809	4216
57	862	702	491	190	32	0	0	0	7	167	411	716	3578
55	800	646	434	144	18	0	0	0	3	130	353	654	3182
50	655	516	294	58	3	0	0	0	0	61	222	510	2319
32	216	145	26	0	0	0	0	0	0	0	7	118	512

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	129	142	311	578	919	1143	1295	1236	984	667	348	177	7929
55	0	0	6	31	223	453	582	523	297	84	4	0	2203
57	0	0	1	18	175	393	520	461	241	59	2	0	1870
60	0	0	0	5	113	305	427	368	163	32	0	0	1413
65	0	0	0	0	43	169	272	218	61	8	0	0	771
70	0	0	0	0	10	68	134	96	12	1	0	0	321

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	23	39	137	358	684	918	1065	1008	766	444	175	42	23	62	199	557	1241	2159	3224	4232	4998	5442	5617	5659
45	4	14	70	224	529	768	910	853	616	298	92	16	4	18	88	312	841	1609	2519	3372	3988	4286	4378	4394
50	1	3	30	126	377	618	755	698	467	179	44	3	1	4	34	160	537	1155	1910	2608	3075	3254	3298	3301
55	0	0	11	59	236	469	600	544	326	87	16	0	0	0	11	70	306	775	1375	1919	2245	2332	2348	2348
60	0	0	4	24	128	323	445	390	194	35	5	0	0	0	4	28	156	479	924	1314	1508	1543	1548	1548
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	14	29	91	225	424	608	722	686	497	286	100	26	14	43	134	359	783	1391	2113	2799	3296	3582	3682	3708

(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