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: DONEGAL 2 NW, PA **COOP ID: 362183**

Climate Division: PA 9 **NWS Call Sign:** **Elevation: 1,800 Feet** **Lat: 40˚08N** **Lon: 79˚24W**

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	33.6	16.1	24.9	72	1950	25	35.1	1990	-22+	1985	21	10.2	1977	1245	0	.0	.0	4.3	14.7	28.7	3.7
Feb	36.9	18.1	27.5	70	1997	22	34.9	1990	-20	1963	27	14.8	1978	1050	0	.0	.0	5.3	10.1	24.8	2.6
Mar	46.4	25.5	36.0	81	1966	23	43.3	1976	-13+	1986	8	28.7	1984	901	0	.0	.0	12.9	4.4	23.7	.4
Apr	57.0	34.3	45.7	90	1985	23	52.4	1985	8	1950	7	39.4	1975	580	0	.0	@	22.1	.4	14.1	.0
May	67.6	44.3	56.0	92	1977	20	63.2	1991	21+	1950	8	51.1	1994	297	17	.0	.1	30.3	.0	3.2	.0
Jun	75.8	53.3	64.6	95+	1967	13	67.8	1971	28+	1949	8	59.9	1972	82	67	.0	.6	30.0	.0	@	.0
Jul	79.8	57.7	68.8	98	1977	20	72.1	1999	35+	1957	2	64.2	1976	20	136	.0	1.6	31.0	.0	.0	.0
Aug	78.9	56.3	67.6	98+	1948	27	72.9	1995	32	1950	21	61.2	1982	55	136	.0	1.3	31.0	.0	.0	.0
Sep	72.2	49.8	61.0	96	1973	2	65.9	1985	23+	1951	29	56.7	1976	153	33	.0	.3	29.9	.0	.4	.0
Oct	60.9	38.9	49.9	86	1951	3	57.5	1984	9	1952	21	44.6	1987	473	4	.0	.0	27.3	.0	8.1	.0
Nov	49.3	30.8	40.1	80	1961	3	46.9	1985	-6	1958	30	32.0	1976	748	0	.0	.0	15.7	2.2	19.8	@
Dec	38.6	21.7	30.2	74+	1966	9	39.5	1982	-14+	1960	23	15.8	1989	1080	0	.0	.0	5.2	8.9	27.0	1.3
Ann	58.1	37.2	47.7	98+	Jul 1977	20	72.9	Aug 1995	-22+	Jan 1985	21	10.2	Jan 1977	6684	393	.0	3.9	245.0	40.7	149.8	8.0

\+ 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: 1948-2001

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

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	3.10	3.00	2.01	1984	11	5.87	1994	.74	1981
Feb	2.84	2.47	1.61	1961	3	6.37	1989	.50	1987
Mar	3.42	3.18	2.55	1955	4	6.93	1989	.72	1990
Apr	3.83	3.93	2.40	1981	12	7.81	1981	1.17	1971
May	4.32	4.36	2.20	1999	23	6.91	1996	1.54	1993
Jun	4.59	4.18	4.17	1972	23	12.54	1972	1.14	1996
Jul	4.67	4.56	4.04	1985	9	8.85	1996	1.39	1994
Aug	4.34	4.41	3.00	1956	5	9.34	1979	1.00	1993
Sep	4.05	3.54	4.43	1971	14	10.37	1971	.73	1985
Oct	3.01	2.74	5.50	1954	15	8.33	1976	.47	1994
Nov	3.68	3.44	2.30	1995	15	10.09	1985	1.13	1976
Dec	3.29	3.01	2.55	1991	3	8.07	1991	1.18	1988
Ann	45.14	44.07	5.50	Oct 1954	15	12.54	Jun 1972	.47	Oct 1994

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	16.7	8.1	1.4	.4
Feb	13.3	6.4	1.7	.3
Mar	14.6	8.2	2.5	.5
Apr	14.2	8.8	2.4	.6
May	13.6	8.8	2.7	.7
Jun	11.9	8.2	3.2	1.1
Jul	11.2	7.2	3.2	1.4
Aug	10.9	6.8	2.9	1.1
Sep	10.6	6.6	2.8	1.1
Oct	11.0	6.2	1.9	.6
Nov	13.4	8.0	2.4	.6
Dec	14.8	7.8	1.8	.5
Ann	156.2	91.1	28.9	8.9

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	1.19	1.48	1.89	2.23	2.56	2.89	3.24	3.66	4.18	4.99	5.73
Feb	.98	1.25	1.64	1.97	2.28	2.61	2.96	3.38	3.91	4.73	5.49
Mar	1.05	1.38	1.86	2.27	2.68	3.09	3.55	4.09	4.79	5.88	6.88
Apr	1.42	1.78	2.29	2.72	3.13	3.55	4.01	4.53	5.21	6.24	7.19
May	2.00	2.38	2.90	3.32	3.71	4.11	4.53	5.01	5.61	6.52	7.35
Jun	1.59	2.02	2.65	3.19	3.70	4.22	4.79	5.46	6.32	7.64	8.86
Jul	1.60	2.04	2.69	3.23	3.75	4.29	4.88	5.56	6.44	7.80	9.05
Aug	1.47	1.88	2.48	2.99	3.48	3.98	4.53	5.17	5.99	7.26	8.43
Sep	1.14	1.52	2.10	2.61	3.11	3.62	4.20	4.87	5.75	7.13	8.42
Oct	.76	1.04	1.48	1.87	2.25	2.65	3.10	3.63	4.33	5.43	6.46
Nov	1.35	1.70	2.19	2.61	3.00	3.41	3.85	4.36	5.01	6.01	6.93
Dec	1.13	1.44	1.90	2.28	2.64	3.02	3.43	3.91	4.52	5.48	6.35
Ann	36.87	38.55	40.67	42.24	43.61	44.92	46.26	47.72	49.46	51.95	54.07

\+ 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

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	2.0	-99.9	3	3
Feb	6.0	-99.9	3	3
Mar	5.8	-99.9	1	1
Apr	1.2	.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
Nov	1.8	.0	1	#
Dec	1.4	-99.9	2	1
Ann	18.3	-9.9	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	8.0	1986	20	8.0	1986	26	1985	26	12	1985
Feb	8.0	1978	7	18.0	1995	18	1985	1	10	1985
Mar	29.0	1993	14	29.0	1993	32	1993	15	8	1993
Apr	4.0	1988	17	8.1	1982	4	1982	10	#+	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	1.1	1992	19	1.1	1992	1	1992	19	#	1992
Nov	18.0	1995	15	18.0	1995	20	1995	17	5	1995
Dec	7.0	1990	28	7.0	1990	16	1995	30	5	1995
Ann	29.0	Mar 1993	14	29.0	Mar 1993	32	Mar 1993	15	12	Jan 1985

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	5.1	2.5	1.1	.4	.0
Feb	5.0	3.0	1.3	.8	.0
Mar	3.3	1.6	.4	.1	.1
Apr	.7	.5	.2	.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	@	@	.0	.0	.0
Nov	1.4	.6	.2	.1	.1
Dec	2.8	1.4	.6	.2	.0
Ann	18.3	9.6	3.8	1.6	.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	-9.9	-9.9	-9.9	-9.9
Feb	-9.9	-9.9	-9.9	-9.9
Mar	3.0	.9	.3	.0
Apr	.6	.2	.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
Nov	.8	.2	.0	.0
Dec	2.1	.2	.2	.0
Ann	-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

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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	6/18	6/10	6/05	5/31	5/27	5/23	5/18	5/13	5/05
32	5/29	5/24	5/20	5/16	5/13	5/10	5/06	5/02	4/27
28	5/11	5/06	5/03	4/30	4/27	4/25	4/22	4/19	4/14
24	4/25	4/20	4/17	4/14	4/11	4/09	4/06	4/03	3/29
20	4/16	4/11	4/08	4/06	4/03	3/31	3/29	3/26	3/21
16	4/06	4/02	3/29	3/27	3/24	3/21	3/19	3/15	3/11

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	9/03	9/09	9/14	9/17	9/21	9/24	9/28	10/02	10/08
32	9/22	9/28	10/02	10/05	10/09	10/12	10/16	10/20	10/25
28	10/07	10/12	10/16	10/19	10/22	10/25	10/28	11/01	11/06
24	10/19	10/25	10/30	11/03	11/06	11/10	11/14	11/18	11/25
20	10/28	11/03	11/08	11/12	11/16	11/20	11/24	11/29	12/06
16	11/05	11/13	11/18	11/23	11/27	12/02	12/06	12/12	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	145	135	128	122	116	110	104	97	87
32	170	163	157	152	148	144	139	134	126
28	198	191	185	181	177	173	168	163	156
24	232	224	218	213	208	203	198	192	184
20	253	244	237	232	226	221	215	209	200
16	276	266	259	253	247	242	236	229	219

***** 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	1245	1050	901	580	297	82	20	55	153	473	748	1080	6684
60	1090	910	746	432	178	26	2	15	66	332	598	925	5320
57	997	826	653	345	122	10	0	6	35	256	510	832	4592
55	935	770	591	290	91	5	0	2	21	212	453	770	4140
50	785	630	446	169	36	1	0	0	4	120	318	626	3135
32	312	210	76	2	0	0	0	0	0	3	33	202	838

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	90	83	197	412	743	976	1139	1104	870	557	274	145	6590
55	0	0	0	10	121	291	426	393	201	53	5	0	1500
57	0	0	0	5	90	236	364	335	154	35	2	0	1221
60	0	0	0	1	54	162	272	251	96	18	0	0	854
65	0	0	0	0	17	67	136	136	33	4	0	0	393
70	0	0	0	0	4	16	46	58	6	0	0	0	130

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	18	28	96	235	523	765	912	877	650	335	123	32	18	46	142	377	900	1665	2577	3454	4104	4439	4562	4594
45	4	11	53	139	373	615	757	722	500	205	63	16	4	15	68	207	580	1195	1952	2674	3174	3379	3442	3458
50	1	1	26	75	242	468	602	568	354	111	25	4	1	2	28	103	345	813	1415	1983	2337	2448	2473	2477
55	0	0	8	35	141	324	447	415	220	50	9	0	0	0	8	43	184	508	955	1370	1590	1640	1649	1649
60	0	0	1	12	59	197	295	267	119	14	1	0	0	0	1	13	72	269	564	831	950	964	965	965
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	12	20	70	158	323	489	601	575	398	207	78	20	12	32	102	260	583	1072	1673	2248	2646	2853	2931	2951

(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