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: ERIE AP, PA **COOP ID: 362682**

Climate Division: PA10 **NWS Call Sign: ERI** **Elevation: 730 Feet** **Lat: 42˚05N** **Lon: 80˚11W**

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	33.5	20.3	26.9	73	1950	25	36.0	1990	-18	1994	19	14.4	1977	1196	0	.0	.0	2.9	15.5	27.4	1.7
Feb	35.4	20.9	28.2	75	2000	26	36.4	1984	-17	1979	11	16.2	1979	1046	0	.0	.0	3.3	13.1	24.4	1.4
Mar	44.7	28.2	36.5	82+	1938	22	44.5	1973	-9	1980	2	29.4	1984	900	1	.0	.0	8.8	6.4	22.6	.2
Apr	55.6	37.9	46.8	89	1990	28	52.3	1985	12+	1954	1	41.4	1975	567	5	.0	.0	18.6	.4	10.4	.0
May	67.4	48.7	58.1	90+	1944	26	64.8	1991	26	1970	7	50.8	1997	260	30	.0	.1	29.6	.0	.6	.0
Jun	76.2	58.5	67.4	100	1988	25	70.4	1975	32	1972	11	62.8	1972	58	115	@	.5	30.0	.0	@	.0
Jul	80.4	63.7	72.1	99	1990	4	75.7	1999	44	1963	9	67.8	2000	4	208	.0	1.1	31.0	.0	.0	.0
Aug	79.0	62.7	70.9	94+	1930	4	74.9	1980	37	1982	29	67.4	1971	15	183	.0	.7	31.0	.0	.0	.0
Sep	72.0	55.9	64.0	99	1953	3	67.3	1985	33+	1957	27	60.9	1975	116	71	.0	.1	30.0	.0	.0	.0
Oct	61.0	45.5	53.3	88+	1941	7	59.1	1971	24	1975	31	48.3+	1988	386	7	.0	.0	26.7	.0	1.4	.0
Nov	49.3	36.4	42.9	81	1950	1	48.4	1975	6	1929	30	36.0	1976	679	0	.0	.0	13.2	1.2	11.0	.0
Dec	38.6	26.8	32.7	75	1982	3	41.3	1982	-6	1983	26	21.7	1989	1016	0	.0	.0	4.5	9.0	23.5	.3
Ann	57.8	42.1	50.0	100	Jun 1988	25	75.7	Jul 1999	-18	Jan 1994	19	14.4	Jan 1977	6243	620	@	2.5	229.6	45.6	121.3	3.6

+ 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: 1926-2001

(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	2.53	2.39	1.51	1998	7	5.35	1998	.87	1981
Feb	2.28	2.02	2.11	1990	15	5.73	1990	.57	1978
Mar	3.13	3.09	1.80	1965	5	6.78	1976	1.29+	1995
Apr	3.38	2.97	2.95	1947	5	6.09	1981	1.63	1975
May	3.34	3.13	2.23	1969	8	6.14	1989	1.00	1991
Jun	4.28	4.33	4.61	1996	18	8.35	1996	.75	1991
Jul	3.28	2.95	10.37	1947	22	6.67	1977	.65	1978
Aug	4.21	3.66	3.29	1990	28	11.06	1977	1.40	1976
Sep	4.73	4.17	4.66	1979	14	10.65	1977	1.33	1995
Oct	3.92	3.52	4.35	1954	15	8.25	1988	1.57	1974
Nov	3.96	3.31	2.62	1956	22	10.40	1985	1.52	1978
Dec	3.73	3.52	2.09	1979	25	6.94	1990	2.24	1976
Ann	42.77	41.93	10.37	Jul 1947	22	11.06	Aug 1977	.57	Feb 1978

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	19.4	7.4	.9	.2
Feb	14.9	6.3	.8	.2
Mar	14.9	8.1	1.7	.4
Apr	13.9	8.4	2.3	.3
May	12.5	7.9	2.2	.5
Jun	11.0	7.6	2.5	1.3
Jul	9.9	6.0	2.3	.8
Aug	10.7	6.7	2.6	1.3
Sep	11.6	8.3	3.0	1.3
Oct	13.0	8.5	2.6	.6
Nov	16.1	10.3	2.3	.3
Dec	19.2	9.8	2.0	.4
Ann	167.1	95.3	25.2	7.6

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	1.07	1.30	1.62	1.88	2.13	2.38	2.66	2.97	3.36	3.96	4.50
Feb	.78	.99	1.31	1.57	1.83	2.09	2.38	2.71	3.14	3.80	4.41
Mar	1.28	1.56	1.97	2.30	2.62	2.93	3.28	3.67	4.17	4.94	5.64
Apr	1.50	1.80	2.22	2.56	2.88	3.20	3.54	3.94	4.44	5.19	5.87
May	1.35	1.66	2.10	2.45	2.79	3.13	3.50	3.93	4.47	5.30	6.05
Jun	1.46	1.86	2.45	2.95	3.43	3.93	4.47	5.09	5.90	7.15	8.30
Jul	1.07	1.38	1.83	2.23	2.60	2.99	3.42	3.91	4.56	5.55	6.47
Aug	1.29	1.69	2.29	2.80	3.30	3.81	4.38	5.04	5.90	7.24	8.48
Sep	1.58	2.03	2.69	3.24	3.78	4.33	4.93	5.64	6.54	7.95	9.24
Oct	1.64	1.99	2.49	2.91	3.29	3.68	4.10	4.59	5.20	6.14	6.99
Nov	1.61	1.97	2.49	2.91	3.31	3.72	4.15	4.66	5.30	6.27	7.16
Dec	2.30	2.56	2.90	3.17	3.41	3.64	3.89	4.16	4.50	5.00	5.43
Ann	32.42	34.47	37.07	39.03	40.76	42.41	44.12	45.99	48.24	51.49	54.28

\+ 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: 1926-2001
(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	23.7	22.5	4	3	12.9	1986	27	62.4	1978	28	1985	23	11	1985	15.4	6.6	2.7	1.0	.1	20.5	14.1	11.0	4.2
Feb	16.7	13.0	3	2	21.1	1990	15	32.1	1972	25+	1977	8	10+	1985	11.1	4.7	1.5	.6	.1	17.7	12.1	8.0	2.6
Mar	11.2	7.5	1	2	10.9	1999	6	31.8	1996	20+	1984	2	6	1984	7.8	3.2	1.1	.4	.1	7.8	4.1	2.5	.5
Apr	2.3	1.1	#	0	5.9	1982	6	10.2	1982	9	1987	1	1+	1987	2.7	.8	.1	@	.0	.9	.4	.2	.0
May	.0	.0	#	0	.4	1989	7	.4	1989	#	1976	3	#	1995	.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	.3	.0	0	0	1.8	1988	26	3.1	1976	#+	1988	27	0	0	.3	.1	.0	.0	.0	.0	.0	.0	.0
Nov	9.0	4.1	#	0	17.4	1979	29	42.2	2000	20	1979	30	2	1992	5.1	2.4	.8	.4	.1	2.5	1.1	.6	.2
Dec	23.5	21.0	3	2	16.2	1998	31	66.9	1989	39	1989	21	13	1989	12.9	6.6	2.8	1.5	.2	12.8	8.2	5.2	2.6
Ann	86.7	69.2	N/A	N/A	21.1	Feb 1990	15	66.9	Dec 1989	39	Dec 1989	21	13	Dec 1989	55.3	24.4	9.0	3.9	.6	62.2	40.0	27.5	10.1

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

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	10/04	10/08	10/10	10/13	10/15	10/17	10/20	10/22	10/26
32	10/15	10/20	10/23	10/26	10/29	10/31	11/03	11/07	11/11
28	10/24	10/30	11/03	11/06	11/09	11/12	11/15	11/19	11/25
24	11/08	11/14	11/18	11/22	11/25	11/28	12/02	12/06	12/12
20	11/21	11/26	11/30	12/03	12/06	12/09	12/12	12/16	12/21
16	12/02	12/07	12/10	12/13	12/16	12/19	12/22	12/25	12/30

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	174	167	162	158	154	150	146	141	134
32	208	199	192	187	182	176	171	164	155
28	231	223	218	213	209	204	199	194	186
24	258	250	244	239	234	229	224	218	210
20	274	267	263	259	255	251	247	243	236
16	300	292	286	281	276	271	266	260	252

***** 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	1196	1046	900	567	260	58	4	15	116	386	679	1016	6243
60	1026	893	731	400	144	10	0	0	21	232	514	847	4818
57	933	809	638	316	96	3	0	0	7	163	426	754	4145
55	871	753	577	264	71	2	0	0	3	125	370	692	3728
50	719	614	434	151	27	0	0	0	0	55	241	547	2788
32	258	201	77	2	0	0	0	0	0	0	13	141	692

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	62	72	189	415	769	1021	1204	1170	930	632	316	114	6894
55	1	1	11	36	142	337	491	458	253	68	12	2	1812
57	0	0	8	26	110	282	429	396	204	48	8	1	1512
60	0	0	5	15	73	206	337	305	140	25	3	1	1110
65	0	0	1	5	30	115	208	183	71	7	0	0	620
70	0	0	0	1	9	41	85	65	20	1	0	0	222

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	16	22	86	221	530	788	966	932	701	396	148	36	16	38	124	345	875	1663	2629	3561	4262	4658	4806	4842
45	5	9	48	131	380	638	811	777	551	259	79	15	5	14	62	193	573	1211	2022	2799	3350	3609	3688	3703
50	0	0	22	74	251	490	656	622	402	149	37	6	0	0	22	96	347	837	1493	2115	2517	2666	2703	2709
55	0	0	11	41	150	346	501	468	261	72	13	1	0	0	11	52	202	548	1049	1517	1778	1850	1863	1864
60	0	0	3	16	79	213	346	314	148	30	2	0	0	0	3	19	98	311	657	971	1119	1149	1151	1151
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	5	11	51	125	297	498	652	624	415	193	65	13	5	16	67	192	489	987	1639	2263	2678	2871	2936	2949

(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