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: JAMESTOWN 2 NW, PA **COOP ID: 364325**

Climate Division: PA10 **NWS Call Sign:** **Elevation: 1,040 Feet** **Lat: 41˚30N** **Lon: 80˚28W**

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	33.3	14.6	24.0	70	1950	26	33.7	1990	-27	1994	19	9.5	1977	1272	0	.0	.0	2.5	15.2	29.3	5.1
Feb	36.1	16.1	26.1	75	2000	27	35.4	1998	-24+	1963	26	12.9	1978	1090	0	.0	.0	3.6	12.0	25.6	3.8
Mar	46.1	24.6	35.4	84	1976	21	43.7	1973	-12+	1960	9	27.2	1984	919	0	.0	.0	11.0	5.1	23.9	1.0
Apr	57.8	34.4	46.1	89	1990	28	51.5	1985	3	1964	1	39.1	1975	568	0	.0	.0	21.0	.5	14.2	.0
May	69.5	44.6	57.1	90+	1949	6	65.0	1991	22+	1963	24	51.2	1997	276	29	.0	.1	30.2	.0	2.9	.0
Jun	78.3	53.8	66.1	98	1988	26	69.2	1971	29+	1966	1	61.6	1992	58	89	.0	1.2	30.0	.0	.1	.0
Jul	82.3	57.6	70.0	101	1988	17	73.3	1988	35	1963	9	65.4	2000	10	163	.1	3.2	31.0	.0	.0	.0
Aug	80.5	56.4	68.5	99	1953	31	73.5	1995	32	1982	29	64.6	1982	31	138	.0	1.8	31.0	.0	@	.0
Sep	73.4	49.5	61.5	99+	1953	3	65.5	1971	27	1957	27	57.5	1976	133	26	.0	.5	30.0	.0	.5	.0
Oct	62.0	38.8	50.4	88	1951	6	57.5	1971	14	1965	29	45.4	1988	455	2	.0	.0	27.4	.0	7.6	.0
Nov	49.4	31.3	40.4	81	1950	2	45.1	1975	0	1976	30	32.0	1976	739	0	.0	.0	13.7	1.4	18.8	@
Dec	38.1	21.5	29.8	73	1982	4	37.8	1982	-19	1989	24	16.0	1989	1090	0	.0	.0	4.5	9.3	26.7	1.3
Ann	58.9	36.9	48.0	101	Jul 1988	17	73.5	Aug 1995	-27	Jan 1994	19	9.5	Jan 1977	6641	447	.1	6.8	235.9	43.5	149.6	11.2

\+ 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	2.48	2.54	1.63	1952	27	4.53	1993	.98	1988
Feb	2.31	2.06	2.23	1976	17	5.18+	1990	.29	1987
Mar	2.96	2.95	2.28	1964	5	5.05	1985	.88	1990
Apr	3.57	3.36	1.59	1999	11	6.42	1996	1.21	1982
May	3.69	3.57	2.12	1949	20	7.21	1984	.97	1977
Jun	4.21	4.41	2.73	1981	9	7.01	1986	.92	1991
Jul	4.21	3.69	2.95	1991	8	8.63	1992	1.37	1997
Aug	4.04	3.64	5.15	1994	14	8.71	1987	1.43	1972
Sep	3.98	3.62	3.45	1979	14	7.80	1990	.86	1995
Oct	3.06	3.07	4.00	1959	1	6.16	1990	1.18	1982
Nov	3.53	3.26	3.79	1985	5	10.37	1985	1.06	1976
Dec	3.23	3.06	2.10	1968	28	7.32	1990	1.71	1989
Ann	41.27	42.32	5.15	Aug 1994	14	10.37	Nov 1985	.29	Feb 1987

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	15.8	7.3	1.3	.2
Feb	13.0	6.2	1.0	.2
Mar	13.8	8.5	1.5	.3
Apr	13.8	8.9	2.0	.5
May	13.2	8.3	2.4	.5
Jun	12.1	7.9	3.1	.8
Jul	11.5	7.4	2.8	1.0
Aug	11.0	7.2	2.6	.9
Sep	12.0	7.7	2.6	.9
Oct	12.8	7.4	1.7	.3
Nov	14.3	8.4	2.2	.4
Dec	15.8	8.7	1.8	.3
Ann	159.1	93.9	25.0	6.3

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	1.05	1.27	1.59	1.85	2.09	2.34	2.60	2.91	3.30	3.88	4.42
Feb	.67	.89	1.22	1.51	1.78	2.07	2.39	2.77	3.26	4.03	4.74
Mar	1.36	1.62	1.98	2.27	2.54	2.82	3.11	3.44	3.86	4.49	5.06
Apr	1.58	1.90	2.35	2.70	3.04	3.38	3.74	4.16	4.68	5.48	6.20
May	1.29	1.64	2.15	2.57	2.98	3.40	3.86	4.39	5.07	6.12	7.09
Jun	1.43	1.83	2.41	2.90	3.37	3.86	4.39	5.01	5.81	7.04	8.17
Jul	1.63	2.02	2.58	3.04	3.48	3.93	4.41	4.97	5.68	6.78	7.78
Aug	1.40	1.78	2.33	2.80	3.25	3.71	4.21	4.80	5.55	6.71	7.78
Sep	1.66	2.02	2.53	2.95	3.34	3.74	4.17	4.66	5.29	6.24	7.11
Oct	1.37	1.65	2.02	2.33	2.62	2.90	3.21	3.56	4.01	4.68	5.29
Nov	1.14	1.47	1.97	2.39	2.80	3.22	3.68	4.22	4.91	5.99	6.99
Dec	1.61	1.88	2.25	2.55	2.82	3.09	3.38	3.71	4.12	4.74	5.30
Ann	32.41	34.19	36.43	38.11	39.59	41.00	42.45	44.03	45.94	48.67	51.00

\+ 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	13.3	10.2	4	3
Feb	11.6	11.0	4	3
Mar	11.2	10.8	2	1
Apr	2.4	1.2	#	#
May	#	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.5	.0	#	0
Nov	6.3	4.3	#	#
Dec	15.2	12.6	2	2
Ann	60.5	50.1	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	12.0	1996	3	32.8	1999	25	1977	31	15	1977
Feb	12.0	1971	9	24.0	1972	30	1977	6	19	1977
Mar	14.0	1973	18	32.0	1971	17	1993	15	7	1984
Apr	10.0	1987	4	13.6	1987	10	1987	4	1	1989
May	#	1974	7	#+	1974	#	1974	7	#	1974
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	6.0	1976	22	6.0	1976	6	1976	22	#+	2000
Nov	10.0	2000	22	22.0	1996	11	1996	13	2	1996
Dec	10.5	1977	7	40.3	1981	18+	1995	25	7+	1995
Ann	14.0	Mar 1973	18	40.3	Dec 1981	30	Feb 1977	6	19	Feb 1977

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	10.1	6.9	1.9	.4	@
Feb	7.1	4.6	1.3	.5	@
Mar	5.5	4.0	1.1	.4	.1
Apr	1.2	1.0	.3	.1	@
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	.3	.1	.1	.1	.0
Nov	2.8	2.2	.7	.2	@
Dec	7.7	5.6	1.9	.6	@
Ann	34.7	24.4	7.3	2.3	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	18.2	11.8	6.9	2.6
Feb	15.3	10.5	7.5	2.1
Mar	8.5	4.3	2.6	.7
Apr	1.3	.5	.2	@
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	.2	.1	.1	.0
Nov	3.8	2.0	.7	.1
Dec	13.2	8.1	4.3	1.4
Ann	60.5	37.3	22.3	6.9

+ 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	6/14	6/08	6/04	6/01	5/29	5/26	5/22	5/18	5/13
32	5/29	5/24	5/21	5/18	5/15	5/12	5/09	5/05	4/30
28	5/13	5/08	5/05	5/02	4/30	4/27	4/24	4/21	4/17
24	4/30	4/25	4/22	4/19	4/16	4/13	4/10	4/07	4/02
20	4/15	4/11	4/08	4/06	4/03	4/01	3/30	3/27	3/23
16	4/09	4/05	4/01	3/30	3/27	3/25	3/22	3/19	3/15

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	9/12	9/16	9/19	9/22	9/24	9/27	9/29	10/02	10/07
32	9/18	9/24	9/28	10/01	10/05	10/08	10/11	10/16	10/21
28	10/09	10/13	10/17	10/19	10/22	10/25	10/28	10/31	11/05
24	10/23	10/28	10/31	11/03	11/06	11/09	11/12	11/15	11/20
20	11/04	11/10	11/14	11/18	11/21	11/25	11/28	12/03	12/08
16	11/15	11/21	11/25	11/29	12/02	12/05	12/09	12/13	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	130	126	123	120	118	115	112	109	105
32	160	154	149	146	142	139	135	131	124
28	192	186	182	178	175	171	168	163	157
24	222	216	211	207	203	200	196	191	184
20	254	246	240	236	231	226	222	216	208
16	271	263	258	253	249	244	240	234	227

***** 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	1272	1090	919	568	276	58	10	31	133	455	739	1090	6641
60	1117	950	764	420	167	16	0	5	49	310	589	935	5322
57	1024	866	671	334	115	6	0	0	22	233	499	842	4612
55	962	810	610	281	87	3	0	0	11	187	441	780	4172
50	807	671	467	163	36	0	0	0	2	97	303	636	3182
32	321	243	97	3	0	0	0	0	0	0	24	205	893

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	73	77	201	425	776	1021	1176	1130	883	570	275	137	6744
55	0	0	1	13	150	334	463	417	205	44	2	0	1629
57	0	0	0	6	116	277	401	355	156	28	0	0	1339
60	0	0	0	2	75	197	308	267	92	12	0	0	953
65	0	0	0	0	29	89	163	138	26	2	0	0	447
70	0	0	0	0	9	24	60	53	3	0	0	0	149

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	9	19	84	233	531	781	926	884	646	331	118	29	9	28	112	345	876	1657	2583	3467	4113	4444	4562	4591
45	2	4	48	139	379	631	771	729	497	203	58	9	2	6	54	193	572	1203	1974	2703	3200	3403	3461	3470
50	0	0	21	78	252	482	616	574	352	111	22	3	0	0	21	99	351	833	1449	2023	2375	2486	2508	2511
55	0	0	6	38	148	339	461	419	227	49	8	0	0	0	6	44	192	531	992	1411	1638	1687	1695	1695
60	0	0	2	14	70	208	310	272	120	13	0	0	0	0	2	16	86	294	604	876	996	1009	1009	1009
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	3	10	61	156	327	499	610	576	403	201	67	15	3	13	74	230	557	1056	1666	2242	2645	2846	2913	2928

(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