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: PENN YAN, NY **COOP ID: 306510**

Climate Division: NY10 **NWS Call Sign:** **Elevation: 830 Feet** **Lat: 42˚40N** **Lon: 77˚03W**

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	31.8	14.0	22.9	71	1967	25	32.7	1990	-21	1957	15	13.8	1977	1304	0	.0	.0	1.7	15.5	28.9	2.8
Feb	34.2	14.5	24.4	68	1957	25	31.5	1998	-17	1979	18	13.5	1979	1138	0	.0	.0	3.1	12.9	26.0	2.7
Mar	43.9	23.1	33.5	84	1977	30	39.8	1973	-7	1972	4	25.9	1984	977	0	.0	.0	9.2	5.3	24.1	.3
Apr	56.3	34.2	45.3	89+	1974	28	49.7	1987	10	1975	5	39.5	1975	592	0	.0	.0	20.5	.4	13.3	.0
May	68.8	44.8	56.8	92+	1979	9	62.8	1991	15	1978	1	50.4	1997	276	23	.0	.2	30.1	.0	1.2	.0
Jun	77.4	54.7	66.1	98	1949	24	69.0	1995	36+	1980	9	62.3	1985	56	87	.0	1.1	30.0	.0	.0	.0
Jul	81.7	59.6	70.7	100+	1955	22	74.2	1988	39	1978	2	66.0	1978	12	187	.0	3.6	31.0	.0	.0	.0
Aug	80.0	57.8	68.9	100+	1965	15	72.6	1995	37	1982	29	64.6	1982	18	140	.0	1.5	31.0	.0	.0	.0
Sep	72.1	50.1	61.1	98+	1953	3	65.1	1971	25	1978	26	58.4	1984	134	16	.0	.4	30.0	.0	.2	.0
Oct	60.4	39.4	49.9	90	1963	7	57.0	1971	20	1978	17	45.6	1988	469	1	.0	.0	27.1	.0	4.5	.0
Nov	47.3	30.5	38.9	80+	1982	2	45.0	1975	2	1976	30	33.8	1976	783	0	.0	.0	11.9	1.6	16.5	.0
Dec	36.5	21.3	28.9	69	1998	7	35.5	1982	-12	1980	25	15.7	1989	1118	0	.0	.0	3.2	9.3	26.5	.7
Ann	57.5	37.0	47.3	100+	Aug 1965	15	74.2	Jul 1988	-21	Jan 1957	15	13.5	Feb 1979	6877	454	.0	6.8	228.8	45.0	141.2	6.5

\+ 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

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: PENN YAN, NY **COOP ID: 306510**

Climate Division: NY10 **NWS Call Sign:** **Elevation: 830 Feet** **Lat: 42˚40N** **Lon: 77˚03W**

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	1.86	1.42	1.75	1998	8	5.36	1978	.25	1980
Feb	1.82	1.61	1.85	1960	19	4.32	1972	.39	1987
Mar	2.20	2.00	2.60	1999	5	3.74	1980	.62	1981
Apr	2.52	2.43	1.40	1980	28	5.01	1983	1.11	1975
May	2.88	2.77	3.00	1957	14	5.90	1984	.75	1980
Jun	3.45	3.33	3.75	1972	21	11.13	1972	.85	1991
Jul	3.05	2.86	4.54	2000	31	7.47	1992	.39	1983
Aug	2.99	2.71	3.41	1955	13	6.10	1994	1.12	1973
Sep	3.72	3.60	3.19	1979	6	9.06	1977	1.63	1983
Oct	2.81	2.62	4.40	1962	12	5.53	1990	.76	1994
Nov	2.89	2.83	1.81	1963	7	5.99	1985	.47	2000
Dec	2.23	2.03	2.50	1957	9	3.96	1972	.93	1988
Ann	32.42	32.45	4.54	Jul 2000	31	11.13	Jun 1972	.25	Jan 1980

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	13.8	4.7	.8	.2
Feb	7.7	2.6	.5	.1
Mar	9.2	4.6	1.0	.3
Apr	14.0	6.6	1.6	.2
May	13.0	7.1	1.9	.2
Jun	11.3	8.0	2.2	.6
Jul	10.3	6.5	2.1	.5
Aug	10.4	5.3	1.2	.3
Sep	13.1	7.4	2.5	.9
Oct	12.7	6.2	1.7	.6
Nov	13.5	6.7	1.6	.4
Dec	8.5	3.7	.9	.2
Ann	137.5	69.4	18.0	4.5

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	.45	.62	.89	1.14	1.38	1.63	1.92	2.26	2.70	3.41	4.07
Feb	.65	.82	1.07	1.28	1.48	1.68	1.90	2.16	2.49	3.01	3.48
Mar	.97	1.17	1.44	1.66	1.87	2.08	2.31	2.57	2.89	3.39	3.84
Apr	1.09	1.31	1.63	1.89	2.13	2.38	2.64	2.94	3.32	3.90	4.42
May	1.01	1.28	1.68	2.01	2.33	2.66	3.01	3.43	3.96	4.78	5.54
Jun	1.13	1.46	1.94	2.35	2.74	3.15	3.60	4.12	4.79	5.83	6.79
Jul	1.04	1.33	1.75	2.10	2.45	2.80	3.19	3.64	4.22	5.11	5.93
Aug	1.24	1.51	1.90	2.21	2.51	2.81	3.14	3.51	3.99	4.71	5.37
Sep	1.55	1.89	2.36	2.76	3.12	3.50	3.90	4.37	4.95	5.85	6.66
Oct	.91	1.18	1.57	1.91	2.23	2.57	2.93	3.36	3.91	4.77	5.56
Nov	.91	1.18	1.59	1.94	2.28	2.62	3.01	3.46	4.04	4.94	5.78
Dec	.98	1.17	1.45	1.68	1.89	2.10	2.33	2.60	2.93	3.43	3.89
Ann	24.90	26.41	28.31	29.73	30.99	32.19	33.43	34.79	36.42	38.77	40.78

\+ 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Services

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: PENN YAN, NY **COOP ID: 306510**

Climate Division: NY10 **NWS Call Sign:** **Elevation: 830 Feet** **Lat: 42°40N** **Lon: 77°03W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	8.7	7.0	4	3
Feb	8.4	8.7	5	3
Mar	7.9	7.4	2	1
Apr	2.6	.8	#	#
May	.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
Nov	3.1	2.2	#	#
Dec	12.1	10.9	2	2
Ann	42.8	37.0	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	7.0	2000	13	20.5	1979	28	1978	21	11	1978
Feb	5.5	1984	28	13.4	1979	30	1978	8	20	1978
Mar	8.0	1971	4	18.0	1971	24	1978	4	10	1978
Apr	11.0	1982	6	13.7	1982	11	1982	6	1	1982
May	.0	0	0	.0	0	3	1977	9	#	1977
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	#	2000	10	#+	2000	#+	2000	10	#+	2000
Nov	9.0	1997	14	9.1	1980	11	1997	15	2	1997
Dec	16.0	1978	25	20.6	1978	16	1978	26	5	1978
Ann	16.0	Dec 1978	25	20.6	Dec 1978	30	Feb 1978	8	20	Feb 1978

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	9.0	3.6	.9	.2	.0
Feb	4.8	2.6	.8	.2	.0
Mar	3.5	1.8	.9	.3	.0
Apr	1.2	.8	.2	.2	.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	.0	.0	.0	.0	.0
Nov	1.8	.8	.3	.1	.0
Dec	5.8	2.6	.9	.2	.2
Ann	26.1	12.2	4.0	1.2	.3

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	-9.9	-9.9	-9.9	-9.9
Apr	.8	.3	.2	.1
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	2.8	1.1	.5	.1
Dec	-9.9	-9.9	-9.9	-9.9
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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: PENN YAN, NY **COOP ID: 306510**

Climate Division: NY10 **NWS Call Sign:** **Elevation: 830 Feet** **Lat: 42˚40N** **Lon: 77˚03W**

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

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

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	159	152	147	143	139	135	131	126	120
32	181	174	169	165	161	157	152	147	140
28	210	203	198	194	189	185	181	176	168
24	237	229	223	218	213	209	204	198	190
20	260	252	246	240	236	231	226	220	211
16	276	268	263	258	253	248	243	238	230

***** 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: PENN YAN, NY **COOP ID: 306510**

Climate Division: NY10 **NWS Call Sign:** **Elevation: 830 Feet** **Lat: 42˚40N** **Lon: 77˚03W**

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	1304	1138	977	592	276	56	12	18	134	469	783	1118	6877
60	1149	998	822	444	164	14	0	1	45	322	633	963	5555
57	1056	914	729	358	112	5	0	0	19	243	543	870	4849
55	994	858	667	303	83	2	0	0	9	195	483	808	4402
50	839	718	515	182	33	0	0	0	1	100	338	655	3381
32	329	264	107	3	0	0	0	0	0	0	26	202	931

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	48	50	153	401	770	1022	1198	1145	872	554	233	107	6553
55	0	0	0	11	140	334	485	432	192	36	0	0	1630
57	0	0	0	6	106	276	423	370	141	22	0	0	1344
60	0	0	0	2	66	196	330	278	77	9	0	0	958
65	0	0	0	0	23	87	187	140	16	1	0	0	454
70	0	0	0	0	6	24	81	50	1	0	0	0	162

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	7	12	66	203	532	795	963	903	661	345	110	19	7	19	85	288	820	1615	2578	3481	4142	4487	4597	4616
45	0	0	35	114	381	645	808	748	511	214	52	7	0	0	35	149	530	1175	1983	2731	3242	3456	3508	3515
50	0	0	13	59	251	495	653	593	365	117	20	1	0	0	13	72	323	818	1471	2064	2429	2546	2566	2567
55	0	0	4	26	142	348	498	439	229	53	5	0	0	0	4	30	172	520	1018	1457	1686	1739	1744	1744
60	0	0	0	8	67	215	344	288	127	14	0	0	0	0	0	8	75	290	634	922	1049	1063	1063	1063
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	1	7	44	128	315	504	638	593	399	188	54	7	1	8	52	180	495	999	1637	2230	2629	2817	2871	2878

(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