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: MILLVILLE MUNICIPAL AP, NJ **COOP ID: 285581**

Climate Division: NJ 2 **NWS Call Sign: MIV** **Elevation: 70 Feet** **Lat: 39˚22N** **Lon: 75˚05W**

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	41.3	24.1	32.7	74	1950	26	41.6	1998	-10+	1961	22	21.9	1977	1002	0	.0	.0	7.0	6.6	24.7	.6
Feb	43.9	25.5	34.7	75	1985	24	42.7	1998	-6+	1979	12	23.5	1979	849	0	.0	.0	8.3	4.7	21.3	.3
Mar	52.5	32.8	42.7	86	1998	30	48.0	1977	5+	1978	6	37.6	1984	693	0	.0	.0	18.2	.6	16.0	.0
Apr	62.8	41.1	52.0	91+	1976	17	56.7	1994	17	1965	1	47.3	1975	393	1	.0	.1	27.7	.0	4.9	.0
May	72.7	51.1	61.9	96	1991	30	68.1	1991	29	2000	1	58.2	1992	138	43	.0	1.1	30.9	.0	.2	.0
Jun	81.2	60.6	70.9	100	1952	26	73.9	1973	40+	1967	1	67.4	1979	10	187	.0	3.5	30.0	.0	.0	.0
Jul	85.9	66.6	76.3	102	1966	3	79.1	1993	44	1988	1	71.6	2000	0	349	.2	8.7	31.0	.0	.0	.0
Aug	84.2	65.1	74.7	101+	1948	26	77.9	1980	44	1982	29	70.7	1992	0	299	.1	5.2	31.0	.0	.0	.0
Sep	77.5	57.7	67.6	97+	1953	1	70.9	1980	35+	1962	21	64.1	2000	33	111	.0	1.3	30.0	.0	.0	.0
Oct	66.7	45.2	56.0	90	1997	6	62.7	1971	21	1969	24	50.2	1988	299	19	.0	@	30.6	.0	2.0	.0
Nov	56.2	36.6	46.4	84	1950	1	53.2	1985	12	1989	24	39.8	1976	557	0	.0	.0	21.9	.1	11.0	.0
Dec	46.1	28.4	37.3	77	1998	7	43.8	1984	2+	1980	25	24.8	1989	861	0	.0	.0	11.5	3.3	21.0	.0
Ann	64.3	44.6	54.4	102	Jul 1966	3	79.1	Jul 1993	-10+	Jan 1961	22	21.9	Jan 1977	4835	1009	.3	19.9	278.1	15.3	101.1	.9

\+ 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	3.62	3.21	3.07	1999	3	7.93	1999	.21	1981
Feb	3.19	2.97	2.64	1979	24	7.64	1971	.89	1978
Mar	4.38	4.41	2.70	1994	28	10.13	1994	1.45	1981
Apr	3.53	3.42	2.80	1970	14	7.63	1983	.55	1985
May	3.94	3.39	2.67	1989	10	8.20	1985	.80	1977
Jun	3.27	2.74	4.37	1968	12	7.29	1996	.43	1993
Jul	3.59	3.22	4.96	1969	28	8.23	1992	.54	1974
Aug	4.35	3.84	9.06	1997	20	10.52	1971	.86	1972
Sep	3.47	3.29	4.15	1960	12	7.17	1975	.58	1978
Oct	3.04	2.97	4.14	1966	19	6.81	1995	.07	2000
Nov	3.25	2.59	3.58	1950	25	8.60	1972	.50	1976
Dec	3.57	3.20	2.81	1969	26	7.85	1996	.52	1980
Ann	43.20	41.38	9.06	Aug 1997	20	10.52	Aug 1971	.07	Oct 2000

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.6	6.5	2.7	.8
Feb	8.9	5.7	2.1	.8
Mar	10.3	6.9	3.3	1.5
Apr	10.1	7.1	2.6	.7
May	10.2	7.2	2.6	1.1
Jun	8.5	5.3	1.8	1.0
Jul	8.7	5.9	2.3	1.0
Aug	8.4	5.4	2.6	1.3
Sep	8.0	5.4	2.2	1.1
Oct	7.5	4.7	2.1	1.0
Nov	8.7	5.8	2.4	.8
Dec	9.6	6.2	2.5	1.2
Ann	108.5	72.1	29.2	12.3

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	.95	1.29	1.81	2.27	2.73	3.21	3.74	4.37	5.19	6.48	7.69
Feb	1.01	1.32	1.76	2.15	2.52	2.90	3.32	3.81	4.45	5.43	6.35
Mar	1.53	1.94	2.54	3.05	3.53	4.03	4.57	5.20	6.01	7.27	8.42
Apr	1.30	1.63	2.11	2.50	2.88	3.27	3.69	4.17	4.80	5.75	6.63
May	1.05	1.43	2.00	2.50	2.99	3.50	4.08	4.75	5.64	7.02	8.32
Jun	.65	.95	1.43	1.87	2.31	2.79	3.33	3.99	4.85	6.23	7.55
Jul	.94	1.28	1.80	2.26	2.71	3.18	3.71	4.34	5.16	6.44	7.65
Aug	1.02	1.43	2.06	2.63	3.20	3.80	4.47	5.27	6.32	7.99	9.56
Sep	1.11	1.44	1.93	2.35	2.75	3.16	3.62	4.15	4.84	5.91	6.90
Oct	.58	.85	1.30	1.71	2.13	2.58	3.09	3.70	4.52	5.83	7.08
Nov	.55	.83	1.31	1.75	2.21	2.71	3.27	3.96	4.88	6.37	7.80
Dec	.93	1.27	1.79	2.24	2.69	3.16	3.69	4.31	5.12	6.40	7.59
Ann	31.41	33.71	36.65	38.87	40.84	42.74	44.70	46.86	49.47	53.25	56.51

\+ 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	4.8	2.2	1	0
Feb	5.0	1.5	1	0
Mar	1.4	#	#	0
Apr	.3	.0	#	0
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	0
Nov	.2	#	#	0
Dec	1.4	#	#	0
Ann	13.1	3.7	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	14.8	1996	7	25.3	1987	18	1987	27	3+	1996
Feb	13.1	1983	11	23.0	1979	20	1979	20	5	1979
Mar	7.0	1993	13	9.5	1993	5+	1978	6	1	1978
Apr	3.0	1990	7	3.0	1990	2+	1997	1	#	1997
May	.0	0	0	.0	0	0	0	0	#	1998
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	#	1979	10	#+	1979	#	1979	10	0	0
Nov	4.0	1989	23	4.1	1989	4	1989	23	#	1989
Dec	6.0	1982	12	8.5	1989	6	1982	13	1+	1989
Ann	14.8	Jan 1996	7	25.3	Jan 1987	20	Feb 1979	20	5	Feb 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	2.0	1.6	.5	.3	.1
Feb	2.0	1.2	.6	.3	.1
Mar	.7	.5	.2	.1	.0
Apr	.3	.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	.0	.0
Nov	.1	.1	@	.0	.0
Dec	.7	.6	.1	@	.0
Ann	5.8	4.2	1.4	.7	.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	4.6	1.9	.9	.3
Feb	4.9	2.6	1.8	.4
Mar	1.2	.6	.1	.0
Apr	.1	.0	.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	.1	.1	.0	.0
Dec	1.8	.4	.1	.0
Ann	12.7	5.6	2.9	.7

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

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	9/30	10/05	10/08	10/10	10/13	10/15	10/18	10/21	10/25
32	10/10	10/15	10/19	10/22	10/25	10/28	10/31	11/04	11/09
28	10/21	10/26	10/29	11/02	11/05	11/07	11/11	11/14	11/19
24	11/05	11/10	11/14	11/17	11/20	11/24	11/27	12/01	12/06
20	11/18	11/24	11/28	12/02	12/06	12/09	12/13	12/17	12/24
16	12/04	12/09	12/13	12/17	12/20	12/23	12/27	12/31	1/06

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	181	175	170	166	163	159	155	151	144
32	208	200	195	190	186	181	176	171	163
28	235	228	222	218	213	209	205	199	192
24	266	258	253	248	244	240	235	230	222
20	294	286	280	275	270	265	260	254	246
16	324	315	308	303	298	293	287	281	272

***** 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	1002	849	693	393	138	10	0	0	33	299	557	861	4835
60	847	709	538	250	56	1	0	0	7	183	410	706	3707
57	754	625	445	175	27	0	0	0	2	127	327	614	3096
55	692	569	385	131	15	0	0	0	1	97	274	558	2722
50	548	439	246	51	2	0	0	0	0	42	161	415	1904
32	145	92	11	0	0	0	0	0	0	0	3	75	326

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	166	167	341	598	927	1167	1372	1322	1067	743	436	237	8543
55	0	0	2	39	229	477	659	609	378	127	17	7	2544
57	0	0	0	23	180	417	597	547	320	95	10	2	2191
60	0	0	0	8	116	328	504	454	235	57	3	0	1705
65	0	0	0	1	43	187	349	299	111	19	0	0	1009
70	0	0	0	0	9	78	199	156	30	4	0	0	476

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	44	66	159	372	693	936	1133	1083	838	506	234	80	44	110	269	641	1334	2270	3403	4486	5324	5830	6064	6144
45	18	28	81	239	538	786	978	928	688	354	139	40	18	46	127	366	904	1690	2668	3596	4284	4638	4777	4817
50	4	12	38	130	385	636	823	773	538	221	71	12	4	16	54	184	569	1205	2028	2801	3339	3560	3631	3643
55	0	0	14	62	241	486	668	618	389	120	29	2	0	0	14	76	317	803	1471	2089	2478	2598	2627	2629
60	0	0	4	25	129	338	513	463	251	56	9	0	0	0	4	29	158	496	1009	1472	1723	1779	1788	1788
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	28	36	94	213	417	625	787	753	545	300	131	39	28	64	158	371	788	1413	2200	2953	3498	3798	3929	3968

(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