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: ROCHESTER MONROE CO AP, NY **COOP ID: 307167**

Climate Division: NY 9 **NWS Call Sign: ROC** **Elevation: 600 Feet** **Lat: 43˚07N** **Lon: 77˚41W**

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	31.2	16.6	23.9	74	1950	25	33.6	1990	-17	1994	16	14.5	1977	1263	0	.0	.0	2.0	16.4	28.2	2.6
Feb	33.2	17.3	25.3	73	1997	21	32.7	1984	-22	1934	9	13.2	1979	1117	0	.0	.0	2.8	13.9	25.3	1.8
Mar	42.7	25.2	33.9	84+	1945	28	41.4	1973	-7	1999	8	25.9	1984	958	1	.0	.0	8.4	6.3	22.8	.2
Apr	55.2	35.3	45.3	93+	1990	28	50.0	1991	13+	1982	7	37.9	1975	582	5	.0	@	20.0	.5	10.9	.0
May	67.9	46.1	57.0	94+	1987	30	62.9	1998	26+	1979	2	50.4	1997	266	32	.0	.3	30.2	.0	.8	.0
Jun	76.6	55.0	65.8	100	1953	21	69.5	1995	35+	1949	8	61.7	1985	69	109	.0	1.3	30.0	.0	.0	.0
Jul	81.4	60.0	70.7	102+	1936	10	74.3	1999	42	1963	9	66.6	1992	17	209	.0	3.8	31.0	.0	.0	.0
Aug	79.1	58.7	68.9	99+	1948	28	73.7	1980	36	1965	30	65.5	1982	25	162	.0	1.9	31.0	.0	.0	.0
Sep	71.1	51.3	61.2	99	1953	3	66.7	1971	28	1947	28	57.1	1975	154	54	.0	.4	30.0	.0	.2	.0
Oct	59.7	41.1	50.4	91	1951	5	58.3	1971	20+	1972	20	45.8	1988	447	4	.0	.0	26.2	.0	4.3	.0
Nov	47.2	32.6	39.9	81	1950	1	46.1	1975	5	1971	23	34.3+	1996	741	0	.0	.0	11.7	1.7	15.4	.0
Dec	36.1	22.7	29.4	72	1982	3	37.1	1982	-16	1942	20	17.1	1989	1089	0	.0	.0	3.1	10.0	25.5	.6
Ann	56.8	38.5	47.6	102+	Jul 1936	10	74.3	Jul 1999	-22	Feb 1934	9	13.2	Feb 1979	6728	576	.0	7.7	226.4	48.8	133.4	5.2

\+ 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: 1926-2001

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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	2.34	1.86	1.58	1998	8	5.79	1978	.72	1988
Feb	2.04	1.83	2.15	1942	7	4.21	1971	.66	1987
Mar	2.58	2.32	2.21	1942	3	4.70	1991	1.04	1981
Apr	2.75	2.64	1.91	1943	19	4.84	1996	1.18	1995
May	2.82	2.60	3.45	1974	16	6.62	1974	.36	1977
Jun	3.36	2.80	2.56	1950	23	7.11	1998	1.10	1988
Jul	2.93	2.60	3.25	1987	6	6.09	1998	.61	1994
Aug	3.54	3.39	3.31	1938	10	6.00	1984	1.11	1985
Sep	3.45	3.39	3.47	1979	14	6.30	1977	1.41	1973
Oct	2.60	2.34	2.94	1980	25	5.70	1995	.76	1984
Nov	2.84	2.63	2.07	1945	29	6.99	1985	.44	1976
Dec	2.73	2.82	1.49	1978	25	4.65	1977	1.11	1988
Ann	33.98	34.24	3.47	Sep 1979	14	7.11	Jun 1998	.36	May 1977

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	19.1	6.7	.9	.2
Feb	16.3	6.0	.7	.1
Mar	15.2	6.8	1.2	.2
Apr	13.5	6.9	1.7	.2
May	11.8	6.5	1.8	.3
Jun	11.6	6.7	2.1	.7
Jul	10.2	6.0	1.7	.5
Aug	10.7	6.7	2.4	.8
Sep	11.8	7.6	2.3	.8
Oct	12.8	6.1	1.6	.2
Nov	15.9	7.2	1.4	.4
Dec	18.4	7.7	1.2	.2
Ann	167.3	80.9	19.0	4.6

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	.78	1.00	1.33	1.60	1.87	2.14	2.44	2.79	3.24	3.94	4.58
Feb	.76	.95	1.23	1.46	1.67	1.89	2.13	2.41	2.76	3.31	3.81
Mar	1.18	1.41	1.72	1.98	2.21	2.45	2.71	3.00	3.37	3.93	4.43
Apr	1.18	1.43	1.78	2.06	2.33	2.60	2.88	3.22	3.64	4.27	4.85
May	.84	1.11	1.51	1.86	2.19	2.55	2.93	3.39	3.98	4.90	5.75
Jun	1.06	1.38	1.85	2.26	2.65	3.05	3.50	4.02	4.69	5.74	6.71
Jul	.80	1.07	1.50	1.87	2.23	2.61	3.03	3.53	4.18	5.20	6.15
Aug	1.61	1.92	2.35	2.70	3.03	3.36	3.71	4.11	4.62	5.38	6.07
Sep	1.53	1.83	2.26	2.61	2.93	3.26	3.61	4.02	4.52	5.29	5.99
Oct	.96	1.20	1.55	1.85	2.13	2.41	2.72	3.09	3.55	4.26	4.91
Nov	.94	1.21	1.60	1.94	2.26	2.60	2.96	3.39	3.93	4.78	5.57
Dec	1.27	1.51	1.84	2.11	2.35	2.60	2.87	3.17	3.55	4.12	4.64
Ann	27.22	28.59	30.32	31.60	32.73	33.80	34.90	36.11	37.55	39.61	41.37

\+ 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	22.5	17.1	4	3	23.0	1996	3	60.4	1978	32	1978	21	12	1977	17.2	7.1	2.2	.8	.1	21.8	15.5	10.2	3.6
Feb	22.1	23.4	4	4	15.6	1984	28	40.7	1978	30	1978	8	15	1978	14.3	6.7	2.3	.7	.1	20.6	14.7	10.7	4.1
Mar	16.2	12.5	2	2	22.3	1999	4	45.0	1999	34	1999	7	8+	1999	9.8	4.0	1.6	.7	.2	12.5	7.0	4.7	1.9
Apr	5.1	2.8	#	1	10.4	1990	4	20.2	1979	10+	1975	6	2	1975	3.6	1.4	.5	.2	@	1.7	.8	.4	.1
May	.5	.0	#	0	10.7	1989	7	10.9	1989	4	1989	7	#	2000	.3	.1	@	@	@	@	@	.0	.0
Jun	.0	.0	#	0	.0	0	0	.0	0	0	0	0	#	1989	.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	.1	.0	0	0	2.6	1993	31	2.6	1993	#+	1993	10	0	0	.3	.0	.0	.0	.0	.0	.0	.0	.0
Nov	8.1	6.5	#	0	11.9	1995	15	24.9	1996	10	1996	27	2+	1996	6.3	2.4	.6	.3	.1	4.0	1.7	.7	@
Dec	21.2	19.5	2	2	18.0	1978	25	47.9	1981	21+	1977	11	6	1989	14.5	6.4	2.1	.8	.1	14.6	7.7	4.3	.9
Ann	95.8	81.8	N/A	N/A	23.0	Jan 1996	3	60.4	Jan 1978	34	Mar 1999	7	15	Feb 1978	66.3	28.1	9.3	3.5	.6	75.2	47.4	31.0	10.6

+ 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	5/28	5/24	5/20	5/17	5/14	5/12	5/09	5/05	4/30
32	5/12	5/07	5/04	5/02	4/29	4/27	4/24	4/21	4/16
28	4/29	4/25	4/22	4/19	4/17	4/15	4/13	4/10	4/06
24	4/17	4/12	4/09	4/07	4/05	4/02	3/31	3/28	3/24
20	4/10	4/06	4/03	3/31	3/29	3/26	3/23	3/20	3/16
16	4/03	3/30	3/27	3/24	3/22	3/19	3/16	3/13	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	9/27	9/30	10/02	10/04	10/07	10/10	10/14
32	9/29	10/04	10/07	10/10	10/13	10/16	10/19	10/22	10/27
28	10/19	10/23	10/26	10/29	11/01	11/03	11/06	11/09	11/13
24	10/25	10/30	11/03	11/06	11/10	11/13	11/16	11/20	11/25
20	11/07	11/13	11/17	11/21	11/24	11/27	12/01	12/05	12/10
16	11/19	11/24	11/28	12/01	12/04	12/07	12/10	12/14	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	160	153	148	144	140	136	132	127	120
32	185	179	174	170	166	162	158	153	147
28	216	209	204	200	197	193	189	184	178
24	241	233	227	223	218	214	209	204	196
20	260	253	248	244	240	236	231	226	219
16	277	270	265	261	257	253	248	243	236

***** 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	1263	1117	958	582	266	69	17	25	154	447	741	1089	6728
60	1119	973	808	445	165	15	0	3	52	312	603	948	5443
57	1026	889	715	360	113	5	0	0	25	235	514	855	4737
55	964	833	653	306	85	2	0	0	13	190	455	793	4294
50	809	693	506	188	35	0	0	0	2	100	315	639	3287
32	313	253	111	5	0	0	0	0	0	0	24	191	897

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	48	56	170	419	792	1032	1218	1159	889	582	269	87	6721
55	0	0	6	33	153	347	505	446	224	55	9	1	1779
57	0	0	5	24	119	292	443	385	178	37	6	0	1489
60	0	0	3	15	78	214	350	295	120	18	2	0	1095
65	0	0	1	5	32	109	209	162	54	4	0	0	576
70	0	0	0	1	10	41	94	64	18	1	0	0	229

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	10	12	70	222	553	804	976	921	656	350	117	27	10	22	92	314	867	1671	2647	3568	4224	4574	4691	4718
45	0	4	36	129	402	654	821	766	506	221	61	7	0	4	40	169	571	1225	2046	2812	3318	3539	3600	3607
50	0	0	16	69	270	504	666	611	363	123	28	3	0	0	16	85	355	859	1525	2136	2499	2622	2650	2653
55	0	0	5	38	159	357	511	456	229	60	9	0	0	0	5	43	202	559	1070	1526	1755	1815	1824	1824
60	0	0	3	15	82	223	357	305	127	19	2	0	0	0	3	18	100	323	680	985	1112	1131	1133	1133
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	5	8	46	132	327	510	658	606	394	190	59	7	5	13	59	191	518	1028	1686	2292	2686	2876	2935	2942

(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