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: SANDY HOOK, NJ **COOP ID: 287865**

Climate Division: NJ 3 **NWS Call Sign:** **Elevation: 10 Feet** **Lat: 40˚27N** **Lon: 73˚59W**

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	38.3	25.7	32.0	65	1995	14	40.1	1998	-3	1985	20	22.9	1982	1024	0	.0	.0	3.9	7.8	23.8	.2
Feb	40.0	27.0	33.5	70+	1985	24	40.3	1991	0	1979	17	21.7	1979	882	0	.0	.0	4.1	5.9	21.7	@
Mar	48.3	33.9	41.1	74	1977	29	46.1	2000	2	1980	1	34.4	1984	742	0	.0	.0	13.2	.9	14.4	.0
Apr	58.3	42.3	50.3	87	1976	17	54.1	1976	18+	1982	8	46.4	1992	441	0	.0	@	27.0	@	4.7	.0
May	68.4	52.4	60.4	90+	1992	23	65.6	1991	33	1978	11	56.1	1978	174	30	.0	.1	30.9	.0	.0	.0
Jun	77.9	61.6	69.8	96	1991	30	72.7	1991	47	1980	13	65.8	1982	15	156	.0	1.8	30.0	.0	.0	.0
Jul	83.1	67.7	75.4	100	1995	16	78.4	1994	50	1979	6	71.9	1999	0	323	.1	4.7	31.0	.0	.0	.0
Aug	81.9	66.8	74.4	98+	1999	1	77.4	1995	51+	1979	16	71.7	1992	0	291	.0	3.1	31.0	.0	.0	.0
Sep	75.7	60.5	68.1	95	1983	11	71.1	1998	40	1978	30	64.4	1990	30	124	.0	.6	30.0	.0	.0	.0
Oct	64.0	48.9	56.5	88	1979	22	61.7	1971	30	1978	18	52.3	1988	280	13	.0	.0	30.4	.0	2.3	.0
Nov	53.5	40.5	47.0	78	1982	2	51.7	1975	20	1976	30	41.0	1976	541	0	.0	.0	21.4	@	4.1	.0
Dec	44.1	31.6	37.9	68+	1978	5	45.5	1998	8+	1980	13	25.4	1989	841	0	.0	.0	8.7	2.9	20.0	.0
Ann	61.1	46.6	53.9	100	Jul 1995	16	78.4	Jul 1994	-3	Jan 1985	20	21.7	Feb 1979	4970	937	.1	10.3	261.6	17.5	91.0	.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: 1969-2001

(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	3.99	3.26	3.75	1999	3	9.74	1978	.57	1981
Feb	2.87	2.72	1.98	1971	8	5.24	1979	.92	1980
Mar	3.60	3.43	2.88	2000	26	8.43	1983	1.10	1981
Apr	3.69	3.45	3.10	1984	5	9.02	1983	1.38	1985
May	4.01	3.82	4.30	1984	30	11.04	1984	.92	1993
Jun	3.53	2.94	3.05	1973	22	9.06	1972	.94	1988
Jul	4.10	3.78	3.15	1978	4	8.74	1984	1.19	1974
Aug	4.03	3.83	3.42	1970	24	8.43	1992	.26	1972
Sep	3.42	3.19	2.68	1994	27	8.32	1975	1.33	1982
Oct	3.36	3.38	3.05	1972	7	6.91	1996	.61	2000
Nov	3.41	3.08	2.65	1972	8	9.38	1972	.30	1976
Dec	3.57	3.00	2.85	1974	16	7.63	1996	.77	1998
Ann	43.58	42.36	4.30	May 1984	30	11.04	May 1984	.26	Aug 1972

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.8	5.5	2.3	.8
Feb	8.3	5.6	2.0	.7
Mar	9.5	6.8	2.9	.9
Apr	9.3	6.0	2.0	.9
May	11.5	6.9	2.2	.6
Jun	10.6	5.7	1.5	.5
Jul	9.1	6.9	2.9	1.0
Aug	8.8	6.1	2.8	1.1
Sep	8.6	5.6	2.4	.7
Oct	7.6	4.8	2.0	.7
Nov	8.3	5.3	2.5	1.0
Dec	10.4	5.6	2.2	.7
Ann	110.8	70.8	27.7	9.6

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	1.15	1.53	2.10	2.60	3.08	3.58	4.14	4.80	5.65	6.98	8.21
Feb	1.20	1.46	1.83	2.13	2.41	2.70	3.01	3.37	3.82	4.51	5.13
Mar	1.30	1.64	2.13	2.54	2.93	3.33	3.76	4.26	4.91	5.90	6.81
Apr	1.45	1.79	2.28	2.68	3.06	3.44	3.86	4.34	4.95	5.89	6.75
May	1.21	1.59	2.16	2.65	3.13	3.62	4.17	4.81	5.64	6.94	8.14
Jun	1.14	1.47	1.97	2.39	2.80	3.22	3.68	4.22	4.92	6.00	7.00
Jul	1.44	1.83	2.39	2.86	3.32	3.78	4.29	4.87	5.63	6.79	7.86
Aug	.90	1.27	1.86	2.39	2.92	3.49	4.13	4.89	5.89	7.48	8.99
Sep	1.13	1.46	1.93	2.34	2.73	3.13	3.57	4.08	4.74	5.76	6.70
Oct	1.02	1.34	1.81	2.23	2.63	3.04	3.50	4.03	4.73	5.81	6.82
Nov	.71	1.02	1.52	1.97	2.43	2.92	3.48	4.14	5.02	6.42	7.75
Dec	.86	1.19	1.71	2.17	2.64	3.12	3.67	4.32	5.17	6.52	7.78
Ann	33.28	35.33	37.92	39.87	41.59	43.24	44.93	46.79	49.03	52.25	55.01

\+ 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: 1969-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
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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	3.6	1.3	1	#
Feb	7.1	4.5	1	#
Mar	.8	.0	#	0
Apr	.2	.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
Nov	.1	.0	#	0
Dec	2.1	1.0	#	0
Ann	13.9	6.8	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	22.0	1996	8	22.0	1996	22	1996	10	7	1996
Feb	17.0	1978	7	25.5	1979	17	1978	7	6	1994
Mar	4.0	1999	15	4.9	1992	4+	1999	15	3	1976
Apr	3.5	1982	6	4.5	1982	2	1982	6	#+	1996
May	.0	0	0	.0	0	0	0	0	0	0
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	#	1972	19	#	1972	0	0	0	0	0
Nov	2.2	1978	28	2.2	1978	2+	1995	29	#+	1995
Dec	6.0	1990	28	6.5	1995	6	1990	28	1	1995
Ann	22.0	Jan 1996	8	25.5	Feb 1979	22	Jan 1996	10	7	Jan 1996

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	2.0	1.5	.7	.2	.0
Feb	1.9	1.4	.7	.4	.1
Mar	.3	.2	.1	.0	.0
Apr	.1	.1	.1	.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	.0
Dec	.9	.8	.4	.1	.0
Ann	5.3	4.1	2.0	.7	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	3.0	.8	.7	.0
Feb	5.2	3.7	2.0	1.1
Mar	.5	.1	.0	.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	.2	.0	.0	.0
Dec	1.2	.6	.2	.0
Ann	10.2	5.2	2.9	1.1

+ 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	5/02	4/28	4/25	4/23	4/20	4/18	4/16	4/13	4/09
32	4/26	4/21	4/18	4/15	4/12	4/09	4/06	4/03	3/29
28	4/21	4/15	4/10	4/07	4/03	3/31	3/27	3/22	3/16
24	4/07	3/31	3/27	3/23	3/19	3/15	3/11	3/06	2/28
20	3/26	3/19	3/14	3/10	3/06	3/02	2/26	2/21	2/14
16	3/16	3/09	3/03	2/27	2/23	2/18	2/14	2/08	1/30

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	10/03	10/10	10/15	10/19	10/23	10/27	10/31	11/05	11/12
32	10/07	10/15	10/21	10/26	10/30	11/04	11/09	11/15	11/23
28	10/22	10/31	11/07	11/13	11/19	11/24	11/30	12/07	12/16
24	11/22	11/29	12/03	12/07	12/10	12/14	12/18	12/22	12/28
20	11/29	12/05	12/10	12/14	12/17	12/21	12/25	12/29	1/05
16	12/05	12/13	12/19	12/24	12/29	1/02	1/08	1/14	1/24

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	212	202	196	190	185	179	173	167	157
32	234	222	214	207	201	194	187	179	168
28	266	253	244	236	229	221	214	204	192
24	292	283	276	271	266	260	255	248	239
20	309	301	295	290	286	281	276	270	262
16	350	332	323	315	309	302	295	287	277

***** 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	1024	882	742	441	174	15	0	0	30	280	541	841	4970
60	869	742	587	294	79	2	0	0	6	160	392	686	3817
57	776	658	494	211	42	0	0	0	2	104	305	593	3185
55	714	602	433	161	25	0	0	0	1	74	251	537	2798
50	568	467	291	65	5	0	0	0	0	25	135	395	1951
32	152	95	18	0	0	0	0	0	0	0	1	65	331

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	151	137	299	549	879	1132	1346	1314	1083	756	450	247	8343
55	0	0	1	20	191	442	633	601	394	118	11	7	2418
57	0	0	0	9	146	382	571	539	335	85	4	0	2071
60	0	0	0	3	90	293	478	446	249	48	1	0	1608
65	0	0	0	0	30	156	323	291	124	13	0	0	937
70	0	0	0	0	6	56	176	146	39	2	0	0	425

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	31	30	113	304	654	911	1121	1100	855	489	244	63	31	61	174	478	1132	2043	3164	4264	5119	5608	5852	5915
45	6	9	48	173	499	761	966	945	705	338	138	27	6	15	63	236	735	1496	2462	3407	4112	4450	4588	4615
50	0	0	12	75	346	611	811	790	555	208	63	6	0	0	12	87	433	1044	1855	2645	3200	3408	3471	3477
55	0	0	3	27	207	461	656	635	406	105	19	0	0	0	3	30	237	698	1354	1989	2395	2500	2519	2519
60	0	0	0	9	100	314	501	480	262	41	4	0	0	0	0	9	109	423	924	1404	1666	1707	1711	1711
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	4	10	49	162	360	604	795	774	555	271	100	28	4	14	63	225	585	1189	1984	2758	3313	3584	3684	3712

(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