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: GLASSBORO 2 NE, NJ **COOP ID: 283291**

Climate Division: NJ 2 **NWS Call Sign:** **Elevation: 100 Feet** **Lat: 39˚44N** **Lon: 75˚06W**

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	39.9	23.7	31.8	71+	1967	25	40.0	1998	-8	1984	22	21.5	1977	1029	0	.0	.0	5.7	7.6	25.7	.6
Feb	42.6	25.5	34.1	75	1985	25	40.7	1976	-2	1979	18	22.7	1979	867	0	.0	.0	7.5	5.5	21.9	.1
Mar	51.6	33.1	42.4	85	1990	15	47.8	1977	5	1984	10	35.9	1984	702	0	.0	.0	17.0	.9	15.1	.0
Apr	62.1	41.9	52.0	93	1976	19	56.3	1994	18	1982	7	47.2	1975	390	1	.0	.3	26.8	.0	2.9	.0
May	72.4	51.6	62.0	95	1991	31	68.3	1991	30	1966	11	59.1	1997	135	42	.0	.8	30.9	.0	@	.0
Jun	81.1	61.0	71.1	100	1988	23	74.7	1994	42	1967	1	66.4	1982	11	192	@	3.9	30.0	.0	.0	.0
Jul	85.7	66.4	76.1	104	1966	4	79.0	1995	51+	1971	5	72.5	2000	0	343	.1	8.1	31.0	.0	.0	.0
Aug	84.1	64.9	74.5	99+	1973	28	77.7	1983	44	1965	31	71.3	1982	0	294	.0	4.8	31.0	.0	.0	.0
Sep	77.2	57.7	67.5	99	1983	12	71.2	1980	32	1963	24	65.0	1988	34	107	.0	1.3	30.0	.0	.0	.0
Oct	65.8	45.3	55.6	88	1968	4	61.4	1971	23+	1969	24	50.9	1988	306	13	.0	.0	30.5	.0	1.3	.0
Nov	55.2	37.2	46.2	80+	1974	5	51.6	1975	15	1976	30	40.7	1976	565	0	.0	.0	20.6	.1	10.0	.0
Dec	44.7	28.6	36.7	75	1998	8	41.8	1984	1+	1980	25	24.5	1989	879	0	.0	.0	9.4	3.6	21.2	.0
Ann	63.5	44.7	54.2	104	Jul 1966	4	79.0	Jul 1995	-8	Jan 1984	22	21.5	Jan 1977	4918	992	.1	19.2	270.4	17.7	98.1	.7

+ 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	3.88	3.58	2.27	1986	26	7.60	1979	.54	1981
Feb	2.83	2.38	2.50	1973	3	5.40	1971	.63	1978
Mar	4.27	4.04	2.80	1975	20	7.97	1983	1.56	1976
Apr	3.83	3.75	2.95	1983	16	8.26	1983	.99	1992
May	4.17	4.27	2.86	1975	22	7.43	1990	.88	1986
Jun	3.64	3.16	3.00	1972	22	8.52	1972	.29	1988
Jul	4.16	3.87	5.09	1975	13	10.04	1975	.57	1983
Aug	4.42	4.07	6.67	1971	27	12.75	1971	1.13	1973
Sep	3.80	3.42	4.15	1985	27	9.08	1999	1.10	1978
Oct	3.40	3.37	3.15	1970	22	7.21	1976	.49	1994
Nov	3.44	2.71	4.34	1950	25	8.75	1972	.49	1976
Dec	3.70	3.32	2.80+	1986	25	9.02	1996	.86	1988
Ann	45.54	43.70	6.67	Aug 1971	27	12.75	Aug 1971	.29	Jun 1988

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.5	7.1	2.6	.8
Feb	8.4	5.8	1.9	.6
Mar	9.4	7.2	3.1	1.2
Apr	9.5	7.0	2.9	.9
May	10.1	7.6	2.8	1.0
Jun	8.8	6.3	2.4	1.0
Jul	8.5	6.4	2.4	1.2
Aug	7.7	6.0	2.8	1.2
Sep	7.7	5.6	2.2	1.2
Oct	7.2	5.1	2.5	1.0
Nov	8.0	5.5	2.4	1.0
Dec	9.1	6.7	2.6	1.1
Ann	103.9	76.3	30.6	12.2

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	1.23	1.59	2.14	2.61	3.06	3.53	4.04	4.64	5.42	6.63	7.75
Feb	.94	1.20	1.60	1.93	2.25	2.59	2.95	3.38	3.92	4.77	5.55
Mar	1.60	2.00	2.57	3.05	3.50	3.96	4.46	5.05	5.79	6.93	7.98
Apr	1.47	1.83	2.33	2.76	3.16	3.56	4.01	4.52	5.17	6.17	7.08
May	1.25	1.64	2.24	2.75	3.25	3.76	4.33	5.00	5.87	7.23	8.48
Jun	.78	1.12	1.65	2.14	2.62	3.14	3.73	4.43	5.35	6.83	8.22
Jul	1.18	1.57	2.17	2.69	3.20	3.73	4.32	5.01	5.91	7.32	8.63
Aug	1.42	1.84	2.46	2.99	3.50	4.03	4.61	5.28	6.15	7.51	8.76
Sep	1.05	1.41	1.96	2.44	2.91	3.40	3.94	4.58	5.41	6.72	7.94
Oct	1.04	1.36	1.85	2.26	2.66	3.08	3.54	4.08	4.77	5.86	6.87
Nov	.74	1.06	1.56	2.02	2.48	2.97	3.52	4.18	5.05	6.44	7.75
Dec	.87	1.21	1.76	2.24	2.72	3.23	3.80	4.48	5.38	6.79	8.13
Ann	34.12	36.38	39.24	41.40	43.31	45.15	47.04	49.11	51.62	55.23	58.34

\+ 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)

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	3.7	1.7	1	#	6.0	1978	20	12.9	1977	19	1996	9	8	1987	1.6	.9	.2	.1	.0	1.3	.5	.1	.0
Feb	1.9	#	1	#	12.5	1983	12	12.5	1983	18	1979	19	7	1979	.5	.2	.1	.1	.1	.6	.4	.4	.3
Mar	.1	.0	#	0	1.0	1994	3	1.0	1994	7	1993	14	3	1978	.1	.1	.0	.0	.0	.1	.0	.0	.0
Apr	.1	.0	#	0	1.0	1983	20	1.0	1983	2+	1987	6	#+	1997	.1	.1	.0	.0	.0	.0	.0	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.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	#	.0	#	0	#	1972	19	#	1972	2	1979	10	#	1979	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.0	.0	#	0	.5	1987	12	.5	1987	4	1989	25	#+	1989	.1	.0	.0	.0	.0	.0	.0	.0	.0
Dec	1.7	.4	#	#	7.5	1989	13	11.8	1989	7	1989	13	2	1989	.7	.5	.3	.1	.0	1.7	.5	.2	.0
Ann	7.5	2.1	N/A	N/A	12.5	Feb 1983	12	12.9	Jan 1977	19	Jan 1996	9	8	Jan 1987	3.1	1.8	.6	.3	.1	3.7	1.4	.7	.3

+ 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	5/04	4/30	4/27	4/24	4/22	4/19	4/17	4/14	4/10
32	4/24	4/20	4/16	4/14	4/11	4/08	4/05	4/02	3/29
28	4/05	4/01	3/30	3/27	3/25	3/23	3/20	3/18	3/14
24	3/29	3/25	3/22	3/20	3/17	3/15	3/13	3/10	3/06
20	3/25	3/19	3/15	3/12	3/09	3/05	3/02	2/26	2/21
16	3/14	3/07	3/02	2/26	2/22	2/17	2/13	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	10/06	10/10	10/13	10/16	10/19	10/21	10/24	10/27	10/31
32	10/14	10/18	10/22	10/25	10/28	10/30	11/02	11/06	11/11
28	10/31	11/05	11/09	11/11	11/14	11/17	11/20	11/23	11/28
24	11/08	11/14	11/18	11/22	11/25	11/29	12/03	12/07	12/13
20	11/26	12/03	12/07	12/11	12/15	12/19	12/23	12/27	1/03
16	12/06	12/13	12/19	12/23	12/27	1/01	1/05	1/11	1/19

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	199	192	187	183	179	175	171	166	159
32	219	212	207	203	199	195	191	186	179
28	250	244	240	237	233	230	227	223	217
24	271	265	260	256	252	249	245	240	234
20	307	298	291	286	281	275	270	263	254
16	343	328	320	313	307	302	296	289	279

***** 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	1029	867	702	390	135	11	0	0	34	306	565	879	4918
60	874	727	547	248	53	1	0	0	7	184	416	724	3781
57	781	643	455	173	25	0	0	0	2	127	331	631	3168
55	719	587	396	130	13	0	0	0	1	95	277	571	2789
50	574	455	258	52	2	0	0	0	0	39	160	428	1968
32	159	97	14	0	0	0	0	0	0	0	3	75	348

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	153	154	334	601	929	1170	1366	1317	1063	731	428	219	8465
55	0	0	4	41	229	480	653	604	374	113	13	2	2513
57	0	0	1	24	179	420	591	542	315	82	6	0	2160
60	0	0	0	9	115	331	498	449	230	47	2	0	1681
65	0	0	0	1	42	192	343	294	107	13	0	0	992
70	0	0	0	0	9	83	194	152	29	2	0	0	469

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	37	56	156	374	691	942	1129	1079	830	494	226	72	37	93	249	623	1314	2256	3385	4464	5294	5788	6014	6086
45	18	22	82	242	537	792	974	924	680	345	130	34	18	40	122	364	901	1693	2667	3591	4271	4616	4746	4780
50	1	8	39	136	382	642	819	769	530	212	64	7	1	9	48	184	566	1208	2027	2796	3326	3538	3602	3609
55	0	0	12	69	244	493	664	614	383	116	25	2	0	0	12	81	325	818	1482	2096	2479	2595	2620	2622
60	0	0	3	27	134	345	509	459	246	51	8	0	0	0	3	30	164	509	1018	1477	1723	1774	1782	1782
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	22	32	87	207	412	624	789	750	535	282	118	35	22	54	141	348	760	1384	2173	2923	3458	3740	3858	3893

(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