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: NEW BRUNSWICK 3 SE, NJ **COOP ID: 286055**

Climate Division: NJ 2 **NWS Call Sign:** **Elevation: 86 Feet** **Lat: 40˚28N** **Lon: 74˚26W**

Temperature (˚F)

Month	Mean (1) Daily Max	Mean (1) Daily Min	Mean (1) Mean	Extremes Highest Daily(2)	Year	Day	Highest Month(1) Mean	Year	Lowest Daily(2)	Year	Day	Lowest Month(1) Mean	Year	Degree Days (1) Base Temp 65 Heating	Cooling	Mean Number of Days (3) Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
Jan	38.2	21.1	29.7	70+	1995	15	39.1	1998	-13	1984	22	19.5	1977	1096	0	.0	.0	4.7	9.2	26.7	1.0
Feb	41.0	22.9	32.0	75	1985	25	38.8	1998	-7	1979	18	21.0	1979	926	0	.0	.0	6.5	6.4	23.3	.3
Mar	50.1	31.0	40.6	88	1998	31	45.6	2000	6+	1980	1	33.9	1984	759	0	.0	.0	15.2	1.3	18.3	.0
Apr	60.8	39.7	50.3	94	1976	19	53.4	1981	16	1982	7	46.1	1975	442	0	.0	.2	25.8	.1	5.4	.0
May	71.5	49.6	60.6	95	1996	21	65.6	1991	30	1983	10	57.5	1997	166	27	.0	.7	30.8	.0	.1	.0
Jun	80.3	58.8	69.6	97	1988	23	72.7	1994	40+	1980	11	65.8	1982	18	154	.0	3.1	30.0	.0	.0	.0
Jul	85.4	64.2	74.8	103	1999	6	79.7	1999	45	1982	2	71.3	2000	0	304	.2	7.2	31.0	.0	.0	.0
Aug	83.6	62.7	73.2	101	2001	10	76.5	1980	40	1982	29	69.5	1992	1	254	@	4.3	31.0	.0	.0	.0
Sep	76.6	54.8	65.7	98+	1980	3	68.9	1980	35+	1989	28	62.7	1984	50	71	.0	1.0	30.0	.0	.0	.0
Oct	65.3	42.8	54.1	88+	1986	1	59.8	1971	25+	1969	24	50.1	1992	345	6	.0	.0	30.4	.0	3.2	.0
Nov	54.2	35.1	44.7	80+	1974	2	50.1	1975	13	1989	24	39.5	1976	610	0	.0	.0	20.4	.1	12.7	.0
Dec	43.3	26.6	35.0	76	1998	8	40.3	1998	-7	1980	26	22.8	1989	933	0	.0	.0	8.2	4.6	23.6	.1
Ann	62.5	42.4	52.5	103	Jul 1999	6	79.7	Jul 1999	-13	Jan 1984	22	19.5	Jan 1977	5346	816	.2	16.5	264.0	21.7	113.3	1.4

\+ 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: 1968-2001

(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	4.10	3.75	2.82	1979	21	9.18	1979	.50	1981
Feb	2.98	2.72	2.63	1973	3	5.18	1998	.93	1980
Mar	4.11	4.01	2.41	1977	23	8.53	1983	1.12	1985
Apr	4.08	3.33	2.59	1986	17	9.01	1983	1.63	1995
May	4.57	4.31	3.16	1979	24	9.38	1984	.78	1993
Jun	3.86	3.19	2.63	1992	6	9.07	1972	.88	1971
Jul	4.97	4.28	6.24	1997	25	11.17	1988	.99	1999
Aug	4.46	3.74	7.66	1971	28	13.36	1971	1.04	1995
Sep	4.38	3.30	5.78	1999	17	12.68	1989	.87	1972
Oct	3.39	3.33	3.99	1996	20	7.33	1996	.65	2000
Nov	3.95	3.35	3.70	1977	8	8.28	1972	.34	1976
Dec	3.93	3.51	2.49	1983	13	9.91	1983	.43	1989
Ann	48.78	48.24	7.66	Aug 1971	28	13.36	Aug 1971	.34	Nov 1976

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.9	6.9	3.1	1.2
Feb	9.2	6.1	1.9	.6
Mar	10.6	6.6	3.0	1.0
Apr	11.4	6.5	2.9	1.2
May	12.4	7.8	3.2	1.2
Jun	10.9	7.0	3.0	1.0
Jul	10.2	6.9	3.4	1.6
Aug	9.3	6.1	2.8	1.3
Sep	9.0	5.9	2.7	1.2
Oct	8.8	5.5	2.2	.9
Nov	9.7	6.1	2.8	1.2
Dec	10.3	6.7	2.7	1.3
Ann	122.7	78.1	33.7	13.7

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	1.14	1.53	2.12	2.63	3.14	3.66	4.25	4.94	5.84	7.24	8.56
Feb	1.28	1.55	1.92	2.23	2.52	2.81	3.12	3.48	3.94	4.63	5.26
Mar	1.43	1.81	2.38	2.85	3.31	3.78	4.29	4.89	5.65	6.83	7.91
Apr	1.48	1.86	2.41	2.88	3.32	3.77	4.26	4.83	5.56	6.69	7.72
May	1.30	1.74	2.39	2.96	3.52	4.10	4.74	5.50	6.48	8.02	9.45
Jun	1.09	1.45	2.01	2.49	2.96	3.46	4.00	4.65	5.48	6.79	8.01
Jul	1.35	1.82	2.54	3.17	3.78	4.43	5.15	6.00	7.10	8.83	10.45
Aug	1.30	1.72	2.36	2.91	3.45	4.01	4.63	5.36	6.31	7.79	9.17
Sep	1.02	1.42	2.07	2.64	3.21	3.82	4.50	5.31	6.38	8.07	9.66
Oct	.99	1.31	1.80	2.22	2.63	3.05	3.52	4.08	4.79	5.92	6.96
Nov	1.00	1.37	1.95	2.45	2.95	3.48	4.07	4.77	5.68	7.12	8.48
Dec	.72	1.06	1.64	2.17	2.72	3.31	3.98	4.79	5.86	7.59	9.25
Ann	36.46	38.89	41.98	44.31	46.37	48.35	50.38	52.62	55.33	59.22	62.58

\+ 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: 1968-2001
(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	9.1	7.7	2	1	19.5	1996	8	26.9	1996	25	1996	8	11	1996	4.9	2.6	1.1	.4	.1	10.7	6.1	3.3	.6
Feb	8.3	5.5	2	1	17.9	1983	12	24.6	1978	20	1983	12	8	1978	3.9	2.2	1.0	.4	.1	9.2	5.9	3.8	.9
Mar	4.3	2.0	1	#	9.5	1993	14	17.7	1993	12	1993	14	4	1993	2.2	1.1	.6	.3	.0	3.1	2.1	1.2	.2
Apr	1.1	.0	#	0	5.0	1971	7	9.5	1982	8	1982	7	1	1982	.5	.3	.2	@	.0	.3	.2	.1	.0
May	#	.0	0	0	#	1977	10	#	1977	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	#	0	.6	1972	19	.8	1972	#	1972	19	#	1972	.1	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.6	#	#	0	6.0	1989	23	6.1	1989	6	1989	23	#+	2000	.5	.2	.1	@	.0	.2	.1	@	.0
Dec	3.1	2.0	#	#	8.3	2000	30	15.7	1995	15	2000	31	3	1995	2.1	1.2	.3	.2	.0	3.0	1.4	.5	@
Ann	26.5	17.2	N/A	N/A	19.5	Jan 1996	8	26.9	Jan 1996	25	Jan 1996	8	11	Jan 1996	14.2	7.6	3.3	1.3	.2	26.5	15.8	8.9	1.7

+ 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	5/16	5/12	5/09	5/07	5/04	5/02	4/29	4/26	4/22
32	5/01	4/27	4/24	4/22	4/20	4/17	4/15	4/12	4/08
28	4/17	4/12	4/09	4/07	4/04	4/02	3/30	3/27	3/23
24	4/04	3/31	3/28	3/26	3/23	3/21	3/18	3/15	3/11
20	3/28	3/23	3/19	3/15	3/12	3/09	3/05	3/01	2/24
16	3/25	3/16	3/10	3/05	2/28	2/23	2/18	2/12	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	9/25	9/30	10/03	10/06	10/08	10/11	10/14	10/17	10/22
32	10/07	10/11	10/14	10/17	10/20	10/22	10/25	10/28	11/01
28	10/19	10/24	10/28	10/31	11/03	11/06	11/09	11/13	11/18
24	11/06	11/10	11/14	11/17	11/20	11/22	11/25	11/29	12/04
20	11/17	11/22	11/27	11/30	12/03	12/07	12/10	12/14	12/20
16	11/29	12/06	12/10	12/14	12/18	12/22	12/26	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	173	167	163	160	157	153	150	146	140
32	200	194	190	186	182	179	175	171	164
28	232	225	220	216	212	208	203	198	191
24	257	251	247	244	241	238	234	230	225
20	288	281	275	270	266	261	256	251	243
16	326	315	306	299	292	286	278	270	258

***** 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	1096	926	759	442	166	18	0	1	50	345	610	933	5346
60	941	786	604	294	69	2	0	0	12	213	460	778	4159
57	848	702	511	210	34	0	0	0	4	148	372	685	3514
55	786	646	450	161	19	0	0	0	2	112	315	623	3114
50	639	507	308	65	2	0	0	0	0	48	187	479	2235
32	199	122	23	0	0	0	0	0	0	0	3	100	447

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	127	120	287	549	884	1126	1327	1275	1010	684	384	190	7963
55	0	0	1	19	190	436	614	562	322	83	5	0	2232
57	0	0	0	9	143	376	552	500	264	57	2	0	1903
60	0	0	0	2	85	288	459	407	182	29	0	0	1452
65	0	0	0	0	27	154	304	254	71	6	0	0	816
70	0	0	0	0	4	57	160	120	14	0	0	0	355

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	26	36	126	328	646	889	1082	1031	777	446	192	53	26	62	188	516	1162	2051	3133	4164	4941	5387	5579	5632
45	8	11	61	199	491	739	927	876	627	301	103	24	8	19	80	279	770	1509	2436	3312	3939	4240	4343	4367
50	1	2	28	105	338	589	772	721	478	177	50	4	1	3	31	136	474	1063	1835	2556	3034	3211	3261	3265
55	0	0	9	48	205	439	617	566	332	85	19	0	0	0	9	57	262	701	1318	1884	2216	2301	2320	2320
60	0	0	3	19	104	297	462	411	201	36	4	0	0	0	3	22	126	423	885	1296	1497	1533	1537	1537
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	19	26	78	185	378	584	743	706	496	265	107	30	19	45	123	308	686	1270	2013	2719	3215	3480	3587	3617

(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