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: PEMBERTON, NJ **COOP ID: 286843**

Climate Division: NJ 2 **NWS Call Sign:** **Elevation: 60 Feet** **Lat: 39˚58N** **Lon: 74˚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	42.1	22.5	32.3	75	1950	26	42.8	1998	-17	1984	22	21.1	1977	1013	0	.0	.0	7.3	5.6	26.1	.8
Feb	45.3	24.0	34.7	77	1985	24	42.6	1997	-12	1979	18	22.6	1979	850	0	.0	.0	9.2	3.2	22.3	.5
Mar	54.2	31.2	42.7	91	1998	31	50.3	2000	-2	1984	10	36.6	1984	693	0	.0	@	20.0	.2	18.1	@
Apr	64.6	38.6	51.6	93+	1976	18	56.0	1998	16	1982	7	46.8	1975	403	1	.0	.3	28.5	.0	7.8	.0
May	75.0	48.5	61.8	100+	2000	7	67.5	1991	25	1978	1	58.4	1973	139	38	.1	1.5	31.0	.0	1.0	.0
Jun	82.9	57.5	70.2	100+	1952	26	73.7	2000	36	1986	3	66.2	1979	16	172	.0	5.2	30.0	.0	.0	.0
Jul	87.1	62.7	74.9	104	1999	6	79.5	1999	41	1988	1	72.3	1978	0	307	.6	10.4	31.0	.0	.0	.0
Aug	85.5	61.5	73.5	104	2001	10	76.6	1988	37+	1965	31	70.0	1982	1	264	.1	7.8	31.0	.0	.0	.0
Sep	79.1	54.4	66.8	98+	1953	2	72.1	1998	28	1957	27	63.7	1984	42	94	.0	1.9	30.0	.0	@	.0
Oct	68.5	42.9	55.7	91+	1959	5	62.5	1971	18	1969	24	50.4	1988	304	15	.0	@	30.8	.0	5.8	.0
Nov	57.4	35.0	46.2	84	1950	1	50.6	1985	8	1989	24	39.7	1976	564	0	.0	.0	23.8	@	13.2	.0
Dec	46.5	27.3	36.9	75	1982	5	41.8	1984	-5	1963	31	24.3	1989	872	0	.0	.0	11.5	2.4	21.8	.1
Ann	65.7	42.2	53.9	104+	Aug 2001	10	79.5	Jul 1999	-17	Jan 1984	22	21.1	Jan 1977	4897	891	.8	27.1	284.1	11.4	116.1	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: 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	4.01	3.76	3.11	1979	21	9.41	1979	.72	1981
Feb	2.85	2.68	2.17	1966	13	5.77	1979	.97	1980
Mar	4.16	3.79	2.84	1958	20	8.19	1983	1.75	1995
Apr	3.58	3.41	3.23	1987	4	6.67	1983	.58	1985
May	4.31	4.04	3.28	1978	24	8.41	1984	.70	1986
Jun	3.87	3.44	2.81	1962	24	8.38	1975	1.47	1997
Jul	4.60	4.34	3.75	1960	30	9.17	1989	.51	1999
Aug	5.16	4.82	7.20	1971	27	12.59	1971	1.08	1973
Sep	3.79	3.73	5.09	1960	12	8.81	1975	.82	1997
Oct	3.47	3.70	3.49	1972	7	6.54	1995	.81	1994
Nov	3.54	3.21	2.66	1977	7	9.09	1972	.53	1976
Dec	3.78	3.36	3.44	1992	11	7.45	1973	.76	1988
Ann	47.12	46.33	7.20	Aug 1971	27	12.59	Aug 1971	.51	Jul 1999

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.0	7.2	2.6	.9
Feb	9.2	5.7	2.1	.7
Mar	10.8	7.4	3.4	.9
Apr	10.6	6.9	2.3	.9
May	11.2	7.9	2.8	1.0
Jun	9.7	6.4	2.6	1.1
Jul	9.1	6.4	2.8	1.3
Aug	8.5	6.1	2.8	1.5
Sep	8.3	5.3	2.3	1.0
Oct	7.5	4.8	2.1	.9
Nov	9.1	5.9	2.5	1.2
Dec	9.7	6.0	2.4	1.1
Ann	114.7	76.0	30.7	12.5

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	1.27	1.65	2.22	2.70	3.17	3.65	4.18	4.80	5.60	6.85	8.00
Feb	1.23	1.49	1.85	2.14	2.41	2.69	2.99	3.33	3.76	4.41	5.01
Mar	1.70	2.08	2.62	3.06	3.48	3.90	4.36	4.88	5.55	6.56	7.49
Apr	1.22	1.55	2.05	2.47	2.87	3.29	3.74	4.27	4.95	6.00	6.97
May	1.41	1.82	2.42	2.93	3.42	3.93	4.49	5.14	5.98	7.28	8.48
Jun	1.32	1.68	2.22	2.67	3.10	3.55	4.04	4.61	5.34	6.47	7.51
Jul	1.50	1.94	2.58	3.13	3.66	4.20	4.80	5.49	6.39	7.78	9.06
Aug	1.29	1.78	2.53	3.20	3.85	4.55	5.32	6.24	7.45	9.35	11.14
Sep	1.01	1.37	1.92	2.40	2.87	3.36	3.91	4.57	5.42	6.75	8.00
Oct	1.07	1.40	1.89	2.31	2.72	3.14	3.61	4.16	4.87	5.97	7.00
Nov	.79	1.12	1.64	2.10	2.57	3.07	3.62	4.29	5.17	6.57	7.88
Dec	1.00	1.35	1.90	2.38	2.86	3.35	3.90	4.56	5.41	6.75	8.01
Ann	35.16	37.52	40.51	42.77	44.77	46.69	48.67	50.84	53.47	57.25	60.51

\+ 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)

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	6.1	4.5	1	#	9.5	1987	22	17.3	1987	14	1987	26	4	1977	3.2	1.7	.8	.3	.0	5.3	2.4	1.6	.3
Feb	5.1	1.0	1	#	12.5	1987	23	20.7	1979	16	1979	19	8	1978	2.4	1.3	.7	.4	.1	4.4	3.0	2.0	.6
Mar	2.5	.8	#	#	9.5	1984	9	13.0	1978	10	1978	9	3	1978	1.3	.8	.3	.2	.0	1.8	1.2	.6	@
Apr	.6	.0	#	0	4.0	1997	1	6.0	1997	4	1997	1	#+	2000	.5	.3	@	.0	.0	.2	@	.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	#	0	1.0	1979	10	1.0	1979	#	1979	10	#	1979	@	@	.0	.0	.0	.0	.0	.0	.0
Nov	.3	.0	#	0	5.5	1989	23	5.5	1989	5	1989	23	#+	2000	.3	.1	@	@	.0	.2	.1	@	.0
Dec	2.5	1.2	#	#	11.0	2000	30	13.2	2000	11	2000	30	2	1989	1.4	.8	.2	.2	@	2.0	.9	.3	.0
Ann	17.1	7.5	N/A	N/A	12.5	Feb 1987	23	20.7	Feb 1979	16	Feb 1979	19	8	Feb 1978	9.1	5.0	2.0	1.1	.1	13.9	7.6	4.5	.9

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

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	9/17	9/21	9/24	9/27	9/29	10/02	10/05	10/08	10/12
32	9/28	10/03	10/06	10/09	10/12	10/15	10/17	10/21	10/25
28	10/09	10/14	10/18	10/22	10/25	10/28	11/01	11/05	11/10
24	10/22	10/29	11/02	11/07	11/11	11/14	11/19	11/23	11/30
20	11/03	11/11	11/16	11/21	11/25	11/29	12/04	12/10	12/17
16	11/22	12/01	12/07	12/12	12/16	12/21	12/26	1/01	1/09

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	156	150	146	142	139	136	132	128	122
32	182	175	170	165	161	157	152	147	139
28	216	207	200	195	189	184	178	172	163
24	249	241	235	229	224	219	214	208	199
20	277	268	262	256	251	246	241	234	225
16	328	315	305	297	289	282	273	264	250

***** 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	1013	850	693	403	139	16	0	1	42	304	564	872	4897
60	858	710	538	260	54	2	0	0	10	184	415	717	3748
57	765	626	446	184	26	0	0	0	3	126	328	624	3128
55	704	576	390	140	13	0	0	0	1	95	275	569	2763
50	562	445	253	59	2	0	0	0	0	39	156	425	1941
32	159	108	16	0	0	0	0	0	0	0	2	80	365

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	169	182	346	588	922	1145	1330	1287	1042	735	429	231	8406
55	1	6	7	38	222	455	617	574	354	117	11	7	2409
57	0	0	1	22	172	395	555	512	296	86	5	0	2044
60	0	0	0	8	108	307	462	419	212	50	1	0	1567
65	0	0	0	1	38	172	307	264	94	15	0	0	891
70	0	0	0	0	7	71	161	126	24	3	0	0	392

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	40	59	161	365	681	912	1089	1051	810	489	227	75	40	99	260	625	1306	2218	3307	4358	5168	5657	5884	5959
45	18	27	83	232	526	762	934	896	660	341	131	35	18	45	128	360	886	1648	2582	3478	4138	4479	4610	4645
50	4	7	44	128	376	612	779	741	510	212	65	10	4	11	55	183	559	1171	1950	2691	3201	3413	3478	3488
55	0	0	15	60	235	462	624	586	364	115	28	3	0	0	15	75	310	772	1396	1982	2346	2461	2489	2492
60	0	0	4	22	126	319	469	431	232	48	8	0	0	0	4	26	152	471	940	1371	1603	1651	1659	1659
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	30	40	110	235	430	608	738	710	534	314	142	40	30	70	180	415	845	1453	2191	2901	3435	3749	3891	3931

(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