

# Climatography of the United States No. 20

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: EAST BRIMFIELD LAKE, MA

1971-2000

COOP ID: 192107

Climate Division: MA 2

NWS Call Sign:

Elevation: 680 Feet

Lat: 42°07N

Lon: 72°08W

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	33.4	12.2	22.8	62	1995	15	32.2	1990	-27	1984	22	13.7	1977	1308	0	.0	.0	2.6	14.4	30.0	6.0
Feb	35.9	13.9	24.9	68+	1985	25	32.0	1998	-24+	1996	5	16.6	1979	1123	0	.0	.0	3.0	10.9	27.0	4.1
Mar	45.2	23.3	34.3	83	1990	16	40.2	2000	-16	1967	19	28.9	1984	954	0	.0	.0	9.8	3.2	26.1	.4
Apr	56.6	33.2	44.9	91+	1976	19	48.8	1976	5	1970	1	39.8	1972	603	0	.0	.1	22.1	.2	13.7	.0
May	68.8	43.3	56.1	93	1979	11	60.2	1975	26+	1964	2	52.2	1990	283	6	.0	.4	30.2	.0	1.5	.0
Jun	76.9	52.5	64.7	95	1974	11	68.8	1976	32	1964	6	61.2	1985	68	58	.0	1.2	30.0	.0	.0	.0
Jul	81.7	57.7	69.7	98	1966	4	73.1	1994	42+	1975	1	65.8	1992	8	154	.0	2.7	31.0	.0	.0	.0
Aug	79.6	56.3	68.0	99	1975	3	72.0	1973	33	1965	31	65.0	1992	24	116	.0	1.0	31.0	.0	.0	.0
Sep	71.6	48.1	59.9	95	1973	1	63.8	1999	26	1963	24	57.1	1986	167	12	.0	.3	30.0	.0	.4	.0
Oct	60.9	36.6	48.8	85	1986	1	54.5	1971	17+	1966	31	44.6	1974	503	0	.0	.0	28.4	.0	10.2	.0
Nov	49.4	29.4	39.4	78	1982	3	44.6	1999	-1	1989	24	34.8	1996	769	0	.0	.0	13.8	1.1	20.2	@
Dec	38.1	19.3	28.7	72	1998	8	35.6	1998	-14+	1989	24	14.0	1989	1126	0	.0	.0	4.2	8.1	28.3	1.4
Ann	58.2	35.5	46.9	99	Aug 1975	3	73.1	Jul 1994	-27	Jan 1984	22	13.7	Jan 1977	6936	346	.0	5.7	236.1	37.9	157.4	11.9

+ 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](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1962-2001

(3) Derived from 1971-2000 serially complete daily data

009-A

**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: EAST BRIMFIELD LAKE, MA**

**COOP ID: 192107**

**Climate Division: MA 2**

**NWS Call Sign:**

**Elevation: 680 Feet**

**Lat: 42°07N**

**Lon: 72°08W**

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med- ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	4.34	4.50	2.75	1998	24	11.37	1979	.74	1981	11.9	7.4	3.4	1.1	1.12	1.53	2.16	2.72	3.27	3.84	4.49	5.25	6.24	7.81	9.28
Feb	3.14	2.79	2.23	1970	4	8.44	1981	.26	1987	10.3	6.5	2.2	.7	.97	1.27	1.71	2.10	2.47	2.85	3.27	3.77	4.41	5.40	6.33
Mar	4.26	3.59	2.70	1980	22	8.05	1980	.96	1981	11.8	7.9	3.0	1.1	1.68	2.07	2.63	3.10	3.54	3.98	4.46	5.02	5.73	6.81	7.80
Apr	4.18	4.05	3.25	2000	22	10.19	1987	1.08	1999	11.5	7.3	2.8	1.1	1.34	1.74	2.32	2.82	3.31	3.80	4.35	4.99	5.82	7.11	8.29
May	3.69	3.53	2.40	1984	30	9.89	1984	.98	1993	12.0	7.9	2.5	.7	1.25	1.60	2.11	2.55	2.96	3.39	3.85	4.40	5.10	6.18	7.17
Jun	3.69	3.12	3.12	1972	1	11.71	1982	.48	1979	11.0	7.2	2.3	.9	.69	1.02	1.56	2.07	2.57	3.12	3.74	4.50	5.49	7.10	8.62
Jul	3.73	3.60	3.30	1996	14	7.23	1988	1.53	1983	9.9	6.7	2.8	.9	1.70	2.03	2.48	2.85	3.20	3.54	3.91	4.34	4.87	5.68	6.41
Aug	3.92	3.34	5.03	1991	20	9.04	1991	.91	1984	9.9	6.8	2.6	.9	1.11	1.48	2.05	2.54	3.01	3.51	4.06	4.72	5.56	6.89	8.12
Sep	3.99	3.67	4.25	1999	17	9.99	1974	.62	1986	9.0	6.3	2.7	1.2	.92	1.30	1.88	2.40	2.92	3.48	4.10	4.84	5.81	7.35	8.80
Oct	4.16	3.68	3.11	1995	6	9.80	1995	1.15	1994	9.0	6.1	2.8	1.4	1.53	1.92	2.48	2.95	3.39	3.85	4.35	4.93	5.66	6.80	7.84
Nov	4.29	4.16	2.57	1991	12	8.42	1988	.69	1976	10.9	7.4	3.1	1.3	1.54	1.94	2.53	3.02	3.48	3.96	4.49	5.09	5.87	7.07	8.17
Dec	4.02	3.67	2.50	1992	12	9.93	1973	.94	1989	12.3	7.5	2.9	1.0	1.06	1.44	2.03	2.54	3.04	3.57	4.16	4.86	5.76	7.19	8.53
Ann	47.41	46.72	5.03	Aug 1991	20	11.71	Jun 1982	.26	Feb 1987	129.5	85.0	33.1	12.3	37.59	39.58	42.08	43.94	45.58	47.15	48.75	50.50	52.61	55.62	58.20

+ 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: 1962-2001

(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

# 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](http://www.ncdc.noaa.gov)

**Station: EAST BRIMFIELD LAKE, MA**

**COOP ID: 192107**

**Climate Division: MA 2**

**NWS Call Sign:**

**Elevation: 680 Feet**

**Lat: 42°07N**

**Lon: 72°08W**

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	15.1	15.5	5	3	11.0	1978	21	36.0	1987	26+	1996	13	17	1996	6.0	4.8	2.1	.9	@	17.5	13.2	9.2	4.1
Feb	12.3	11.2	5	5	19.0	1978	7	34.4	1972	29	1978	8	17	1978	5.0	3.7	1.6	.6	.1	16.6	13.6	9.5	5.0
Mar	9.4	7.3	3	1	18.0	1993	14	33.0	1993	25	1993	14	13	1971	3.6	3.1	1.1	.6	.1	9.0	7.0	5.2	2.8
Apr	4.0	1.0	#	#	28.0	1997	1	28.0	1997	24	1997	1	3	1982	1.0	.8	.3	.2	.1	1.3	.7	.5	.3
May	.2	.0	#	0	6.0	1977	10	6.0	1977	4	1977	10	#	1977	@	@	@	@	.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	.1	.0	#	0	3.0	1979	11	3.0	1979	2	1979	11	#+	2000	.1	.1	@	.0	.0	.1	.0	.0	.0
Nov	2.7	1.0	#	#	12.0	1986	19	17.0	1986	13	1971	26	2	1986	1.2	.9	.3	.2	@	2.2	.8	.3	@
Dec	10.5	8.0	2	1	23.0	1992	12	29.5	1992	26	1992	13	8	1992	4.5	3.4	1.1	.6	.1	10.0	6.7	4.2	.9
Ann	54.3	44.0	N/A	N/A	28.0	Apr 1997	1	36.0	Jan 1987	29	Feb 1978	8	17+	Jan 1996	21.4	16.8	6.5	3.1	.4	56.7	42.0	28.9	13.1

+ 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

Complete documentation available from:

[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

# Climatography of the United States

## No. 20 1971-2000

**Station: EAST BRIMFIELD LAKE, MA**

**COOP ID: 192107**

**Climate Division: MA 2**

**NWS Call Sign:**

**Elevation: 680 Feet**

**Lat: 42°07N**

**Lon: 72°08W**

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	5/31	5/26	5/23	5/20	5/17	5/14	5/11	5/08	5/03
32	5/18	5/14	5/11	5/08	5/06	5/03	5/01	4/28	4/23
28	5/02	4/29	4/26	4/24	4/23	4/21	4/19	4/16	4/13
24	4/21	4/16	4/13	4/09	4/07	4/04	4/01	3/28	3/23
20	4/08	4/04	4/01	3/30	3/28	3/26	3/24	3/21	3/18
16	4/03	3/30	3/27	3/24	3/22	3/19	3/17	3/14	3/10
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	9/15	9/18	9/21	9/23	9/25	9/27	9/29	10/01	10/05
32	9/24	9/28	10/02	10/04	10/07	10/10	10/12	10/16	10/20
28	10/03	10/08	10/11	10/14	10/17	10/19	10/22	10/25	10/30
24	10/15	10/20	10/24	10/28	10/31	11/03	11/07	11/11	11/16
20	10/30	11/04	11/08	11/12	11/15	11/18	11/21	11/25	11/30
16	11/14	11/19	11/22	11/25	11/28	12/01	12/04	12/07	12/12
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	146	140	136	133	130	127	124	120	114
32	169	164	160	157	154	151	147	144	138
28	193	187	183	180	176	173	169	165	159
24	230	222	216	211	207	202	197	191	183
20	251	244	239	235	231	227	222	217	210
16	268	262	257	254	250	247	243	239	233

\* 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

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

**Climatology  
of the United States**  
**No. 20**  
**1971-2000**

**Station: EAST BRIMFIELD LAKE, MA**

**COOP ID: 192107**

**Climate Division: MA 2**

**NWS Call Sign:**

**Elevation: 680 Feet**

**Lat: 42°07N**

**Lon: 72°08W**

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	1308	1123	954	603	283	68	8	24	167	503	769	1126	6936
60	1153	983	799	453	155	16	0	2	66	352	619	971	5569
57	1060	899	706	364	95	5	0	0	32	267	529	878	4835
55	998	843	644	307	65	2	0	0	18	215	469	816	4377
50	843	703	489	177	18	0	0	0	3	110	323	663	3329
32	339	243	76	2	0	0	0	0	0	0	20	211	891

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	54	44	145	389	745	981	1169	1115	835	520	242	108	6347
55	0	0	0	4	97	292	456	402	163	23	0	0	1437
57	0	0	0	1	66	235	394	340	117	12	0	0	1165
60	0	0	0	0	32	157	301	249	62	4	0	0	805
65	0	0	0	0	6	58	154	116	12	0	0	0	346
70	0	0	0	0	0	11	50	34	1	0	0	0	96

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	7	8	53	195	517	763	944	891	613	294	99	21	7	15	68	263	780	1543	2487	3378	3991	4285	4384	4405
45	0	0	20	102	368	613	789	736	463	173	45	5	0	0	20	122	490	1103	1892	2628	3091	3264	3309	3314
50	0	0	7	47	230	463	634	581	317	87	18	0	0	0	7	54	284	747	1381	1962	2279	2366	2384	2384
55	0	0	2	17	123	319	479	427	189	34	4	0	0	0	2	19	142	461	940	1367	1556	1590	1594	1594
60	0	0	0	2	58	191	327	276	97	10	0	0	0	0	0	2	60	251	578	854	951	961	961	961
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	2	6	42	131	312	484	627	584	375	189	59	11	2	8	50	181	493	977	1604	2188	2563	2752	2811	2822

(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](http://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.  
Complete documentation for the 1971-2000 Normals is available on the internet from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/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 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/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)