

Climatography of the United States

No. 20

1971-2000

Station: MASSABESIC LAKE, NH

COOP ID: 275211

Climate Division: NH 2

NWS Call Sign:

Elevation: 250 Feet Lat: 42° 59N Lon: 71° 24W

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	32.3	5.2	18.8	67	1950	4	26.1	1995	-35	1961	22	9.3	1994	1434	0	.0	.0	1.7	15.4	30.5	7.3
Feb	35.6	8.2	21.9	70	1997	23	29.5	1984	-23+	1971	3	14.0	1993	1208	0	.0	.0	2.4	11.3	27.4	4.7
Mar	44.3	18.4	31.4	86	1998	29	36.2	1977	-18	1980	1	25.9	1984	1043	0	.0	.0	8.7	3.7	26.5	.7
Apr	56.0	29.0	42.5	94	1976	19	46.3	1976	4	1982	7	37.7	1972	675	0	.0	.1	21.5	.1	14.6	.0
May	68.3	40.2	54.3	95+	1987	31	58.8	1991	19	2001	7	49.4	1990	336	4	.0	.4	29.9	.0	2.9	.0
Jun	77.4	49.5	63.5	98	1991	29	67.6	1976	29	2001	1	58.6	1982	94	47	.0	2.0	30.0	.0	.0	.0
Jul	82.1	54.6	68.4	100	1991	21	71.2	1994	36+	2001	28	64.0	1992	13	116	@	3.6	31.0	.0	.0	.0
Aug	80.2	52.8	66.5	99+	1975	3	70.4	1988	32	1965	31	63.1	1982	43	90	.0	2.6	31.0	.0	@	.0
Sep	72.2	43.5	57.9	96	1953	2	60.8	1999	20	2000	29	54.3	1978	221	6	.0	.5	30.0	.0	1.2	.0
Oct	60.9	31.8	46.4	88	1963	7	52.0	1990	12	2001	31	41.8	1974	578	0	.0	.0	27.9	.0	11.7	.0
Nov	49.6	23.6	36.6	91	1954	27	41.5	1975	-4	1989	25	31.6	1995	852	0	.0	.0	13.5	.5	21.8	.1
Dec	37.4	12.3	24.9	75	1998	8	31.6	1998	-25	1951	28	9.7	1989	1245	0	.0	.0	3.3	9.5	29.5	2.4
Ann	58.0	30.8	44.4	100	Jul 1991	21	71.2	Jul 1994	-35	Jan 1961	22	9.3	Jan 1994	7742	263	@	9.2	230.9	40.5	166.1	15.2

+ 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/normal/usnormals.html

Issue Date: February 2004

(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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No. 20 1971-2000

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

Station: MASSABESIC LAKE, NH

COOP ID: 275211

Climate Division: NH 2

NWS Call Sign:

Elevation: 250 Feet Lat: 42°59N

Lon: 71°24W

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	3.07	3.32	2.38	1958	8	9.01	1979	.25	1989	9.8	6.5	2.0	.7	.64	.92	1.37	1.78	2.20	2.64	3.13	3.73	4.52	5.78	6.97
Feb	2.27	2.24	2.04	1981	25	6.95	1981	.01	1987	8.0	5.3	1.7	.3	.32	.51	.83	1.15	1.48	1.84	2.26	2.78	3.47	4.60	5.69
Mar	2.95	3.05	2.10	1986	15	5.51	1977	.64	1981	9.7	6.6	2.0	.5	1.22	1.49	1.87	2.18	2.48	2.77	3.10	3.47	3.93	4.65	5.30
Apr	3.32	3.04	2.50	2000	22	7.76	1987	.85	1999	11.2	6.8	2.2	.6	1.13	1.45	1.91	2.29	2.66	3.04	3.46	3.95	4.57	5.53	6.42
May	3.51	2.87	2.54	1954	9	7.87	1984	.87	1993	11.0	7.9	2.4	.7	1.08	1.42	1.91	2.34	2.75	3.18	3.65	4.20	4.91	6.02	7.05
Jun	3.57	3.12	4.75	1973	30	10.90	1998	.60	1979	11.1	7.1	2.2	.7	.71	1.04	1.56	2.04	2.53	3.05	3.64	4.35	5.29	6.79	8.22
Jul	3.58	3.42	2.80	1996	14	8.79	1988	1.14	1974	10.3	6.6	2.6	.9	1.43	1.76	2.23	2.61	2.98	3.35	3.75	4.21	4.79	5.69	6.51
Aug	3.59	3.05	4.19	1990	25	12.55	1990	.36	1996	10.0	6.2	2.2	.9	.80	1.13	1.66	2.13	2.61	3.11	3.68	4.35	5.25	6.66	8.00
Sep	3.28	2.72	6.05	1954	11	6.40	1991	.75	1978	9.9	6.0	2.3	.7	.98	1.29	1.76	2.16	2.55	2.96	3.41	3.94	4.62	5.69	6.69
Oct	3.74	3.57	5.70	1996	21	9.25	1996	.65	1994	9.4	6.1	2.4	1.1	1.18	1.54	2.07	2.52	2.95	3.40	3.89	4.47	5.22	6.38	7.45
Nov	3.66	3.77	3.29	1951	3	7.58	1983	1.13	1976	10.6	7.1	2.4	.9	1.61	1.93	2.39	2.76	3.11	3.46	3.84	4.27	4.81	5.64	6.39
Dec	3.28	3.24	2.54	1969	27	7.08	1973	.64	1989	9.5	6.1	2.6	.6	.76	1.06	1.54	1.97	2.40	2.86	3.37	3.98	4.78	6.05	7.25
Ann	39.82	38.41	6.05	Sep 1954	11	12.55	Aug 1990	.01	Feb 1987	120.5	78.3	27.0	8.6	29.59	31.60	34.16	36.09	37.80	39.44	41.13	42.99	45.24	48.49	51.28

+ 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

Complete documentation available from:
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Station: MASSABESIC LAKE, NH

COOP ID: 275211

Climate Division: NH 2

NWS Call Sign:

Elevation: 250 Feet

Lat: 42°59N

Lon: 71°24W

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	14.4	11.9	7	6	18.0	1987	3	47.5	1987	28	1977	16	21	1977	5.2	3.8	1.7	.8	.2	17.8	15.6	13.5	8.0
Feb	10.5	8.1	8	7	15.0	1972	20	33.5	1972	28	1978	8	19	1978	4.1	2.7	1.0	.6	.1	-9.9	-9.9	-9.9	-9.9
Mar	6.0	3.2	3	1	18.0	1993	14	24.0	1984	25	1971	12	16	1971	2.5	1.6	.7	.5	.2	7.1	5.2	4.1	1.1
Apr	2.5	.0	#	0	11.0	1982	7	16.0	1982	16	1997	1	1+	1997	.7	.6	.3	.2	.1	.8	.6	.2	.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	.2	.0	0	0	4.3	1989	27	4.3	1989	0	0	0	0	0	@	@	@	.0	.0	.0	.0	.0	.0
Oct	#	.0	#	0	#	1988	9	#+	1988	#	1979	11	#	1979	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	1.9	.0	#	0	10.0	1971	26	17.5	1971	13	1971	26	3+	1997	1.1	.8	.2	@	@	2.1	.9	.3	.2
Dec	11.4	10.0	3	1	18.0	1997	24	30.4	1975	22	1975	23	11	1995	3.7	2.6	1.2	.6	.1	12.5	9.8	6.8	2.4
Ann	46.9	33.2	N/A	N/A	18.0+	Dec 1997	24	47.5	Jan 1987	28+	Feb 1978	8	21	Jan 1977	17.3	12.1	5.1	2.7	.7	-9.9	-9.9	-9.9	-9.9

+ 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

Complete documentation available from:

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Climate Division: NH 2

NWS Call Sign:

Elevation: 250 Feet

Lat: 42° 59N

Lon: 71° 24W

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	6/09	6/03	5/31	5/27	5/24	5/21	5/18	5/14	5/09
32	5/24	5/19	5/16	5/13	5/11	5/08	5/06	5/02	4/28
28	5/16	5/10	5/06	5/03	4/29	4/26	4/22	4/18	4/12
24	5/04	4/27	4/23	4/19	4/15	4/11	4/07	4/03	3/27
20	4/22	4/15	4/10	4/06	4/02	3/29	3/25	3/20	3/13
16	4/07	4/02	3/30	3/27	3/24	3/21	3/18	3/14	3/09
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	9/03	9/08	9/12	9/15	9/18	9/20	9/23	9/27	10/02
32	9/09	9/15	9/19	9/23	9/26	9/29	10/03	10/07	10/13
28	9/27	10/03	10/06	10/10	10/13	10/16	10/19	10/23	10/28
24	10/03	10/10	10/15	10/19	10/23	10/26	10/30	11/04	11/11
20	10/20	10/28	11/02	11/07	11/11	11/15	11/20	11/25	12/02
16	11/06	11/12	11/17	11/20	11/24	11/27	12/01	12/05	12/11
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	138	130	125	120	115	111	106	101	93
32	161	153	147	142	137	133	128	122	114
28	191	183	176	171	166	161	155	149	140
24	219	209	202	196	190	184	178	171	161
20	250	240	233	227	222	216	210	204	194
16	267	259	253	249	244	240	235	229	222

* 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:
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No. 20
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Station: MASSABESIC LAKE, NH

COOP ID: 275211

Climate Division: NH 2

NWS Call Sign:

Elevation: 250 Feet Lat: 42°59N Lon: 71°24W

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	1434	1208	1043	675	336	94	13	43	221	578	852	1245	7742
60	1279	1068	888	525	199	30	0	7	103	424	702	1090	6315
57	1186	984	795	435	132	11	0	1	55	334	612	997	5542
55	1124	928	733	376	94	5	0	0	34	278	552	935	5059
50	969	788	578	236	32	0	0	0	6	155	403	780	3947
32	432	302	109	4	0	0	0	0	0	1	41	291	1180

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	21	18	88	319	691	943	1127	1070	775	446	179	70	5747
55	0	0	0	1	72	258	414	357	118	10	0	0	1230
57	0	0	0	0	47	204	352	296	80	4	0	0	983
60	0	0	0	0	22	133	259	209	38	1	0	0	662
65	0	0	0	0	4	47	116	90	6	0	0	0	263
70	0	0	0	0	0	8	27	23	0	0	0	0	58

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	1	4	39	180	481	766	937	874	602	278	91	8	1	5	44	224	705	1471	2408	3282	3884	4162	4253	4261
45	0	0	12	92	333	616	782	719	452	155	43	1	0	0	12	104	437	1053	1835	2554	3006	3161	3204	3205
50	0	0	5	44	205	466	627	564	307	72	13	0	0	0	5	49	254	720	1347	1911	2218	2290	2303	2303
55	0	0	2	20	110	323	472	412	183	26	3	0	0	0	2	22	132	455	927	1339	1522	1548	1551	1551
60	0	0	0	5	51	193	318	263	90	8	0	0	0	0	0	5	56	249	567	830	920	928	928	928
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	4	38	123	292	481	617	570	373	186	61	8	0	4	42	165	457	938	1555	2125	2498	2684	2745	2753

(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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
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.

- | | |
|---|---|
| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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