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: MANSFIELD HOLLOW LAKE, CT **COOP ID: 064488**

Climate Division: CT 2 **NWS Call Sign:** **Elevation: 250 Feet** **Lat: 41˚45N** **Lon: 72˚11W**

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	35.0	13.4	24.2	66	1966	1	32.6	1998	-27	1961	22	14.9	1981	1265	0	.0	.0	3.2	11.4	29.6	4.2
Feb	37.4	15.6	26.5	72	1954	16	33.8	1998	-21	1965	4	16.4	1979	1078	0	.0	.0	3.9	8.7	26.3	3.1
Mar	46.6	25.0	35.8	82	1977	31	41.5	1973	-16	1967	19	30.2	1984	904	0	.0	.0	12.0	1.9	25.0	.1
Apr	57.5	34.1	45.8	91+	1976	19	50.2	1976	6	1954	4	41.0	1972	576	0	.0	.1	24.1	.1	12.5	.0
May	69.2	43.8	56.5	95	1962	20	61.1	1991	22	1956	9	52.4	1990	271	7	.0	.4	30.6	.0	1.9	.0
Jun	77.0	52.8	64.9	98+	1952	26	69.1	1999	30+	1957	10	60.7	1985	68	65	.0	1.5	30.0	.0	.0	.0
Jul	81.7	58.4	70.1	100+	1991	21	74.0	1994	37+	1954	17	66.5	1992	7	164	.1	3.7	31.0	.0	.0	.0
Aug	80.2	56.7	68.5	100+	1975	3	71.5	1988	32	1965	31	65.1	1986	18	124	@	1.9	31.0	.0	.0	.0
Sep	72.7	47.5	60.1	100+	1953	2	64.4	1971	20	1957	28	57.1	1986	162	16	.0	.5	30.0	.0	.8	.0
Oct	62.4	35.5	49.0	88	1963	8	55.0	1971	15+	1952	26	44.4	1974	497	0	.0	.0	29.5	.0	11.8	.0
Nov	51.0	29.2	40.1	80	1982	3	45.0+	1999	1	1989	24	35.5	1976	747	0	.0	.0	16.6	.7	20.3	.0
Dec	39.7	19.7	29.7	75	1998	8	35.3	1990	-18+	1963	31	15.4	1989	1095	0	.0	.0	5.4	6.2	27.9	1.1
Ann	59.2	36.0	47.6	100+	Jul 1991	21	74.0	Jul 1994	-27	Jan 1961	22	14.9	Jan 1981	6688	376	.1	8.1	247.3	29.0	156.1	8.5

\+ 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: 1952-2001

(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	4.70	4.57	3.35	1978	26	12.93	1979	.62	1981
Feb	3.45	3.23	2.50	1978	7	7.40	1981	.43	1987
Mar	4.66	3.89	4.10	1980	22	9.23	1998	.65	1981
Apr	4.39	4.37	2.96	1987	5	11.35	1983	1.45	1999
May	4.10	3.91	2.45	1972	4	8.19	1984	.75	1993
Jun	3.84	3.18	4.54	2001	18	12.12	1982	.04	1999
Jul	4.37	4.37	4.16	1965	19	8.02	1984	1.39	1983
Aug	4.21	3.50	5.51	1991	20	9.27	1991	.29	1984
Sep	4.25	3.82	4.45	1999	17	8.90	1999	.98	1997
Oct	4.44	3.99	4.84	1990	14	10.16	1990	.75	2000
Nov	4.74	4.95	2.65+	1988	2	9.23	1988	.84	1976
Dec	4.40	4.16	2.44	1992	12	9.08	1973	1.14	1980
Ann	51.55	50.81	5.51	Aug 1991	20	12.93	Jan 1979	.04	Jun 1999

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.6	7.8	3.0	1.3
Feb	9.1	6.9	2.3	.8
Mar	10.6	7.6	3.4	1.2
Apr	10.9	7.0	3.0	1.3
May	11.6	7.6	2.8	1.0
Jun	10.2	6.5	2.4	1.0
Jul	9.3	6.8	2.8	1.3
Aug	9.1	6.4	3.0	1.3
Sep	8.9	6.3	2.7	1.2
Oct	8.6	6.1	2.8	1.5
Nov	9.8	7.2	3.4	1.5
Dec	11.0	7.8	3.1	1.2
Ann	119.7	84.0	34.7	14.6

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	1.12	1.56	2.24	2.86	3.47	4.11	4.84	5.70	6.83	8.62	10.30
Feb	1.31	1.64	2.10	2.48	2.84	3.21	3.61	4.08	4.67	5.58	6.41
Mar	1.61	2.05	2.69	3.24	3.75	4.29	4.87	5.55	6.41	7.76	8.99
Apr	1.40	1.81	2.43	2.96	3.47	3.99	4.57	5.25	6.12	7.48	8.73
May	1.55	1.93	2.48	2.94	3.37	3.81	4.29	4.84	5.55	6.63	7.63
Jun	.55	.86	1.42	1.95	2.51	3.12	3.82	4.69	5.86	7.77	9.60
Jul	1.76	2.16	2.73	3.20	3.64	4.09	4.57	5.13	5.84	6.93	7.92
Aug	1.07	1.46	2.07	2.62	3.15	3.71	4.34	5.08	6.06	7.60	9.04
Sep	1.22	1.63	2.24	2.76	3.28	3.81	4.41	5.11	6.01	7.43	8.75
Oct	1.22	1.65	2.29	2.84	3.39	3.96	4.60	5.35	6.32	7.85	9.28
Nov	1.67	2.12	2.77	3.31	3.83	4.37	4.95	5.63	6.50	7.84	9.07
Dec	1.27	1.69	2.32	2.86	3.40	3.95	4.57	5.29	6.23	7.70	9.07
Ann	41.42	43.47	46.05	47.98	49.66	51.27	52.92	54.72	56.87	59.95	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: 1952-2001
(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	10.7	9.0	3	2	10.0	1978	21	27.0	1978	24	1996	10	12	1996	3.9	3.7	1.2	.5	.1	13.4	9.1	6.8	1.5
Feb	7.4	6.0	3	2	23.0	1978	7	24.0	1978	28	1978	8	16	1978	3.1	3.0	1.0	.4	.1	12.2	9.9	7.0	2.0
Mar	4.7	4.0	1	#	8.0	1978	17	13.0	1996	18	1978	4	11	1978	2.0	1.9	.8	.3	.0	4.2	2.3	1.2	.6
Apr	1.7	.0	#	0	14.0	1982	7	15.0	1982	14	1982	7	2	1982	.5	.4	.1	.1	.1	.7	.4	.3	.1
May	#	.0	#	0	#	1977	10	#	1977	#	1977	10	#	1977	.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	.1	.0	#	0	2.0	1979	11	2.0	1979	1	1979	11	#	1979	@	@	.0	.0	.0	@	.0	.0	.0
Nov	1.4	.0	#	0	6.0	1986	19	7.0	1986	6	1986	19	1	1987	.6	.6	.2	.1	.0	1.1	.5	.1	.0
Dec	5.3	4.0	1	#	6.0	1989	16	18.0	1995	12	1995	22	6	1995	2.3	2.3	.7	.2	.0	6.7	3.7	2.3	.2
Ann	31.3	23.0	N/A	N/A	23.0	Feb 1978	7	27.0	Jan 1978	28	Feb 1978	8	16	Feb 1978	12.4	11.9	4.0	1.6	.3	38.3	25.9	17.7	4.4

+ 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	6/07	6/02	5/28	5/25	5/22	5/18	5/15	5/11	5/05
32	5/22	5/18	5/14	5/11	5/09	5/06	5/03	4/30	4/26
28	5/06	5/02	4/29	4/27	4/25	4/23	4/20	4/17	4/13
24	4/22	4/17	4/13	4/10	4/07	4/04	4/01	3/28	3/23
20	4/03	3/31	3/28	3/26	3/24	3/23	3/21	3/18	3/15
16	4/02	3/28	3/24	3/20	3/17	3/14	3/11	3/07	3/01

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	9/08	9/12	9/15	9/18	9/20	9/22	9/25	9/28	10/02
32	9/20	9/24	9/27	9/29	10/01	10/03	10/06	10/08	10/12
28	10/03	10/07	10/10	10/12	10/14	10/17	10/19	10/22	10/26
24	10/14	10/19	10/22	10/25	10/28	10/31	11/03	11/06	11/11
20	10/23	10/29	11/03	11/07	11/11	11/15	11/19	11/24	12/01
16	11/06	11/13	11/17	11/21	11/25	11/28	12/02	12/07	12/13

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	141	134	129	125	121	116	112	107	100
32	157	153	150	147	145	142	140	137	133
28	190	184	179	175	172	168	164	160	153
24	224	217	212	207	203	199	195	190	183
20	254	246	241	236	231	227	222	216	208
16	278	269	262	257	252	246	241	235	226

***** 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	1265	1078	904	576	271	68	7	18	162	497	747	1095	6688
60	1110	938	749	426	145	17	0	1	66	346	597	940	5335
57	1017	854	656	338	88	5	0	0	33	262	507	847	4607
55	955	798	594	281	59	2	0	0	19	211	448	785	4152
50	800	658	441	155	15	0	0	0	3	107	304	632	3115
32	305	212	55	1	0	0	0	0	0	0	16	187	776

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	63	58	174	414	760	987	1180	1129	844	526	259	115	6509
55	0	0	0	5	105	299	467	416	172	25	0	0	1489
57	0	0	0	2	72	242	405	354	127	14	0	0	1216
60	0	0	0	0	37	164	312	262	70	5	0	0	850
65	0	0	0	0	7	65	164	124	16	0	0	0	376
70	0	0	0	0	0	14	56	35	1	0	0	0	106

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	10	9	63	216	535	774	961	911	635	313	113	27	10	19	82	298	833	1607	2568	3479	4114	4427	4540	4567
45	1	0	25	112	381	624	806	756	486	185	53	7	1	1	26	138	519	1143	1949	2705	3191	3376	3429	3436
50	0	0	8	51	244	474	651	601	339	93	22	0	0	0	8	59	303	777	1428	2029	2368	2461	2483	2483
55	0	0	3	21	133	326	496	446	205	37	5	0	0	0	3	24	157	483	979	1425	1630	1667	1672	1672
60	0	0	0	5	55	191	341	297	108	12	0	0	0	0	0	5	60	251	592	889	997	1009	1009	1009
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	6	10	48	137	327	490	637	598	399	214	78	23	6	16	64	201	528	1018	1655	2253	2652	2866	2944	2967

(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