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: LANCASTER, NH **COOP ID: 274556**

Climate Division: NH 1 **NWS Call Sign:** **Elevation: 860 Feet** **Lat: 44˚29N** **Lon: 71˚35W**

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	24.5	1.4	13.0	62	1995	16	23.2	1990	-39+	1994	21	2.9	1994	1613	0	.0	.0	.8	21.6	30.6	14.1
Feb	27.9	2.1	15.0	63	1981	22	27.0	1981	-40	1979	12	5.0	1993	1400	0	.0	.0	1.3	16.4	27.6	12.1
Mar	38.2	14.7	26.5	78	1977	30	33.3	1973	-26	1982	1	19.6	1984	1195	0	.0	.0	5.8	7.2	28.7	4.9
Apr	51.1	27.6	39.4	90	1990	28	44.7	1987	-1	1969	1	32.2	1972	770	0	.0	@	17.4	.6	21.7	@
May	66.1	39.4	52.8	91+	1978	28	58.1	1975	18	1985	9	46.4	1997	383	3	.0	.3	29.8	.0	8.0	.0
Jun	74.1	48.9	61.5	95+	1995	19	65.8	1976	28+	1986	3	58.1	1982	128	22	.0	.8	30.0	.0	.7	.0
Jul	78.6	53.9	66.3	95	1977	20	69.5	1994	32	1982	4	62.3	1992	39	77	.0	1.4	31.0	.0	@	.0
Aug	76.2	52.1	64.2	94+	2001	10	69.2	1973	28	1982	29	60.3	1982	79	53	.0	.4	31.0	.0	.1	.0
Sep	67.6	43.7	55.7	93	1999	5	60.7	1999	21+	1980	29	51.8	1978	283	3	.0	@	29.8	.0	3.6	.0
Oct	55.6	32.3	44.0	82+	1979	23	50.6	1971	8	1972	20	39.0	1974	653	0	.0	.0	23.2	.1	15.3	.0
Nov	41.7	24.4	33.1	73	1982	4	37.9	1999	-9	1989	24	28.7	1976	958	0	.0	.0	7.3	4.7	24.0	.3
Dec	29.4	10.2	19.8	62	1982	4	28.3	1996	-36	1980	26	1.7	1989	1402	0	.0	.0	.8	17.2	30.3	7.1
Ann	52.6	29.2	40.9	95+	Jun 1995	19	69.5	Jul 1994	-40	Feb 1979	12	1.7	Dec 1989	8903	158	.0	2.9	208.2	67.8	190.6	38.5

\+ 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: 1948-2001

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

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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	2.63	2.31	1.57	1998	9	7.02	1979	.52	1981
Feb	1.81	1.75	1.35	1955	12	3.22	1996	.31	1987
Mar	2.35	2.29	2.02	1971	4	4.59	1972	.73	1996
Apr	2.70	2.34	1.74	1988	29	6.11	2000	.91	1999
May	3.41	3.24	1.82	1956	28	8.22	1984	.77	1977
Jun	3.99	3.89	2.30	1971	3	9.05	1973	1.27	1974
Jul	3.92	4.01	2.77	1957	22	6.63	1996	1.49	1977
Aug	4.37	4.13	3.26	1977	17	7.24	1991	2.10	1996
Sep	3.47	3.05	2.60	1954	1	7.11	1999	.98	1972
Oct	3.21	2.85	2.40	1991	7	6.68	1990	.88	1994
Nov	3.18	3.25	2.02	1987	30	5.96	1983	1.49	1996
Dec	2.73	2.44	2.29	2000	18	6.00	1973	1.07	1989
Ann	37.77	37.38	3.26	Aug 1977	17	9.05	Jun 1973	.31	Feb 1987

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	12.6	6.3	1.5	.3
Feb	9.4	5.2	.9	@
Mar	11.8	6.9	1.1	.2
Apr	11.9	7.0	1.6	.2
May	13.3	8.6	2.2	.6
Jun	13.0	8.8	2.6	.6
Jul	12.9	8.7	2.8	.7
Aug	12.1	8.1	3.1	1.1
Sep	11.6	7.2	2.4	.8
Oct	12.6	7.1	2.0	.6
Nov	14.7	8.0	2.0	.3
Dec	14.0	7.2	1.5	.3
Ann	149.9	89.1	23.7	5.7

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	.80	1.05	1.42	1.74	2.05	2.38	2.73	3.15	3.68	4.52	5.30
Feb	.60	.78	1.03	1.24	1.44	1.66	1.89	2.16	2.50	3.04	3.53
Mar	1.23	1.42	1.68	1.89	2.07	2.26	2.46	2.69	2.97	3.39	3.76
Apr	1.14	1.39	1.73	2.01	2.27	2.54	2.83	3.16	3.58	4.21	4.79
May	.98	1.31	1.79	2.22	2.63	3.06	3.54	4.10	4.83	5.97	7.03
Jun	1.50	1.87	2.41	2.85	3.28	3.71	4.18	4.72	5.41	6.48	7.45
Jul	1.81	2.15	2.63	3.01	3.37	3.73	4.11	4.55	5.10	5.93	6.68
Aug	2.27	2.63	3.11	3.50	3.85	4.20	4.58	5.00	5.53	6.31	7.02
Sep	1.29	1.62	2.08	2.47	2.84	3.22	3.63	4.11	4.72	5.65	6.51
Oct	1.22	1.52	1.95	2.31	2.65	2.99	3.36	3.80	4.35	5.20	5.97
Nov	1.54	1.81	2.18	2.48	2.76	3.04	3.34	3.67	4.10	4.73	5.31
Dec	1.07	1.33	1.69	1.98	2.26	2.55	2.86	3.22	3.67	4.37	5.00
Ann	31.00	32.39	34.12	35.40	36.53	37.60	38.70	39.89	41.32	43.35	45.08

\+ 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)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	18.0	16.7	11	9
Feb	14.4	13.1	13	11
Mar	12.2	11.8	10	8
Apr	4.3	2.5	1	#
May	#	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	#	.0	0	0
Oct	.3	#	#	0
Nov	5.6	4.4	1	#
Dec	15.5	13.0	5	4
Ann	70.3	61.5	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	12.7	1994	18	42.5	1994	35	1979	31	28	1971
Feb	23.0	1978	7	30.8	1993	37	1979	1	33	1979
Mar	14.0	1984	14	25.5	1984	33	1982	9	25	1971
Apr	12.0	1987	29	22.5	1987	18	1971	7	9	1978
May	#	1996	28	#+	1996	#	1978	1	#	1978
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	#	1991	30	#+	1991	0	0	0	0	0
Oct	2.0	1979	9	2.8	1997	2	1979	9	#+	2000
Nov	11.0	1980	18	14.0	1980	11	1980	18	3	1971
Dec	11.0	1981	6	37.0	1995	20	1981	29	14	1981
Ann	23.0	Feb 1978	7	42.5	Jan 1994	37	Feb 1979	1	33	Feb 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	9.9	6.2	1.8	.8	.1
Feb	7.2	4.7	1.8	.8	@
Mar	5.9	4.0	1.4	.6	.2
Apr	2.1	1.3	.5	.3	.1
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.4	.2	.0	.0	.0
Nov	4.8	2.2	.4	.1	@
Dec	9.5	5.7	2.0	.7	.1
Ann	39.8	24.3	7.9	3.3	.5

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	28.0	25.8	23.8	12.0
Feb	26.5	24.0	22.2	17.4
Mar	23.5	21.8	20.4	12.8
Apr	5.0	3.5	2.5	1.2
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.2	.0	.0	.0
Nov	5.5	2.0	1.1	@
Dec	22.2	16.1	12.1	4.3
Ann	110.9	93.2	82.1	47.7

+ 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	7/05	6/28	6/23	6/19	6/15	6/11	6/07	6/02	5/26
32	6/16	6/11	6/07	6/04	5/31	5/28	5/25	5/21	5/16
28	5/26	5/22	5/19	5/16	5/14	5/12	5/09	5/07	5/03
24	5/11	5/06	5/03	5/01	4/28	4/26	4/23	4/20	4/15
20	4/27	4/22	4/19	4/16	4/13	4/11	4/08	4/04	3/30
16	4/19	4/15	4/12	4/09	4/07	4/04	4/02	3/29	3/25

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	8/20	8/26	8/30	9/02	9/05	9/08	9/12	9/16	9/21
32	9/01	9/06	9/10	9/14	9/17	9/20	9/24	9/28	10/03
28	9/16	9/20	9/23	9/26	9/28	10/01	10/03	10/06	10/11
24	9/26	10/01	10/05	10/09	10/12	10/15	10/19	10/23	10/28
20	10/10	10/16	10/20	10/23	10/27	10/30	11/02	11/06	11/12
16	10/19	10/25	10/30	11/03	11/07	11/10	11/14	11/19	11/26

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	109	100	93	87	82	76	70	64	54
32	132	123	118	113	108	103	98	92	84
28	155	149	144	140	136	133	129	124	118
24	188	181	175	171	166	162	157	152	144
20	219	211	205	200	195	191	186	180	172
16	237	229	223	218	213	208	203	197	189

***** 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	1613	1400	1195	770	383	128	39	79	283	653	958	1402	8903
60	1458	1260	1040	620	243	44	4	19	153	498	808	1247	7394
57	1365	1176	947	531	173	18	0	5	93	408	718	1154	6588
55	1303	1120	885	473	133	8	0	2	63	350	658	1092	6087
50	1148	980	730	333	60	1	0	0	18	217	508	937	4932
32	604	490	232	32	0	0	0	0	0	5	75	423	1861

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	14	15	60	252	643	885	1061	997	710	375	107	44	5163
55	0	0	0	3	63	203	348	285	83	7	0	0	992
57	0	0	0	1	41	152	286	227	53	3	0	0	763
60	0	0	0	0	19	88	198	147	23	1	0	0	476
65	0	0	0	0	3	22	77	53	3	0	0	0	158
70	0	0	0	0	0	2	14	9	0	0	0	0	25

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	0	21	118	431	670	827	772	491	195	45	1	1	1	22	140	571	1241	2068	2840	3331	3526	3571	3572
45	0	0	4	59	288	520	672	617	344	101	14	0	0	0	4	63	351	871	1543	2160	2504	2605	2619	2619
50	0	0	1	24	171	374	517	462	220	43	4	0	0	0	1	25	196	570	1087	1549	1769	1812	1816	1816
55	0	0	0	10	82	233	364	312	113	11	0	0	0	0	0	10	92	325	689	1001	1114	1125	1125	1125
60	0	0	0	1	31	121	221	177	45	0	0	0	0	0	0	1	32	153	374	551	596	596	596	596
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	1	20	101	294	427	536	496	308	133	28	0	0	1	21	122	416	843	1379	1875	2183	2316	2344	2344

(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