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: EPPING, NH **COOP ID: 272800**

Climate Division: NH 2 **NWS Call Sign:** **Elevation: 160 Feet** **Lat: 43˚02N** **Lon: 71˚05W**

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	32.8	13.2	23.0	63	1995	16	32.4	1990	-28	1971	19	14.5	1982	1302	0	.0	.0	2.0	15.0	29.8	5.8
Feb	36.4	16.1	26.3	70	1997	22	32.8	1984	-29	1971	3	17.7	1979	1086	0	.0	.0	2.9	10.2	26.2	3.4
Mar	45.2	24.6	34.9	89	1998	31	40.0	2000	-11	1967	19	29.0	1984	934	0	.0	.0	9.2	2.8	25.2	.5
Apr	56.9	33.5	45.2	91+	1990	27	48.6	1994	8+	1969	1	40.4	1972	594	0	.0	.1	22.7	@	14.7	.0
May	68.9	43.1	56.0	94	1992	22	61.0	1991	18	1978	1	51.2	1974	284	6	.0	.7	30.5	.0	3.4	.0
Jun	77.5	52.4	65.0	96+	1995	19	69.3	1976	32	1974	8	59.7	1982	72	71	.0	2.1	30.0	.0	@	.0
Jul	82.5	57.6	70.1	99	1995	14	74.2	1994	37	1978	2	66.1	1992	11	167	.0	3.9	31.0	.0	.0	.0
Aug	80.5	56.1	68.3	100	1975	2	72.2	1973	30	1965	31	64.3	1982	23	126	@	2.3	31.0	.0	@	.0
Sep	72.3	47.7	60.0	94+	1999	3	64.2	1971	21	1965	28	56.5	1978	164	14	.0	.5	30.0	.0	2.2	.0
Oct	61.1	36.9	49.0	85+	1995	13	54.6	1971	12	1966	31	44.2	1974	497	0	.0	.0	28.2	.0	11.0	.0
Nov	48.7	29.6	39.2	77	1994	5	44.2	1999	-5	1989	24	34.4	1976	776	0	.0	.0	12.5	1.0	19.7	@
Dec	37.2	19.2	28.2	76	1998	7	34.4	1996	-22	1980	21	16.2	1989	1141	0	.0	.0	3.3	9.6	28.7	1.9
Ann	58.3	35.8	47.1	100	Aug 1975	2	74.2	Jul 1994	-29	Feb 1971	3	14.5	Jan 1982	6884	384	@	9.6	233.3	38.6	160.9	11.6

\+ 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: 1963-2001

(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	3.61	3.82	2.43	1979	25	10.24	1979	.57	1980
Feb	2.98	2.84	3.33	1981	25	9.07	1981	.36	1987
Mar	3.72	3.37	3.15	2001	22	10.78	1983	.98	1981
Apr	4.20	3.66	3.86	1987	5	10.37	1987	.84	1999
May	3.61	3.67	2.66	1978	15	8.63	1984	.77	1993
Jun	3.58	3.03	4.14	1998	13	10.90	1998	.64	1976
Jul	3.53	2.99	3.08	1996	13	9.66	1988	.57	1974
Aug	3.41	3.21	7.40	1991	19	11.19	1991	.20	1996
Sep	3.82	3.36	4.00	1999	10	10.12	1999	.24	1978
Oct	3.99	3.55	5.80	1996	21	12.56	1996	.39	1994
Nov	4.28	4.04	3.00	1988	2	8.56	1983	.72	1976
Dec	3.77	3.55	3.16	1969	26	7.69	1973	.72	1980
Ann	44.50	44.08	7.40	Aug 1991	19	12.56	Oct 1996	.20	Aug 1996

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.0	7.3	2.5	.7
Feb	7.3	5.7	2.3	.7
Mar	9.3	7.2	2.8	.9
Apr	9.9	7.0	2.8	1.2
May	10.0	7.4	2.8	.6
Jun	9.9	7.0	2.3	.9
Jul	9.7	6.7	2.4	.7
Aug	8.9	6.1	2.3	.6
Sep	8.8	6.3	2.3	1.0
Oct	8.5	6.2	2.5	1.2
Nov	9.4	7.4	2.9	1.2
Dec	9.3	7.3	2.8	1.0
Ann	110.0	81.6	30.7	10.7

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	1.13	1.66	2.14	2.61	3.12	3.69	4.38	5.28	6.71	8.07
Feb	.86	1.14	1.57	1.94	2.30	2.67	3.09	3.58	4.21	5.21	6.13
Mar	1.35	1.70	2.21	2.63	3.03	3.44	3.89	4.41	5.07	6.10	7.03
Apr	1.34	1.74	2.33	2.83	3.32	3.82	4.37	5.02	5.85	7.15	8.34
May	1.09	1.44	1.95	2.39	2.82	3.26	3.75	4.33	5.07	6.23	7.31
Jun	.78	1.11	1.63	2.11	2.58	3.09	3.66	4.35	5.25	6.69	8.05
Jul	1.05	1.38	1.88	2.32	2.74	3.18	3.67	4.24	4.98	6.13	7.21
Aug	.77	1.09	1.59	2.04	2.48	2.96	3.49	4.13	4.97	6.31	7.57
Sep	.76	1.11	1.67	2.18	2.70	3.26	3.89	4.65	5.65	7.26	8.78
Oct	1.17	1.55	2.12	2.61	3.09	3.59	4.15	4.80	5.64	6.96	8.19
Nov	1.56	1.96	2.54	3.02	3.49	3.96	4.47	5.07	5.83	7.00	8.07
Dec	.93	1.29	1.84	2.33	2.81	3.32	3.89	4.57	5.45	6.86	8.17
Ann	34.01	36.10	38.74	40.72	42.47	44.15	45.87	47.76	50.04	53.32	56.12

+ 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: 1963-2001
(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	18.6	16.4	6	3
Feb	11.0	9.0	6	7
Mar	8.7	4.3	4	1
Apr	3.0	.0	#	0
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	.0	.0	0	0
Nov	3.0	2.8	#	0
Dec	13.2	11.0	2	#
Ann	57.5	43.5	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	14.0	1977	7	49.0	1987	38	1971	2	29	1971
Feb	16.0	1978	7	27.1	1972	23	1971	8	13	1971
Mar	23.0	1993	14	30.0	1996	30	1993	14	14	1993
Apr	12.0	1997	1	20.0	1982	8	1997	2	1	1993
May	.0	0	0	.0	0	0	0	0	0	0
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	.0	0	0	.0	0	0	0	0	0	0
Oct	1.0	1979	10	1.0	1979	0	0	0	0	0
Nov	9.0	1971	25	12.5	1971	7	1971	25	1+	1997
Dec	14.0	1975	21	34.6	1975	20	1995	22	10	1997
Ann	23.0	Mar 1993	14	49.0	Jan 1987	38	Jan 1971	2	29	Jan 1971

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	4.6	4.2	2.2	1.3	.3
Feb	3.7	3.2	1.4	.6	.1
Mar	2.9	2.5	1.1	.8	.2
Apr	.7	.6	.4	.2	.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	@	@	.0	.0	.0
Nov	1.3	1.1	.4	.1	.0
Dec	3.6	3.2	1.5	.8	.2
Ann	16.8	14.8	7.0	3.8	.9

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	-9.9	-9.9	-9.9	-9.9
Feb	-9.9	-9.9	-9.9	-9.9
Mar	11.1	9.7	7.4	3.8
Apr	1.0	.5	.2	.0
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	.0	.0	.0	.0
Nov	1.5	1.4	.7	.0
Dec	-9.9	-9.9	-9.9	-9.9
Ann	-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

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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	6/15	6/10	6/06	6/02	5/30	5/27	5/23	5/19	5/13
32	5/28	5/24	5/21	5/18	5/16	5/13	5/11	5/08	5/04
28	5/18	5/12	5/09	5/05	5/02	4/29	4/26	4/22	4/17
24	4/29	4/25	4/22	4/19	4/17	4/14	4/11	4/08	4/04
20	4/17	4/12	4/08	4/05	4/02	3/30	3/27	3/24	3/19
16	4/06	4/01	3/28	3/25	3/22	3/19	3/16	3/13	3/08

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	8/31	9/05	9/08	9/11	9/13	9/16	9/19	9/22	9/27
32	9/11	9/15	9/18	9/20	9/23	9/25	9/28	9/30	10/05
28	9/24	9/29	10/02	10/04	10/07	10/09	10/12	10/15	10/19
24	10/07	10/12	10/16	10/19	10/22	10/25	10/28	11/01	11/06
20	10/17	10/24	10/28	11/01	11/05	11/09	11/13	11/18	11/24
16	10/30	11/07	11/12	11/16	11/21	11/25	11/29	12/04	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	127	120	114	110	106	102	97	92	85
32	144	139	135	132	129	126	123	119	114
28	176	169	165	160	157	153	149	144	137
24	210	203	197	192	188	183	178	173	165
20	245	235	228	222	216	211	204	197	188
16	272	262	255	248	243	237	230	223	213

***** 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	1302	1086	934	594	284	72	11	23	164	497	776	1141	6884
60	1147	946	779	444	154	20	0	2	65	345	626	986	5514
57	1054	862	686	356	94	7	0	0	31	261	536	893	4780
55	992	806	624	298	62	3	0	0	17	210	476	831	4319
50	837	666	469	167	16	0	0	0	2	105	330	676	3268
32	324	215	65	1	0	0	0	0	0	0	23	209	837

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	45	53	154	397	745	989	1179	1126	840	527	237	91	6383
55	0	0	0	3	94	301	466	413	167	23	0	0	1467
57	0	0	0	1	63	245	404	351	121	12	0	0	1197
60	0	0	0	0	31	168	311	261	65	4	0	0	840
65	0	0	0	0	6	71	167	126	14	0	0	0	384
70	0	0	0	0	0	18	62	40	1	0	0	0	121

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	3	8	52	190	512	765	944	892	611	298	92	14	3	11	63	253	765	1530	2474	3366	3977	4275	4367	4381
45	0	1	19	104	359	615	789	737	461	172	45	4	0	1	20	124	483	1098	1887	2624	3085	3257	3302	3306
50	0	0	7	45	222	465	634	582	317	86	17	0	0	0	7	52	274	739	1373	1955	2272	2358	2375	2375
55	0	0	4	22	118	320	480	427	192	32	5	0	0	0	4	26	144	464	944	1371	1563	1595	1600	1600
60	0	0	1	7	56	188	328	276	101	7	0	0	0	0	1	8	64	252	580	856	957	964	964	964
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	1	3	43	137	323	489	627	584	389	190	54	8	1	4	47	184	507	996	1623	2207	2596	2786	2840	2848

(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.
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