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: CONCORD MUNICIPAL AP, NH **COOP ID: 271683**

Climate Division: NH 2 **NWS Call Sign: CON** **Elevation: 346 Feet** **Lat: 43˚12N** **Lon: 71˚30W**

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	30.6	9.7	20.1	68	1950	4	28.7	1990	-33	1984	22	11.0	1982	1402	0	.0	.0	1.4	17.7	30.1	8.6
Feb	34.1	12.6	23.3	67	1997	22	31.0	1981	-37	1943	16	14.4	1978	1183	0	.0	.0	1.9	12.8	27.1	5.9
Mar	43.8	22.7	33.3	89	1998	31	38.2	2000	-16+	1967	19	28.4	1984	997	0	.0	.0	8.0	4.5	26.1	1.0
Apr	56.9	32.2	44.6	95	1976	19	48.4	1986	0	1945	28	40.7	1972	623	2	.0	.2	21.5	.2	16.5	.0
May	69.6	42.4	56.0	97	1962	19	61.6	1975	21+	1966	3	51.4	1974	302	18	.0	1.0	30.1	.0	4.7	.0
Jun	77.9	51.8	64.9	98+	1995	19	69.1	1976	26	1939	24	61.0	1982	90	82	.0	2.5	30.0	.0	.2	.0
Jul	82.9	57.1	70.0	102	1966	3	73.4	1994	33	1939	23	66.0	1992	22	173	.1	4.5	31.0	.0	.0	.0
Aug	80.8	55.6	68.2	101	1975	2	72.9	1973	29	1965	31	64.7	1972	44	133	@	2.8	31.0	.0	.1	.0
Sep	72.1	46.6	59.4	98	1953	2	63.4	1999	20	1941	30	56.7	1978	212	33	.0	.4	30.0	.0	2.3	.0
Oct	60.5	35.1	47.8	90	1963	7	52.8	1971	10+	1972	21	43.2	1972	548	1	.0	.0	26.8	.0	14.3	.0
Nov	47.6	27.6	37.6	80	1950	2	42.4	1979	-5	1989	24	32.2	1972	835	0	.0	.0	11.4	1.8	21.5	.1
Dec	35.6	16.2	25.9	73	1998	7	32.5	1982	-22	1951	17	12.0	1989	1220	0	.0	.0	2.7	12.0	29.1	4.2
Ann	57.7	34.1	45.9	102	Jul 1966	3	73.4	Jul 1994	-37	Feb 1943	16	11.0	Jan 1982	7478	442	.1	11.4	225.8	49.0	172.0	19.8

\+ 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: 1921-2001

(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	2.97	2.81	1.98	1983	11	8.09	1979	.43	1980
Feb	2.36	2.24	2.11	1981	25	7.77	1981	.03	1987
Mar	3.04	2.89	7.30	1937	4	7.07	1983	.86	1981
Apr	3.07	2.88	3.30	1936	11	6.11	1996	.83	1999
May	3.33	3.28	2.47	1922	5	9.52	1984	.86	1980
Jun	3.10	2.83	3.92	1944	21	7.95	1998	.64	1979
Jul	3.37	3.56	2.54	1996	13	6.53	1988	1.05	1973
Aug	3.21	2.85	3.84	1991	19	7.26	1991	.07	1996
Sep	3.16	2.72	5.95	1932	16	9.44	1999	.46	1978
Oct	3.46	3.30	3.99	1962	6	8.11	1996	.91	1994
Nov	3.57	3.23	3.27	1937	13	7.36	1983	.75	1976
Dec	2.96	2.81	2.19	1936	20	7.52	1973	.79	1980
Ann	37.60	37.99	7.30	Mar 1937	4	9.52	May 1984	.03	Feb 1987

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.1	6.7	2.0	.5
Feb	9.2	4.8	1.7	.5
Mar	11.5	6.5	2.0	.6
Apr	11.8	6.7	2.0	.5
May	12.0	7.3	2.2	.6
Jun	11.6	6.9	1.9	.5
Jul	10.5	6.2	2.3	.9
Aug	9.9	6.1	2.1	.6
Sep	9.5	6.1	2.1	.7
Oct	9.5	5.8	2.1	1.0
Nov	10.9	6.7	2.6	.8
Dec	11.2	6.4	1.9	.7
Ann	128.7	76.2	24.9	7.9

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	.66	.94	1.37	1.76	2.16	2.57	3.04	3.60	4.34	5.51	6.61
Feb	.45	.66	1.01	1.33	1.65	2.00	2.39	2.87	3.50	4.52	5.49
Mar	1.32	1.60	1.98	2.29	2.58	2.87	3.19	3.55	4.01	4.70	5.33
Apr	1.24	1.52	1.92	2.25	2.56	2.88	3.22	3.61	4.11	4.88	5.57
May	1.02	1.34	1.81	2.21	2.61	3.02	3.46	3.99	4.67	5.73	6.72
Jun	.82	1.11	1.56	1.96	2.35	2.75	3.21	3.74	4.44	5.54	6.57
Jul	1.20	1.52	1.98	2.37	2.73	3.11	3.53	4.01	4.62	5.57	6.44
Aug	.73	1.03	1.50	1.92	2.35	2.79	3.30	3.90	4.68	5.94	7.12
Sep	.87	1.17	1.63	2.02	2.41	2.82	3.27	3.80	4.50	5.58	6.60
Oct	1.12	1.44	1.93	2.34	2.74	3.15	3.60	4.13	4.81	5.86	6.84
Nov	1.44	1.77	2.23	2.62	2.98	3.34	3.74	4.19	4.77	5.66	6.46
Dec	.78	1.06	1.49	1.87	2.24	2.63	3.06	3.57	4.24	5.29	6.28
Ann	28.83	30.58	32.79	34.45	35.91	37.31	38.75	40.33	42.24	44.97	47.32

\+ 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: 1921-2001
(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	18.9	16.0	6	6	15.5	1977	7	45.4	1987	24	1971	2	18	1971	8.4	4.8	2.3	1.1	.2	24.2	19.1	15.9	9.6
Feb	13.1	12.5	7	7	13.9	1981	25	29.8	1972	23	1982	10	20	1982	6.7	2.9	1.5	.7	.1	22.5	19.3	16.9	8.9
Mar	11.6	7.0	4	3	15.5	1993	13	35.8	1993	25+	1971	20	19	1971	5.7	3.1	1.2	.8	.1	15.1	11.2	8.6	4.0
Apr	3.1	.5	#	0	13.3	1982	6	15.3	1982	14+	1982	7	2	1971	1.5	.7	.5	.2	@	1.4	.9	.5	.2
May	#	.0	#	0	#	1996	6	#+	1996	0	0	0	#	1999	.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	#	1992	30	#	1992	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.1	.0	0	0	1.0	1979	10	1.3	1979	#	1979	11	0	0	.1	.0	.0	.0	.0	.0	.0	.0	.0
Nov	4.7	2.2	#	0	9.3	1971	25	18.7	1985	10	1971	26	2+	1997	2.7	1.5	.4	.2	.0	3.7	1.8	.8	@
Dec	13.2	11.8	3	2	14.0	1997	23	33.0	1981	16+	1996	8	9	1972	7.4	4.0	1.5	.7	@	16.6	12.0	8.8	2.3
Ann	64.7	50.0	N/A	N/A	15.5+	Mar 1993	13	45.4	Jan 1987	25+	Mar 1971	20	20	Feb 1982	32.5	17.0	7.4	3.7	.4	83.5	64.3	51.5	25.0

+ 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	6/11	6/08	6/05	6/03	5/31	5/29	5/26	5/21
32	6/06	5/31	5/27	5/23	5/20	5/16	5/13	5/09	5/03
28	5/15	5/12	5/09	5/07	5/05	5/02	4/30	4/27	4/24
24	5/02	4/28	4/25	4/23	4/20	4/18	4/16	4/13	4/09
20	4/21	4/17	4/13	4/10	4/07	4/05	4/02	3/29	3/24
16	4/10	4/05	4/02	3/30	3/27	3/24	3/21	3/17	3/12

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	8/22	8/28	9/02	9/05	9/09	9/12	9/16	9/20	9/26
32	9/08	9/12	9/16	9/19	9/21	9/24	9/27	9/30	10/05
28	9/21	9/25	9/28	9/30	10/03	10/05	10/07	10/10	10/14
24	10/04	10/08	10/11	10/13	10/15	10/17	10/20	10/23	10/27
20	10/12	10/17	10/21	10/25	10/28	10/31	11/03	11/07	11/13
16	10/25	10/31	11/05	11/09	11/13	11/16	11/20	11/25	12/02

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	122	113	107	102	97	92	87	81	72
32	146	138	133	128	124	119	115	109	102
28	167	161	157	153	150	147	144	140	134
24	193	188	184	180	177	174	170	166	161
20	224	217	212	207	203	198	194	188	181
16	259	249	242	236	230	225	219	212	202

***** 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	1402	1183	997	623	302	90	22	44	212	548	835	1220	7478
60	1236	1026	829	464	164	15	0	2	73	380	673	1057	5919
57	1143	942	736	375	105	5	0	0	35	293	583	964	5181
55	1081	886	674	317	74	2	0	0	20	239	523	902	4718
50	926	746	519	185	24	0	0	0	3	126	376	747	3652
32	404	277	88	1	0	0	0	0	0	1	38	264	1073

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	24	34	131	373	739	982	1172	1112	810	479	200	47	6103
55	0	0	2	17	110	299	459	401	165	26	3	0	1482
57	0	0	1	12	81	246	397	341	127	16	2	0	1223
60	0	0	0	6	49	174	307	255	82	7	1	0	881
65	0	0	0	2	18	82	173	133	33	1	0	0	442
70	0	0	0	0	5	28	71	51	10	0	0	0	165

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	42	173	498	752	934	873	578	263	75	8	1	5	47	220	718	1470	2404	3277	3855	4118	4193	4201
45	1	0	13	91	349	602	779	718	429	148	35	1	1	1	14	105	454	1056	1835	2553	2982	3130	3165	3166
50	0	0	4	43	215	452	624	563	290	72	12	0	0	0	4	47	262	714	1338	1901	2191	2263	2275	2275
55	0	0	2	18	116	311	470	409	172	27	4	0	0	0	2	20	136	447	917	1326	1498	1525	1529	1529
60	0	0	0	4	53	182	315	264	89	7	0	0	0	0	0	4	57	239	554	818	907	914	914	914
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	1	38	130	318	476	613	574	367	173	48	6	0	1	39	169	487	963	1576	2150	2517	2690	2738	2744

(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