

Climatology of the United States

No. 20

1971-2000

Station: NASHUA 2 NNW, NH

COOP ID: 275712

Climate Division: NH 2

NWS Call Sign:

Elevation: 130 Feet Lat: 42°47N Lon: 71°29W

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	33.4	12.1	22.8	68	1950	27	29.9	1995	-29	1957	18	14.4	1994	1309	0	.0	.0	1.9	14.3	30.1	5.0
Feb	36.5	14.6	25.6	70+	1997	23	32.0	1981	-25	1958	18	17.6	1993	1105	0	.0	.0	2.7	9.7	26.9	3.3
Mar	45.4	24.4	34.9	85+	1998	29	40.2	2000	-13	1950	4	30.0	1984	934	0	.0	.0	9.7	2.9	26.7	.3
Apr	57.0	34.1	45.6	92+	1976	19	49.0	1976	8	1969	1	41.0	1972	583	0	.0	.1	22.1	.1	14.3	.0
May	69.1	44.9	57.0	96	1962	19	61.9	1991	22+	1966	5	52.1	1990	260	12	.0	.5	30.1	.0	1.8	.0
Jun	77.5	54.2	65.9	99	1953	26	71.3	1976	31	1964	6	60.8	1982	60	86	.0	1.9	30.0	.0	.0	.0
Jul	82.5	59.1	70.8	101	1949	30	74.2	1994	37	1965	7	66.9	1992	7	186	.0	3.7	31.0	.0	.0	.0
Aug	80.6	57.3	69.0	105	1948	27	72.3	1973	31	1965	31	65.8	1982	16	138	@	2.3	31.0	.0	.0	.0
Sep	72.4	48.6	60.5	99	1953	2	65.4	1999	24	1951	30	57.9	1986	157	23	.0	.6	30.0	.0	.5	.0
Oct	61.4	36.8	49.1	88	1950	3	55.5	1971	14	1974	28	44.4	1974	493	0	.0	.0	28.2	.0	11.0	.0
Nov	49.8	28.9	39.4	81	1950	3	45.8	1999	1	1989	24	34.9	1976	770	0	.0	.0	13.6	.9	20.4	.0
Dec	38.1	18.4	28.3	73	1998	7	34.6	1998	-22	1963	31	15.3	1989	1140	0	.0	.0	3.5	8.4	29.2	1.5
Ann	58.6	36.1	47.4	105	Aug 1948	27	74.2	Jul 1994	-29	Jan 1957	18	14.4	Jan 1994	6834	445	@	9.1	233.8	36.3	160.9	10.1

+ 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

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: NASHUA 2 NNW, NH

COOP ID: 275712

Climate Division: NH 2

NWS Call Sign:

Elevation: 130 Feet Lat: 42°47N

Lon: 71°29W

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	3.86	3.78	2.19	1958	8	10.50	1979	.60	1980	9.8	6.6	2.7	1.1	.85	1.21	1.78	2.29	2.80	3.35	3.96	4.69	5.66	7.19	8.65
Feb	3.09	2.83	2.15	1981	26	8.07	1981	.07	1987	8.8	5.9	2.3	.9	.75	1.04	1.49	1.89	2.29	2.71	3.18	3.74	4.47	5.63	6.72
Mar	4.07	3.52	2.62	1974	17	9.59	1983	.85	1981	10.7	7.3	2.9	1.0	1.46	1.85	2.40	2.86	3.30	3.76	4.25	4.82	5.56	6.69	7.72
Apr	3.92	3.78	3.08	2000	22	9.51	1987	.96	1999	10.4	6.7	2.5	.9	1.21	1.58	2.13	2.61	3.07	3.55	4.07	4.69	5.49	6.73	7.88
May	3.66	3.53	2.12	1954	16	8.54	1984	.93	1987	11.3	7.0	2.6	.8	1.26	1.60	2.11	2.53	2.94	3.36	3.82	4.36	5.05	6.11	7.09
Jun	3.91	3.69	3.40	1998	14	10.63	1998	.90	1979	11.2	7.4	2.6	.9	1.06	1.43	2.00	2.49	2.98	3.48	4.05	4.71	5.58	6.94	8.21
Jul	3.70	3.77	2.73	1976	12	7.14	2000	1.39	1987	10.0	6.5	2.8	.7	1.66	1.98	2.44	2.81	3.16	3.51	3.88	4.31	4.85	5.67	6.40
Aug	3.78	3.14	5.01	1991	20	9.46	1990	.70	1984	9.4	6.3	2.7	1.1	1.20	1.56	2.09	2.55	2.98	3.44	3.93	4.52	5.27	6.44	7.52
Sep	3.63	3.00	5.43	1954	12	7.14	1999	.70	1984	9.3	5.9	2.4	1.2	.87	1.21	1.74	2.22	2.69	3.18	3.74	4.40	5.27	6.65	7.94
Oct	3.93	3.62	4.32	1996	21	7.98	1996	1.04	1994	9.4	6.3	2.7	1.1	1.47	1.84	2.37	2.80	3.22	3.65	4.11	4.65	5.33	6.39	7.35
Nov	4.17	3.93	3.70	1950	26	8.32	1983	1.28	1976	10.7	7.6	2.8	1.2	1.74	2.12	2.65	3.09	3.50	3.92	4.37	4.89	5.54	6.54	7.45
Dec	3.71	3.80	4.09	1969	27	7.79	1973	.90	1989	10.1	6.7	2.8	1.0	.98	1.33	1.87	2.34	2.81	3.30	3.84	4.48	5.32	6.64	7.87
Ann	45.43	43.62	5.43	Sep 1954	12	10.63	Jun 1998	.07	Feb 1987	121.1	80.2	31.8	11.9	35.98	37.88	40.29	42.08	43.66	45.17	46.71	48.40	50.42	53.33	55.81

+ 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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Station: NASHUA 2 NNW, NH

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Climate Division: NH 2

NWS Call Sign:

Elevation: 130 Feet

Lat: 42°47N

Lon: 71°29W

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	15.7	14.2	6	4	17.5	1987	3	46.5	1987	23	1977	15	18	1977	5.3	4.0	2.0	1.0	.2	-9.9	-9.9	-9.9	-9.9
Feb	14.4	9.7	6	3	19.0	1972	20	34.9	1972	27	1978	8	21	1971	4.0	3.0	1.1	.7	.3	-9.9	-9.9	-9.9	-9.9
Mar	11.0	5.8	3	#	19.0	1993	14	41.5	1993	25	1993	15	14	1993	3.4	2.2	1.3	.8	.2	-9.9	-9.9	-9.9	-9.9
Apr	1.9	.0	#	0	8.0	1987	29	12.9	1996	5	1974	10	#+	1993	.7	.5	.2	.1	.0	.4	.1	.1	.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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.0	.0	#	0	1.0	1979	11	1.0	1979	#	2000	30	#	2000	@	@	.0	.0	.0	.0	.0	.0	.0
Nov	3.3	2.5	#	0	9.7	1971	26	16.9	1971	3	1976	11	#+	1997	1.3	1.0	.5	.2	.0	.1	.1	.0	.0
Dec	12.4	10.7	2	1	19.0	1997	24	34.7	1981	14	1981	15	10	1972	4.1	3.0	1.4	.8	.1	10.2	5.3	3.8	.4
Ann	58.7	42.9	N/A	N/A	19.0+	Dec 1997	24	46.5	Jan 1987	27	Feb 1978	8	21	Feb 1971	18.8	13.7	6.5	3.6	.8	-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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NWS Call Sign:

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Lat: 42° 47N

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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	6/06	5/31	5/27	5/24	5/20	5/17	5/14	5/10	5/04
32	5/20	5/16	5/13	5/10	5/07	5/05	5/02	4/29	4/25
28	5/10	5/05	5/02	4/29	4/26	4/23	4/20	4/17	4/12
24	4/23	4/18	4/15	4/12	4/09	4/06	4/03	3/30	3/25
20	4/06	4/02	3/30	3/27	3/25	3/22	3/20	3/17	3/13
16	4/01	3/28	3/24	3/22	3/19	3/17	3/14	3/11	3/07
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	9/05	9/10	9/13	9/16	9/19	9/22	9/25	9/28	10/03
32	9/22	9/26	9/29	10/01	10/03	10/05	10/08	10/10	10/14
28	9/29	10/04	10/07	10/10	10/13	10/15	10/18	10/22	10/27
24	10/13	10/19	10/23	10/26	10/30	11/02	11/05	11/09	11/15
20	10/25	11/01	11/05	11/09	11/13	11/17	11/21	11/25	12/01
16	11/05	11/11	11/16	11/20	11/24	11/28	12/02	12/07	12/14
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	144	136	130	125	121	116	112	106	98
32	166	160	155	152	148	145	141	137	130
28	189	182	177	173	169	165	161	156	149
24	228	219	213	208	203	198	193	187	178
20	259	250	243	238	232	227	222	215	206
16	273	265	259	254	249	244	239	233	225

* 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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Lat: 42°47N

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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	1309	1105	934	583	260	60	7	16	157	493	770	1140	6834
60	1154	965	779	434	140	15	0	1	65	342	620	985	5500
57	1061	881	686	345	85	5	0	0	33	257	530	892	4775
55	999	825	624	288	57	2	0	0	19	206	470	830	4320
50	844	685	470	160	16	0	0	0	3	101	325	675	3279
32	328	219	63	1	0	0	0	0	0	0	21	207	839

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	42	39	152	407	775	1015	1202	1146	856	530	241	90	6495
55	0	0	0	4	119	327	489	433	184	23	0	0	1579
57	0	0	0	2	85	270	427	371	138	12	0	0	1305
60	0	0	0	0	47	190	334	279	81	4	0	0	935
65	0	0	0	0	12	86	186	138	23	0	0	0	445
70	0	0	0	0	2	24	73	44	3	0	0	0	146

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	4	6	46	193	522	768	954	899	622	297	93	12	4	10	56	249	771	1539	2493	3392	4014	4311	4404	4416
45	0	0	16	100	369	618	799	744	472	172	42	3	0	0	16	116	485	1103	1902	2646	3118	3290	3332	3335
50	0	0	5	46	230	468	644	589	327	85	16	0	0	0	5	51	281	749	1393	1982	2309	2394	2410	2410
55	0	0	3	18	123	323	489	434	197	32	4	0	0	0	3	21	144	467	956	1390	1587	1619	1623	1623
60	0	0	0	4	53	192	336	284	102	11	0	0	0	0	0	4	57	249	585	869	971	982	982	982
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	1	6	43	133	316	487	632	590	387	190	61	12	1	7	50	183	499	986	1618	2208	2595	2785	2846	2858

(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