

Climatology of the United States

No. 20

1971-2000

Station: GRAFTON, NH

COOP ID: 273530

Climate Division: NH 1

NWS Call Sign:

Elevation: 830 Feet Lat: 43° 34N Lon: 71° 57W

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	27.1	3.5	15.3	60	1995	16	23.6	1990	-40+	1994	21	6.2	1994	1540	0	.0	.0	1.0	19.7	30.6	11.7
Feb	29.8	4.6	17.2	64	1957	26	25.8	1981	-36	1971	3	7.9	1993	1339	0	.0	.0	1.6	14.7	27.4	9.9
Mar	39.2	16.4	27.8	80	1998	29	33.7	1973	-25	1972	10	22.0	1978	1154	0	.0	.0	6.0	6.6	28.7	3.1
Apr	51.6	27.7	39.7	92	1976	19	45.5	1991	-6	1964	1	33.0	1972	762	0	.0	@	18.1	.3	20.9	.0
May	65.4	38.9	52.2	93	1962	19	56.4	1998	15	1956	9	47.3	1997	400	1	.0	.2	29.8	.0	8.8	.0
Jun	73.6	48.1	60.9	94	1988	15	65.6	1999	25+	1964	6	57.1+	1985	147	23	.0	.8	30.0	.0	1.3	.0
Jul	78.7	52.7	65.7	96+	1963	25	68.9	1994	30	1962	6	61.6	1992	45	67	.0	1.4	31.0	.0	.1	.0
Aug	76.2	50.9	63.6	97	1975	2	67.6	1973	26	1965	31	60.8	1987	83	39	.0	.6	31.0	.0	.4	.0
Sep	68.3	42.5	55.4	90+	1999	4	60.3	1999	16	1963	24	52.0	1988	290	2	.0	.1	29.9	.0	5.9	.0
Oct	56.7	31.1	43.9	86	1963	7	50.4	1971	9	1972	21	39.4	1988	653	0	.0	.0	23.8	.0	17.6	.0
Nov	44.0	23.6	33.8	74	1991	21	39.1	1999	-5	1967	17	29.4	1971	936	0	.0	.0	8.6	3.2	23.7	.2
Dec	32.4	11.3	21.9	70+	2001	7	29.1	1998	-29	1980	26	5.7	1989	1337	0	.0	.0	1.7	14.4	30.1	6.0
Ann	53.6	29.3	41.5	97	Aug 1975	2	68.9	Jul 1994	-40+	Jan 1994	21	5.7	Dec 1989	8686	132	.0	3.1	212.5	58.9	195.5	30.9

+ 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: 1955-2001

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

008-A

**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: GRAFTON, NH

COOP ID: 273530

Climate Division: NH 1

NWS Call Sign:

Elevation: 830 Feet Lat: 43°34N

Lon: 71°57W

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	2.96	2.83	2.44	1986	26	6.84	1999	.37	1981	10.9	6.2	1.9	.5	.70	.98	1.41	1.80	2.18	2.59	3.04	3.58	4.29	5.42	6.48
Feb	2.36	2.26	1.80	1981	2	9.11	1981	.06	1987	8.6	5.0	1.8	.4	.46	.67	1.02	1.34	1.66	2.00	2.40	2.87	3.49	4.50	5.45
Mar	2.96	2.93	1.74	2001	31	5.56	1983	.77	1988	10.5	6.5	2.1	.7	1.22	1.49	1.87	2.19	2.48	2.78	3.11	3.48	3.95	4.67	5.33
Apr	3.26	2.86	2.75	1980	10	7.40	1996	.58	1999	10.6	6.7	2.0	.7	1.17	1.47	1.92	2.29	2.65	3.01	3.41	3.87	4.46	5.37	6.21
May	3.70	3.43	2.33	1984	29	9.48	1984	.52	1993	11.6	7.5	2.5	.7	1.02	1.37	1.91	2.37	2.83	3.31	3.84	4.46	5.27	6.55	7.74
Jun	3.71	3.00	3.32	1973	30	9.63	1998	1.06	1988	12.1	7.2	2.7	.7	1.10	1.46	1.98	2.44	2.88	3.34	3.85	4.45	5.22	6.42	7.54
Jul	3.94	3.55	3.31	1976	12	8.01	1976	1.17	1982	11.0	6.5	2.6	1.0	1.31	1.68	2.23	2.69	3.14	3.60	4.10	4.69	5.45	6.63	7.71
Aug	3.63	3.32	3.63	1959	30	11.21	1990	.32	1996	10.3	6.6	2.4	.8	1.09	1.44	1.95	2.40	2.83	3.28	3.77	4.35	5.10	6.28	7.37
Sep	3.38	2.92	4.53	1999	17	9.04	1999	1.28	1983	11.2	6.5	2.0	.6	1.13	1.45	1.92	2.32	2.70	3.10	3.53	4.03	4.68	5.68	6.60
Oct	3.90	3.55	4.98	1959	24	9.81	1995	.53	1994	10.2	6.1	2.6	1.2	1.00	1.37	1.94	2.44	2.93	3.45	4.02	4.70	5.60	7.01	8.32
Nov	3.42	3.05	2.64	1997	2	7.66	1972	1.32	1976	10.8	6.8	2.7	.7	1.42	1.73	2.17	2.53	2.87	3.21	3.59	4.01	4.56	5.38	6.13
Dec	2.99	2.42	3.31	1969	27	7.90	1973	1.05	1998	11.1	6.8	1.9	.6	.84	1.12	1.55	1.93	2.30	2.68	3.10	3.60	4.25	5.27	6.22
Ann	40.21	38.56	4.98	Oct 1959	24	11.21	Aug 1990	.06	Feb 1987	128.9	78.4	27.2	8.6	30.74	32.63	35.01	36.80	38.38	39.89	41.45	43.16	45.21	48.17	50.70

+ 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: 1955-2001

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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: GRAFTON, NH

COOP ID: 273530

Climate Division: NH 1

NWS Call Sign:

Elevation: 830 Feet

Lat: 43°34N

Lon: 71°57W

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	18.9	19.1	10	7	24.0	1994	18	46.8	1979	50	1996	14	37	1996	7.4	5.6	2.8	1.5	.1	-9.9	-9.9	-9.9	-9.9
Feb	14.9	13.8	12	7	14.0	1995	5	36.5	1993	50	1994	16	43	1994	6.1	4.4	1.9	.9	.2	-9.9	-9.9	-9.9	-9.9
Mar	13.6	13.0	8	5	17.5	1993	14	33.5	1993	45	1994	6	35	1971	4.9	4.0	1.7	.8	.1	-9.9	-9.9	-9.9	-9.9
Apr	5.4	3.3	2	#	15.0	1982	6	22.0	1982	32	1982	7	17	1982	2.1	1.5	.7	.3	.1	2.5	1.7	1.4	.9
May	.0	.0	0	0	1.0	1977	9	1.0	1977	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	#	1993	20	#	1993	.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	.2	.0	#	0	1.5	1979	9	2.5	1979	1	1993	31	#+	2000	.3	.1	.0	.0	.0	@	.0	.0	.0
Nov	5.9	3.0	#	#	10.5	1971	25	31.5	1971	11	1997	24	4	1997	2.7	2.1	.8	.2	@	3.0	1.4	.9	.2
Dec	17.6	17.6	4	3	14.0	1996	8	37.4	1972	33	1995	29	20	1995	6.9	5.1	2.4	.9	.1	14.3	8.2	4.7	.7
Ann	76.5	69.8	N/A	N/A	24.0	Jan 1994	18	46.8	Jan 1979	50+	Jan 1996	14	43	Feb 1994	30.4	22.8	10.3	4.6	.6	-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:

www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

**Climatography
of the United States
No. 20
1971-2000**

Station: GRAFTON, NH

COOP ID: 273530

Climate Division: NH 1

NWS Call Sign:

Elevation: 830 Feet

Lat: 43°34N

Lon: 71°57W

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	7/18	7/10	7/04	6/29	6/25	6/20	6/15	6/10	6/02
32	6/24	6/18	6/14	6/10	6/06	6/03	5/30	5/25	5/19
28	6/07	5/31	5/27	5/23	5/19	5/15	5/11	5/06	4/30
24	5/17	5/13	5/10	5/07	5/04	5/02	4/29	4/26	4/22
20	4/30	4/26	4/23	4/21	4/19	4/16	4/14	4/11	4/07
16	4/20	4/15	4/11	4/08	4/05	4/02	3/30	3/27	3/22
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	8/13	8/18	8/22	8/26	8/29	9/02	9/05	9/09	9/15
32	8/24	8/29	9/02	9/05	9/08	9/11	9/14	9/18	9/23
28	9/08	9/13	9/17	9/20	9/23	9/26	9/29	10/02	10/07
24	9/25	9/29	10/01	10/04	10/06	10/08	10/10	10/13	10/17
20	10/04	10/09	10/13	10/17	10/20	10/23	10/26	10/30	11/04
16	10/17	10/24	10/28	11/01	11/05	11/08	11/12	11/17	11/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	98	87	78	71	65	58	51	43	32
32	118	110	103	98	93	88	83	77	68
28	151	142	136	131	126	121	116	110	102
24	168	163	160	157	154	151	148	144	139
20	202	196	191	187	183	179	175	171	164
16	238	229	223	218	213	208	203	197	188

* 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:
www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

**Climatography
of the United States
No. 20
1971-2000**

Station: GRAFTON, NH

COOP ID: 273530

Climate Division: NH 1

NWS Call Sign:

Elevation: 830 Feet Lat: 43° 34N Lon: 71° 57W

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	1540	1339	1154	762	400	147	45	83	290	653	936	1337	8686
60	1385	1199	999	612	255	58	6	19	158	498	786	1182	7157
57	1292	1115	906	522	181	26	1	5	96	408	696	1089	6337
55	1230	1059	844	463	137	14	0	1	65	349	636	1027	5825
50	1075	919	689	321	58	2	0	0	19	216	487	872	4658
32	532	430	191	23	0	0	0	0	0	5	79	365	1625

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	15	16	60	252	624	866	1045	978	702	375	132	51	5116
55	0	0	0	2	49	189	332	267	76	6	0	0	921
57	0	0	0	0	30	142	271	208	48	3	0	0	702
60	0	0	0	0	12	83	183	129	20	0	0	0	427
65	0	0	0	0	1	23	67	39	2	0	0	0	132
70	0	0	0	0	0	3	10	4	0	0	0	0	17

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	0	1	16	116	417	656	823	761	483	191	48	2	0	1	17	133	550	1206	2029	2790	3273	3464	3512	3514
45	0	0	4	56	275	506	668	606	339	100	15	0	0	0	4	60	335	841	1509	2115	2454	2554	2569	2569
50	0	0	0	23	158	361	513	452	214	39	3	0	0	0	0	23	181	542	1055	1507	1721	1760	1763	1763
55	0	0	0	8	78	221	361	302	113	14	0	0	0	0	0	8	86	307	668	970	1083	1097	1097	1097
60	0	0	0	0	28	117	215	170	47	0	0	0	0	0	0	0	28	145	360	530	577	577	577	577
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	1	22	100	284	418	539	492	312	140	37	1	0	1	23	123	407	825	1364	1856	2168	2308	2345	2346

(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