

Climatology of the United States

No. 20

1971-2000

Station: DURHAM, NH

COOP ID: 272174

Climate Division: NH 2

NWS Call Sign:

Elevation: 80 Feet

Lat: 43°09N

Lon: 70°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	33.4	13.1	23.3	68	1950	4	30.7	1990	-35	1935	31	15.0	1982	1294	0	.0	.0	1.9	13.8	29.8	5.9
Feb	36.9	15.9	26.4	71	1997	22	33.4	1984	-30	1943	16	18.7	1979	1080	0	.0	.0	2.8	8.9	26.1	3.3
Mar	45.8	24.8	35.3	89	1998	31	40.3	2000	-18	1967	19	29.8	1984	921	0	.0	.0	9.8	2.5	24.7	.7
Apr	57.6	33.8	45.7	95	1941	20	49.9	1974	9+	1964	1	41.3	1972	580	0	.0	.1	23.3	@	14.7	.0
May	69.0	43.5	56.3	95	1929	30	61.1	1991	22+	1981	19	51.9	1974	276	5	.0	.7	30.4	.0	3.3	.0
Jun	78.0	53.0	65.5	98+	1952	26	70.6	1976	30+	1977	9	60.7	1982	64	78	.0	2.3	30.0	.0	@	.0
Jul	83.2	58.2	70.7	102	1926	22	74.8	1994	35	1965	7	67.0	1992	7	185	.0	4.5	31.0	.0	.0	.0
Aug	81.1	56.6	68.9	102+	1975	2	72.9	1973	28	1965	31	65.3	1987	18	139	@	2.7	31.0	.0	.1	.0
Sep	73.0	48.6	60.8	99	1953	2	64.9	1983	21	1941	30	58.3	1978	146	20	.0	.6	30.0	.0	1.6	.0
Oct	61.8	37.8	49.8	91	1930	13	55.7	1971	5	1928	15	45.1	1974	472	0	.0	.0	28.8	.0	10.4	.0
Nov	49.2	29.9	39.6	80	1950	2	44.4	1999	-13	1938	26	35.2	1996	763	0	.0	.0	13.3	.9	19.4	@
Dec	37.9	19.4	28.7	74	1998	7	35.3	1982	-31	1933	30	15.0	1989	1127	0	.0	.0	3.4	8.9	28.4	2.1
Ann	58.9	36.2	47.6	102+	Aug 1975	2	74.8	Jul 1994	-35	Jan 1935	31	15.0+	Dec 1989	6748	427	@	10.9	235.7	35.0	158.5	12.0

+ 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

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1926-2001

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

005-A

Climatology 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: DURHAM, NH

COOP ID: 272174

Climate Division: NH 2

NWS Call Sign:

Elevation: 80 Feet

Lat: 43°09N

Lon: 70°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	3.13	3.32	2.67	1940	15	6.89	1979	.45	1981	9.5	6.9	2.2	.6	.75	1.05	1.50	1.91	2.32	2.75	3.23	3.80	4.54	5.73	6.84
Feb	2.80	2.63	3.93	1981	25	9.04	1981	.00	1987	7.2	5.3	2.1	.5	.63	1.02	1.49	1.86	2.21	2.56	2.95	3.41	3.99	4.90	5.74
Mar	3.51	3.22	2.70	1983	19	9.38	1983	.98	1981	9.3	7.0	2.3	.9	1.34	1.67	2.14	2.52	2.89	3.26	3.67	4.14	4.74	5.65	6.49
Apr	4.09	3.43	6.28	1973	2	13.35	1973	.54	1999	10.0	6.8	2.6	1.1	1.13	1.52	2.11	2.62	3.13	3.66	4.24	4.93	5.83	7.24	8.56
May	3.61	3.34	4.59	1954	9	9.53	1984	.73	1993	11.0	7.8	2.5	.7	1.07	1.41	1.93	2.37	2.80	3.25	3.75	4.33	5.09	6.27	7.37
Jun	3.43	2.74	4.65	1998	13	11.27	1998	.83	1976	9.8	6.6	2.3	.8	.73	1.04	1.55	2.00	2.46	2.95	3.50	4.16	5.03	6.43	7.74
Jul	3.32	2.76	4.09	1938	29	8.13	1988	.67	1974	8.9	6.2	2.4	.8	.94	1.25	1.73	2.14	2.55	2.97	3.44	4.00	4.72	5.84	6.90
Aug	3.39	3.03	5.23	1991	19	9.32	1991	.84	1996	9.0	6.1	2.0	.8	.98	1.30	1.78	2.21	2.62	3.04	3.52	4.08	4.80	5.93	6.98
Sep	3.47	2.93	6.49	1954	11	9.31	1999	.29	1978	8.6	6.0	2.3	.9	.76	1.08	1.59	2.05	2.51	3.00	3.56	4.22	5.09	6.48	7.80
Oct	4.06	3.51	6.30	1996	21	11.95	1996	.19	1994	8.9	6.3	2.7	1.2	.90	1.28	1.87	2.41	2.94	3.51	4.16	4.92	5.93	7.54	9.06
Nov	4.47	4.23	3.61	1947	12	11.52	1983	.63	1976	9.5	7.2	3.1	1.2	1.32	1.74	2.38	2.93	3.47	4.02	4.64	5.36	6.30	7.77	9.13
Dec	3.52	3.05	3.89	1937	7	9.72	1972	.40	1980	9.1	6.5	2.3	.8	.67	.98	1.50	1.97	2.46	2.98	3.57	4.28	5.23	6.75	8.20
Ann	42.80	42.44	6.49	Sep 1954	11	13.35	Apr 1973	.00	Feb 1987	110.8	78.7	28.8	10.3	31.26	33.51	36.39	38.57	40.49	42.35	44.27	46.38	48.93	52.63	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: 1926-2001

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

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Station: DURHAM, NH

COOP ID: 272174

Climate Division: NH 2

NWS Call Sign:

Elevation: 80 Feet

Lat: 43°09N

Lon: 70°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	15.7	13.5	6	4	12.5	1991	12	44.5	1987	30	1996	8	17	1996	4.6	4.1	2.0	1.1	.1	20.0	15.4	12.9	6.8
Feb	9.4	5.8	6	5	15.0	1972	19	30.0	1972	26	1987	1	20	1971	3.3	2.6	1.1	.5	.2	18.3	15.5	12.6	8.0
Mar	7.9	4.5	3	1	14.0	1972	15	29.5	1976	27	1971	11	17	1971	2.6	2.2	1.1	.6	.1	10.4	8.1	6.5	3.3
Apr	2.1	.0	#	0	12.0	1982	6	22.0	1982	10	1982	7	1+	1997	.5	.5	.2	.2	@	.6	.4	.3	@
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	.1	.0	#	0	3.0	1979	11	3.0	1979	#	1979	10	#	1979	@	@	@	.0	.0	.0	.0	.0	.0
Nov	2.5	1.1	#	#	12.0	1980	18	14.5	1971	11	1971	25	2+	1997	1.0	.9	.3	.1	.1	2.2	1.2	.6	.1
Dec	11.2	8.5	2	2	13.0	1997	23	29.0+	1975	17	1995	20	9	1995	3.6	3.1	1.5	.9	.1	13.7	10.4	6.6	1.8
Ann	48.9	33.4	N/A	N/A	15.0	Feb 1972	19	44.5	Jan 1987	30	Jan 1996	8	20	Feb 1971	15.6	13.4	6.2	3.4	.6	65.2	51.0	39.5	20.0

+ 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

Complete documentation available from:

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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	6/14	6/09	6/05	6/01	5/29	5/26	5/22	5/18	5/13
32	5/27	5/22	5/19	5/16	5/13	5/11	5/08	5/04	4/30
28	5/15	5/10	5/07	5/04	5/01	4/28	4/25	4/22	4/17
24	5/02	4/27	4/23	4/20	4/17	4/14	4/11	4/07	4/02
20	4/15	4/10	4/07	4/04	4/01	3/30	3/27	3/23	3/19
16	4/03	3/29	3/26	3/23	3/20	3/18	3/15	3/12	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	8/31	9/05	9/08	9/11	9/14	9/17	9/20	9/24	9/29
32	9/10	9/14	9/18	9/21	9/24	9/27	9/30	10/03	10/08
28	9/25	9/30	10/03	10/06	10/09	10/12	10/15	10/18	10/23
24	10/04	10/09	10/14	10/17	10/21	10/24	10/27	11/01	11/06
20	10/19	10/25	10/30	11/02	11/06	11/10	11/14	11/18	11/25
16	11/02	11/09	11/13	11/18	11/21	11/25	11/29	12/04	12/11
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	129	122	116	112	108	103	99	93	86
32	152	145	140	136	133	129	125	120	113
28	181	174	169	164	160	156	152	146	139
24	210	202	196	191	186	181	176	170	162
20	243	235	228	223	218	213	208	201	193
16	272	263	256	251	245	240	234	228	219

* 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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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	1294	1080	921	580	276	64	7	18	146	472	763	1127	6748
60	1139	940	766	430	147	16	0	1	55	322	613	972	5401
57	1046	856	673	342	88	5	0	0	25	238	523	879	4675
55	984	800	611	286	58	2	0	0	13	188	463	817	4222
50	829	660	457	161	15	0	0	0	2	88	317	662	3191
32	311	206	58	1	0	0	0	0	0	0	20	206	802

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	41	50	160	412	752	1004	1201	1144	864	551	247	101	6527
55	0	0	0	6	97	316	488	431	187	26	0	0	1551
57	0	0	0	2	65	259	426	369	139	14	0	0	1274
60	0	0	0	0	31	180	333	277	79	5	0	0	905
65	0	0	0	0	5	78	185	139	20	0	0	0	427
70	0	0	0	0	0	21	71	47	2	0	0	0	141

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	7	53	196	503	760	946	894	623	307	95	14	3	10	63	259	762	1522	2468	3362	3985	4292	4387	4401
45	0	1	16	102	350	610	791	739	473	186	43	3	0	1	17	119	469	1079	1870	2609	3082	3268	3311	3314
50	0	0	7	47	211	460	636	584	327	89	17	0	0	0	7	54	265	725	1361	1945	2272	2361	2378	2378
55	0	0	4	20	112	315	481	431	200	34	4	0	0	0	4	24	136	451	932	1363	1563	1597	1601	1601
60	0	0	1	3	50	186	328	278	104	7	0	0	0	0	1	4	54	240	568	846	950	957	957	957
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	1	3	43	140	316	484	630	588	395	201	57	9	1	4	47	187	503	987	1617	2205	2600	2801	2858	2867

(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