# 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

**COOP ID: 270681** 

Station: BENTON 5 SW, NH

**Climate Division: NH 1** 

**NWS Call Sign:** 

Elevation: 1,200 Feet Lat: 44°02N Lon: 71°56W

									ŗ	Гетр	eratur	e (°F)									
	Mea	<b>n</b> (1)						Extr	emes					Degree Base To	·		Mean	Numb	er of D	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	26.3	5.4	15.9	59	1995	16	25.6	1990	-29+	1994	28	6.3	1994	1525	0	.0	.0	1.1	20.5	30.3	10.7
Feb	28.7	7.0	17.9	63	1997	23	27.5	1981	-26	1993	7	7.1	1979	1320	0	.0	.0	1.4	17.3	27.1	8.1
Mar	38.7	18.5	28.6	78	1998	31	35.4	1973	-18	1967	19	22.0	1984	1128	0	.0	.0	5.6	8.0	27.3	2.2
Apr	51.1	30.5	40.8	88	1990	28	46.2	1986	3	1969	1	34.5	1972	726	0	.0	.0	16.3	.7	18.3	.0
May	65.0	42.2	53.6	89+	1978	28	58.7	1998	18	1966	10	47.5	1997	358	5	.0	.0	29.5	.0	3.6	.0
Jun	72.8	50.7	61.8	93+	1995	20	65.8	1999	30	1986	3	58.2	1985	121	23	.0	.2	30.0	.0	.1	.0
Jul	77.3	55.1	66.2	95	1995	15	69.6	1994	37+	1978	2	62.4	1992	40	77	.0	.5	31.0	.0	.0	.0
Aug	74.9	53.1	64.0	94+	2001	10	67.5	1973	31	1965	31	61.4	1982	74	42	.0	.2	31.0	.0	.1	.0
Sep	66.6	45.2	55.9	88+	1999	5	61.2	1999	22	1965	28	52.7	1995	275	2	.0	.0	29.6	.0	2.2	.0
Oct	55.2	34.3	44.8	81	1979	22	51.0	1971	12	1966	31	40.0	1974	628	0	.0	.0	22.5	.1	12.2	.0
Nov	42.3	25.2	33.8	71	1991	20	39.4	1999	-2	1989	24	28.6	1976	937	0	.0	.0	7.8	5.1	22.2	@
Dec	31.2	12.8	22.0	65	2001	6	30.2	1998	-28	1980	26	5.4	1989	1332	0	.0	.0	1.8	16.2	29.6	5.3
Ann	52.5	31.7	42.1	95	Jul 1995	15	69.6	Jul 1994	-29+	Jan 1994	28	5.4	Dec 1989	8464	149	.0	.9	207.6	67.9	173.0	26.3

<sup>+</sup> Also occurred on an earlier date(s)

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

Issue Date: February 2004 001-A

- (1) From the 1971-2000 Monthly Normals
- (2) Derived from station's available digital record: 1965-2001
- (3) Derived from 1971-2000 serially complete daily data

<sup>@</sup> Denotes mean number of days greater than 0 but less than .05

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Climate Division: NH 1 NWS Call Sign: Elevation: 1,200 Feet Lat: 44°02N Lon: 71°56W

										Pı	recipit	tation	(incl	nes)										
	Mea	ans/	P	recipi	itatio	on Total					ean N of D	ays (3	5)	Proba	ability th		nonthly/	annual j indic	precipita ated an	nount			less tha	ın the
	Medi	ans(1)				Extremes	•			"	any Free	приано	11		Th	ese value	s were det	ermined	from the	incomplet	e gamma	distributi	on	
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	2.62	2.52	1.90	1978	9	5.57	1979	.31	1981	11.9	6.0	1.6	.3	.68	.93	1.31	1.65	1.98	2.32	2.71	3.16	3.76	4.70	5.58
Feb	1.98	1.82	2.20	1969	25	7.14	1981	.13	1987	9.0	4.9	1.1	.2	.42	.60	.89	1.16	1.42	1.70	2.02	2.40	2.90	3.71	4.47
Mar	2.62	2.57	2.08	2001	23	4.04	1983	1.12	1978	10.9	6.7	1.5	.3	1.33	1.55	1.85	2.08	2.30	2.52	2.74	3.00	3.33	3.82	4.25
Apr	2.81	2.78	1.90	1975	3	6.23	2000	.49	1999	11.6	6.9	1.4	.4	1.06	1.33	1.70	2.01	2.31	2.61	2.94	3.32	3.80	4.54	5.22
May	3.45	2.99	1.98	1984	29	10.09	1984	1.13	1982	13.0	8.1	2.2	.6	1.03	1.36	1.85	2.27	2.69	3.11	3.58	4.14	4.85	5.97	7.01
Jun	3.75	3.16	4.27	1973	30	11.17	1973	.85	1995	13.0	8.0	2.3	.5	1.23	1.59	2.11	2.56	2.99	3.43	3.91	4.48	5.21	6.34	7.39
Jul	3.81	3.62	3.50	1969	29	7.85	1996	1.46	1985	12.5	8.0	2.9	.7	1.71	2.05	2.52	2.90	3.25	3.61	3.99	4.43	4.98	5.81	6.57
Aug	4.17	3.96	2.38	1988	29	8.30	1990	1.14	1996	11.6	7.4	2.9	1.2	1.66	2.05	2.59	3.04	3.47	3.90	4.37	4.91	5.59	6.64	7.59
Sep	3.62	3.63	3.42	1999	17	7.69	1981	1.13	1972	11.6	7.3	2.3	.7	1.23	1.58	2.08	2.50	2.91	3.32	3.78	4.31	5.00	6.05	7.03
Oct	3.57	2.90	3.06	1995	22	7.59	1995	1.16	1994	11.7	7.0	2.2	.7	1.16	1.50	2.00	2.43	2.84	3.26	3.73	4.27	4.97	6.05	7.06
Nov	3.46	3.08	2.61	1998	27	7.42	1983	1.05	1978	12.1	7.2	2.5	.7	1.58	1.89	2.31	2.65	2.97	3.29	3.63	4.02	4.51	5.26	5.93
Dec	2.52	2.18	3.33	1969	27	6.46	1973	.99	1999	12.0	6.6	1.4	.3	.85	1.09	1.44	1.73	2.02	2.31	2.63	3.00	3.48	4.23	4.91
Ann	38.38	37.92	4.27	Jun 1973	30	11.17	Jun 1973	.13	Feb 1987	140.9	84.1	24.3	6.6	29.64	31.39	33.59	35.25	36.71	38.10	39.53	41.11	43.00	45.71	48.04

<sup>+</sup> Also occurred on an earlier date(s)

Complete documentation available from:

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

<sup>#</sup> Denotes amounts of a trace

<sup>@</sup> Denotes mean number of days greater than 0 but less than .05

<sup>\*\*</sup> Statistics not computed because less than six years out of thirty had measurable precipitation

<sup>(1)</sup> From the 1971-2000 Monthly Normals

<sup>(2)</sup> Derived from station's available digital record: 1965-2001

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**Station: BENTON 5 SW, NH** 

Climate Division: NH 1 NWS Call Sign: Elevation: 1,200 Feet Lat: 44°02N Lon: 71°56W

										Snov	w (incl	hes)											
						Sno	ow To	tals									Mea	n Nu	mber	of Day	ys (1)		
	Mean	s/Medi	ans (1)	ı					Extre	mes (2)							ow Fa					Depth esholo	
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	16.8	16.0	7	0	13.0	1994	18	35.8	1994	25	1994	18	18+	1971	11.6	5.1	1.8	.7	.1	26.8	20.9	15.7	5.3
Feb	13.6	12.7	8	6	17.0	1978	7	25.6	1988	28	1971	25	24	1971	8.6	4.3	1.3	.5	.1	24.5	19.7	15.6	8.0
Mar	13.2	11.6	6	4	18.0	1984	14	34.8	1971	35	1971	11	26	1971	8.2	4.0	1.4	.4	.1	19.4	14.4	10.7	5.5
Apr	5.0	3.4	1	#	9.5	1971	7	14.3	1975	19	1971	1	5	1971	3.7	1.5	.7	.3	.0	4.5	1.8	.8	.2
May	.1	.0	#	0	1.5	1997	7	1.5	1997	#+	1996	7	#+	1996	.1	@	.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	.4	.0	#	0	6.0	2000	30	6.0	2000	5	2000	30	#+	2000	.8	.2	@	@	.0	.2	@	@	.0
Nov	5.4	3.7	1	#	11.5	1971	25	20.6	1971	12	1971	30	4	1997	5.3	1.9	.4	.1	@	6.6	1.8	.9	.1
Dec	15.0	13.5	4	3	15.0	1989	16	39.5	1981	20	1995	21	11	1981	10.8	4.6	1.5	.6	.1	19.7	12.5	7.9	2.5
Ann	69.5	60.9	N/A	N/A	18.0	Mar 1984	14	39.5	Dec 1981	35	Mar 1971	11	26	Mar 1971	49.1	21.6	7.1	2.6	.4	101.7	71.1	51.6	21.6

<sup>+</sup> Also occurred on an earlier date(s) #Denotes trace amounts

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

<sup>@</sup> Denotes mean number of days greater than 0 but less than .05

<sup>-9/-9.9</sup> represents missing values Annual statistics for Mean/Median snow depths are not appropriate

<sup>(1)</sup> Derived from Snow Climatology and 1971-2000 daily data

<sup>(2)</sup> Derived from 1971-2000 daily data

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				Freez	e Data				
			Spri	ng Freeze D	ates (Month/	(Day)			
Temp (F)		P	robability of	later date i	n spring (thr	u Jul 31) tha	n indicated(	(*)	
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	6/21	6/16	6/12	6/09	6/06	6/03	5/31	5/27	5/22
32	6/03	5/29	5/25	5/22	5/19	5/17	5/14	5/10	5/05
28	5/16	5/12	5/10	5/07	5/05	5/03	5/01	4/29	4/25
24	5/01	4/27	4/23	4/20	4/18	4/15	4/12	4/09	4/04
20	4/21	4/17	4/13	4/11	4/08	4/05	4/03	3/30	3/26
16	4/13	4/09	4/06	4/03	4/01	3/29	3/27	3/24	3/19
			Fa	ll Freeze Da	tes (Month/D	Day)			
Temp (F)		Pro	bability of e	arlier date i	n fall (beginn	ing Aug 1) t	han indicate	ed(*)	
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	8/30	9/03	9/06	9/09	9/11	9/14	9/16	9/19	9/23
32	9/07	9/12	9/16	9/19	9/21	9/24	9/27	10/01	10/06
28	9/23	9/27	9/29	10/01	10/03	10/05	10/08	10/10	10/14
24	10/02	10/07	10/10	10/13	10/15	10/18	10/21	10/24	10/29
20	10/20	10/26	10/30	11/02	11/06	11/09	11/13	11/17	11/23
16	10/30	11/04	11/08	11/11	11/14	11/16	11/19	11/23	11/28
				Freeze F	ree Period	•		•	
Temp (F)			Probability	of longer th	an indicated	freeze free p	eriod (Days)	)	
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	118	111	105	101	97	93	88	83	76
32	144	138	133	128	124	120	116	111	104
28	166	160	157	153	150	147	144	140	135
24	198	192	187	184	180	176	173	168	162
20	234	226	221	216	211	206	202	196	188
16	245	239	234	230	226	222	218	214	207

<sup>\*</sup> 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.

Complete documentation available from:

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Climate Division: NH 1 NWS Call Sign: Elevation: 1,200 Feet Lat: 44°02N Lon: 71°56W

				Deg	ree Days to	o Selected	Base Tem	peratures	$({}^{\circ}\mathbf{F})$				
Base						Heatin	g Degree l	Days (1)					
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1525	1320	1128	726	358	121	40	74	275	628	937	1332	8464
60	1370	1180	973	576	223	39	5	14	145	474	787	1177	6963
57	1277	1096	880	488	157	15	0	3	86	384	697	1084	6167
55	1215	1040	818	430	120	7	0	1	57	326	637	1022	5673
50	1060	900	663	294	53	1	0	0	15	197	487	867	4537
32	516	413	177	20	0	0	0	0	0	4	75	361	1566

Base						Coolin	g Degree l	Days (1)					
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	15	18	72	284	670	892	1060	991	717	399	128	52	5298
55	0	0	0	4	77	209	347	279	84	8	0	0	1008
57	0	0	0	2	52	157	285	219	53	4	0	0	772
60	0	0	0	0	26	91	197	137	22	1	0	0	474
65	0	0	0	0	5	23	77	42	2	0	0	0	149
70	0	0	0	0	0	2	14	5	0	0	0	0	21

										Gro	wing 1	Degre	e Uni	ts (2)										
Base					Growing	g Degree	Units (N	(Ionthly)								Growi	ng Degre	ee Units (	Accumu	lated Mo	nthly)			
	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov De													Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	2	29	132	448	672	831	768	494	215	59	6	0	2	31	163	611	1283	2114	2882	3376	3591	3650	3656
45	0 0 8 70 303 523 676 613 352 117 23												0	0	8	78	381	904	1580	2193	2545	2662	2685	2685
50	0 0 3 29 180 375 521 459 220 53 6											0	0	0	3	32	212	587	1108	1567	1787	1840	1846	1846
55	0	0	0	13	91	235	366	309	118	16	1	0	0	0	0	13	104	339	705	1014	1132	1148	1149	1149
60	0	0	0	2	36	127	221	171	51	2	0	0	0	0	0	2	38	165	386	557	608	610	610	610
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	50/86         0         1         19         90         268         415         532         480         290         124         32												0	1	20	110	378	793	1325	1805	2095	2219	2251	2251

(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

#### 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

- c. Snow Tables
  - 1. Snow Climatology
  - 2. Cooperative Summary of the Day
- d. Freeze Data Table

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

#### 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