

Climatology of the United States

No. 20

1971-2000

Station: LIBERTY 1 NE, NY

COOP ID: 304731

Climate Division: NY 2

NWS Call Sign:

Elevation: 1,549 Feet Lat: 41°48N

Lon: 74°44W

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	11.4	21.0	62	1951	21	30.2	1990	-21	1981	12	11.8	1982	1363	0	.0	.0	1.4	17.7	29.9	5.8
Feb	33.4	13.0	23.2	73	1954	16	31.1	1998	-26	1963	9	13.2	1979	1170	0	.0	.0	2.3	14.1	27.0	3.8
Mar	42.5	21.4	32.0	82+	1998	31	38.2	1973	-8	1967	19	25.9	1996	1024	0	.0	.0	7.4	5.5	27.2	.6
Apr	54.4	32.2	43.3	89	1976	19	46.9	1985	-3	1982	8	37.1	1975	651	0	.0	.0	18.6	.4	15.5	@
May	66.4	42.5	54.5	91	1979	11	59.8	1991	19	1986	3	49.2	1997	335	8	.0	@	29.5	.0	2.9	.0
Jun	74.4	51.0	62.7	92+	1988	16	65.6	1976	31+	1986	3	59.5	1972	100	31	.0	.4	30.0	.0	.1	.0
Jul	79.1	56.2	67.7	99	1988	8	71.6	1988	38+	1988	1	64.0	2000	29	111	.0	1.6	31.0	.0	.0	.0
Aug	77.7	54.4	66.1	95	2001	10	69.7	1980	34+	1986	29	63.2	1992	46	78	.0	.5	31.0	.0	.0	.0
Sep	69.6	46.5	58.1	99	1953	3	61.3	1998	24	1974	24	54.4	1975	214	5	.0	.1	29.8	.0	1.5	.0
Oct	58.7	35.7	47.2	84+	1986	1	53.1	1971	15	1972	20	42.2	1972	552	0	.0	.0	25.6	.0	11.7	.0
Nov	46.3	28.0	37.2	80	1982	3	42.1	1994	2	1951	28	31.3	1976	837	0	.0	.0	10.8	2.4	21.7	.0
Dec	34.7	17.8	26.3	65+	2001	7	32.4	1998	-16+	1980	26	13.3	1989	1201	0	.0	.0	2.1	12.7	29.1	1.9
Ann	55.7	34.2	44.9	99+	Jul 1988	8	71.6	Jul 1988	-26	Feb 1963	9	11.8	Jan 1982	7522	233	.0	2.6	219.5	52.8	166.6	12.1

+ 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: 1950-2001

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

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No. 20

1971-2000

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: LIBERTY 1 NE, NY

COOP ID: 304731

Climate Division: NY 2

NWS Call Sign:

Elevation: 1,549 Feet Lat: 41°48N

Lon: 74°44W

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	3.77	3.72	2.53	1978	9	8.51	1978	.57	1980	10.1	7.3	2.6	.9	1.04	1.39	1.94	2.41	2.88	3.36	3.90	4.54	5.37	6.68	7.89
Feb	2.87	2.58	2.35	1958	16	6.38	1981	.43	1987	8.4	6.4	2.1	.6	1.08	1.35	1.73	2.05	2.35	2.66	3.00	3.39	3.89	4.65	5.35
Mar	3.77	3.41	3.06	1977	14	8.46	1977	.56	1981	10.1	7.4	2.6	.7	1.57	1.92	2.40	2.80	3.17	3.55	3.95	4.42	5.01	5.91	6.73
Apr	4.30	4.38	3.18	1968	25	8.70	1983	1.57	1971	11.7	8.2	2.9	1.1	1.77	2.17	2.72	3.18	3.60	4.04	4.51	5.05	5.73	6.78	7.73
May	4.87	4.84	3.73	1981	12	10.23	1984	1.65	1993	12.7	9.2	3.4	1.2	1.89	2.34	2.98	3.52	4.03	4.54	5.10	5.75	6.57	7.84	8.99
Jun	4.84	4.30	3.54	2000	7	10.59	1972	.73	1988	12.6	8.5	3.0	1.0	1.42	1.88	2.57	3.17	3.75	4.36	5.03	5.81	6.83	8.43	9.91
Jul	4.67	4.33	4.33	1969	29	9.75	1975	1.71	1991	11.2	8.5	2.7	1.1	1.78	2.21	2.83	3.35	3.84	4.34	4.88	5.51	6.31	7.54	8.66
Aug	4.29	4.34	5.03	1955	19	7.69	1990	1.10	1998	10.9	7.4	2.9	1.2	1.81	2.20	2.74	3.19	3.61	4.04	4.50	5.02	5.69	6.70	7.62
Sep	4.48	3.89	4.60	1999	17	9.21	1977	2.00	1986	10.9	7.5	2.6	1.2	1.57	1.99	2.61	3.13	3.62	4.13	4.68	5.33	6.16	7.43	8.61
Oct	4.00	3.93	2.85	1955	16	8.34	1976	1.10	1994	10.7	7.1	2.6	1.1	1.57	1.94	2.46	2.90	3.31	3.73	4.18	4.71	5.38	6.40	7.33
Nov	4.21	4.37	4.00	1950	26	9.26	1972	1.61	1976	10.6	7.4	2.8	1.2	1.76	2.14	2.68	3.12	3.54	3.96	4.41	4.93	5.59	6.59	7.51
Dec	3.86	3.45	3.10	1957	21	8.86	1973	1.36	1988	10.5	7.3	2.7	.8	1.18	1.55	2.09	2.57	3.02	3.49	4.02	4.63	5.42	6.65	7.79
Ann	49.93	50.54	5.03	Aug 1955	19	10.59	Jun 1972	.43	Feb 1987	130.4	92.2	32.9	12.1	38.43	40.72	43.62	45.80	47.72	49.56	51.44	53.51	56.01	59.59	62.66

+ 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: 1950-2001

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

Complete documentation available from:
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Station: LIBERTY 1 NE, NY

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Climate Division: NY 2

NWS Call Sign:

Elevation: 1,549 Feet

Lat: 41°48N

Lon: 74°44W

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	16.9	13.8	8	6	16.0	1996	8	37.0+	1987	35	1978	22	22	1994	6.0	5.1	2.0	.9	.3	25.1	21.0	16.7	8.1
Feb	11.8	11.3	9	7	15.0	1978	7	23.5	1972	40	1978	8	27	1978	4.7	4.3	1.7	.7	.1	23.9	20.9	17.2	11.4
Mar	10.8	7.5	5	3	30.0	1993	14	49.0	1993	33	1993	22	23	1993	4.4	3.5	1.5	.5	.1	14.6	9.8	6.6	3.2
Apr	3.8	1.9	1	#	16.0	1997	1	17.5	1997	16	1997	1	3	1994	1.4	1.1	.4	.2	@	2.1	1.1	.6	.2
May	.1	.0	#	0	3.0	1977	9	3.0	1977	#+	1997	7	#+	1997	.1	@	@	.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	.3	.0	#	0	3.0	1987	5	5.5	1987	2	1987	4	#+	2000	.1	.1	@	.0	.0	.1	.0	.0	.0
Nov	5.4	3.5	1	#	17.0	1971	25	29.0	1971	20	1971	25	4	1971	2.0	1.7	.6	.2	.1	4.0	2.0	.9	.3
Dec	13.2	12.8	3	3	16.0	2000	31	25.0	1977	19	1992	13	10	1995	5.3	4.6	1.7	.8	.1	16.7	10.1	6.6	1.6
Ann	62.3	50.8	N/A	N/A	30.0	Mar 1993	14	49.0	Mar 1993	40	Feb 1978	8	27	Feb 1978	24.0	20.4	7.9	3.3	.7	86.5	64.9	48.6	24.8

+ 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:

Elevation: 1,549 Feet

Lat: 41° 48N

Lon: 74° 44W

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	6/08	6/04	5/31	5/28	5/24	5/21	5/16	5/10
32	5/27	5/22	5/19	5/16	5/13	5/10	5/07	5/03	4/28
28	5/11	5/07	5/04	5/01	4/29	4/26	4/23	4/20	4/16
24	4/27	4/22	4/19	4/16	4/14	4/11	4/09	4/05	4/01
20	4/21	4/15	4/12	4/08	4/05	4/02	3/30	3/26	3/21
16	4/07	4/03	3/31	3/28	3/26	3/23	3/21	3/18	3/14
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	9/04	9/08	9/12	9/14	9/17	9/20	9/22	9/26	9/30
32	9/14	9/19	9/22	9/25	9/28	10/01	10/03	10/07	10/12
28	9/26	10/03	10/07	10/11	10/15	10/18	10/22	10/26	11/02
24	10/10	10/17	10/21	10/25	10/29	11/02	11/05	11/10	11/16
20	10/28	11/02	11/06	11/09	11/12	11/15	11/18	11/22	11/27
16	11/05	11/11	11/15	11/19	11/23	11/26	11/30	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	134	126	121	116	111	107	102	97	89
32	157	150	145	141	138	134	130	125	118
28	191	183	177	173	168	164	159	153	145
24	223	214	208	202	197	192	187	181	172
20	244	235	230	225	220	215	210	204	196
16	265	257	251	246	241	236	231	225	217

* 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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Elevation: 1,549 Feet Lat: 41°48N Lon: 74°44W

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	1363	1170	1024	651	335	100	29	46	214	552	837	1201	7522
60	1208	1030	869	501	205	29	4	7	98	403	687	1046	6087
57	1115	946	776	413	142	10	0	1	53	319	597	953	5325
55	1053	890	714	355	107	5	0	0	33	267	537	891	4852
50	898	750	559	222	44	0	0	0	7	157	390	736	3763
32	381	278	122	5	0	0	0	0	0	4	38	253	1081

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	41	32	121	344	696	921	1105	1056	781	475	191	75	5838
55	0	0	0	4	90	236	392	343	123	25	0	0	1213
57	0	0	0	2	63	182	330	281	83	15	0	0	956
60	0	0	0	0	33	111	241	194	38	6	0	0	623
65	0	0	0	0	8	31	111	78	5	0	0	0	233
70	0	0	0	0	0	3	32	18	0	0	0	0	53

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	2	4	45	171	465	693	864	811	553	259	74	8	2	6	51	222	687	1380	2244	3055	3608	3867	3941	3949
45	0	0	23	93	321	543	709	656	406	142	33	2	0	0	23	116	437	980	1689	2345	2751	2893	2926	2928
50	0	0	6	47	194	397	554	501	266	69	13	0	0	0	6	53	247	644	1198	1699	1965	2034	2047	2047
55	0	0	2	18	101	251	400	350	149	24	4	0	0	0	2	20	121	372	772	1122	1271	1295	1299	1299
60	0	0	0	6	44	132	248	206	72	2	0	0	0	0	0	6	50	182	430	636	708	710	710	710
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	3	38	115	277	421	559	518	331	158	46	2	0	3	41	156	433	854	1413	1931	2262	2420	2466	2468

(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/normal/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