

Climatography of the United States

No. 20

1971-2000

Station: ESSEX JUNCTION 1 N, VT

COOP ID: 432843

Climate Division: VT 2

NWS Call Sign:

Elevation: 340 Feet

Lat: 44° 31N

Lon: 73° 07W

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	27.0	5.4	16.2	66	1995	16	27.5	1990	-31	1994	27	5.9	1994	1514	0	.0	.0	1.0	20.9	30.4	12.6
Feb	30.3	7.0	18.7	59+	1997	23	31.0	1981	-35+	1987	15	7.2	1979	1298	0	.0	.0	.3	18.8	27.5	9.8
Mar	40.1	19.1	29.6	80	1998	31	36.5	1973	-22	1993	19	21.8	1984	1097	0	.0	.0	6.1	7.3	28.0	2.9
Apr	53.7	32.5	43.1	89	1990	28	48.8	1987	2	1995	6	36.2	1975	657	0	.0	.0	17.2	.5	16.8	.0
May	67.3	44.4	55.9	90+	1987	31	62.0	1998	26+	1985	9	50.2	1997	296	12	.0	.4	29.8	.0	3.2	.0
Jun	76.0	53.6	64.8	98	1995	20	70.0	1999	30	1986	3	61.1	1985	69	62	.0	1.2	30.0	.0	.2	.0
Jul	80.3	57.9	69.1	100	1995	15	72.7	1999	39	1992	2	65.6	1992	14	142	@	2.3	31.0	.0	.0	.0
Aug	77.9	56.4	67.2	98	2001	10	70.9	1973	36+	1986	29	64.2	1982	33	100	@	1.0	31.0	.0	@	.0
Sep	69.2	48.1	58.7	94	1999	5	63.9	1999	27	2000	29	55.2	1978	201	10	.0	.2	29.8	.0	2.0	.0
Oct	57.0	37.2	47.1	81+	1990	7	53.1	1971	19	1988	31	42.3	1974	557	0	.0	.0	23.5	.0	11.5	.0
Nov	44.8	28.2	36.5	74	1996	9	42.9	1999	-3	1989	24	31.7	1996	856	0	.0	.0	8.1	3.1	21.7	.1
Dec	32.7	14.5	23.6	64+	1998	7	32.5	1998	-26	1989	24	4.8	1989	1283	0	.0	.0	1.7	14.7	29.2	5.6
Ann	54.7	33.7	44.2	100	Jul 1995	15	72.7	Jul 1999	-35+	Feb 1987	15	4.8	Dec 1989	7875	326	.0	5.1	209.5	65.3	170.5	31.0

+ 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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1971-2001

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

007-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: ESSEX JUNCTION 1 N, VT

COOP ID: 432843

Climate Division: VT 2

NWS Call Sign:

Elevation: 340 Feet Lat: 44°31N

Lon: 73°07W

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	2.45	2.14	1.70+	1986	27	5.90	1998	.48	1981	11.1	5.8	.8	.2	.72	.95	1.30	1.61	1.90	2.21	2.55	2.95	3.46	4.27	5.02
Feb	1.95	1.83	1.00	1995	5	4.70	1981	.56	1980	9.1	4.3	.5	@	.64	.82	1.09	1.32	1.55	1.78	2.03	2.32	2.70	3.29	3.84
Mar	2.88	2.96	1.57	2001	6	4.01+	1977	1.09	1996	10.5	6.0	.7	.2	1.58	1.81	2.11	2.35	2.57	2.79	3.02	3.28	3.60	4.07	4.50
Apr	3.07	2.91	1.19	1992	12	6.19	1983	.85	1999	10.6	6.2	1.0	.3	1.20	1.48	1.89	2.22	2.54	2.87	3.22	3.62	4.14	4.93	5.65
May	3.21	2.97	1.41	2000	10	6.70	2000	1.10	1980	12.0	6.6	1.0	.2	1.13	1.43	1.87	2.24	2.60	2.96	3.36	3.82	4.41	5.32	6.15
Jun	3.76	3.60	1.86	1988	26	8.43	1998	.95	1995	11.2	6.9	1.2	.3	1.50	1.85	2.34	2.74	3.13	3.52	3.94	4.43	5.05	5.99	6.86
Jul	3.93	3.64	3.14	1985	16	8.88	1998	2.08	1977	11.1	6.5	1.4	.6	2.05	2.37	2.81	3.16	3.47	3.79	4.12	4.50	4.97	5.68	6.31
Aug	4.69	4.69	2.47	1989	5	7.00	1989	2.25	1987	10.9	6.8	1.6	.6	2.69	3.05	3.52	3.89	4.23	4.56	4.91	5.30	5.79	6.51	7.15
Sep	4.44	4.07	3.19	1999	17	9.06	1999	2.00	1988	11.0	6.6	1.7	.6	2.07	2.46	3.00	3.43	3.83	4.23	4.66	5.15	5.76	6.69	7.53
Oct	3.55	3.39	1.81	1991	6	6.57	1995	1.02	1994	11.3	6.7	1.2	.4	1.45	1.77	2.23	2.61	2.97	3.33	3.72	4.17	4.74	5.62	6.41
Nov	3.47	3.62	2.40	1990	11	5.66	1983	1.23	1998	11.5	6.5	1.1	.4	1.78	2.06	2.45	2.76	3.05	3.33	3.63	3.97	4.40	5.04	5.61
Dec	2.47	2.18	1.92	1996	2	4.99	1973	.69	1998	11.2	5.3	.5	.2	.90	1.14	1.47	1.75	2.01	2.28	2.58	2.92	3.36	4.03	4.65
Ann	39.87	39.58	3.19	Sep 1999	17	9.06	Sep 1999	.48	Jan 1981	131.5	74.2	12.7	4.0	31.84	33.47	35.51	37.04	38.38	39.66	40.97	42.40	44.12	46.57	48.67

+ 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: 1971-2001

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

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

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No. 20 1971-2000

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Station: ESSEX JUNCTION 1 N, VT

COOP ID: 432843

Climate Division: VT 2

NWS Call Sign:

Elevation: 340 Feet

Lat: 44°31N

Lon: 73°07W

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	18.8	19.2	6	5	10.0	1987	23	36.5	1987	21	1996	5	13	1994	10.3	6.4	2.5	1.1	.1	22.5	13.4	9.9	5.6
Feb	18.7	18.0	8	8	16.0	1995	5	34.6	1993	24+	1993	24	20	1986	8.5	4.9	2.1	.9	.1	24.2	19.6	17.5	10.4
Mar	15.4	13.0	6	4	17.0	1993	14	35.3	1993	27	1993	15	17	1993	7.3	4.1	1.5	.8	.3	18.4	14.5	11.9	6.5
Apr	4.9	2.8	#	#	11.2	2000	10	18.4	2000	12	2000	10	2	2000	2.4	1.5	.7	.3	.1	2.4	1.5	.7	.1
May	#	.0	#	0	#	1996	29	#+	1996	#	1996	12	#	1996	.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	#	1992	30	#+	1992	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.4	#	#	0	2.4	2000	30	2.4	2000	3	2000	30	#+	2000	.5	.1	.0	.0	.0	.2	.1	.0	.0
Nov	7.8	7.4	1	1	6.0	1997	15	17.4	1996	9	1997	16	2	1997	5.1	2.6	.8	.3	.0	6.1	2.5	1.1	.0
Dec	16.2	14.7	3	2	9.0	1989	16	46.5	1995	20	1995	27	10	1995	8.9	5.4	2.0	.8	.0	17.5	11.0	7.2	2.4
Ann	82.2	75.1	N/A	N/A	17.0	Mar 1993	14	46.5	Dec 1995	27	Mar 1993	15	20	Feb 1986	43.0	25.0	9.6	4.2	.6	91.3	62.6	48.3	25.0

+ 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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No. 20 1971-2000

Station: ESSEX JUNCTION 1 N, VT

COOP ID: 432843

Climate Division: VT 2

NWS Call Sign:

Elevation: 340 Feet

Lat: 44°31N

Lon: 73°07W

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	6/17	6/11	6/07	6/03	5/31	5/28	5/24	5/20	5/14
32	6/02	5/28	5/24	5/21	5/18	5/15	5/12	5/08	5/03
28	5/18	5/14	5/10	5/08	5/05	5/03	4/30	4/27	4/22
24	5/01	4/27	4/24	4/21	4/19	4/16	4/13	4/10	4/06
20	4/20	4/16	4/13	4/10	4/08	4/06	4/03	3/31	3/27
16	4/13	4/09	4/06	4/03	4/01	3/30	3/27	3/24	3/20
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	9/01	9/05	9/08	9/11	9/13	9/16	9/19	9/22	9/26
32	9/11	9/16	9/20	9/23	9/25	9/28	10/01	10/05	10/10
28	9/23	9/28	10/01	10/04	10/07	10/10	10/13	10/16	10/21
24	10/04	10/10	10/15	10/19	10/23	10/26	10/30	11/04	11/10
20	10/16	10/22	10/26	10/30	11/03	11/06	11/10	11/14	11/20
16	10/29	11/04	11/08	11/12	11/16	11/19	11/23	11/27	12/03
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	128	120	114	109	105	100	95	89	81
32	149	143	138	134	130	126	122	117	111
28	172	166	162	158	154	151	147	142	136
24	210	202	196	191	186	182	177	171	163
20	230	222	217	212	208	203	199	193	185
16	251	243	237	232	228	223	219	213	205

* 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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Station: ESSEX JUNCTION 1 N, VT

COOP ID: 432843

Climate Division: VT 2 NWS Call Sign: Elevation: 340 Feet Lat: 44°31N Lon: 73°07W

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	1514	1298	1097	657	296	69	14	33	201	557	856	1283	7875
60	1359	1158	942	509	174	18	0	4	92	404	706	1128	6494
57	1266	1074	849	423	118	6	0	0	50	317	616	1035	5754
55	1204	1018	787	367	87	2	0	0	31	262	556	973	5287
50	1049	878	633	241	35	0	0	0	6	146	408	822	4218
32	512	407	174	13	0	0	0	0	0	1	51	342	1500

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	21	33	100	346	740	983	1151	1090	799	467	185	81	5996
55	0	0	0	10	114	295	438	377	140	15	0	0	1389
57	0	0	0	6	82	239	376	315	99	8	0	0	1125
60	0	0	0	2	46	161	283	226	51	3	0	0	772
65	0	0	0	0	12	62	142	100	10	0	0	0	326
70	0	0	0	0	2	13	48	27	1	0	0	0	91

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	1	0	24	149	486	739	895	835	552	233	62	7	1	1	25	174	660	1399	2294	3129	3681	3914	3976	3983
45	1	0	8	79	343	590	740	680	403	128	28	0	1	1	9	88	431	1021	1761	2441	2844	2972	3000	3000
50	0	0	3	36	216	442	585	525	270	59	6	0	0	0	3	39	255	697	1282	1807	2077	2136	2142	2142
55	0	0	0	15	114	299	430	373	151	21	2	0	0	0	0	15	129	428	858	1231	1382	1403	1405	1405
60	0	0	0	4	54	171	285	231	78	2	0	0	0	0	0	4	58	229	514	745	823	825	825	825
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	20	96	296	461	583	541	330	135	31	2	0	0	20	116	412	873	1456	1997	2327	2462	2493	2495

(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