

Climatology of the United States

No. 20

1971-2000

Station: RUTLAND, VT

COOP ID: 436995

Climate Division: VT 2

NWS Call Sign:

Elevation: 620 Feet

Lat: 43° 37N

Lon: 72° 58W

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	30.8	9.8	20.3	70	1950	4	30.1	1990	-36	1994	27	9.2	1994	1386	0	.0	.0	1.6	17.5	29.6	7.5
Feb	33.8	11.7	22.8	67	1997	22	32.0	1981	-26+	1979	18	11.4	1979	1184	0	.0	.0	2.1	13.2	26.2	5.9
Mar	43.9	21.6	32.8	86	1998	31	40.1	1973	-20	1950	4	27.2	1984	999	0	.0	.0	8.5	4.7	25.6	1.2
Apr	57.0	32.5	44.8	92	1990	28	49.8	1986	9	1982	7	38.5	1972	608	0	.0	.1	21.5	.2	14.9	.0
May	70.3	43.4	56.9	93	1979	9	62.1	1975	24	1956	9	51.4	1997	267	14	.0	.4	30.6	.0	2.7	.0
Jun	78.0	51.6	64.8	95	1994	18	68.7	1976	32	2001	1	61.1	1985	64	57	.0	1.3	30.0	.0	.0	.0
Jul	82.1	56.2	69.2	98+	1963	1	72.7	1995	39	1992	2	65.4	1992	11	140	.0	2.2	31.0	.0	.0	.0
Aug	79.5	54.9	67.2	98	1975	2	71.2	1973	33	1965	31	64.4	1987	30	98	.0	.9	31.0	.0	.0	.0
Sep	70.8	46.9	58.9	92	1953	4	63.5	1971	24	2000	29	56.5	1978	191	8	.0	.1	29.9	.0	1.4	.0
Oct	59.6	36.5	48.1	86	1963	7	55.2	1971	16	1969	24	44.2	1972	526	0	.0	.0	26.2	.0	9.7	.0
Nov	46.9	28.2	37.6	79+	1950	2	43.0	1975	-1	1951	28	33.0	1996	824	0	.0	.0	10.7	2.3	19.1	.0
Dec	35.2	16.5	25.9	69	2001	6	32.8	1996	-23	1980	26	10.9	1989	1214	0	.0	.0	2.5	11.7	28.5	3.0
Ann	57.3	34.2	45.8	98+	Aug 1975	2	72.7	Jul 1995	-36	Jan 1994	27	9.2	Jan 1994	7304	317	.0	5.0	225.6	49.6	157.7	17.6

+ 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: 1948-2001

(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: RUTLAND, VT

COOP ID: 436995

Climate Division: VT 2

NWS Call Sign:

Elevation: 620 Feet Lat: 43°37N

Lon: 72°58W

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	2.70	2.38	2.51	1998	8	6.09	1979	.64	1981	12.1	6.5	1.5	.4	.89	1.15	1.52	1.84	2.15	2.47	2.82	3.23	3.75	4.56	5.31
Feb	1.97	1.86	2.02	1981	2	5.37	1981	.13	1987	8.6	4.8	1.0	.4	.53	.71	1.00	1.25	1.49	1.75	2.04	2.38	2.82	3.51	4.16
Mar	2.59	2.48	2.10	1984	14	4.36	1986	1.06	1981	10.6	6.0	1.5	.3	1.31	1.52	1.82	2.06	2.27	2.49	2.72	2.98	3.31	3.80	4.24
Apr	2.80	2.46	2.24	1975	3	6.45	1996	.81	1999	10.2	6.6	1.5	.5	1.19	1.44	1.80	2.09	2.36	2.64	2.94	3.28	3.71	4.37	4.96
May	3.52	3.19	2.94	1955	25	8.86	1984	1.23	1975	12.6	8.2	2.3	.5	1.21	1.54	2.03	2.44	2.83	3.23	3.68	4.19	4.85	5.87	6.81
Jun	3.85	3.80	3.26	1975	29	8.10	1998	1.09	1984	11.8	8.0	2.7	.6	1.28	1.64	2.18	2.63	3.07	3.52	4.02	4.59	5.34	6.49	7.55
Jul	4.58	4.39	2.73	1976	12	10.41	1996	1.05	1982	10.9	7.6	3.4	1.2	1.50	1.93	2.57	3.12	3.64	4.18	4.77	5.47	6.36	7.74	9.02
Aug	4.18	3.82	3.81	1949	29	6.93	1971	1.87	1982	11.0	7.8	2.8	1.1	2.01	2.37	2.86	3.26	3.63	3.99	4.39	4.83	5.39	6.23	6.99
Sep	3.91	3.69	3.77	1999	17	9.30	1999	1.51	2000	10.3	6.7	2.5	.9	1.41	1.78	2.31	2.75	3.18	3.61	4.08	4.63	5.33	6.41	7.40
Oct	3.21	2.83	3.00	1987	4	6.18	1990	.78	1974	10.8	6.5	2.0	.6	.92	1.23	1.69	2.09	2.48	2.88	3.33	3.86	4.54	5.61	6.61
Nov	3.08	2.95	2.50	1950	25	5.41	1983	1.12	1978	10.6	7.0	1.9	.3	1.40	1.68	2.05	2.36	2.64	2.92	3.23	3.58	4.02	4.68	5.28
Dec	2.73	2.19	3.65	2000	17	6.25	1973	1.28	1980	11.5	5.9	1.4	.3	.86	1.12	1.50	1.83	2.15	2.48	2.84	3.27	3.82	4.67	5.46
Ann	39.12	39.93	3.81	Aug 1949	29	10.41	Jul 1996	.13	Feb 1987	131.0	81.6	24.5	7.1	29.86	31.70	34.04	35.79	37.34	38.82	40.34	42.02	44.03	46.94	49.42

+ 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: 1948-2001

(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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Station: RUTLAND, VT

COOP ID: 436995

Climate Division: VT 2

NWS Call Sign:

Elevation: 620 Feet

Lat: 43°37N

Lon: 72°58W

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	16.6	15.0	5	4	10.0	1994	17	41.1	1994	32	1994	19	18	1994	8.7	5.6	2.2	.8	@	23.5	17.0	12.6	4.7
Feb	13.5	13.0	6	4	24.0	1978	7	25.0	1978	31	1978	7	20	1994	6.2	4.3	1.7	.8	.1	21.6	17.6	13.7	6.1
Mar	13.4	9.4	3	2	23.0	1984	14	38.5	1971	23	1971	7	17	1994	4.5	3.1	1.3	.6	.2	12.3	9.9	7.5	5.2
Apr	3.2	1.1	#	#	13.0	1974	9	14.0	1975	13	1974	9	2	1975	1.6	1.0	.4	.2	@	1.2	.7	.4	.1
May	#	.0	#	0	#	1983	9	#+	1983	#+	1985	10	#+	1985	.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	.3	.0	#	0	4.5	1987	4	6.0	1987	5	1987	4	#+	2000	.2	.1	@	.0	.0	.1	@	@	.0
Nov	5.8	3.6	1	#	12.0	1971	25	20.4	1971	14	1971	25	3	1997	2.8	2.0	.8	.2	@	3.7	1.9	.9	.1
Dec	12.6	11.9	3	2	10.0	1996	8	30.3	1981	14+	1978	26	8	1981	6.6	4.7	1.6	.5	@	16.3	9.7	4.6	.6
Ann	65.4	54.0	N/A	N/A	24.0	Feb 1978	7	41.1	Jan 1994	32	Jan 1994	19	20	Feb 1994	30.6	20.8	8.0	3.1	.3	78.7	56.8	39.7	16.8

+ 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: 620 Feet

Lat: 43°37N

Lon: 72°58W

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	6/11	6/05	6/01	5/29	5/26	5/23	5/19	5/15	5/10
32	5/26	5/22	5/19	5/16	5/13	5/11	5/08	5/05	5/01
28	5/15	5/10	5/07	5/04	5/02	4/29	4/27	4/24	4/19
24	4/27	4/23	4/20	4/18	4/15	4/13	4/11	4/08	4/04
20	4/16	4/12	4/09	4/07	4/04	4/02	3/31	3/28	3/24
16	4/10	4/06	4/02	3/30	3/27	3/24	3/21	3/18	3/13
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	9/02	9/06	9/10	9/13	9/15	9/18	9/21	9/24	9/29
32	9/14	9/19	9/22	9/25	9/28	10/01	10/03	10/07	10/12
28	9/26	10/01	10/04	10/07	10/10	10/12	10/15	10/19	10/23
24	10/06	10/12	10/16	10/19	10/23	10/26	10/29	11/03	11/08
20	10/24	10/30	11/03	11/06	11/09	11/13	11/16	11/20	11/26
16	11/10	11/14	11/17	11/19	11/21	11/24	11/26	11/29	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	132	125	120	116	112	108	104	99	92
32	153	147	143	140	137	133	130	126	121
28	180	173	168	164	160	156	152	147	140
24	209	202	197	193	190	186	182	177	171
20	241	233	227	223	218	214	209	203	196
16	259	252	247	243	238	234	230	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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Climate Division: VT 2 NWS Call Sign: Elevation: 620 Feet Lat: 43° 37N Lon: 72° 58W

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	1386	1184	999	608	267	64	11	30	191	526	824	1214	7304
60	1231	1044	844	460	150	14	0	3	82	374	674	1059	5935
57	1138	960	751	374	97	4	0	0	41	288	584	966	5203
55	1076	904	689	320	69	2	0	0	24	235	524	904	4747
50	921	764	535	198	24	0	0	0	4	126	377	749	3698
32	398	302	110	6	0	0	0	0	0	0	36	265	1117

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	36	42	134	387	770	984	1152	1091	806	498	202	74	6176
55	0	0	0	11	126	295	439	378	140	20	0	0	1409
57	0	0	0	6	92	238	377	316	98	11	0	0	1138
60	0	0	0	2	52	158	284	226	48	3	0	0	773
65	0	0	0	0	14	57	140	98	8	0	0	0	317
70	0	0	0	0	2	10	43	25	0	0	0	0	80

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	9	51	199	542	773	930	870	592	288	91	11	3	12	63	262	804	1577	2507	3377	3969	4257	4348	4359
45	0	0	21	109	390	623	775	715	442	173	43	2	0	0	21	130	520	1143	1918	2633	3075	3248	3291	3293
50	0	0	8	57	249	473	620	560	298	82	16	1	0	0	8	65	314	787	1407	1967	2265	2347	2363	2364
55	0	0	2	22	137	327	465	406	176	32	4	0	0	0	2	24	161	488	953	1359	1535	1567	1571	1571
60	0	0	0	8	59	191	311	257	86	7	0	0	0	0	0	8	67	258	569	826	912	919	919	919
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	3	41	139	339	495	620	570	360	171	52	6	0	3	44	183	522	1017	1637	2207	2567	2738	2790	2796

(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