

# Climatography of the United States

No. 20

1971-2000

Station: WINTER HAVEN, FL

COOP ID: 089707

Climate Division: FL 4

NWS Call Sign:

Elevation: 145 Feet

Lat: 28°01N

Lon: 81°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	73.6	51.0	62.3	89+	1986	3	71.8	1974	19	1985	21	51.7	1981	190	90	.0	.0	31.0	.0	1.7	.0
Feb	75.7	51.7	63.7	92	2001	10	70.2	1990	25	1989	25	55.7	1978	118	81	.0	.1	28.1	.0	.8	.0
Mar	80.2	56.4	68.3	94	1977	21	73.6	1997	23	1980	3	62.9	1981	49	151	.0	.8	31.0	.0	.1	.0
Apr	84.2	59.8	72.0	98	1986	27	77.1	1991	32	1987	5	66.9	1987	12	222	.0	4.1	30.0	.0	@	.0
May	88.9	66.0	77.5	100+	1986	30	81.7	1995	46+	1971	5	74.4	1972	0	387	@	13.8	31.0	.0	.0	.0
Jun	91.5	70.5	81.0	103+	1985	17	85.5	1998	50	1984	1	78.4	1976	0	479	.5	22.3	30.0	.0	.0	.0
Jul	92.5	72.1	82.3	100+	1985	5	84.7	1989	59	1967	23	80.0	1974	0	536	@	28.0	31.0	.0	.0	.0
Aug	92.4	72.8	82.6	100	1979	1	85.6	1989	62	1972	10	80.0	1972	0	545	@	27.5	31.0	.0	.0	.0
Sep	90.4	71.8	81.1	98	1990	9	83.9	1989	59	1981	19	79.1	1975	0	483	.0	20.2	30.0	.0	.0	.0
Oct	85.3	65.7	75.5	96+	1986	2	78.9	1985	44+	1990	26	70.8	1987	3	327	.0	4.4	31.0	.0	.0	.0
Nov	79.3	59.1	69.2	91+	1986	13	76.8	1986	26	1970	25	64.0	1976	40	165	.0	.3	30.0	.0	.0	.0
Dec	74.3	53.1	63.7	92	1985	1	70.8	1971	19+	1989	24	57.1	1989	126	85	.0	.1	30.9	.0	.7	.0
Ann	84.0	62.5	73.3	103+	Jun 1985	17	85.6	Aug 1989	19+	Dec 1989	24	51.7	Jan 1981	538	3551	.5	121.6	365.0	.0	3.3	.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](http://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

086-A

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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: WINTER HAVEN, FL**

**COOP ID: 089707**

**Climate Division: FL 4**

**NWS Call Sign:**

**Elevation: 145 Feet**

**Lat: 28°01N**

**Lon: 81°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	2.39	1.78	2.63	1969	4	6.57	1979	.24	1971	7.8	4.3	2.0	.7	.35	.55	.90	1.23	1.57	1.95	2.39	2.92	3.65	4.82	5.95
Feb	2.57	1.97	4.10	1971	8	10.61	1998	.32	1989	7.3	4.3	1.5	.7	.38	.59	.96	1.32	1.69	2.10	2.57	3.14	3.91	5.17	6.38
Mar	3.36	2.60	6.74	1960	16	9.61	1987	.55	1999	7.2	4.6	2.2	1.1	.76	1.07	1.56	2.01	2.45	2.92	3.45	4.08	4.91	6.23	7.48
Apr	2.21	1.92	2.74	1957	12	5.11	1997	.00	1981	5.5	3.8	1.7	.7	.28	.56	.93	1.25	1.57	1.90	2.28	2.73	3.32	4.27	5.16
May	3.68	3.37	3.89	1982	29	12.99	1979	.08	2000	7.8	5.3	2.3	1.0	.43	.71	1.23	1.74	2.29	2.90	3.61	4.49	5.69	7.68	9.60
Jun	6.91	6.18	5.53	1982	18	16.44	1992	.66	1998	13.1	9.6	4.6	2.4	2.10	2.76	3.74	4.58	5.40	6.25	7.18	8.28	9.70	11.92	13.97
Jul	8.12	8.27	4.70	1960	29	15.77	2000	1.95	1972	16.3	12.1	5.4	2.4	2.77	3.54	4.66	5.61	6.52	7.45	8.47	9.66	11.19	13.55	15.72
Aug	7.52	7.36	6.00	1949	27	12.76	1977	2.04	1980	16.3	11.7	5.0	2.3	3.39	4.06	4.98	5.73	6.43	7.14	7.89	8.75	9.84	11.49	12.97
Sep	6.16	5.56	5.90	1998	19	19.34	1998	1.10	1972	12.9	8.6	3.9	1.6	1.61	2.19	3.08	3.87	4.65	5.46	6.37	7.44	8.84	11.05	13.12
Oct	2.64	2.28	3.90	1956	16	6.77	1995	.43	1974	7.3	4.6	1.6	.7	.43	.66	1.04	1.40	1.78	2.19	2.65	3.22	3.99	5.22	6.41
Nov	2.43	2.11	4.98	1988	23	7.81	1988	.19	1985	6.5	3.3	1.5	.8	.23	.41	.74	1.08	1.45	1.86	2.35	2.97	3.81	5.22	6.59
Dec	2.23	1.70	3.20	1953	5	9.79	1997	.03+	1987	7.0	3.4	1.5	.7	.08	.19	.43	.72	1.06	1.47	1.99	2.66	3.62	5.27	6.94
Ann	50.22	49.56	6.74	Mar 1960	16	19.34	Sep 1998	.00	Apr 1981	115.0	75.6	33.2	15.1	38.36	40.72	43.71	45.96	47.94	49.84	51.79	53.94	56.52	60.23	63.42

+ 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:  
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**Climate Division: FL 4**

**NWS Call Sign:**

**Elevation: 145 Feet**

**Lat: 28°01N**

**Lon: 81°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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mar	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Apr	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	.0	.0	N/A	N/A	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.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

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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	3/21	3/09	2/28	2/21	2/14	2/07	1/30	1/20	12/31
32	3/10	2/25	2/15	2/07	1/30	1/21	1/11	12/26	0/00
28	2/10	1/28	1/17	1/05	12/16	0/00	0/00	0/00	0/00
24	1/22	12/31	0/00	0/00	0/00	0/00	0/00	0/00	0/00
20	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
16	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
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	11/25	12/07	12/15	12/22	12/29	1/05	1/13	1/22	2/10
32	12/14	12/24	12/31	1/06	1/13	1/19	1/27	2/08	0/00
28	12/27	1/09	1/21	2/03	0/00	0/00	0/00	0/00	0/00
24	1/06	1/29	0/00	0/00	0/00	0/00	0/00	0/00	0/00
20	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
16	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	>365	>365	333	319	309	300	292	283	270
32	>365	>365	>365	350	340	332	325	317	306
28	>365	>365	>365	>365	>365	>365	>365	361	330
24	>365	>365	>365	>365	>365	>365	>365	>365	>365
20	>365	>365	>365	>365	>365	>365	>365	>365	>365
16	>365	>365	>365	>365	>365	>365	>365	>365	>365

\* 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	190	118	49	12	0	0	0	0	0	3	40	126	538
60	125	54	14	1	0	0	0	0	0	0	11	55	260
57	85	29	5	0	0	0	0	0	0	0	4	29	152
55	63	19	2	0	0	0	0	0	0	0	1	19	104
50	29	5	0	0	0	0	0	0	0	0	0	5	39
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	939	887	1124	1200	1410	1469	1559	1568	1473	1348	1115	982	15074
55	289	262	413	510	697	779	846	855	783	635	426	288	6783
57	248	216	355	450	635	719	784	793	723	573	369	237	6102
60	195	157	270	361	542	629	691	700	633	480	286	170	5114
65	90	81	151	222	387	479	536	545	483	327	165	85	3551
70	59	30	68	110	237	329	381	390	333	187	80	30	2234

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	703	696	882	970	1169	1236	1323	1328	1243	1108	885	744	703	1399	2281	3251	4420	5656	6979	8307	9550	10658	11543	12287
45	550	553	728	820	1014	1086	1168	1173	1093	953	735	591	550	1103	1831	2651	3665	4751	5919	7092	8185	9138	9873	10464
50	402	410	575	670	859	936	1013	1018	943	798	585	440	402	812	1387	2057	2916	3852	4865	5883	6826	7624	8209	8649
55	269	277	422	520	704	786	858	863	793	643	436	300	269	546	968	1488	2192	2978	3836	4699	5492	6135	6571	6871
60	160	163	281	371	549	636	703	708	643	490	295	177	160	323	604	975	1524	2160	2863	3571	4214	4704	4999	5176
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	457	449	584	657	808	858	905	920	873	778	593	478	457	906	1490	2147	2955	3813	4718	5638	6511	7289	7882	8360

(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](http://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](http://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"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
|---|---|

## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)