U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: VERO BEACH 4 W, FL **COOP ID: 089219**

Climate Division: FL 4 **NWS Call Sign:** **Elevation: 20 Feet** **Lat: 27˚41N** **Lon: 80˚26W**

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	73.3	50.4	61.9	86	1990	26	69.4	1974	23+	1985	22	52.6	1981	170	61	.0	.0	30.8	.0	1.3	.0
Feb	74.2	51.7	63.0	89	1997	22	69.0	1982	29+	1996	6	56.5	1978	124	65	.0	.0	28.1	.0	.6	.0
Mar	78.0	56.0	67.0	92+	1994	29	72.2	1997	26	1980	3	62.7	1999	54	116	.0	.4	31.0	.0	.1	.0
Apr	81.3	59.6	70.5	95	1977	10	74.0+	1994	37	1987	6	65.0	1987	12	176	.0	1.5	30.0	.0	.0	.0
May	85.6	65.1	75.4	97	1975	26	78.4	1995	46	1971	5	72.3	1992	0	320	.0	5.1	31.0	.0	.0	.0
Jun	88.5	69.7	79.1	98	1985	4	81.8	1998	56	1984	1	76.9	1999	0	424	.0	12.6	30.0	.0	.0	.0
Jul	90.4	70.8	80.6	99+	1990	1	82.1	1981	62+	1995	9	78.5	1974	0	483	.0	20.8	31.0	.0	.0	.0
Aug	90.2	71.1	80.7	97+	1993	20	81.7	1987	63	1972	3	79.2	2000	0	485	.0	20.1	31.0	.0	.0	.0
Sep	88.5	70.6	79.6	96	1990	16	81.0	1988	61	2001	17	77.7	1999	0	436	.0	12.2	30.0	.0	.0	.0
Oct	84.4	65.6	75.0	93+	1995	2	78.6	1985	44	1989	21	71.9	1977	1	310	.0	2.3	31.0	.0	.0	.0
Nov	79.4	59.3	69.4	90+	1988	6	75.8	1986	31	1970	25	65.1	2000	27	158	.0	.1	30.0	.0	.0	.0
Dec	74.6	53.0	63.8	87+	1981	3	69.0	1971	24+	1989	24	57.1	1989	114	76	.0	.0	30.8	.0	.5	.0
Ann	82.4	61.9	72.2	99+	Jul 1990	1	82.1	Jul 1981	23+	Jan 1985	22	52.6	Jan 1981	502	3110	.0	75.1	364.7	.0	2.5	.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/normals/usnormals.html

(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

Issue Date: February 2004

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	2.72	2.37	3.05	1991	16	7.32	1991	.17	1981
Feb	2.92	2.73	3.10	1991	3	9.96	1983	.43	1985
Mar	3.84	2.44	4.40	1969	9	13.12	1993	.52	1976
Apr	2.55	2.08	2.37	1997	27	8.10	1997	.13	1986
May	4.39	3.62	5.50	1979	9	12.06	1979	.55	2000
Jun	6.96	6.52	4.60	1973	8	22.55	1992	.98	1998
Jul	6.36	5.85	3.02	1985	19	13.08	1988	2.14	1976
Aug	6.93	6.56	4.61	1993	30	18.26	1981	1.22	1980
Sep	7.20	7.13	4.25	1994	13	17.42	1979	1.37	1988
Oct	5.60	4.79	8.35	1966	14	15.58	1983	1.54	1980
Nov	3.83	2.98	6.95	1994	16	13.65	1984	.22	2000
Dec	2.28	2.01	2.23	1977	17	6.68	1977	.27	1995
Ann	55.58	52.58	8.35	Oct 1966	14	22.55	Jun 1992	.13	Apr 1986

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.2	4.7	1.7	.6
Feb	8.8	4.8	1.8	.8
Mar	8.8	5.1	2.5	1.0
Apr	7.2	4.9	1.6	.6
May	10.1	6.7	2.9	1.2
Jun	13.8	9.5	4.7	2.1
Jul	14.5	9.9	4.6	2.0
Aug	15.9	10.3	4.3	1.9
Sep	15.9	10.5	4.4	2.0
Oct	13.8	7.8	3.1	1.3
Nov	10.3	5.4	2.0	1.1
Dec	8.8	4.1	1.3	.5
Ann	138.1	83.7	34.9	15.1

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.37	.59	.98	1.36	1.76	2.20	2.70	3.33	4.17	5.55	6.88
Feb	.51	.77	1.20	1.59	2.00	2.44	2.95	3.56	4.37	5.68	6.94
Mar	.44	.73	1.27	1.81	2.38	3.02	3.77	4.69	5.96	8.04	10.06
Apr	.26	.45	.80	1.15	1.54	1.97	2.48	3.12	3.99	5.43	6.84
May	.92	1.32	1.97	2.55	3.14	3.77	4.48	5.34	6.46	8.27	9.97
Jun	1.71	2.36	3.37	4.27	5.17	6.11	7.16	8.42	10.06	12.65	15.09
Jul	2.10	2.71	3.59	4.34	5.07	5.81	6.63	7.58	8.81	10.71	12.47
Aug	2.35	3.00	3.96	4.77	5.55	6.36	7.23	8.26	9.57	11.61	13.48
Sep	2.48	3.17	4.16	4.99	5.80	6.62	7.52	8.57	9.92	12.00	13.91
Oct	1.22	1.73	2.55	3.30	4.04	4.84	5.73	6.81	8.22	10.47	12.60
Nov	.37	.64	1.16	1.70	2.28	2.93	3.70	4.67	6.00	8.21	10.38
Dec	.36	.56	.89	1.20	1.53	1.88	2.29	2.79	3.45	4.53	5.57
Ann	39.32	42.46	46.50	49.56	52.28	54.91	57.63	60.64	64.29	69.59	74.18

\+ 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: 1965-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	#	.0	0	0
Feb	.0	.0	0	0
Mar	.0	.0	0	0
Apr	.0	.0	0	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.0	.0	0	0
Nov	.0	.0	0	0
Dec	.0	.0	0	0
Ann	#	.0	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	#	1977	19	#	1977	0	0	0	0	0
Feb	.0	0	0	.0	0	0	0	0	0	0
Mar	.0	0	0	.0	0	0	0	0	0	0
Apr	.0	0	0	.0	0	0	0	0	0	0
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	.0	0	0	.0	0	0	0	0	0	0
Nov	.0	0	0	.0	0	0	0	0	0	0
Dec	.0	0	0	.0	0	0	0	0	0	0
Ann	#	Jan 1977	19	#	Jan 1977	0	0	0	0	0

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.0	.0	.0	.0	.0
Feb	.0	.0	.0	.0	.0
Mar	.0	.0	.0	.0	.0
Apr	.0	.0	.0	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.0	.0	.0	.0	.0
Dec	.0	.0	.0	.0	.0
Ann	.0	.0	.0	.0	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.0	.0	.0	.0
Feb	.0	.0	.0	.0
Mar	.0	.0	.0	.0
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	.0	.0	.0	.0
Dec	.0	.0	.0	.0
Ann	.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	3/09	2/26	2/18	2/11	2/04	1/28	1/20	1/10	12/22
32	2/23	2/11	2/02	1/25	1/16	1/04	0/00	0/00	0/00
28	1/28	1/11	0/00	0/00	0/00	0/00	0/00	0/00	0/00
24	12/28	0/00	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	12/06	12/16	12/23	12/30	1/05	1/11	1/18	1/27	2/13
32	12/20	1/01	1/09	1/17	1/26	2/06	0/00	0/00	0/00
28	12/29	1/19	0/00	0/00	0/00	0/00	0/00	0/00	0/00
24	1/18	0/00	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	>365	340	328	319	310	301	289
32	>365	>365	>365	>365	>365	>365	333	322	313
28	>365	>365	>365	>365	>365	>365	>365	>365	>365
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

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Degree Days to Selected Base Temperatures (˚F)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	170	124	54	12	0	0	0	0	0	1	27	114	502
60	108	56	13	1	0	0	0	0	0	0	5	45	228
57	69	29	4	0	0	0	0	0	0	0	1	22	125
55	49	18	2	0	0	0	0	0	0	0	0	13	82
50	19	5	0	0	0	0	0	0	0	0	0	3	27
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	925	866	1085	1154	1343	1414	1506	1508	1426	1332	1121	985	14665
55	261	240	374	464	630	724	793	795	736	619	431	286	6353
57	219	195	315	404	568	664	731	733	676	557	372	233	5667
60	165	138	231	315	475	574	638	640	586	464	286	163	4675
65	61	65	116	176	320	424	483	485	436	310	158	76	3110
70	39	21	41	73	171	274	328	330	286	165	68	23	1819

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	692	675	850	928	1114	1194	1283	1284	1209	1105	904	757	692	1367	2217	3145	4259	5453	6736	8020	9229	10334	11238	11995
45	540	530	695	778	959	1044	1128	1129	1059	950	754	602	540	1070	1765	2543	3502	4546	5674	6803	7862	8812	9566	10168
50	393	390	542	628	804	894	973	974	909	795	604	452	393	783	1325	1953	2757	3651	4624	5598	6507	7302	7906	8358
55	262	262	393	479	649	744	818	819	759	640	455	310	262	524	917	1396	2045	2789	3607	4426	5185	5825	6280	6590
60	150	150	247	330	494	594	663	664	609	485	312	187	150	300	547	877	1371	1965	2628	3292	3901	4386	4698	4885
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	439	426	553	624	780	848	898	901	866	783	613	481	439	865	1418	2042	2822	3670	4568	5469	6335	7118	7731	8212

(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.
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

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

c. Snow Tables
   1. Snow Climatology
   2. Cooperative Summary of the Day

d. Freeze Data Table
   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