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: SANFORD ORLANDO, FL **COOP ID: 087982**

Climate Division: FL 3 **NWS Call Sign:** **Elevation: 12 Feet** **Lat: 28˚48N** **Lon: 81˚16W**

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	70.4	47.0	58.7	89+	1990	20	68.3	1974	19+	1985	22	49.6	1981	265	62	.0	.0	30.5	.0	2.0	.0
Feb	72.0	48.5	60.3	89+	1997	28	66.8	1990	25	1958	18	51.8	1978	176	43	.0	.0	27.8	.0	1.0	.0
Mar	76.9	53.5	65.2	92	1970	31	72.2	1997	27	1980	3	60.6	1996	95	101	.0	.4	31.0	.0	.2	.0
Apr	81.3	57.4	69.4	96	1999	27	73.4	1999	36	1987	5	65.0	1987	19	150	.0	2.2	30.0	.0	.0	.0
May	87.0	63.4	75.2	100+	1998	24	79.5	1995	45	1992	8	71.1	1988	1	317	.1	10.1	31.0	.0	.0	.0
Jun	90.4	69.3	79.9	102	1998	19	85.1	1998	52+	1984	2	76.7	1984	0	445	.5	18.3	30.0	.0	.0	.0
Jul	91.9	71.0	81.5	103	1998	1	84.2	1998	60	1981	1	79.5	1974	0	511	.2	24.7	31.0	.0	.0	.0
Aug	91.5	71.3	81.4	100+	1999	1	83.5	1999	64+	1960	19	80.0	1976	0	509	.1	24.3	31.0	.0	.0	.0
Sep	89.1	70.1	79.6	98	1999	6	82.0	2000	52	1981	20	77.3	1981	0	438	.0	16.1	30.0	.0	.0	.0
Oct	83.4	63.7	73.6	95+	1971	4	77.4	1985	39	1989	21	69.1	1987	6	271	.0	2.6	31.0	.0	.0	.0
Nov	77.5	56.6	67.1	92	1986	1	72.7	1986	30+	1970	25	62.1	1976	55	117	.0	.1	30.0	.0	.0	.0
Dec	71.7	49.9	60.8	88+	1968	27	67.6	1971	19+	1989	25	53.5	1989	182	53	.0	.0	30.4	.0	1.1	.0
Ann	81.9	60.1	71.1	103	Jul 1998	1	85.1	Jun 1998	19+	Dec 1989	25	49.6	Jan 1981	799	3017	.9	98.8	363.7	.0	4.3	.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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1956-2001

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

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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	2.88	2.51	4.00	1996	2	7.35	1986	.18	1981
Feb	2.96	2.12	4.22	1960	5	10.26	1998	.31	1989
Mar	3.80	2.96	4.13	2001	20	11.19	1996	.59	2000
Apr	2.55	2.16	6.50	1982	9	10.27	1982	.03	1981
May	3.53	3.38	3.17	1971	15	8.54	1976	.20	2000
Jun	6.41	5.94	4.30	1974	27	17.93	1974	1.18	1987
Jul	7.02	6.38	6.15	1995	26	16.60	1991	1.83	1989
Aug	7.23	6.52	4.20	1997	8	16.86	1972	1.95	1993
Sep	5.88	5.84	5.74	1963	23	13.54	1979	1.46	1981
Oct	3.56	3.05	5.28	1956	16	8.37	1999	.62	1984
Nov	2.96	2.08	6.88	1994	16	12.00	1992	.07	1973
Dec	2.53	2.17	3.07	1983	12	9.08	1997	.10	1984
Ann	51.31	48.79	6.88	Nov 1994	16	17.93	Jun 1974	.03	Apr 1981

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.7	4.3	1.6	.7
Feb	7.3	4.3	1.7	1.0
Mar	7.4	4.6	2.5	1.1
Apr	6.1	3.4	1.5	.7
May	8.1	5.6	2.4	1.0
Jun	12.3	8.9	3.9	1.9
Jul	13.0	9.0	4.5	2.0
Aug	14.6	9.5	3.8	2.1
Sep	11.3	7.6	3.5	1.6
Oct	9.2	5.7	2.0	.8
Nov	7.2	3.6	1.4	.6
Dec	8.3	3.9	1.4	.8
Ann	113.5	70.4	30.2	14.3

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	.32	.54	.94	1.35	1.78	2.26	2.82	3.52	4.47	6.04	7.57
Feb	.31	.53	.93	1.34	1.79	2.29	2.88	3.61	4.61	6.28	7.90
Mar	.65	.98	1.53	2.05	2.59	3.17	3.83	4.64	5.72	7.46	9.12
Apr	.18	.34	.66	1.02	1.41	1.86	2.40	3.10	4.06	5.68	7.29
May	.57	.87	1.38	1.87	2.37	2.92	3.54	4.31	5.33	6.99	8.57
Jun	1.81	2.42	3.34	4.14	4.93	5.74	6.65	7.72	9.10	11.27	13.30
Jul	2.35	3.02	3.99	4.82	5.61	6.43	7.32	8.36	9.70	11.78	13.70
Aug	2.46	3.14	4.14	4.98	5.80	6.63	7.54	8.61	9.97	12.08	14.03
Sep	1.76	2.32	3.16	3.88	4.58	5.31	6.11	7.05	8.27	10.18	11.95
Oct	.84	1.17	1.69	2.15	2.62	3.11	3.65	4.31	5.17	6.53	7.81
Nov	.15	.31	.65	1.05	1.50	2.04	2.70	3.56	4.76	6.82	8.89
Dec	.18	.34	.67	1.02	1.40	1.85	2.39	3.08	4.02	5.62	7.21
Ann	35.32	38.37	42.31	45.31	47.99	50.59	53.28	56.26	59.88	65.16	69.74

\+ 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: 1956-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
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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	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	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	.0	0	0	.0	0	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	.0	0	0	.0	0	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	3/16	3/07	3/01	2/23	2/18	2/13	2/07	1/31	1/20
32	3/05	2/22	2/14	2/07	1/31	1/24	1/16	1/02	0/00
28	2/10	1/29	1/18	1/04	0/00	0/00	0/00	0/00	0/00
24	1/16	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	11/29	12/08	12/14	12/20	12/25	12/30	1/05	1/12	1/23
32	12/08	12/19	12/27	1/03	1/10	1/17	1/26	2/08	0/00
28	12/23	1/06	1/18	2/03	0/00	0/00	0/00	0/00	0/00
24	1/11	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	338	324	314	306	298	290	282	269
32	>365	>365	>365	360	339	327	316	305	292
28	>365	>365	>365	>365	>365	>365	>365	>365	332
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	265	176	95	19	1	0	0	0	0	6	55	182	799
60	175	97	35	2	0	0	0	0	0	0	15	98	422
57	128	60	17	0	0	0	0	0	0	0	5	59	269
55	100	40	10	0	0	0	0	0	0	0	2	40	192
50	48	14	1	0	0	0	0	0	0	0	0	13	76
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	827	791	1029	1121	1339	1435	1534	1532	1428	1288	1052	894	14270
55	214	187	325	431	626	745	821	819	738	575	364	220	6065
57	181	150	271	371	564	685	759	757	678	513	307	178	5414
60	134	104	196	284	471	595	666	664	588	420	227	123	4472
65	62	43	101	150	317	445	511	509	438	271	117	53	3017
70	31	14	37	57	176	295	356	354	288	141	45	17	1811

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	606	614	806	899	1109	1210	1308	1311	1208	1059	833	671	606	1220	2026	2925	4034	5244	6552	7863	9071	10130	10963	11634
45	456	470	652	749	954	1060	1153	1156	1058	904	683	521	456	926	1578	2327	3281	4341	5494	6650	7708	8612	9295	9816
50	320	333	499	599	799	910	998	1001	908	749	533	375	320	653	1152	1751	2550	3460	4458	5459	6367	7116	7649	8024
55	198	211	351	450	644	760	843	846	758	594	386	245	198	409	760	1210	1854	2614	3457	4303	5061	5655	6041	6286
60	111	118	215	302	489	610	688	691	608	439	251	139	111	229	444	746	1235	1845	2533	3224	3832	4271	4522	4661
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	378	381	520	595	756	842	900	901	857	736	549	416	378	759	1279	1874	2630	3472	4372	5273	6130	6866	7415	7831

(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