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: MELBOURNE WFO, FL **COOP ID: 085612**

Climate Division: FL 4 **NWS Call Sign: MLB** **Elevation: 25 Feet** **Lat: 28˚06N** **Lon: 80˚39W**

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	71.7	50.0	60.9	89+	1960	7	70.5	1974	17	1977	19	51.5	1981	196	55	.0	.0	30.7	.0	1.0	.0
Feb	72.9	50.8	61.9	92	1962	24	68.0	1990	27	1967	26	54.8	1978	145	56	.0	.0	28.0	.0	.6	.0
Mar	77.2	55.2	66.2	93	1994	28	71.5	1997	25	1980	3	62.2	1971	70	107	.0	.9	31.0	.0	.1	.0
Apr	80.5	60.1	70.3	97+	1999	15	74.0	1994	35	1971	8	65.3	1987	16	174	.0	1.7	30.0	.0	.0	.0
May	85.0	66.3	75.7	97+	2000	28	78.7	1995	47	1992	8	73.0	1992	0	331	.0	4.9	31.0	.0	.0	.0
Jun	88.6	71.2	79.9	101+	1998	14	85.0	1998	55	1984	2	77.1	1976	0	447	.1	12.3	30.0	.0	.0	.0
Jul	90.5	71.9	81.2	102	1980	14	83.7	1998	60	1977	2	78.9	1974	0	504	.1	19.4	31.0	.0	.0	.0
Aug	90.0	72.7	81.4	101	1999	2	83.0	1999	60	1983	7	80.0	1994	0	506	@	17.8	31.0	.0	.0	.0
Sep	88.1	71.9	80.0	98	1972	1	81.3	1998	58	1982	27	78.2	1985	0	451	.0	9.5	30.0	.0	.0	.0
Oct	83.3	67.4	75.4	96	1959	2	78.6	1985	41	1977	17	71.2	1974	1	321	.0	1.6	31.0	.0	.0	.0
Nov	78.3	60.0	69.2	91+	1992	5	75.8	1986	30	1966	29	64.2	1976	34	157	.0	.1	30.0	.0	.0	.0
Dec	73.3	53.0	63.2	89+	1983	5	70.0	1971	21	1983	25	55.7	1989	133	77	.0	.0	30.8	.0	.6	.0
Ann	81.6	62.5	72.1	102	Jul 1980	14	85.0	Jun 1998	17	Jan 1977	19	51.5	Jan 1981	595	3186	.2	68.2	364.5	.0	2.3	.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: 1948-2001

(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	2.48	2.23	4.70	1979	12	8.17	1979	.09	1974
Feb	2.49	1.85	3.60	1963	12	11.14	1983	.25	1985
Mar	2.92	1.95	5.24	1996	11	11.58	1996	.10	1974
Apr	2.08	1.82	4.29	1973	4	6.11	1973	.01	1987
May	3.94	3.21	5.00	1984	23	13.83	1976	.41	2000
Jun	5.83	5.98	5.24	2000	23	12.30	1992	.16	1998
Jul	5.38	4.51	3.85	1956	5	11.61	1978	1.20	1999
Aug	5.78	5.71	9.06	1995	2	19.05	1995	1.14	1971
Sep	7.20	6.12	7.98	1999	25	17.10	1999	1.80	1972
Oct	4.76	4.85	6.03	1956	17	13.38	1999	.39	1984
Nov	3.12	2.56	5.45	1977	29	9.60	1987	.00	1986
Dec	2.31	2.26	2.64	1978	28	6.57	1997	.24	2000
Ann	48.29	47.39	9.06	Aug 1995	2	19.05	Aug 1995	.00	Nov 1986

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.0	4.2	1.6	.7
Feb	7.5	4.6	1.8	.5
Mar	6.7	4.2	1.7	1.0
Apr	5.4	3.4	1.8	.4
May	8.8	5.4	2.6	1.3
Jun	12.0	8.4	4.0	1.9
Jul	11.8	8.5	4.2	1.6
Aug	12.2	8.8	3.8	1.7
Sep	13.4	8.9	4.5	2.1
Oct	10.9	6.9	2.7	1.2
Nov	7.7	4.2	1.6	.7
Dec	7.5	3.9	1.5	.6
Ann	110.9	71.4	31.8	13.7

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	.21	.38	.71	1.05	1.43	1.86	2.37	3.01	3.90	5.38	6.84
Feb	.27	.45	.80	1.14	1.52	1.94	2.43	3.04	3.88	5.26	6.61
Mar	.26	.47	.86	1.26	1.71	2.21	2.81	3.56	4.59	6.31	7.99
Apr	.06	.14	.35	.61	.92	1.31	1.81	2.46	3.40	5.06	6.74
May	.57	.90	1.46	2.01	2.58	3.20	3.93	4.81	6.00	7.94	9.80
Jun	1.23	1.77	2.62	3.40	4.18	5.02	5.96	7.09	8.58	10.96	13.21
Jul	1.70	2.21	2.97	3.62	4.24	4.89	5.60	6.44	7.51	9.19	10.74
Aug	1.69	2.24	3.07	3.78	4.47	5.20	6.00	6.94	8.16	10.07	11.84
Sep	2.36	3.04	4.04	4.90	5.72	6.57	7.50	8.59	9.99	12.16	14.17
Oct	.57	.94	1.61	2.28	2.98	3.77	4.69	5.82	7.36	9.89	12.35
Nov	.18	.48	.96	1.42	1.91	2.45	3.07	3.84	4.89	6.61	8.29
Dec	.32	.51	.84	1.16	1.50	1.87	2.29	2.82	3.53	4.68	5.80
Ann	33.07	35.97	39.71	42.57	45.11	47.58	50.15	52.98	56.44	61.47	65.84

+ 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

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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	3/14	3/03	2/23	2/15	2/08	2/01	1/25	1/15	12/27
32	2/23	2/11	2/02	1/26	1/18	1/08	12/25	0/00	0/00
28	2/07	1/24	1/10	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	12/03	12/13	12/20	12/26	1/01	1/07	1/13	1/22	2/07
32	12/18	12/28	1/05	1/12	1/19	1/27	2/09	0/00	0/00
28	1/01	1/18	2/03	0/00	0/00	0/00	0/00	0/00	0/00
24	1/17	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	344	329	320	312	303	294	283
32	>365	>365	>365	>365	>365	>365	338	328	318
28	>365	>365	>365	>365	>365	>365	>365	>365	350
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)

Base — Heating Degree Days (1)

Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	196	145	70	16	0	0	0	0	0	1	34	133	595
60	129	73	20	2	0	0	0	0	0	0	8	61	293
57	87	41	8	0	0	0	0	0	0	0	2	32	170
55	64	26	4	0	0	0	0	0	0	0	1	20	115
50	27	8	0	0	0	0	0	0	0	0	0	5	40
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	896	836	1060	1148	1354	1437	1527	1529	1441	1343	1113	966	14650
55	246	218	351	458	641	747	814	816	751	630	424	274	6370
57	207	176	293	398	579	687	752	754	691	568	366	223	5694
60	157	124	212	311	486	597	659	661	601	475	281	159	4723
65	55	56	107	174	331	447	504	506	451	321	157	77	3186
70	37	18	38	73	179	297	349	351	301	176	69	25	1913

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	680	664	843	927	1127	1209	1294	1294	1215	1110	894	739	680	1344	2187	3114	4241	5450	6744	8038	9253	10363	11257	11996
45	528	519	688	777	972	1059	1139	1139	1065	955	744	586	528	1047	1735	2512	3484	4543	5682	6821	7886	8841	9585	10171
50	382	385	534	627	817	909	984	984	915	800	594	435	382	767	1301	1928	2745	3654	4638	5622	6537	7337	7931	8366
55	251	251	386	477	662	759	829	829	765	645	445	299	251	502	888	1365	2027	2786	3615	4444	5209	5854	6299	6598
60	147	146	250	335	507	609	674	674	615	490	303	176	147	293	543	878	1385	1994	2668	3342	3957	4447	4750	4926
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	425	417	549	628	795	865	908	924	873	788	599	467	425	842	1391	2019	2814	3679	4587	5511	6384	7172	7771	8238

(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:
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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