

Climatology of the United States

No. 20

1971-2000

Station: DELAND 1 SSE, FL

COOP ID: 082229

Climate Division: FL 3

NWS Call Sign:

Elevation: 25 Feet

Lat: 29°01N

Lon: 81°19W

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	69.6	44.5	57.1	89	1959	21	67.9	1974	16	1985	21	45.5	1981	291	30	.0	.0	30.3	.0	4.2	.0
Feb	71.8	46.2	59.0	90	1959	13	65.3	1990	19	1958	18	51.3	1978	204	37	.0	.0	27.8	.1	3.3	.0
Mar	77.0	50.4	63.7	93	1935	23	69.7	1997	25	1962	6	60.1	1981	109	69	.0	.2	30.9	.0	.8	.0
Apr	81.3	55.7	68.5	98	1968	28	73.2	1999	30	1987	5	64.3	1987	24	129	.0	2.2	30.0	.0	.1	.0
May	86.1	62.6	74.4	100+	1962	27	79.6	1995	42	1982	4	70.4	1988	2	292	.0	7.5	31.0	.0	.0	.0
Jun	89.6	69.7	79.7	102+	1964	16	84.4	1998	54	1933	3	77.4+	1988	0	439	@	16.2	30.0	.0	.0	.0
Jul	91.2	71.2	81.2	102	1942	21	83.9	1998	61+	2001	21	78.8	1974	0	502	.2	22.7	31.0	.0	.0	.0
Aug	90.9	71.6	81.3	102	1999	1	83.4	1999	60+	2001	23	79.4	1972	0	503	@	21.5	31.0	.0	.0	.0
Sep	88.7	70.0	79.4	98	1939	11	81.5	1979	53	1956	27	77.3	1972	0	431	.0	13.3	30.0	.0	.0	.0
Oct	83.0	62.1	72.6	97+	1958	3	77.1	1985	34+	1989	22	67.7	1977	14	248	.0	2.3	31.0	.0	.0	.0
Nov	77.2	53.5	65.4	91	1992	5	72.5	1986	24	1950	26	60.2	1976	85	94	.0	@	30.0	.0	.4	.0
Dec	71.3	47.1	59.2	89	1972	8	66.4	1971	17+	1962	13	50.8	1989	225	45	.0	.0	30.6	.0	2.8	.0
Ann	81.5	58.7	70.1	102+	Aug 1999	1	84.4	Jun 1998	16	Jan 1985	21	45.5	Jan 1981	954	2819	.2	85.9	363.6	.1	11.6	.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

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1931-2001

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

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1971-2000**

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

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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	3.35	3.19	3.79	1986	10	7.78	1986	.36	1974	7.9	5.0	2.0	1.0	.70	1.01	1.50	1.95	2.40	2.88	3.42	4.07	4.93	6.30	7.60
Feb	2.96	2.01	5.60	1958	26	7.63	1971	.58	1999	7.0	4.9	2.0	.8	.40	.64	1.07	1.48	1.91	2.39	2.94	3.62	4.53	6.03	7.47
Mar	3.84	3.08	6.05	2001	19	10.67	1996	.88	1999	7.5	5.5	2.6	1.4	.82	1.18	1.74	2.25	2.77	3.31	3.93	4.67	5.64	7.19	8.66
Apr	2.80	2.40	5.00	1982	8	8.32	1982	.14	1998	5.1	3.9	1.9	1.0	.38	.61	1.01	1.40	1.80	2.25	2.78	3.42	4.28	5.69	7.06
May	4.27	3.40	4.44	1984	23	14.42	1976	.59	2000	8.7	6.2	2.7	1.6	.87	1.26	1.89	2.46	3.04	3.66	4.35	5.20	6.31	8.09	9.78
Jun	7.60	7.67	6.92	1945	25	13.72	1974	3.10	1998	14.6	11.0	5.3	2.6	3.43	4.11	5.04	5.80	6.50	7.21	7.98	8.85	9.94	11.61	13.11
Jul	7.88	7.84	5.25	1937	30	13.47	1991	2.92	1992	15.2	11.8	5.0	2.3	3.40	4.11	5.10	5.91	6.67	7.44	8.26	9.20	10.40	12.21	13.86
Aug	7.70	7.21	5.50	1968	29	16.77	1985	2.72	1987	14.9	10.8	5.2	2.5	3.21	3.91	4.90	5.71	6.47	7.24	8.07	9.03	10.24	12.08	13.76
Sep	7.17	6.39	7.77	1969	22	15.69	1979	.34	1972	13.5	10.0	4.6	2.3	1.76	2.43	3.48	4.40	5.33	6.30	7.39	8.68	10.37	13.05	15.57
Oct	4.09	3.48	6.32	1944	19	8.01	1999	1.06	1976	9.0	6.4	2.9	1.3	1.32	1.70	2.28	2.77	3.24	3.73	4.27	4.89	5.70	6.96	8.12
Nov	2.72	2.24	5.09	1994	16	7.99	1987	.48	1973	6.7	4.3	1.8	.7	.44	.68	1.07	1.45	1.84	2.26	2.74	3.33	4.11	5.38	6.60
Dec	2.65	2.03	2.52	1949	26	10.02	1997	.00+	1987	7.0	4.5	1.8	.7	.00	.18	.59	1.00	1.44	1.94	2.54	3.28	4.30	6.02	7.70
Ann	57.03	55.62	7.77	Sep 1969	22	16.77	Aug 1985	.00+	Dec 1987	117.1	84.3	37.8	18.2	42.73	45.56	49.15	51.85	54.24	56.54	58.90	61.50	64.64	69.16	73.04

+ 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: 1931-2001

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

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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	4/10	3/30	3/22	3/15	3/09	3/03	2/24	2/16	2/05
32	3/27	3/16	3/08	3/02	2/23	2/17	2/10	2/03	1/23
28	3/05	2/23	2/16	2/10	2/04	1/29	1/21	1/10	0/00
24	2/10	1/28	1/18	1/06	0/00	0/00	0/00	0/00	0/00
20	1/21	12/27	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	11/01	11/10	11/17	11/23	11/28	12/04	12/09	12/16	12/25
32	11/19	11/30	12/07	12/14	12/20	12/27	1/02	1/10	1/21
28	12/06	12/18	12/27	1/04	1/11	1/19	1/29	2/12	0/00
24	12/22	12/31	1/09	1/18	0/00	0/00	0/00	0/00	0/00
20	1/16	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	311	295	283	273	264	254	244	233	216
32	353	329	316	306	297	288	278	268	253
28	>365	>365	>365	348	335	324	314	304	290
24	>365	>365	>365	>365	>365	>365	>365	348	329
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	291	204	109	24	2	0	0	0	0	14	85	225	954
60	207	119	41	3	0	0	0	0	0	3	29	132	534
57	157	78	19	0	0	0	0	0	0	0	13	88	355
55	129	56	11	0	0	0	0	0	0	0	7	63	266
50	66	21	2	0	0	0	0	0	0	0	1	24	114
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	777	756	983	1095	1313	1429	1525	1526	1421	1258	1000	843	13926
55	193	168	281	405	600	739	812	813	731	545	317	193	5797
57	160	135	227	345	538	679	750	751	671	483	263	156	5158
60	116	91	156	258	445	589	657	658	581	392	189	107	4239
65	30	37	69	129	292	439	502	503	431	248	94	45	2819
70	27	12	19	43	153	289	347	348	281	130	34	15	1698

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	555	573	761	868	1077	1194	1290	1283	1188	1013	773	612	555	1128	1889	2757	3834	5028	6318	7601	8789	9802	10575	11187
45	407	431	606	718	922	1044	1135	1128	1038	858	623	465	407	838	1444	2162	3084	4128	5263	6391	7429	8287	8910	9375
50	275	298	456	568	767	894	980	973	888	703	475	325	275	573	1029	1597	2364	3258	4238	5211	6099	6802	7277	7602
55	164	184	311	418	612	744	825	818	738	549	331	202	164	348	659	1077	1689	2433	3258	4076	4814	5363	5694	5896
60	82	96	183	271	458	594	670	663	588	396	205	109	82	178	361	632	1090	1684	2354	3017	3605	4001	4206	4315
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	354	367	498	576	740	831	896	896	837	698	511	395	354	721	1219	1795	2535	3366	4262	5158	5995	6693	7204	7599

(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.
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