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: PENSACOLA RGNL AP, FL **COOP ID: 086997**

Climate Division: FL 1 **NWS Call Sign: PNS** **Elevation: 112 Feet** **Lat: 30˚29N** **Lon: 87˚11W**

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	61.2	42.7	52.0	81	1949	11	65.7	1974	5	1985	21	41.6	1977	416	5	.0	.0	27.1	.1	6.1	.0
Feb	64.4	45.4	54.9	82	1972	26	60.9	1975	13	1951	3	47.1	1978	299	11	.0	.0	26.3	@	3.2	.0
Mar	70.2	51.7	61.0	86+	2000	30	66.9	1997	22	1980	2	54.7	1983	171	42	.0	.0	30.6	.0	.8	.0
Apr	76.2	57.6	66.9	96	1987	22	71.0	1999	33	1987	4	61.3	1983	48	107	.0	.1	30.0	.0	.0	.0
May	83.4	65.8	74.6	102	1953	27	78.2	1998	45	1960	13	70.3	1981	1	296	.0	2.6	31.0	.0	.0	.0
Jun	89.0	72.1	80.6	101+	1988	27	84.4	1998	56+	1984	2	76.0	1983	0	466	.1	13.4	30.0	.0	.0	.0
Jul	90.7	74.5	82.6	106	1980	14	85.6	2000	61+	1967	16	80.1	1982	0	541	.5	19.8	31.0	.0	.0	.0
Aug	90.1	74.2	82.2	104	1986	1	84.5	1995	62+	1992	30	80.0	1992	0	529	.2	18.3	31.0	.0	.0	.0
Sep	87.0	70.4	78.7	98+	1997	21	82.2	1972	43	1967	29	75.2	1983	1	412	.0	9.4	30.0	.0	.0	.0
Oct	79.3	59.6	69.5	95	1951	5	75.2	1984	32	1993	31	62.9	1976	35	174	.0	.3	31.0	.0	@	.0
Nov	70.3	51.1	60.7	87	1959	2	67.8	1985	22	1950	25	51.5	1976	175	48	.0	.0	29.7	.0	.6	.0
Dec	63.4	44.7	54.1	81+	1978	3	63.0	1971	11+	1989	24	46.1	1989	352	19	.0	.0	28.1	.1	4.5	.0
Ann	77.1	59.2	68.2	106	Jul 1980	14	85.6	Jul 2000	5	Jan 1985	21	41.6	Jan 1977	1498	2650	.8	63.9	355.8	.2	15.2	.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	5.34	4.53	5.44	1978	25	18.77	1991	.60	1981
Feb	4.68	4.76	5.75	1955	5	9.98	1986	.78	1999
Mar	6.40	5.87	11.10	1979	3	12.96	1979	2.99	1987
Apr	3.89	2.97	4.48	1957	1	10.78	1983	.38	1987
May	4.40	4.26	4.94	1987	10	10.31	1987	.08	1988
Jun	6.39	5.27	6.42	1970	3	21.14	1994	.86	1979
Jul	8.02	6.76	5.14	1975	30	20.36	1979	2.10	1990
Aug	6.85	6.09	6.29	1950	30	14.14	1987	2.09	1998
Sep	5.75	5.12	11.68	1956	24	19.71	1998	.39	1984
Oct	4.13	2.91	5.04	1990	17	14.84	1985	.00+	1978
Nov	4.46	3.63	4.90	1995	1	13.27	1995	.30	1981
Dec	3.97	4.07	3.50	1995	18	9.58	1982	.57	1980
Ann	64.28	68.66	11.68	Sep 1956	24	21.14	Jun 1994	.00+	Oct 1978

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.5	6.9	3.5	1.5
Feb	8.4	6.1	3.1	1.4
Mar	8.7	6.5	3.7	2.2
Apr	6.5	4.6	2.5	1.1
May	7.5	5.3	2.5	1.5
Jun	10.2	7.3	3.6	1.9
Jul	13.4	10.1	4.9	2.3
Aug	11.9	8.6	4.2	2.3
Sep	9.5	6.5	3.2	1.8
Oct	4.8	3.7	2.2	1.4
Nov	7.8	5.5	2.7	1.5
Dec	8.9	6.1	2.5	1.2
Ann	107.1	77.2	38.6	20.1

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	1.22	1.72	2.50	3.20	3.90	4.65	5.48	6.48	7.79	9.88	11.84
Feb	1.09	1.53	2.21	2.83	3.44	4.08	4.80	5.67	6.80	8.59	10.28
Mar	2.81	3.39	4.18	4.84	5.44	6.06	6.71	7.47	8.42	9.87	11.18
Apr	.57	.90	1.46	2.00	2.56	3.17	3.88	4.75	5.91	7.81	9.63
May	.55	.90	1.52	2.14	2.79	3.51	4.34	5.38	6.78	9.09	11.32
Jun	1.00	1.54	2.47	3.35	4.27	5.26	6.41	7.81	9.68	12.72	15.64
Jul	2.28	3.04	4.19	5.19	6.17	7.19	8.32	9.65	11.37	14.08	16.60
Aug	2.35	3.00	3.94	4.74	5.51	6.29	7.15	8.15	9.44	11.42	13.25
Sep	.65	1.09	1.89	2.69	3.54	4.50	5.62	7.02	8.91	12.04	15.09
Oct	.00	.22	.81	1.43	2.12	2.91	3.87	5.06	6.75	9.59	12.41
Nov	.75	1.14	1.79	2.40	3.03	3.71	4.49	5.44	6.71	8.76	10.73
Dec	1.16	1.54	2.10	2.59	3.07	3.57	4.12	4.76	5.60	6.91	8.13
Ann	41.91	46.10	51.54	55.72	59.47	63.12	66.93	71.16	76.33	83.91	90.52

+ 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	.1	.0	0	0	1.5	1977	31	2.5	1977	#	1977	31	0	0	.1	.1	.0	.0	.0	.0	.0	.0	.0
Feb	.1	.0	0	0	1.8	1973	9	1.9	1973	0	0	0	0	0	.1	.0	.0	.0	.0	.0	.0	.0	.0
Mar	#	.0	0	0	#	1993	13	#+	1993	#+	1993	13	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	#	1993	.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	#	1993	24	#+	1993	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	.2	.0	N/A	N/A	1.8	Feb 1973	9	2.5	Jan 1977	#+	Mar 1993	13	#	May 1993	.2	.1	.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	3/27	3/20	3/16	3/12	3/08	3/04	2/28	2/23	2/17
32	3/13	3/06	3/02	2/26	2/22	2/18	2/15	2/10	2/04
28	3/02	2/21	2/15	2/09	2/04	1/30	1/24	1/17	1/07
24	2/20	2/08	1/30	1/22	1/12	12/29	0/00	0/00	0/00
20	1/24	1/12	12/30	0/00	0/00	0/00	0/00	0/00	0/00
16	1/15	12/28	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	11/09	11/15	11/20	11/24	11/29	12/04	12/10	12/18
32	11/12	11/22	11/29	12/05	12/10	12/16	12/22	12/28	1/07
28	11/25	12/06	12/14	12/21	12/28	1/03	1/11	1/19	2/02
24	12/20	12/31	1/09	1/18	1/27	2/10	0/00	0/00	0/00
20	12/26	1/08	1/21	0/00	0/00	0/00	0/00	0/00	0/00
16	1/09	1/29	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	291	281	273	267	261	255	249	241	231
32	318	307	300	294	288	283	277	271	262
28	>365	>365	337	327	319	312	305	297	287
24	>365	>365	>365	>365	>365	>365	>365	335	313
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	416	299	171	48	1	0	0	0	1	35	175	352	1498
60	314	173	85	9	0	0	0	0	0	12	106	238	937
57	253	119	48	3	0	0	0	0	0	5	67	180	675
55	218	89	30	1	0	0	0	0	0	3	47	146	534
50	140	34	8	0	0	0	0	0	0	0	17	76	275
32	10	0	0	0	0	0	0	0	0	0	0	1	11

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	622	640	898	1048	1320	1456	1567	1553	1401	1161	861	686	13213
55	82	101	219	360	607	766	854	840	711	450	213	109	5312
57	60	74	174	302	545	706	792	778	651	390	171	83	4726
60	35	43	114	221	452	616	699	685	561	303	117	52	3898
65	5	11	42	107	296	466	541	529	412	174	48	19	2650
70	1	1	9	30	155	316	389	375	267	76	12	3	1634

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	391	447	659	818	1081	1225	1328	1312	1167	922	629	455	391	838	1497	2315	3396	4621	5949	7261	8428	9350	9979	10434
45	268	317	508	668	926	1075	1173	1157	1017	767	483	318	268	585	1093	1761	2687	3762	4935	6092	7109	7876	8359	8677
50	161	202	362	518	771	925	1018	1002	867	612	342	203	161	363	725	1243	2014	2939	3957	4959	5826	6438	6780	6983
55	87	111	224	370	616	775	863	847	717	461	221	116	87	198	422	792	1408	2183	3046	3893	4610	5071	5292	5408
60	39	49	120	230	461	625	708	692	567	311	125	56	39	88	208	438	899	1524	2232	2924	3491	3802	3927	3983
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	224	254	398	527	759	874	938	934	829	618	386	261	224	478	876	1403	2162	3036	3974	4908	5737	6355	6741	7002

(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