

Climatology of the United States

No. 20

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

Station: ISABELA SUBSTATION, PR

1971-2000

COOP ID: 664702

Climate Division: PR 3

NWS Call Sign:

Elevation: 420 Feet

Lat: 18° 28N

Lon: 67° 10W

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 >= 90	Max >= 70	Max >= 50	Max <= 32	Min <= 32	Min <= 0
Jan	81.6	65.4	73.5	93+	1966	26	75.9	1998	50	1935	30	71.4	1976	0	263	@	31.0	31.0	.0	.0	.0
Feb	81.9	65.2	73.6	95+	1912	11	75.6	1998	56+	1934	27	71.1	1976	0	239	.1	28.3	28.3	.0	.0	.0
Mar	82.9	65.7	74.3	94	1914	15	77.3	1983	54	1996	28	72.0	1976	0	289	.4	31.0	31.0	.0	.0	.0
Apr	84.2	67.0	75.6	93+	1998	7	77.6	1998	54	1968	2	73.2	1976	0	319	.7	30.0	30.0	.0	.0	.0
May	85.3	69.0	77.2	97	1917	22	79.0	1998	60+	1974	2	74.6	1976	0	376	.9	31.0	31.0	.0	.0	.0
Jun	86.3	70.3	78.3	98	1917	16	80.2	1998	60+	1988	14	75.6	1976	0	398	1.4	30.0	30.0	.0	.0	.0
Jul	86.6	71.0	78.8	96	1918	28	80.5	1983	59	1932	23	76.9	1976	0	427	1.4	31.0	31.0	.0	.0	.0
Aug	87.1	71.2	79.2	99+	1918	15	80.8+	1999	61+	1976	10	77.4	1974	0	440	2.4	31.0	31.0	.0	.0	.0
Sep	87.0	70.7	78.9	99+	1918	14	80.7	1999	58	1988	18	76.7	1979	0	416	2.7	30.0	30.0	.0	.0	.0
Oct	86.4	70.2	78.3	97+	1918	20	80.0	1998	60	1901	15	76.9	1976	0	411	1.6	31.0	31.0	.0	.0	.0
Nov	84.4	68.9	76.7	96+	1913	8	79.0	1997	58+	1976	30	75.0	1984	0	350	.2	30.0	30.0	.0	.0	.0
Dec	82.5	66.9	74.7	94	1911	10	77.2	1997	56	1969	10	72.1	1973	0	301	.1	31.0	31.0	.0	.0	.0
Ann	84.7	68.5	76.6	99+	Sep 1918	14	80.8+	Aug 1999	50	Jan 1935	30	71.1	Feb 1976	0	4229	11.9	365.3	365.3	.0	.0	.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: May 2005

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1901-2001

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

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Elevation: 420 Feet Lat: 18°28N

Lon: 67°10W

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	3.01	2.55	5.95	1997	22	11.31	1997	.11	1983	12.7	6.9	1.5	.5	.53	.80	1.24	1.65	2.07	2.52	3.04	3.67	4.50	5.84	7.13
Feb	3.27	2.65	4.00	1996	19	7.52	1991	.15	1983	10.2	5.9	2.0	.7	.51	.78	1.26	1.71	2.18	2.69	3.27	3.99	4.95	6.51	8.01
Mar	3.38	3.12	6.70	1987	17	7.87	1987	.78	1983	10.4	5.5	2.3	.8	.76	1.08	1.57	2.02	2.46	2.94	3.47	4.10	4.94	6.27	7.52
Apr	4.79	3.64	5.65	1983	21	12.33	1986	.66	1984	11.3	6.5	2.7	1.5	.59	.96	1.64	2.31	3.01	3.80	4.72	5.85	7.38	9.91	12.35
May	7.57	6.96	6.32	1932	7	19.63	1982	2.42	1989	14.9	11.0	4.8	2.4	2.53	3.25	4.30	5.19	6.05	6.93	7.90	9.03	10.48	12.73	14.80
Jun	6.36	6.42	5.83	1974	11	12.01	1974	2.23	1986	13.8	9.9	4.0	1.8	2.55	3.14	3.97	4.65	5.30	5.95	6.66	7.48	8.52	10.11	11.55
Jul	4.64	4.50	6.00	1926	24	9.85	1990	1.52	1983	14.0	7.9	2.8	1.1	1.86	2.28	2.89	3.39	3.86	4.34	4.86	5.46	6.22	7.38	8.43
Aug	6.36	6.80	4.57	1988	25	10.48	1975	1.44	1987	16.4	10.9	4.0	1.6	2.47	3.06	3.90	4.60	5.26	5.93	6.66	7.51	8.58	10.22	11.72
Sep	6.17	5.66	7.45	1932	27	13.87	1998	2.21	1983	16.2	10.3	4.1	1.4	2.40	2.97	3.78	4.46	5.10	5.75	6.46	7.27	8.31	9.90	11.36
Oct	7.24	7.06	4.16	1942	20	14.81	1986	1.98	1975	16.4	10.8	4.4	2.1	2.64	3.32	4.30	5.12	5.90	6.70	7.57	8.58	9.88	11.87	13.69
Nov	5.30	5.11	5.05	1923	3	9.45	1985	1.64	1973	14.6	8.4	3.1	1.6	1.63	2.14	2.89	3.53	4.15	4.80	5.51	6.35	7.42	9.10	10.66
Dec	4.22	3.99	5.35	1934	14	12.96	1981	.87	1977	13.9	7.8	2.1	.8	1.18	1.58	2.18	2.71	3.23	3.77	4.37	5.08	5.99	7.43	8.78
Ann	62.31	62.99	7.45	Sep 1932	27	19.63	May 1982	.11	Jan 1983	164.8	101.8	37.8	16.3	46.31	49.46	53.46	56.48	59.15	61.72	64.37	67.28	70.80	75.87	80.24

+ 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: 1901-2001

(3) Derived from 1971-2000 daily data

Complete documentation available from:
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Climate Division: PR 3

NWS Call Sign:

Elevation: 420 Feet

Lat: 18°28N

Lon: 67°10W

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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NWS Call Sign:

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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	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
32	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
28	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
24	0/00	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	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
32	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
28	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
24	0/00	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	>365	>365	>365	>365	>365	>365
32	>365	>365	>365	>365	>365	>365	>365	>365	>365
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

Complete documentation available from:

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COOP ID: 664702

Climate Division: PR 3 NWS Call Sign: Elevation: 420 Feet Lat: 18° 28N Lon: 67° 10W

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	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0
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	1286	1163	1312	1309	1399	1388	1450	1463	1406	1434	1340	1324	16274
55	573	519	599	619	686	698	737	750	716	721	650	611	7879
57	511	463	537	559	624	638	675	688	656	659	590	549	7149
60	418	379	444	469	531	548	582	595	566	566	500	456	6054
65	263	239	289	319	376	398	427	440	416	411	350	301	4229
70	110	101	136	169	221	248	272	285	266	256	200	148	2412

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	1046	981	1070	1074	1160	1152	1209	1222	1172	1195	1107	1084	1046	2027	3097	4171	5331	6483	7692	8914	10086	11281	12388	13472
45	891	836	915	924	1005	1002	1054	1067	1022	1040	957	929	891	1727	2642	3566	4571	5573	6627	7694	8716	9756	10713	11642
50	736	691	760	774	850	852	899	912	872	885	807	774	736	1427	2187	2961	3811	4663	5562	6474	7346	8231	9038	9812
55	581	546	605	624	695	702	744	757	722	730	657	619	581	1127	1732	2356	3051	3753	4497	5254	5976	6706	7363	7982
60	426	401	450	474	540	552	589	602	572	575	507	464	426	827	1277	1751	2291	2843	3432	4034	4606	5181	5688	6152
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	735	691	758	770	840	844	885	896	852	868	801	773	735	1426	2184	2954	3794	4638	5523	6419	7271	8139	8940	9713

(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/normals/usnormals.html

f. Mean "number of days statistics" for temperature were calculated from a serially complete daily data set. A serial dataset was not available for precipitation,

To ensure that a station's data was adequate to estimate these statistics, the following criteria were used:

1. A station must have 80% of its data for the 1971-2000 time period.
2. Only months with at least 21 days are used.
3. There must be a least 21 months (meeting criteria 2.) in the sample.

g. Snowfall and snow depth statistics were derived daily values quality controlled to be consistent with 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 differences 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. Other inconsistencies may appear from comparing statistically modeled values such as degree days to observed temperatures.

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

c. Snow Tables

1. Cooperative Summary of the Day

d. Freeze Data Table

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

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