

# 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: RIO PIEDRAS EXP STA, PR**

**1971-2000**

**COOP ID: 668306**

**Climate Division: PR 1**

**NWS Call Sign:**

**Elevation: 92 Feet**

**Lat: 18° 24N**

**Lon: 66° 03W**

### 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	84.0	66.0	75.0	94	1961	10	77.9	1998	58	1980	16	72.6	1976	0	309	.3	31.0	31.0	.0	.0	.0
Feb	84.4	66.0	75.2	92	1983	28	77.6	1998	58	1968	5	73.8	1994	0	285	.5	28.3	28.3	.0	.0	.0
Mar	85.2	66.4	75.8	93	1973	29	78.4	1983	60	1970	6	73.9	2000	0	335	1.9	31.0	31.0	.0	.0	.0
Apr	86.7	68.0	77.4	96	1983	18	80.2	1987	60+	1990	6	75.3	1975	0	370	6.6	30.0	30.0	.0	.0	.0
May	88.0	70.6	79.3	96	1989	13	81.8	1999	63	1975	5	77.4	1975	0	444	10.3	31.0	31.0	.0	.0	.0
Jun	89.5	72.2	80.9	95+	1998	20	82.7	1998	62	1971	30	78.8	1976	0	474	15.9	30.0	30.0	.0	.0	.0
Jul	89.4	72.5	81.0	95+	2000	9	82.5	2000	63+	1976	16	79.3+	1993	0	494	15.4	31.0	31.0	.0	.0	.0
Aug	89.5	72.9	81.2	95+	1987	21	82.9	1987	66	1974	21	79.3	1974	0	501	16.1	31.0	31.0	.0	.0	.0
Sep	89.5	72.3	80.9	95+	2000	11	82.7	1987	63	1968	30	78.5	1993	0	477	15.5	30.0	30.0	.0	.0	.0
Oct	89.0	71.9	80.5	95+	2001	1	81.9	1987	63	1976	20	78.1	1975	0	479	13.6	31.0	31.0	.0	.0	.0
Nov	86.7	70.2	78.5	95	1960	4	80.5	1990	62+	1971	22	76.4	1975	0	405	3.7	30.0	30.0	.0	.0	.0
Dec	84.6	67.6	76.1	92	1972	28	79.5	1997	60+	1989	26	74.2	1975	0	344	1.0	31.0	31.0	.0	.0	.0
Ann	87.2	69.7	78.5	96+	May 1989	13	82.9	Aug 1987	58+	Jan 1980	16	72.6	Jan 1976	0	4917	100.8	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](http://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: 1959-2001

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

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Climate Division: PR 1

NWS Call Sign:

Elevation: 92 Feet

Lat: 18°24N

Lon: 66°03W

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	4.32	4.46	4.70	1977	21	7.62	1977	1.57	1983	18.9	10.8	2.5	.5	1.89	2.27	2.81	3.25	3.67	4.08	4.53	5.04	5.68	6.66	7.55
Feb	3.67	3.43	6.61	1979	15	9.53	1979	.79	1986	14.0	8.0	2.0	.7	.86	1.21	1.74	2.22	2.70	3.20	3.77	4.44	5.33	6.73	8.05
Mar	3.31	2.97	3.66	1969	1	9.52	1981	.93	1984	13.5	7.5	1.9	.7	.74	1.05	1.53	1.97	2.41	2.87	3.39	4.02	4.84	6.15	7.38
Apr	5.03	3.73	8.30	1973	23	15.18	1973	.09	1997	12.8	8.0	2.9	1.3	.67	1.07	1.79	2.49	3.22	4.04	4.98	6.14	7.71	10.28	12.76
May	6.82	6.06	6.16	1979	14	20.76	1979	1.72	1973	16.0	10.4	4.3	1.9	1.70	2.34	3.34	4.22	5.09	6.01	7.03	8.25	9.84	12.36	14.72
Jun	4.61	4.23	7.36	1970	17	11.39	1979	.72	1977	13.3	8.3	3.0	1.2	1.27	1.71	2.38	2.96	3.53	4.12	4.78	5.56	6.57	8.16	9.64
Jul	5.52	5.34	3.22	1964	2	9.65	1982	1.71	1991	18.2	11.9	3.3	1.3	2.19	2.69	3.42	4.02	4.58	5.16	5.78	6.50	7.41	8.80	10.08
Aug	7.34	6.78	5.61	1978	8	17.70	1979	1.58	1993	18.1	12.0	4.8	2.0	2.89	3.56	4.53	5.33	6.09	6.86	7.69	8.65	9.87	11.75	13.46
Sep	7.25	6.76	5.00	1978	19	12.27	1975	3.27	1971	18.0	12.6	4.6	1.8	3.59	4.21	5.04	5.71	6.33	6.95	7.60	8.35	9.28	10.68	11.94
Oct	7.51	6.64	4.85	1970	6	17.28	1974	1.53	1991	18.2	12.9	4.8	2.1	2.42	3.13	4.18	5.08	5.94	6.84	7.82	8.97	10.45	12.75	14.87
Nov	8.09	7.58	6.38	1979	26	17.74	1979	2.53	1980	19.7	14.0	5.0	2.1	2.79	3.56	4.67	5.61	6.51	7.44	8.45	9.63	11.14	13.47	15.63
Dec	5.50	4.74	4.46	1968	14	13.11	1981	1.08	1997	19.8	12.2	2.8	1.0	1.64	2.16	2.95	3.62	4.28	4.96	5.71	6.60	7.75	9.54	11.20
Ann	68.97	68.98	8.30	Apr 1973	23	20.76	May 1979	.09	Apr 1997	200.5	128.6	41.9	16.6	48.37	52.33	57.43	61.30	64.75	68.08	71.53	75.35	79.98	86.72	92.55

+ 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: 1959-2001

(3) Derived from 1971-2000 daily data

Complete documentation available from:  
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**Climate Division: PR 1**

**NWS Call Sign:**

**Elevation: 92 Feet**

**Lat: 18°24N**

**Lon: 66°03W**

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

Complete documentation available from:

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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:

[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

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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	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	1332	1209	1358	1360	1467	1464	1517	1524	1467	1502	1395	1367	16962
55	619	565	645	670	754	774	804	811	777	789	705	654	8567
57	557	509	583	610	692	714	742	749	717	727	645	592	7837
60	464	425	490	520	599	624	649	656	627	634	555	499	6742
65	309	285	335	370	444	474	494	501	477	479	405	344	4917
70	155	145	180	220	289	324	339	346	327	324	255	190	3094

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	1095	1030	1123	1132	1231	1231	1275	1289	1237	1263	1161	1130	1095	2125	3248	4380	5611	6842	8117	9406	10643	11906	13067	14197
45	940	885	968	982	1076	1081	1120	1134	1087	1108	1011	975	940	1825	2793	3775	4851	5932	7052	8186	9273	10381	11392	12367
50	785	740	813	832	921	931	965	979	937	953	861	820	785	1525	2338	3170	4091	5022	5987	6966	7903	8856	9717	10537
55	630	595	658	682	766	781	810	824	787	798	711	665	630	1225	1883	2565	3331	4112	4922	5746	6533	7331	8042	8707
60	475	450	503	532	611	631	655	669	637	643	561	510	475	925	1428	1960	2571	3202	3857	4526	5163	5806	6367	6877
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	779	734	803	809	883	876	918	928	887	899	840	811	779	1513	2316	3125	4008	4884	5802	6730	7617	8516	9356	10167

(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/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/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](http://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](http://www.ncdc.noaa.gov/normals.html)

U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normals/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormalsprods.html)

Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html)