

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: SAN JUAN INTL AP, PR

1971-2000

COOP ID: 668812

Climate Division: PR 1

NWS Call Sign: SJU

Elevation: 9 Feet

Lat: 18°26N

Lon: 66°00W

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	82.4	70.8	76.6	92+	1983	16	78.7	1998	61	1962	31	74.9	1976	0	360	.4	31.0	31.0	.0	.0	.0
Feb	82.8	70.9	76.9	96	1983	27	78.7	1998	62+	1968	7	75.2	1976	0	332	1.0	28.3	28.3	.0	.0	.0
Mar	83.4	71.7	77.6	96	1983	19	80.9	1983	60	1957	3	75.5	1976	0	388	2.0	31.0	31.0	.0	.0	.0
Apr	84.9	73.2	79.1	97	1983	17	80.6	1987	64	1968	12	77.1	1976	0	421	4.3	30.0	30.0	.0	.0	.0
May	86.3	74.9	80.6	96+	1980	11	82.5	1980	66	1962	5	78.5	1986	0	484	7.1	31.0	31.0	.0	.0	.0
Jun	87.6	76.6	82.1	97+	1988	5	84.2	1983	69+	1957	1	80.4	1976	0	513	11.7	30.0	30.0	.0	.0	.0
Jul	87.4	76.9	82.2	95	1981	10	83.9	1980	69	1959	1	79.4	1977	0	533	11.1	31.0	31.0	.0	.0	.0
Aug	87.8	77.0	82.4	97	1980	21	83.9	1995	70+	1956	26	79.7	1977	0	539	13.5	31.0	31.0	.0	.0	.0
Sep	87.8	76.5	82.2	97	1981	1	84.2	1995	69+	1960	15	79.9	1977	0	515	13.1	30.0	30.0	.0	.0	.0
Oct	87.5	75.6	81.6	98	1981	9	83.4	1992	67	1959	20	79.0	1985	0	513	10.5	31.0	31.0	.0	.0	.0
Nov	85.1	74.0	79.6	96	1981	6	80.9	1997	66+	1969	20	77.9	1984	0	436	2.0	30.0	30.0	.0	.0	.0
Dec	83.2	72.1	77.7	94	1989	6	80.1	1997	63	1964	22	76.0	1975	0	392	.8	31.0	31.0	.0	.0	.0
Ann	85.5	74.2	79.9	98	Oct 1981	9	84.2+	Sep 1995	60	Mar 1957	3	74.9	Jan 1976	0	5426	77.5	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: 1956-2001

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

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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	3.02	2.63	4.98	1969	26	7.60	1977	.61	1978	17.6	8.1	1.2	.3	.93	1.21	1.64	2.01	2.36	2.73	3.14	3.61	4.23	5.19	6.08
Feb	2.30	2.09	2.73	1969	28	6.69	1982	.20	1983	13.4	5.9	1.1	.2	.43	.63	.97	1.28	1.60	1.94	2.33	2.80	3.42	4.42	5.37
Mar	2.14	1.81	3.12	1973	9	5.17	1987	.75	1999	12.9	5.5	.7	.3	.64	.84	1.15	1.41	1.67	1.93	2.23	2.57	3.02	3.72	4.37
Apr	3.71	2.77	7.10	1988	15	10.37	1988	.08	1997	12.0	5.9	1.6	.9	.30	.55	1.04	1.55	2.12	2.77	3.54	4.51	5.85	8.10	10.31
May	5.29	4.02	4.51	1986	13	12.80	1986	.44	1972	14.6	7.9	3.3	1.6	.82	1.27	2.04	2.77	3.52	4.35	5.30	6.46	8.02	10.54	12.97
Jun	3.52	2.97	3.55	1965	15	7.07	1987	.29	1985	14.0	7.5	2.3	.6	.78	1.11	1.63	2.09	2.56	3.05	3.61	4.28	5.15	6.55	7.86
Jul	4.16	3.63	2.91	1993	11	7.64	1996	1.12	1974	17.9	8.8	2.5	.8	1.49	1.88	2.45	2.92	3.38	3.84	4.35	4.93	5.69	6.85	7.91
Aug	5.22	5.14	4.63	2000	23	11.31	1988	1.83	1994	18.3	10.1	3.1	1.0	1.86	2.36	3.07	3.66	4.23	4.82	5.46	6.20	7.14	8.61	9.95
Sep	5.60	4.78	8.84	1989	18	15.15	1996	1.73	1987	17.3	9.9	2.8	1.1	1.42	1.95	2.76	3.48	4.20	4.94	5.78	6.77	8.06	10.11	12.02
Oct	5.06	4.75	4.35	1970	6	11.10	1985	1.17	1979	17.3	10.5	2.9	1.0	1.48	1.96	2.68	3.31	3.92	4.55	5.25	6.08	7.15	8.82	10.38
Nov	6.17	5.53	7.07	1979	25	15.96	1979	1.91	1980	19.4	12.6	3.7	1.1	1.97	2.56	3.42	4.16	4.88	5.62	6.43	7.38	8.60	10.51	12.27
Dec	4.57	3.83	6.96	1981	12	16.81	1981	1.02	1997	19.2	10.5	2.4	.9	1.43	1.86	2.51	3.06	3.59	4.15	4.76	5.47	6.40	7.83	9.16
Ann	50.76	48.08	8.84	Sep 1989	18	16.81	Dec 1981	.08	Apr 1997	193.9	103.2	27.6	9.8	33.31	36.58	40.83	44.10	47.02	49.87	52.83	56.13	60.16	66.05	71.19

+ 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: 1956-2001

(3) Derived from 1971-2000 daily data

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Lat: 18°26N

Lon: 66°00W

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	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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Climate Division: PR 1 NWS Call Sign: SJU Elevation: 9 Feet Lat: 18°26N Lon: 66°00W

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	1383	1256	1411	1411	1507	1503	1556	1562	1505	1536	1426	1415	17471
55	670	612	698	721	794	813	843	849	815	823	736	702	9076
57	608	556	636	661	732	753	781	787	755	761	676	640	8346
60	515	472	543	571	639	663	688	694	665	668	586	547	7251
65	360	332	388	421	484	513	533	539	515	513	436	392	5426
70	205	192	233	271	329	363	378	384	365	358	286	237	3601

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	1171	1101	1194	1208	1292	1299	1337	1346	1295	1325	1221	1205	1171	2272	3466	4674	5966	7265	8602	9948	11243	12568	13789	14994
45	1016	956	1039	1058	1137	1149	1182	1191	1145	1170	1071	1050	1016	1972	3011	4069	5206	6355	7537	8728	9873	11043	12114	13164
50	861	811	884	908	982	999	1027	1036	995	1015	921	895	861	1672	2556	3464	4446	5445	6472	7508	8503	9518	10439	11334
55	706	666	729	758	827	849	872	881	845	860	771	740	706	1372	2101	2859	3686	4535	5407	6288	7133	7993	8764	9504
60	551	521	574	608	672	699	717	726	695	705	621	585	551	1072	1646	2254	2926	3625	4342	5068	5763	6468	7089	7674
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	859	810	879	886	949	946	988	991	953	964	908	887	859	1669	2548	3434	4383	5329	6317	7308	8261	9225	10133	11020

(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