

# December 2015 Climate Review for Puerto Rico and the U.S. Virgin Islands

**...Based on data received until Jan 23rd...**

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# SYNOPSIS

A seasonable weather pattern prevailed across the local islands with passing showers observed along windward areas in the morning, followed by locally induced showers in the afternoon. Stronger than normal low level easterly winds increased the frequency of trade wind showers across the windward areas. As a result, the highest rainfall totals were focused across the USVI and the east coastal areas of PR.

Based on COOP data, an average rainfall total of 2.94 and 3.20 inches was observed across Saint Thomas/Saint John and Saint Croix, respectively. This is 79 and 108 % of their normal rainfall. An average rainfall total of 2.66 inches was observed across Puerto Rico, which is 1.47 inches below normal. The highest maximum temperature recorded this month was 90°F at Toa Baja Levittown on 12/11 , and the lowest minimum temperature was 63°F at Aibonito on 12/27.

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# RAINFALL

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*Islandwide climate record period: 1940 to 2015*

*San Juan Metro Area climate record period: 1898 to 2015 (Primary climatological site)*

*Cyril E. King Airport/St Thomas climate record period: 1953 to 2015 (Primary climatological site)*

*Henry E. Rohlsen Airport/St Croix climate record period: 1951 to 2015 (Primary climatological site)*

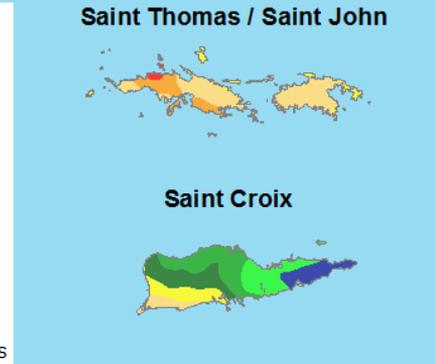
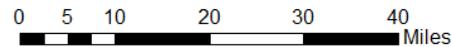
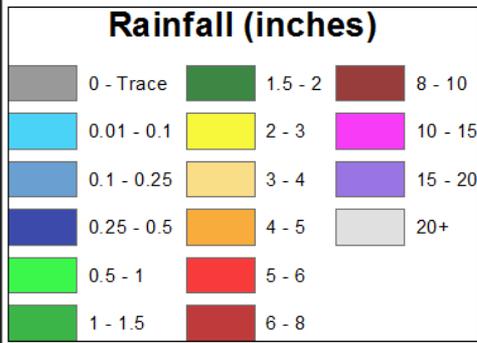
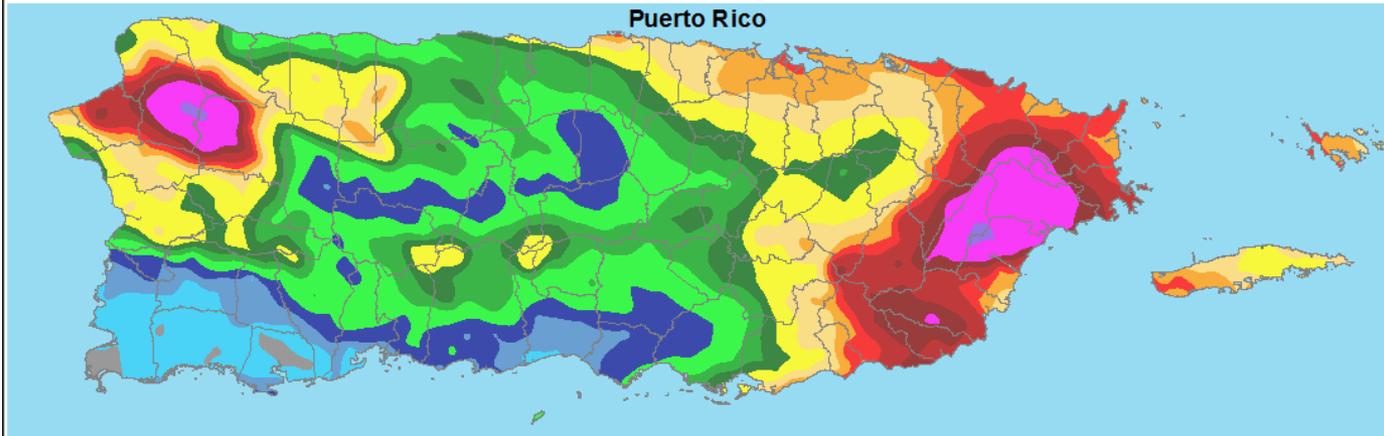
**Following WMO criteria: Less than 10% of missing values**



# December 2015 Total Rainfall



**2015 December Estimated Rainfall**  
**National Weather Service WFO San Juan**  
 Data Source: AHPS  
 Data is Preliminary

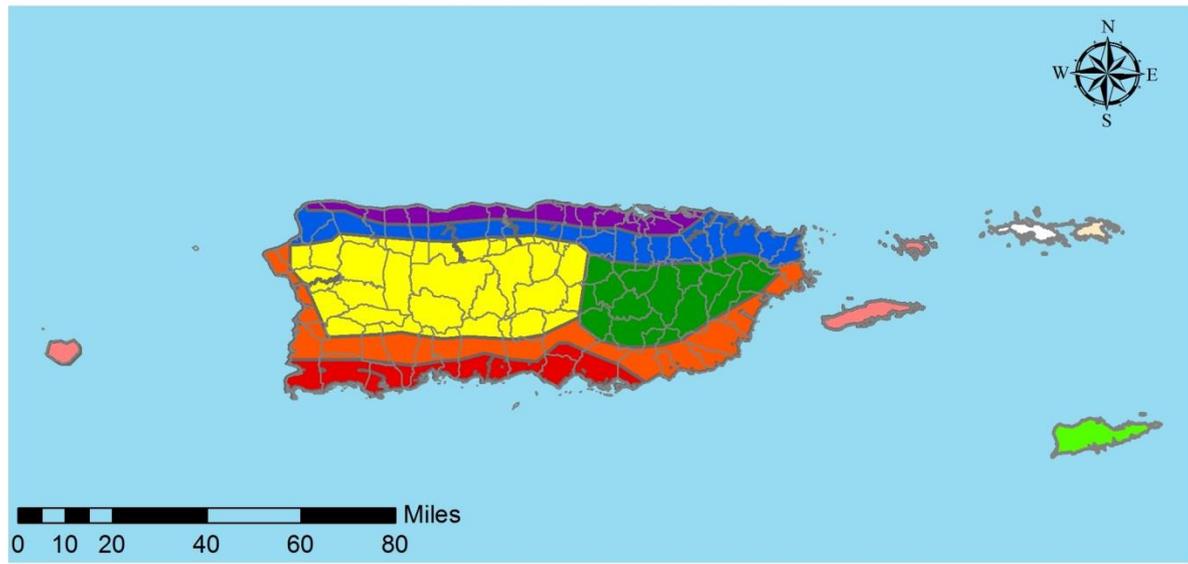




# 2015 Average Rainfall Accumulation per Climate Zones



## Puerto Rico and U.S. Virgin Islands Climate Divisions



NORTH COASTAL - 6601	SOUTHERN SLOPES - 6604	OUTLYING ISLANDS - 6607
SOUTH COASTAL - 6602	EASTERN INTERIOR - 6605	SAINT THOMAS - 6701
NORTHERN SLOPES - 6603	WESTERN INTERIOR - 6606	SAINT CROIX - 6702
		SAINT JOHN - 6703



# 2015 Average Rainfall Accumulation per Climate Zones

North Coastal	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	4.11	3.81	2.73	1.82	4.17	2.50	1.82	5.31	6.20	4.69	7.53	2.90
NORMAL	4.06	2.96	2.87	5.16	7.24	4.71	5.67	5.86	7.32	7.45	7.42	5.48
%PON PER MONTH	101	129	95	35	58	53	32	91	85	63	101	53
ACCUMULATED	4.11	7.92	10.65	12.47	16.64	19.14	20.96	26.27	32.47	37.16	44.69	47.59
NORMAL	4.06	7.02	9.89	15.05	22.29	27.00	32.67	38.53	45.85	53.30	60.72	66.20
% PON ACCUMULATED	101	113	108	83	75	71	64	68	71	70	74	72

South Coastal	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	1.92	1.85	1.79	1.18	2.45	0.54	1.39	3.30	1.76	4.26	3.54	0.52
NORMAL	1.62	1.45	1.78	2.76	4.39	2.66	2.97	4.13	5.84	6.48	4.81	1.79
%PON PER MONTH	119	128	101	43	56	20	47	80	30	66	74	29
ACCUMULATED	1.92	3.77	5.56	6.74	9.19	9.73	11.12	14.42	16.18	20.44	23.98	24.50
NORMAL	1.62	3.07	4.85	7.61	12.00	14.66	17.63	21.76	27.60	34.08	38.89	40.68
% PON ACCUMULATED	119	123	115	89	77	66	63	66	59	60	62	60

These data are preliminary and have not undergone final quality control by the National Centers for Environmental Information / NCEI/. Therefore, these data are subject to revision. Final and certified climate data can be accessed at [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov). Normal values based on active COOP stations.



# 2015 Average Rainfall Accumulation per Climate Zones

Northern Slopes	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	4.32	3.80	1.98	2.83	1.98	2.02	2.98	5.76	4.34	4.97	5.89	2.76
NORMAL	4.20	3.03	3.23	5.26	7.47	4.96	5.49	6.04	6.64	6.86	6.91	5.39
%PON PER MONTH	103	125	61	54	27	41	54	95	65	72	85	51
ACCUMULATED	4.32	8.12	10.10	12.93	14.91	16.93	19.91	25.67	30.01	34.98	40.87	43.61
NORMAL	4.20	7.23	10.46	15.72	23.19	28.15	33.64	39.68	46.32	53.18	60.09	65.48
% PON ACCUMULATED	103	112	97	82	64	60	59	65	65	66	68	67

Southern Slopes	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	2.25	2.84	2.00	1.47	2.68	0.99	1.79	3.48	4.03	6.82	6.80	2.25
NORMAL	2.00	1.86	2.28	3.91	5.90	3.54	3.83	5.54	8.29	9.04	5.80	2.34
%PON PER MONTH	113	153	88	38	45	28	47	63	49	75	117	96
ACCUMULATED	2.25	5.09	7.09	8.56	11.24	12.23	14.02	17.50	21.53	28.35	35.15	37.40
NORMAL	2.00	3.86	6.14	10.05	15.95	19.49	23.32	28.86	37.15	46.19	51.99	54.33
% PON ACCUMULATED	113	132	115	85	70	63	60	61	58	61	68	69

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# 2015 Average Rainfall Accumulation per Climate Zones

Eastern Interior	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	4.71	5.83	2.70	1.89	3.11	2.30	2.73	6.77	5.41	9.73	9.03	6.18
NORMAL	4.69	3.92	3.90	5.26	8.15	6.39	7.13	7.47	9.87	9.24	9.45	6.21
%PON PER MONTH	100	149	69	36	38	36	38	91	55	105	96	100
ACCUMULATED NORMAL	4.71	10.54	13.24	15.13	18.24	20.54	23.27	30.04	35.45	45.18	54.21	60.39
ACCUMULATION	4.69	8.61	12.51	17.77	25.92	32.31	39.44	46.91	56.78	66.02	75.47	81.68
% PON ACCUMULATED	100	122	106	85	70	64	59	64	62	68	72	74

Western Interior	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	3.75	5.06	3.79	6.65	7.25	4.21	2.76	8.25	11.01	9.91	7.24	1.60
NORMAL	3.90	2.75	3.57	6.77	10.09	5.83	5.70	8.29	10.77	10.74	6.86	3.59
%PON PER MONTH	96	184	106	98	72	72	48	100	102	92	106	45
ACCUMULATED NORMAL	3.75	8.81	12.60	19.25	26.50	30.71	33.47	41.72	52.73	62.64	69.88	71.48
ACCUMULATION	3.90	6.65	10.22	16.99	27.08	32.91	38.61	46.90	57.67	68.41	75.27	78.86
% PON ACCUMULATED	96	132	123	113	98	93	87	89	91	92	93	91

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# 2015 Average Rainfall Accumulation per Climate Zones

Mainland PR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	3.58	4.15	2.71	3.33	4.15	2.39	2.35	6.00	6.07	7.44	6.81	2.66
NORMAL	3.41	2.66	2.94	4.85	7.21	4.68	5.13	6.22	8.12	8.30	6.88	4.13
%PON PER MONTH	105	156	92	69	58	51	46	96	75	90	99	64
ACCUMULATED NORMAL	3.58	7.73	10.44	13.77	17.92	20.31	22.66	28.66	34.73	42.17	48.98	51.64
ACCUMULATION	3.41	6.07	9.01	13.86	21.07	25.75	30.88	37.10	45.22	53.52	60.40	64.53
% PON ACCUMULATED	105	127	116	99	85	79	73	77	77	79	81	80

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# 2015 Average Rainfall Accumulation per Climate Zones

Saint Thomas/Saint John	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	1.46	3.92	1.26	0.30	0.24	1.97	0.39	2.94	1.48	3.77	5.85	2.94
NORMAL	2.72	1.71	1.47	2.92	3.90	2.54	3.33	3.78	5.34	5.31	6.80	3.74
%PON PER MONTH	54	229	86	10	6	78	12	78	28	71	86	79
ACCUMULATED NORMAL	1.46	5.38	6.64	6.94	7.18	9.15	9.54	12.48	13.96	17.73	23.58	26.52
ACCUMULATION	2.72	4.43	5.90	8.82	12.72	15.26	18.59	22.37	27.71	33.02	39.82	43.56
% PON ACCUMULATED	54	121	113	79	56	60	51	56	50	54	59	61

Saint Croix	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	2.17	1.66	0.96	1.93	0.89	1.52	0.70	2.79	2.76	5.26	6.45	3.20
NORMAL	2.00	1.61	1.53	2.47	3.88	2.60	3.24	3.22	4.97	5.41	5.68	2.97
%PON PER MONTH	109	103	63	78	23	58	22	87	56	97	114	108
ACCUMULATED NORMAL	2.17	3.83	4.79	6.72	7.61	9.13	9.83	12.62	15.38	20.64	27.09	30.29
ACCUMULATION	2.00	3.61	5.14	7.61	11.49	14.09	17.33	20.55	25.52	30.93	36.61	39.58
% PON ACCUMULATED	109	106	93	88	66	65	57	61	60	67	74	77

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# December 2015 in Perspective

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## Top 5 **Wettest**

## Top 5 **Driest**

### Islandwide

Year	Inches	Year	Inches
Dec-97	1.10	Dec-60	11.79
Dec-89	1.37	Dec-81	11.70
Dec-85	1.42	Dec-70	8.56
Dec-05	1.58	Dec-75	8.26
Dec-67	1.65	Dec-65	8.19

**Mean Rainfall:  
4.13 inches.**

**Monthly Total:  
2.66 inches.**

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*Islandwide climate record period: 1940 to 2015*



# December 2015 in Perspective

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## Top 5 **Wettest**

## Top 5 **Driest**

### San Juan Metro Area

Year	Inches	Year	Inches
1981	16.81	1963	0.68
1910	15.40	1925	0.98
1922	12.64	1997	1.02
2001	11.79	1914	1.66
1911	10.86	1916	1.69

**Mean Rainfall:  
5.02 inches.**

**Monthly Total:  
3.47 inches.**

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## Top 5 **Wettest**

## Top 5 **Driest**

Cyril E. King Airport St Thomas

Year	Inches	Year	Inches
1960	9.87	1963	0.63
1957	7.45	1956	0.76
2013	7.34	2000	1.12
1981	6.66	1958	1.29
1998	5.93	1991	1.38

**Mean Rainfall:**  
2.96 inches.

**Monthly Total:**  
3.84 inches.

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## Top 5 **Wettest**

## Top 5 **Driest**

Henry E. Rohlsen Airport St Croix

Year	Inches	Year	Inches
1960	14.03	2010	0.37
1975	9.07	2008	0.75
2001	7.86	1963	0.79
1995	7.53	1958	0.89
1957	6.8	1952	1.08

Mean Rainfall:  
2.97 inches.

Monthly Total:  
2.44 inches.

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# December 2015 in Perspective

## Wettest Days

Station	Inches	Date
JUNCOS 1 SE	2.14	12/2/2015
CULEBRA HILL	1.87	12/2/2015
SAN JUAN L M MARIN AP	1.41	12/7/2015
WFO SAN JUAN	1.36	12/7/2015
MARICAO 2 SSW	1.09	12/2/2015

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# December 2015 Highlights for Primary Climatological Data Sites

## Wettest Days

San Juan Metro Area

Inches	Date
1.41	12/7/2015
0.45	12/1/2015
0.23	12/30/2015
0.18	12/25/2015
0.17	12/28/2015

Cyril E. King AP/St Thomas

Inches	Date
1.65	12/1/2015
0.45	12/20/2015
0.43	12/30/2015
0.28	12/6/2015
0.21	12/26/2015

Henry E. Rohlsen AP/St. Croix

Inches	Date
0.68	12/1/2015
0.59	12/6/2015
0.54	12/20/2015
0.13	12/17/2015
0.10	12/21/2015

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# TEMPERATURE WFO

*Islandwide climate record period: 1940 to 2015*

*San Juan Metro Area climate record period: 1898 to 2015 (Primary climatological site)*

*Cyril E. King Airport/St Thomas climate record period: 1953 to 2015 (Primary climatological site)*

*Henry E. Rohlsen Airport/St Croix climate record period: 1951 to 2015 (Primary climatological site)*

**Following WMO criteria: Less than 10% of missing values**



# December 2015 in Perspective: Mean Avg. Temperature

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## Top 5 Warmest

## Top 5 Coolest

San Juan Metro Area

Year	°F
1980	80.7
2013	80.2
2009	80.2
1997	80.1
2015	80.0

Year	°F
1917	74.7
1916	74.8
1909	74.8
1906	74.8
1923	75.0

Mean Temperature:  
78.7 °F.

December 2015 ended as the 5<sup>th</sup> warmest Dec on record.

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# December 2015 in Perspective: Mean Avg. Temperature

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## Top 5 Warmest

## Top 5 Coolest

Cyril E. King Airport St Thomas

Year	°F
1993	81.6
1992	81.1
1987	80.9
1963	80.8
2006	80.7

Year	°F
2010	75.7
1954	76.2
1982	77.0
1956	77.7
1999	77.9

Mean Temperature:  
79.5 °F.

December 2015  
mean temperature  
80.2 °F

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# December 2015 in Perspective: Mean Avg. Temperature

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## Top 5 Warmest

## Top 5 Coolest

Henry E. Rohlsen Airport St Croix

Year	°F
1998	81.3
1987	81.0
1994	80.4
2015	80.3
1693	80.2

Year	°F
1964	75.8
2010	75.9
1952	76.4
1954	76.8
2011	77.0

Mean Temperature:  
79.0 °F.

December 2015 ended as the 4<sup>th</sup> warmest December on record.

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# December 2015 Highlights

## Highest **Maximum** Temps

Station	Value ( °F)	Date
TOA BAJA LEVITOWN	<b>90</b>	12/11/2015
AGUIRRE	<b>89</b>	12/14/2015
GUAYAMA 2 E	<b>89</b>	12/30/2015
MANATI 2 E	<b>88</b>	12/19/2015
JUNCOS 1 SE	<b>88</b>	12/04/2015

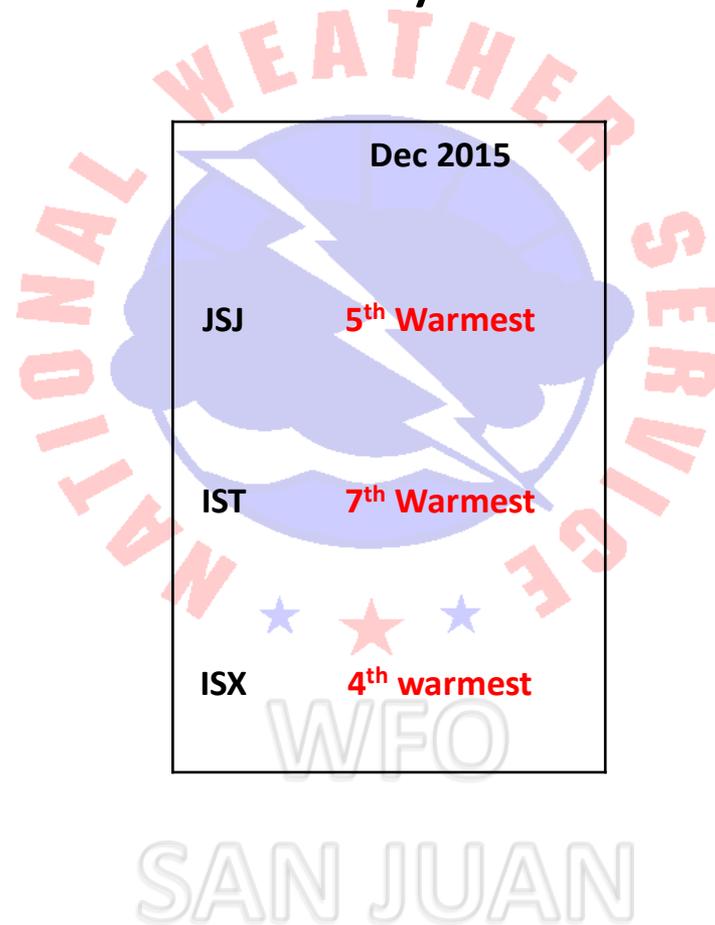
## Lowest **Minimum** Temps

Station	Value ( °F)	Date
AIBONITO	63	12/27/2015
ARECIBO OBSY	63	12/19/2015
MARICAO 2 SSW	64	12/31/2015
PALMAREJO VEGA BAJA	65	12/31/2015
JUNCOS 1 SE	66	12/17/2015

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# 2015 Highlights for Primary Climatological Data Sites



*San Juan Metro Area climate record period: 1898 to 2015 (Primary climatological site)*

*Cyril E. King Airport/St Thomas climate record period: 1953 to 2015 (Primary climatological site)*

*Henry E. Rohlsen Airport/St Croix climate record period: 1951 to 2015 (Primary climatological site)*

**Following WMO criteria: Less than 10% of missing values**



# 2015 Highlights for Primary Climatological Data Sites

## FALL

	SEP	OCT	NOV	SON 2015
JSJ	6 <sup>th</sup> warmest (84.3F)	Warmest (84.6F), 5 <sup>th</sup> Driest (1.77") and 13 <sup>th</sup> Warmest month of any given year	7 <sup>th</sup> warmest (81.2F)	3 <sup>rd</sup> warmest (84.4F)
IST	5 <sup>th</sup> driest (1.71") and 5 <sup>th</sup> warmest (85.0F)	7 <sup>th</sup> warmest (83.6F)	7 <sup>th</sup> wettest (9.66")	6 <sup>th</sup> Warmest (84.3 F)
ISX	2 <sup>nd</sup> driest (1.27")	2 <sup>nd</sup> Warmest (83.7F)	9 <sup>th</sup> warmest (81.3F)	3 <sup>rd</sup> Warmest (83.5F)

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San Juan Metro Area climate record period: 1898 to 2015 (Primary climatological site)

Cyril E. King Airport/St Thomas climate record period: 1953 to 2015 (Primary climatological site)

Henry E. Rohlsen Airport/St Croix climate record period: 1951 to 2015 (Primary climatological site)

Following WMO criteria: Less than 10% of missing values



# 2015 Highlights for Primary Climatological Data Sites

## Summer

	Jun	Jul	Aug	Season
<b>San Juan</b>	17 <sup>th</sup> driest and 8 <sup>th</sup> warmest	4 <sup>th</sup> driest and 9 <sup>th</sup> warmest	---	11 <sup>th</sup> driest and 10 <sup>th</sup> warmest
<b>Saint Thomas</b>	13 <sup>th</sup> driest and 13 <sup>th</sup> warmest	2 <sup>nd</sup> driest, 8 <sup>th</sup> driest month, 5 <sup>th</sup> warmest, the month of July with the most 80 degree nights, and 3 <sup>rd</sup> longest streak -Tmin above 80 (ending 08/01).	4 <sup>th</sup> warmest and 4 <sup>th</sup> driest. the 2 <sup>nd</sup> month of Aug with the most 80 degree nights, the 2 <sup>nd</sup> month on record with the most 80 degree nights	Driest and 3 <sup>rd</sup> warmest
<b>Saint Croix</b>	7 <sup>th</sup> driest and 8 <sup>th</sup> warmest	2 <sup>nd</sup> driest and 10 <sup>th</sup> warmest	9 <sup>th</sup> warmest	4 <sup>th</sup> driest and 6 <sup>th</sup> warmest



# 2015 Highlights for Primary Climatological Data Sites

## Spring

	Mar	Apr	May	Season
San Juan	---	4 <sup>th</sup> warmest	15 <sup>th</sup> driest and 5 <sup>th</sup> warmest	5 <sup>th</sup> driest and 6 <sup>th</sup> warmest
Saint Thomas	---	8 <sup>th</sup> driest	9 <sup>th</sup> wettest and 10 <sup>th</sup> warmest	14 <sup>th</sup> warmest
Saint Croix	10 <sup>th</sup> driest	7 <sup>th</sup> driest and 7 <sup>th</sup> warmest	9 <sup>th</sup> warmest and 12 <sup>th</sup> driest	2 <sup>nd</sup> driest and 7 <sup>th</sup> warmest

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# 2015 Highlights for Primary Climatological Data Sites

## Winter

	Dec (2014)	Jan	Feb	Season
San Juan	---	3 <sup>rd</sup> warmest	6 <sup>th</sup> warmest	5 <sup>th</sup> warmest
Saint Thomas	---	---	wettest February and 6 <sup>th</sup> wettest month	wettest
Saint Croix	8 <sup>th</sup> wettest	14 <sup>th</sup> driest	6 <sup>th</sup> warmest	---

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**LOOKING AHEAD**

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# CariCOF – Caribbean Climate Outlook

