

# METEOROLOGICAL SERVICES, MBIA

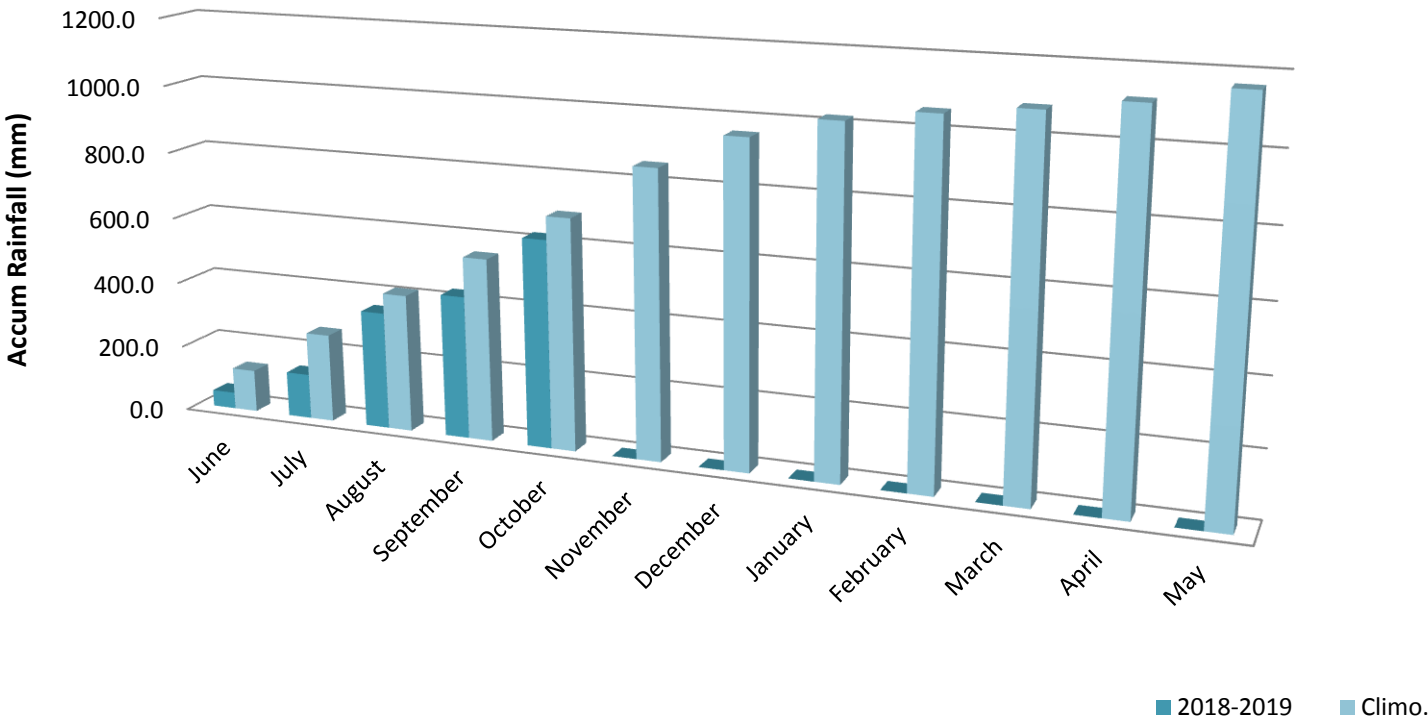


When it rains, it pours!

Presented by: Hubert Whyte, Manager of Meteorology

# A slow start to the current Water Year

Meteorological Services, MBIA  
Water Year\_Cumulative Rainfall (Climo. vs 2018-2019)



Cumulative rainfall at Point Salines continues to be less than climatology.

# Standardized Precipitation Index (SPI)

Month	1-month SPI	Remark
June	Extremely dry	
July	Moderately dry	
August	Severely wet	Due to rainfall on August 1st
September	Moderately dry	

August, 2018 would have dry also had it not been for the rainfall event on August 1<sup>st</sup>.

# August 1<sup>st</sup>, 2018

- A tropical wave was interacting with the Intertropical Convergence Zone (ITCZ) within an abundance of moisture.
- Continuous precipitation across most of the state with the most intense periods falling across the southern part of the state.

# Precipitation Distribution



Highest recorded rainfall was at Vendome, St. George with 173. Both Concord St. John and Point Salines, St, George recorded approximately 154 millimeters.

Point Salines recorded its second highest ever 6-hour rainfall amount.

Several stations received in excess of 100 millimeters of rainfall within the 24-hr periods

# River Road







## Woodlands, St. George

A river overflows its banks and cuts across the road proving too much for this traveler.



# More Water

Continuous precipitation with several heavy to violent spells left many Grenadians climbing to drier grounds.



# One fatality



**MTV News Grenada**



54 mins • 

**BREAKING NEWS :: THE BODY OF AN UNIDENTIFIED MALE HAS BEEN RETRIEVED FROM THE LANCE AUX EPINES AREA AFTER HIS APPARENT DROWNING.**

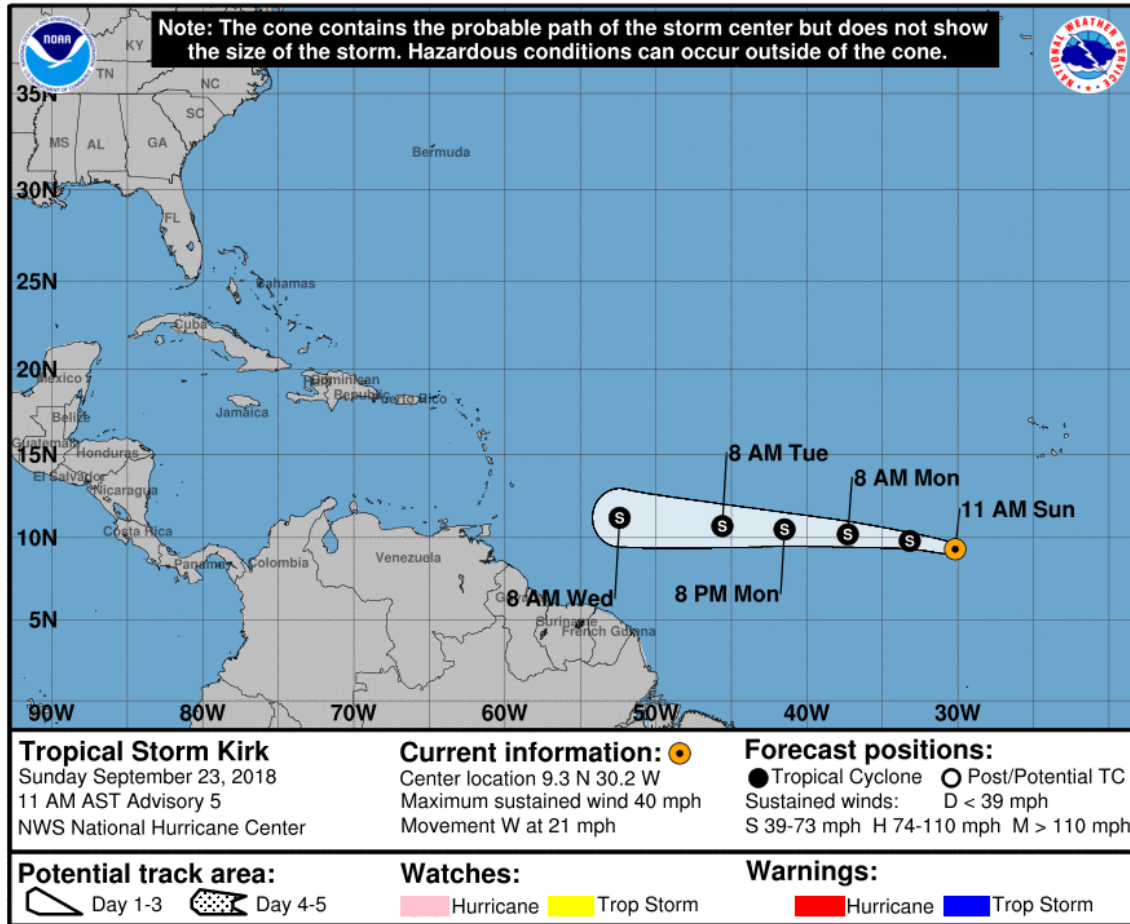
**HEAVY RAINS TODAY CAUSED SIGNIFICANT FLOODING IN PRONE AREAS. POLICE ARE INVESTIGATING THIS DEATH.**

**STAY TUNED TO MTV FOR UPDATES.**

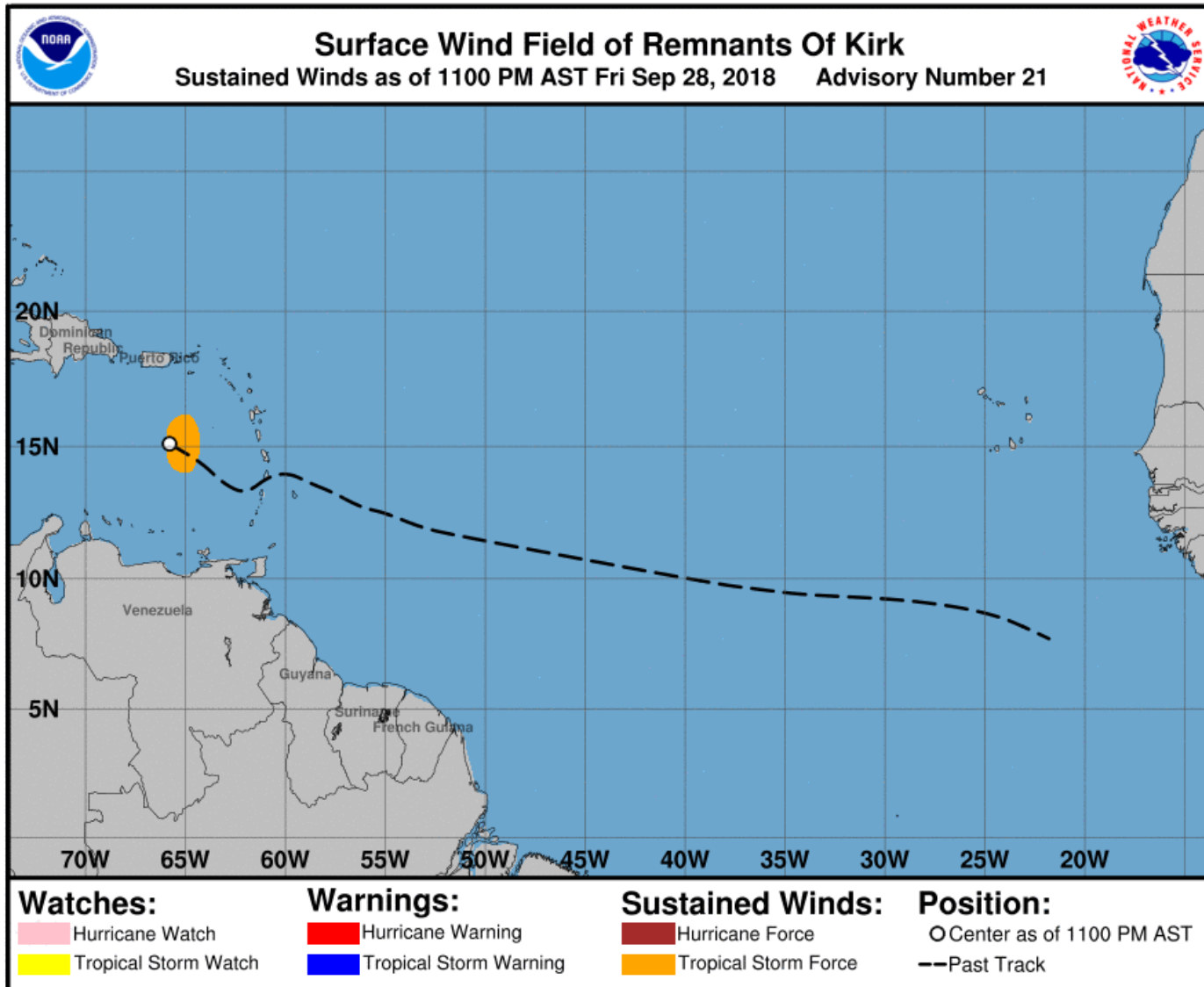


Colette Liam Mark and 21 others 1 Comment • 59 Shares

# A little scare: Tropical storm Kirk



# No real threat after all



# Impact of T.S. Kirk

- Cloudy conditions and precipitation as Kirk made its way across the Lesser Antilles
- However, there was no reported flooding or landslide.



# Other Event: Carriacou flooding

- Clean up effort in Carriacou after days of September rain brought flooding to the part of the state that is not well-known for such events.





# Other Developments

## Publicizing of the Climate Bulletin

Meteorological Services, MIBA

Issued: 15<sup>th</sup> October, 2018

### Grenada National Climate Bulletin September, 2018

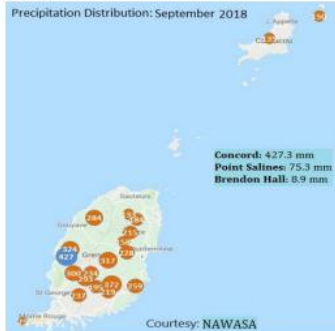
This Bulletin provides climate monitoring information for September 2018, as well as, climate forecast information for the period October-December 2018 for Grenada. Most historical observations were recorded at MBIA, Point Salines, St. George with additional rainfall data throughout the State recorded by the NAWASA. The forecast information is drawn from the Caribbean Climate Outlook Forum (CariCOF) climate outlooks (<http://rcc.cimh.edu.bb/climate-outlooks/>). For more information, please contact: [fefrank@mbiagrenada.com](mailto:fefrank@mbiagrenada.com).

#### MONITORING INFORMATION

##### Rainfall

Like the previous months of this year's Atlantic Hurricane Season, September brought great disparity in the rainfall across the state of Grenada. The first days of the month were marked by tropical cyclone activity in the Atlantic Ocean that consumed most of the moisture that would have otherwise propagated into the southeast Caribbean. Hence, rainfall figures were quite low at several recording stations. The passage of tropical storm Isaac left some clouds and precipitation in its wake throughout the state.

Similarly, the passage of a tropical wave on September 18<sup>th</sup> and residual moisture from the remnants of tropical storm Kirk helped to increase the rainfall figures. Like August, the highest rainfall total was recorded in Concord, St. John. On the east coast, Brendon Hall, St. Andrew recorded extremely low value while Point Salines, St. George recorded below the usual rainfall for this period with only 75.3 mm.

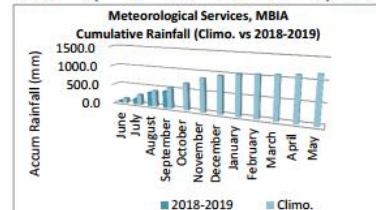


The rockfall event that occurred along the west coast (Black Bay) highlighted the fact that orographic lift plays a major role in the high rainfall values recorded there. Little rainfall was recorded elsewhere at that time. An image of the rock fall can be seen in figure 1.



Figure 1: Rockfall in Black Bay

The following graph shows that the cumulative rainfall (Point Salines) for the current Water Year was lower than normal up to the end of September.



Below-normal rainfall especially in the eastern and southern parts of the state has several implications. With St. Andrew the main farming parish and south St. George partly dependent on groundwater, the deficit in rainfall

Meteorological Services, MIBA

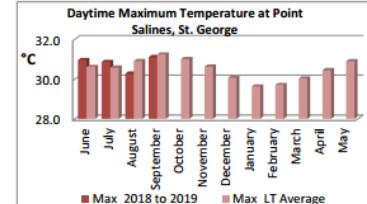
Issued: 15<sup>th</sup> October, 2018

would be reflected in the short to medium term moisture and conditions at the beginning of the growing season, stream flows and reservoirs levels. Here is a table of the latest Standardized Precipitation Index (SPI) based on rainfall at Point Salines:

Period	SPI
September	Moderately dry
July - September	Normal
April - September	Moderately dry
October, 2017 - September	Normal
October, 2016 - September	Normal

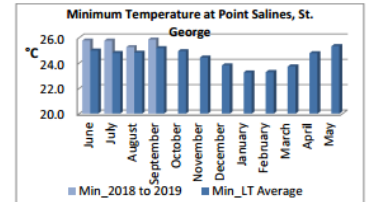
##### Temperature

The average daytime maximum temperature (31.8 °C) at Point Salines was slightly below the long term average (1985 - 2017).



This may have been attributed to the fact that September only recorded 6 sunny days at Point Salines. In addition, windy days (10% of September) helped to keep the temperatures down. The highest maximum temperature was 32.4 °C and recorded on September 26<sup>th</sup>.

Unlike the average maximum temperature, the average minimum temperature (25.8 °C) was above the long term average. Again, cloud cover may have played a role in this occurrence as several partly cloudy to cloudy nights were recorded, as well as the anomalously high Sea-Surface Temperature surrounding Grenada. The lowest minimum temperature was 24.0 °C and recorded on September 19<sup>th</sup>.



#### FORECAST INFORMATION

**Drought:** No concern up to the end of December, 2018. The same holds for all of the neighboring islands.

**Precipitation:** There is 80% confidence that drier than normal or normal conditions will continue across the parish of St. George until the end of the year. The normal rainfall range for October to December at Point Salines is 359.1 - 437.8 mm

**Frequency of wet days:** Out of the 92 days in Oct-Nov-Dec, there are about 35 to 50 wet days. The forecast indicates the usual number or slight fewer wet days for most of the Caribbean including Grenada.

**Frequency of 7-day wet spells:** Between 3 and 4 wet spells occur from October to December with 1 to 4 of them ending up very wet. The forecast indicates the usual number or slight fewer wet spells and very wet spells for most of the Caribbean including Grenada.

**Frequency of extreme (top 1%) 3-day wet spells:** The forecast indicates the usual number or slightly fewer.

**Maximum Temperature:** There is 75% confidence that warmer than normal or normal (daytime) conditions will be experienced across the Windward Islands (including Grenada) until the end of the year. The normal maximum temperature range for October to December at Point Salines is 30.3 - 30.8 °C.

**Minimum Temperature:** There is 75% confidence that warmer than normal or normal (nighttime) conditions will be experienced across the Windward Islands (including Grenada) until the end of the year. The normal minimum temperature range for October to December at Point Salines is 24.1 - 24.7 °C.

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# What's Next?

- Paperless Observations  
Digitizing of the Observation Register

Meteorological Observations Register

**METEOROLOGICAL OBSERVATIONS REGISTER**

MAURICE BISHOP INTERNATIONAL AIRPORT      STATION NUMBER: 78958

Latitude: 12.0 North   Longitude: 61.47 West      Current Month:       Start Date:

SECTION 0														SECTION 1																		
Report Indicator	Date-Time or Time GMT	Wind Indicator	Stn No.	6-Group Ind.	7-Group Ind.	Lowest Cloud	Visib.	Total Cloud	Wind Dir.	Wind Speed	Ind. & sign	Air Temp.	Ind. & sign	WB & DP	VP & RH	Barom. Corr'n	Ind.	QFE & Stn Pres	Ind.	QNH & MSLP	Ind.	Rain since last rep.	6-hr per.	Ind.	Present Weather	Past Weather	Ind.	Amt CL/CM	CL Clouds	CM Clouds	CH Clouds	
METAR (SPECI) AAXX	GGgg YYGG	i w	IIiii	iR	ix	h	(VV) VV	N	ddd dd	(fmfm) ff	1Sn	T'T TTT	2Sn	T'd T'd TdTdTd	UUU	----	3	PoPoPoPo	4	PHPHPHPH PPPP	6	RRR	tR	7	w'w' ww	W1W2	8	Nh	CL	CM	CH	
SPECI																																

SECTION 3																																
SECT 3 Indicator	Indicator	State of sky	CL direction	CM direction	CH direction	Indicator & sign	Max Temp.	Indicator & sign	Min Temp.	Indicator	24-hr Baro change	Indicator	24-hr Rainfall 00z,06z,12z,18z	Indi.	Amt of lyr	Form of lyr	Hgt of low. lyr	Indi.	Amt of lyr	Form of lyr	Hgt of next lyr	Indi.	Amt of lyr	Form of lyr	Hgt of next lyr	Indi.	Amt of lyr	Form of lyr	Hgt of next lyr	Special Phenomena	REMARKS including plain language additions, Regional and National groups	Observer Initial
333	0	Cs	DL	DM	DH	1Sn	TxTxTx	2Sn	TnTnTn	5j1	P24P24P24	7	R24R24R24R24	8	Ns	CC	hshshs	8	Ns	CC	hshshs	8	Ns	CC	hshshs	8	Ns	CC	hshshs	9SpSpSpSp		Initial

Rainfall		Maximum Temperature		Max. Temperature Reported		Min. Temp. Reported		Minimum Temperature	
Rainfall at 00h (mm)	<input type="text"/>	Max read at 00h (deg C)	<input type="text"/>	Max. Temp. 12h - 00h	<input type="text"/>	Min. Temp. 06h - 00h	<input type="text"/>	Min read at 00h (deg C)	<input type="text"/>
Rainfall at 06h (mm)	<input type="text"/>	Max read at 06h (deg C)	<input type="text"/>	Max. Temp. 06h - 06h	<input type="text"/>	Min. Temp. 06h - 06h	<input type="text"/>	Min read at 06h (deg C)	<input type="text"/>
Rainfall at 12h (mm)	<input type="text"/>	Max read at 12h (deg C)	<input type="text"/>	Max. Temp. Cal. day	<input type="text"/>	Min. Temp. 00h - 12h	<input type="text"/>	Min read at 12h (deg C)	<input type="text"/>
Rainfall at 18h (mm)	<input type="text"/>	Max read at 18h (deg C)	<input type="text"/>	Max. Temp. 06h - 06h	<input type="text"/>	Min. Temp. 18h - 18h	<input type="text"/>	Min read at 18h (deg C)	<input type="text"/>
Daily Rainfall 12 - 12h	<input type="text"/>	Daily Max. Temp. 12 - 12h	<input type="text"/>					Daily Min. Temp. 12 - 12h	<input type="text"/>

METAR REPORT

THANK YOU VERY MUCH