



# DOMINICA METEOROLOGICAL BULLETIN

**VOL 1 ISSUE 01**

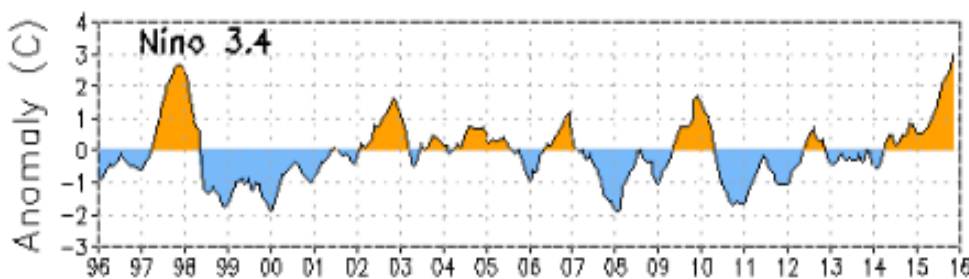
**JANUARY — MARCH**

## RECORD BREAKING EL NIÑO

The dry season commenced on December 1st. In addition to this, one of the strongest El Niño on record seemed to have reached it's peak at the end of 2015. It is anticipated that a transition to El Niño–Southern Oscillation (ENSO)- neutral will occur towards the end of the dry season. This phenomenon involves the unusual warming of the Eastern Equatorial Pacific Ocean and occur every 2-7 years and last approximately 6 to 18 months. During an El Niño event a stronger westerly wind prevails across the Caribbean and tears apart cloud tops which reduces the chances and intensity of rain and thunderstorms as well as tropical cyclones. El Niño contributes to ongoing drought in the region, global coral reef bleaching event, as well as record heat in many places.

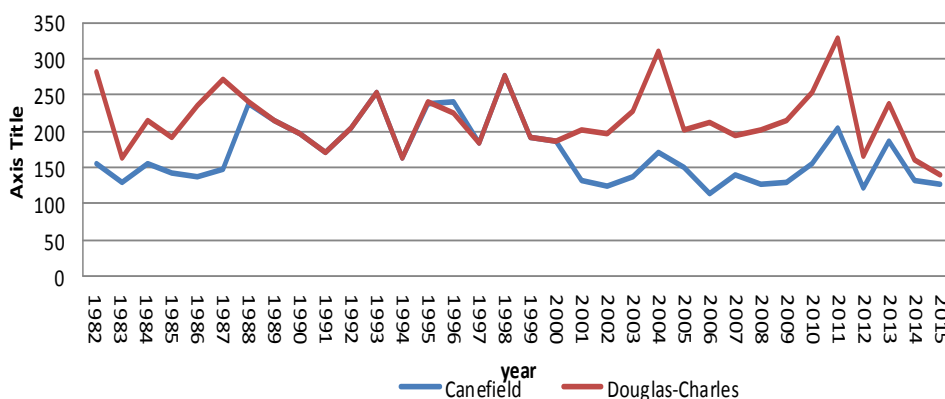
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El Nino (brown) / La Nina( blue ) years from 1996—2015

## Annual rainfall averages (mm)



Dominica annual average rainfall from 1982– 2015

## DOMINICA'S CLIMATE

Rainfall received during the dry season are usually generated by the annual migration of the North Atlantic Subtropical Highs , low level clouds which move with the easterly trade winds, southwards dipping frontal boundaries and trough systems. The dry season runs from December to May when the seas are cooler and thunderstorms and rainfall activity are relatively low. December and May are transition months, meaning they could be either wet or dry. On average approximately 40% of the annual rainfall is recorded in elevated and eastern areas and approximately 25% along the western coast.

## LOOKING BACK AT 2015

### DOUGLAS-CHARLES AIRPORT

#### Rainfall

- ◆ 1677.1mm (Below normal , driest year on record )
- ◆ Wettest month (August 334.8)
- ◆ Driest month (May 36.1mm)
- ◆ Wettest day (August 26th 150.9mm)

#### Temperature

- ◆ 27.8 (Above normal )
- ◆ Hottest month (October 29.4°C)
- ◆ Coolest month (January 26.3°C)
- ◆ Highest temperature (October 1st 33.9°C)
- ◆ Lowest temperature (March 17th 18.9°C)

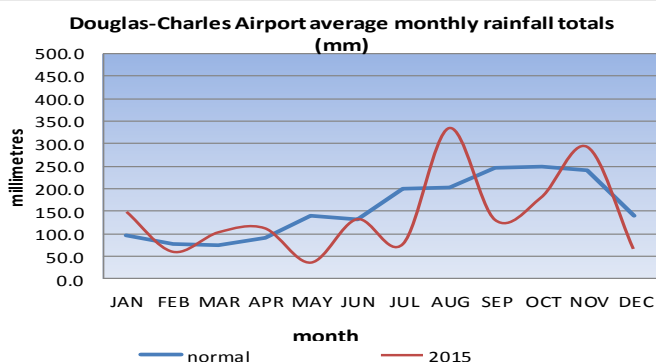
#### Wind

- ◆ Average: (east south east at 8kts)
- ◆ Windiest months( March, June, July and December)

#### Thunderstorm

- ◆ 17 thunderstorm days
- ◆ October had 4 days with thunderstorms

Annual average sunshine duration : 231.3 hours out of the possible 360.9 hours



### CANEFIELD AIRPORT

#### Rainfall

- ◆ 1506.4 (below normal , 4th driest year on record )
- ◆ Wettest month (August 440.8)
- ◆ Driest month (April 24.1mm)
- ◆ Wettest day (August 26th 238.7mm)

#### Temperature

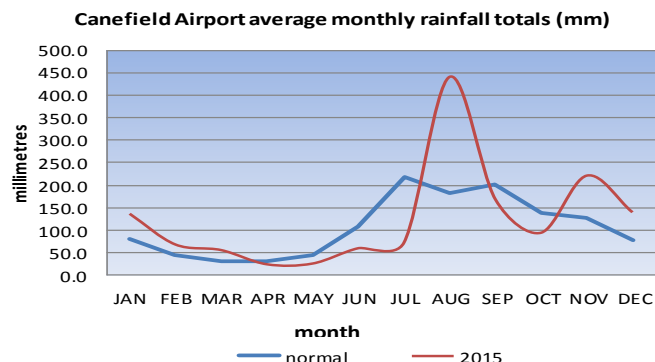
- ◆ 28.3°C (above normal )
- ◆ Hottest month (June 29.5°C)
- ◆ Coolest month (January 26.5°C)
- ◆ Highest temperature (October 3rd & 4th 35.5°C)
- ◆ Lowest temperature (March 17th 20.2°C)

#### Wind

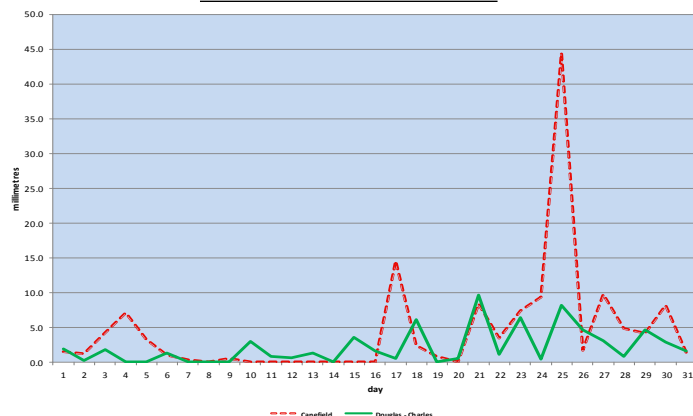
- ◆ Average: (east south east at 5kts)
- ◆ Windiest months (May, June, July)

#### Thunderstorm

- ◆ 34 thunderstorm days
- ◆ October had 13 days with thunderstorms



#### DAILY RAINFALL FOR DECEMBER 2015

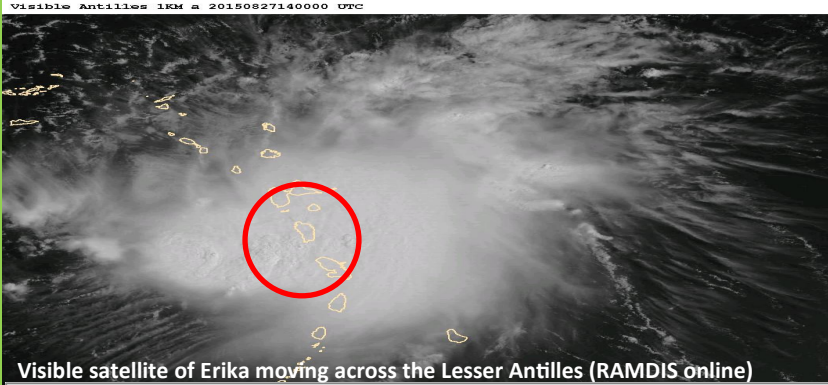


Parameter	Canefield Airport	Douglas-Charles Airport
Rainfall Total	139.7mm	66.5mm (lowest on record)
30 year normal	76.7 to 113.6mm	140.7 to 209.6mm
Wet Days (≥1.0mm)	19 ( above normal)	17 ( above normal)
Temperature	27.5°C	27.4°C
30 year average	26.9°C	26.6°C
Maximum Temperature	32.1°C (8th )	30.8°C (15th )
Minimum Temperature	21.7°C (17th )	20.4°C (17th )
Relative Humidity	67%	75%
Maximum wind gust	63km/h	57km/h
Average daily sunshine hours	-	7hrs

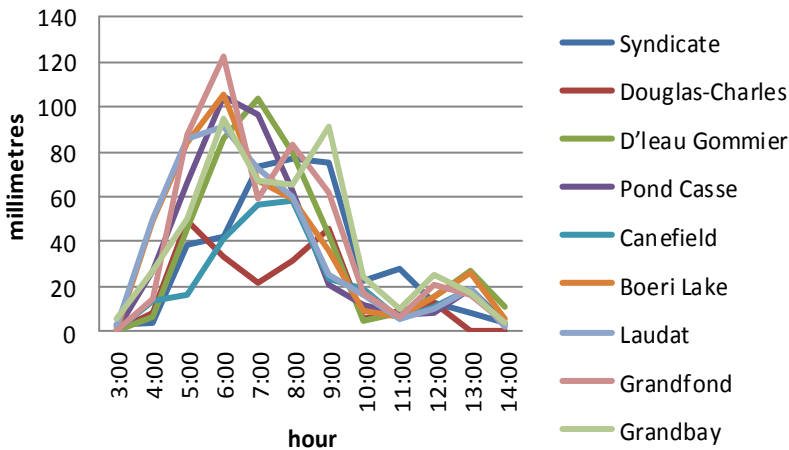
## 2015 ATLANTIC HURRICANE SEASON

The Atlantic Hurricane Season officially ended on November 30th. Tropical cyclone activity for the season was below normal with 11 named storms. Four became hurricanes and two intensified to the category of major hurricanes. El Niño was the leading climate factor which influenced the season for 2015. Tropical Storm Erika produced approximately 18in of rainfall across Dominica in less than 12 hours. This resulted in flash floods, landslides, damages to infrastructures and properties and loss of lives. There were 14 confirmed deaths and 16 persons listed as missing.

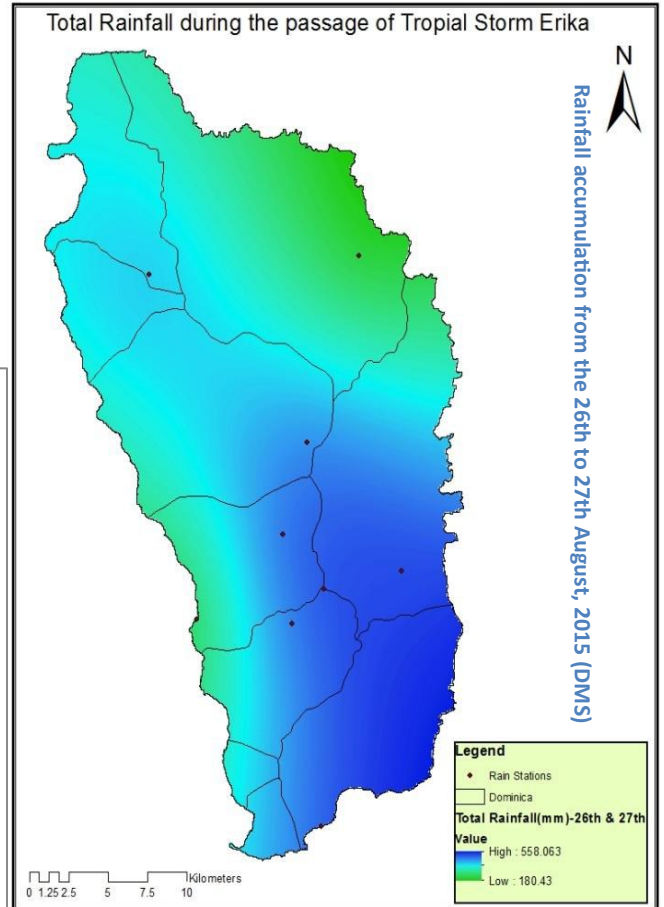
### Tropical Storm Erika



#### HOURLY RAINFALL, 3AM TO 2PM, AUGUST 27TH 2015



Hourly rainfall from Erika (DMS)



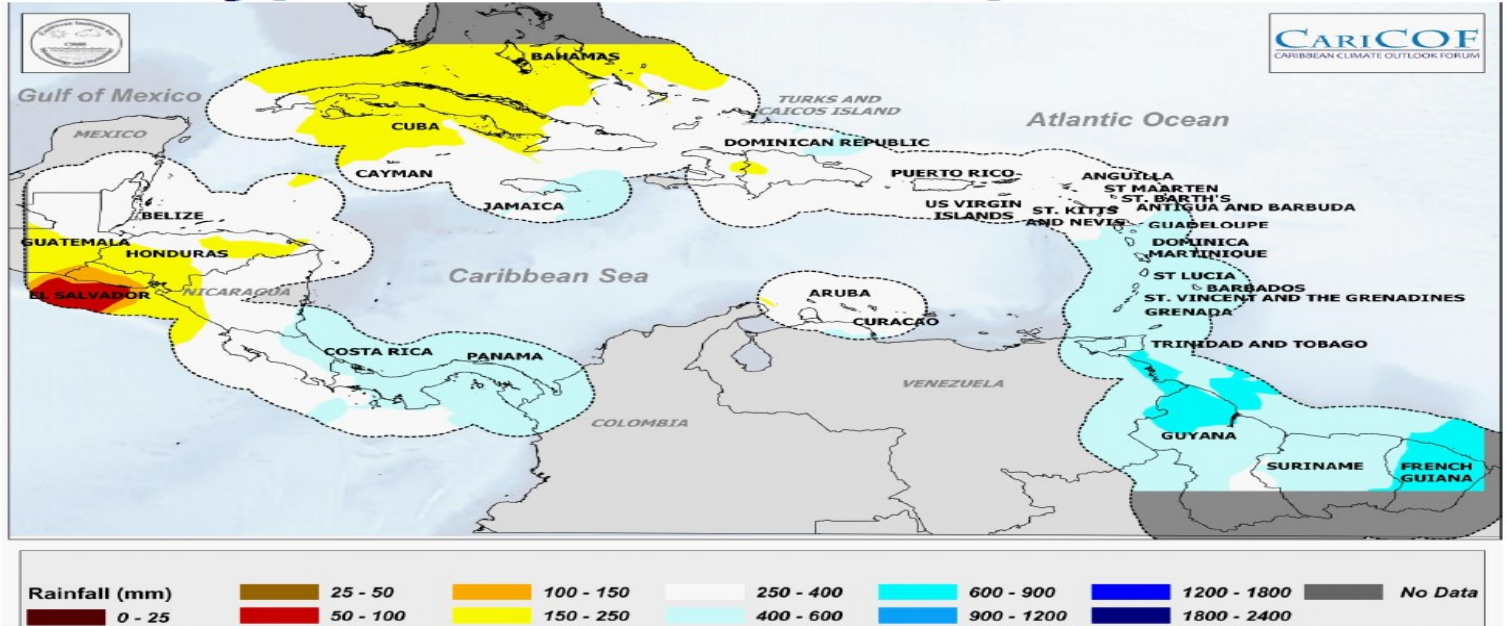
## LOOKING AHEAD

(30yrs weather averages from January - February- March)

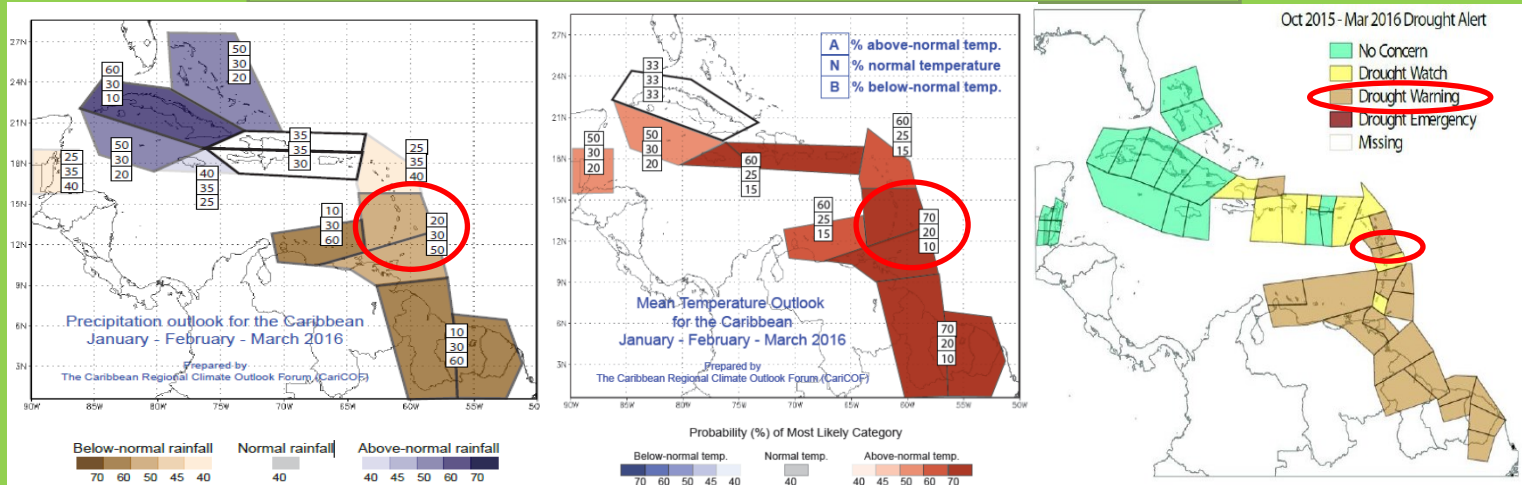
Parameter	Douglas-Charles Airport (1981-2010)			Canefield Airport (1982-2011)		
Month	January	February	March	January	February	March
Rainfall normal	97.0 – 153.9mm	77.2—106.7mm	74.2– 130.3mm	81.6 -- 138.2mm	45.8—81.7mm	31.6—56.0mm
-highest total	249.0mm (1998)	196.6mm (1989)	317.4mm (1995)	228.2mm (2011)	131.5mm (1982)	129.2mm (2004)
-lowest total	68.6mm (1989)	4.2mm (2010)	27.7mm (1994)	31.3mm (2001)	0.4mm (2010)	5.5mm (2005)
Temperature	26.1°C	25.9°C	26.4°C	26.4°C	26.4°C	26.9°C
-maximum	31.8°C (1987)	31.9°C (1998)	32.3°C (2010)	32.0°C (2005)	32.5°C (2010)	34.4°C (2010)
-minimum	17.1°C (1988)	17.0°C (1988))	17.2°C (2000)	18.2°C (2008)	18.0°C (2008)	18.1°C (2009)
Wind	ESE @8kts	ESE @8kts	ESE @8kts	SE @ 6kts	SE @ 6kts	SE @ 6kts
Chance of 10 day dry spell	3%	17%	24%	36%	37%	73%



# Our typical JFM rainfall patterns



## REGIONAL OVERVIEW ON SEASONAL FORECASTS



Below to normal rainfall totals (80% confident) and wet days (high confidence) are expected to continue from January to March 2015. Air temperature is also expected to continue to be above to normal (90% confident).

Thanks to the return of more seasonable rainfall in parts of the region during October and November, some Antilles islands are currently no longer facing severe shorter-term drought.

**Shorter-term (till March 2016):** It is expected that a shorter-term drought situation may arise.

**Longer-term (beyond March 2016):** Very strong El Niño seems to have peaked in strength. El Niño often results in a drier early part of the year in the Lesser Antilles. This may lead to drought concerns towards the end of the Caribbean dry season. After El Niño peaks, it tends to dissipate towards the middle and possibly be replaced by a La Niña by the end of the year. This evolution could finally bring drought relief to the region.

**DOMINICA METEOROLOGICAL SERVICE**

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