



DOMINICA METEOROLOGICAL BULLETIN

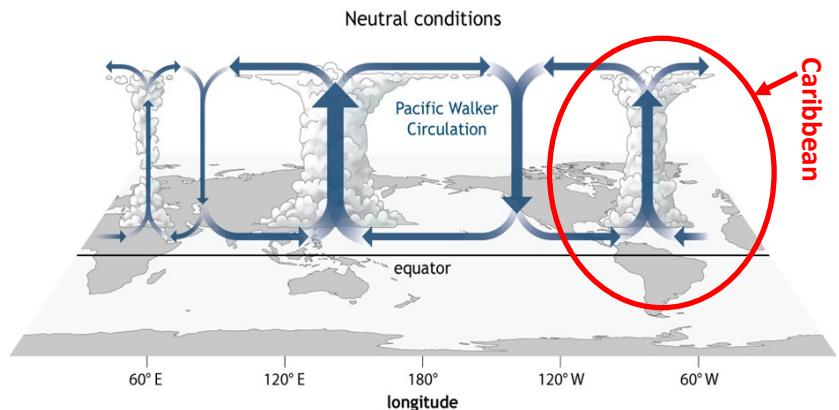
VOL 1 ISSUE 02

APRIL — JUNE

YEAR 2016

EL NINO UPDATE

A now borderline strong El Niño is steadily weakening after reaching peak strength in November 2015. It is forecast that conditions will transition to El Niño Southern Oscillation (ENSO)- neutral towards the end of the dry season or during the first half of the wet/hurricane season, with about a 50% chance of La Niña (cooling of the Eastern Equatorial Pacific Ocean) during the latter half. During ENSO-neutral, most of the Caribbean region experience normal rainfall patterns. During the La Niña phase, upper level winds are much lighter, and therefore more favourable for hurricane development in the Caribbean and Atlantic.



NOAA Climate.gov

ENSO phase and its effect on Dominica's rainfall from 2005 to 2016.

 La Niña

 El Niño

FIG.1 DOUGLAS-CHARLES 12-MONTH SPI VS ENSO 2005 - 2016

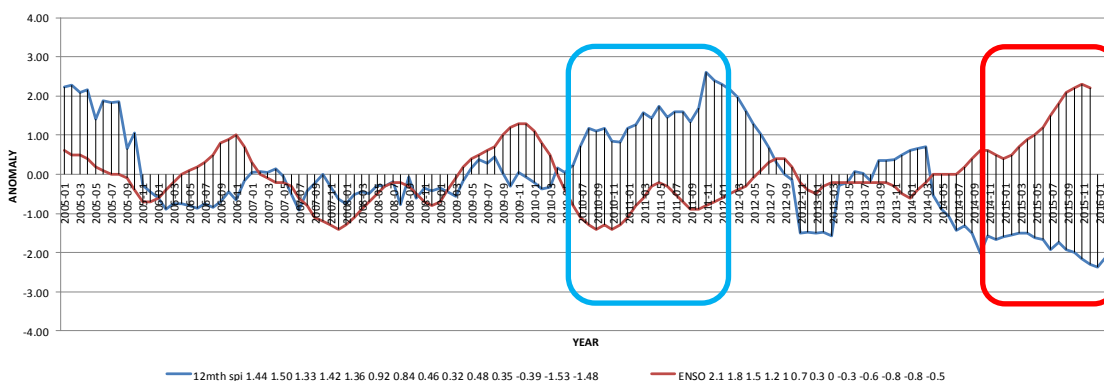
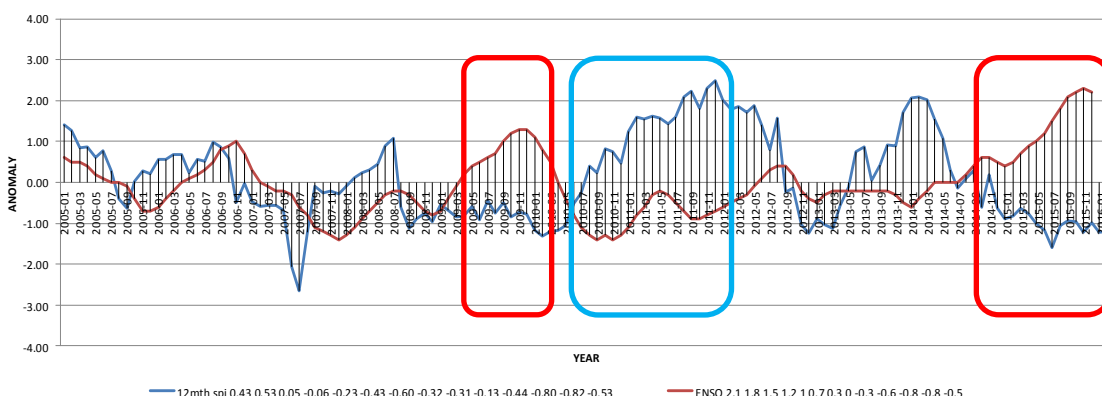


FIG.2 CANEFIELD 12-MONTH SPI VS ENSO 2005 - 2016



Over the years the ENSO phenomena has had varying impacts on Dominica. The charts in fig 1 and 2 clearly illustrates a relationship between ENSO and rainfall patterns at both the Douglas-Charles and Canefield Airports. During the El Niño phase of 2009 to 2010 and 2015 to 2016 abnormally to exceptionally dry conditions were observed. During the La Niña phase from 2010 to 2012 abnormally to exceptionally wet conditions were observed.

MID 2015/16 DRY-SEASON REPORT

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Parameter	Canefield Airport	Douglas-Charles Airport
Rainfall Total	139.7mm (<i>above normal</i>)	66.5mm (<i>below normal—lowest on record (1968—2015)</i>)
30 year normal	76.7 to 113.6mm	140.7 to 209.6mm
Wet Days (≥1.0mm)	19 (3 days <i>above normal</i>)	17 (3 days <i>below normal</i>)
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%
Average wind	East south east at 9km/h	East south east at 17km/h
Average daily sunshine hours	-	7hrs

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Parameter	Canefield Airport	Douglas-Charles Airport
Rainfall Total	66.4mm (<i>below normal</i>)	155.2mm (<i>above normal</i>)
30 year normal	81.6 to 138.2mm	97.0 to 153.9mm
Wet Days (≥1.0mm)	9 (7 days <i>below normal</i>)	15 (4 days <i>below normal</i>)
Temperature	26.5°C	26.1°C
30 year average	26.4°C	26.1°C
Maximum Temperature	32.0°C (17th)	29.3°C (1st, 9th, 25th)
Minimum Temperature	19.7°C (11th)	19.5°C (11th)
Relative Humidity	68%	75%
Average wind	South east at 7km/h	South east at 11km/h
Average daily sunshine hours	-	6hrs 30mins

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Parameter	Canefield Airport	Douglas-Charles Airport
Rainfall Total	58.3mm (normal)	102.3mm (normal)
30 year normal	45.8 to 81.7mm	77.2 to 106.7mm
Wet Days (≥1.0mm)	10 (2 days <i>below normal</i>)	17 (2 days <i>above normal</i>)
Temperature	27.0°C	26.3°C
30 year average	26.4°C	25.9°C
Maximum Temperature	32.2°C (28th)	29.3°C (6th)
Minimum Temperature	20.3°C (4th, 5th)	18.7°C (5th)
Relative Humidity	66%	76%
Average wind	South east at 9km/h	East south east at 13km/h
Average daily sunshine hours	-	8hrs

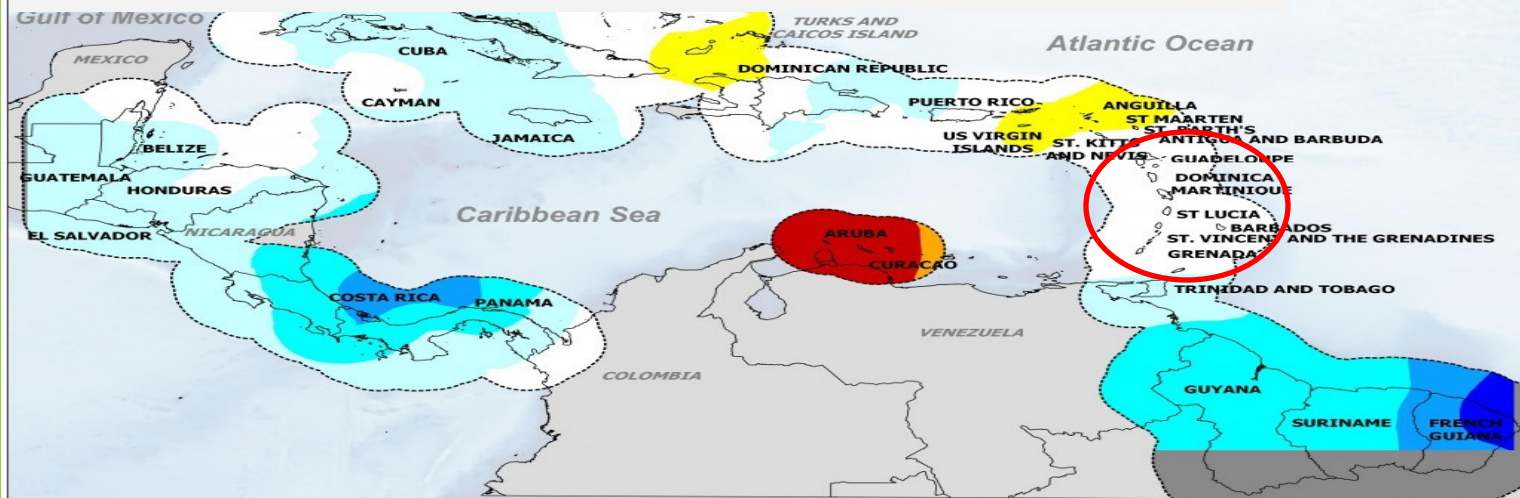
Parameter	Canefield Airport	Douglas-Charles Airport
Rainfall Total	116.4mm (<i>above normal –2nd wettest March since 1982</i>)	224.1mm (above normal)
30 year normal	31.6 to 56.0mm	74.2 to 130.3mm
Wet Days ($\geq 1.0\text{mm}$)	20 (10 days <i>above normal</i>)	22 (7 days above normal)
Temperature	26.8°C	26.3°C
30 year average	26.9°C	26.6°C
Maximum Temperature	32.0°C (17th)	29.8°C (20th)
Minimum Temperature	20.0°C (12th)	20.0°C (8th)
Relative Humidity	68%	77%
Average wind	South at 9km/h	
Average daily sunshine hours	-	6hrs 36mins

LOOKING AHEAD (Climatological averages for April—May—June)

Parameter	Douglas-Charles Airport (1981-2010)			Canefield Airport (1982-2011)		
Month	April	May	June	April	May	June
Rainfall normal	92.2— 162.9mm	139.1— 262.9mm	132.0— 229.0mm	30.1—58.2mm	44.8— 116.9mm	106.6— 198.8mm
-highest total	772.9mm (1981)	815.7mm (1987)	424.3mm (1987)	203.6mm (2013)	298.3mm (1987)	381.3mm (2006)
-lowest total	18.8mm (1997)	12.1mm (2001)	43.1mm (1989)	3.5mm (1983)	9.8mm (2007)	54.6mm (1985)
Temperature	27.2°C	28.0°C	28.5°C	27.9°C	28.8°C	29.0°C
-maximum	33.1°C (2005)	33.0°C (2010)	33.7°C (1985)	34.8°C (2005)	34.6°C (2005)	34.8°C (1991)
-minimum	18.0°C (1985)	19.8°C (1984/1986)	21.0°C (1985)	18.6°C (2009)	20.5°C (1989)	21.5°C (2009)
Wind	ESE @8kts	ESE @8kts	ESE @8kts	SSE @ 6kts	SSE @ 6kts	SE @ 6kts
Chance of 10 day dry spell	23%	17%	7%	67%	50%	27%

Rainfall Patterns for Apr-May-June

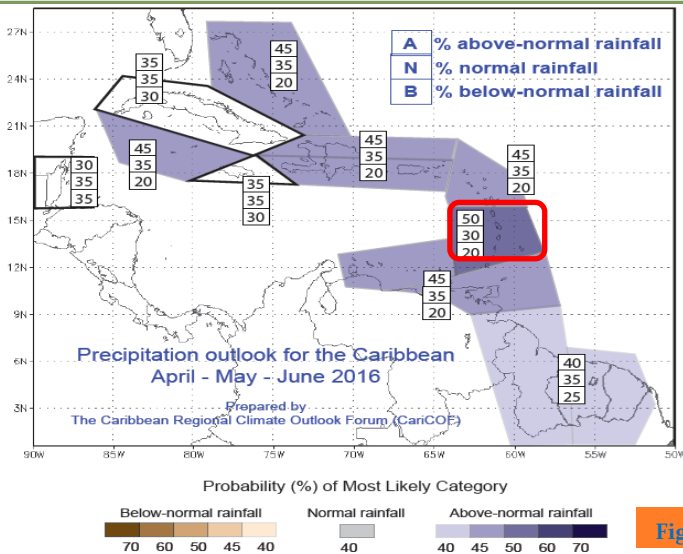
CARICOF
CARIBBEAN CLIMATE OUTLOOK FORUM



Rainfall (mm)

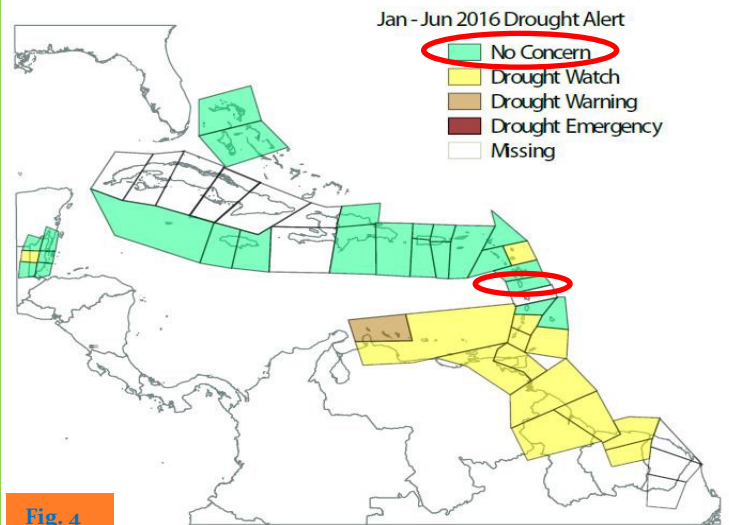
0 - 25	25 - 50	100 - 150	250 - 400	600 - 900	1200 - 1800	No Data
50 - 100	150 - 250	400 - 600	900 - 1200	1800 - 2400		

REGIONAL OVERVIEW ON SEASONAL FORECASTS FOR APRIL—MAY– JUNE 2016



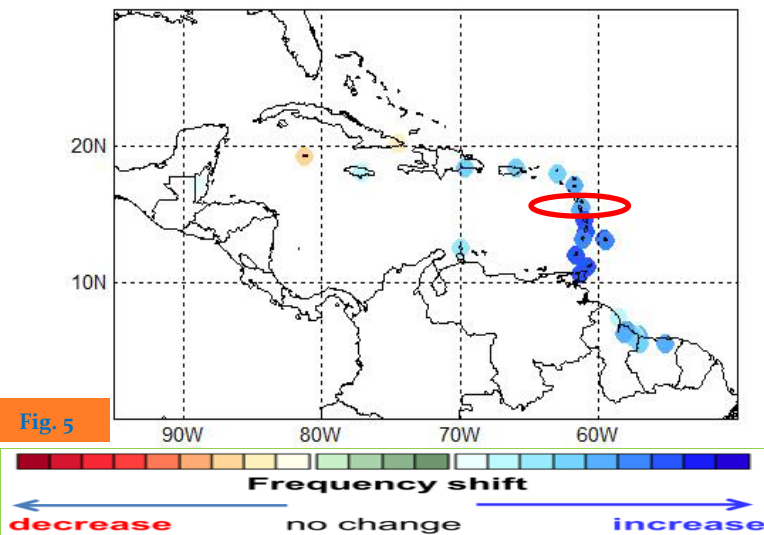
Above to normal rainfall totals are expected for Dominica for the period April to June 2016.

Probability: 50 % chance of above normal, 30% chance normal and 20% chance of below normal. (Fig 3)



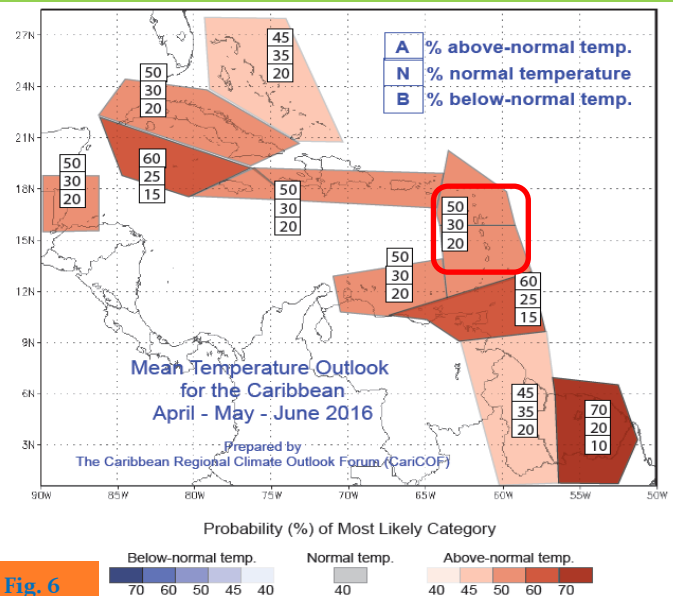
There are no drought concerns for Dominica for the period April to June 2016. The wet season may start up to one month earlier than usual. There are the odds of increased flash flood potential. (Fig 4)

AMJ 2016 7 day Wet Spell Freq Shift



Forecast and Implications:

- Many wet days: (**wet days $\geq 1.0\text{mm}$**) more frequent disruptions of outdoor activities and decreasing surface dryness.
- Several wet spells: effective recharge of water reservoirs expected, especially in May & June.
- Up to 2 extremely wet spells in May & June: growing flash flood potential, especially in May & June. (Fig.5)



Air temperatures are expected to be above to normal. Probability: 50 % chance of above normal, 30% chance normal and 20% chance of below normal. (Fig.6)

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