



The Caribbean Climate Impacts Database and its role in Disaster Risk Management

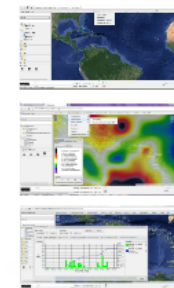
ICCS 4, Montevideo, Uruguay
Presenter: Shelly-Ann Cox (Research Associate)
Email: scox@cimh.edu.bb
@CIMHbb



Benefits of the Climate Impacts Database

- Provides evidence-based information to determine the appropriate climate risk management options.
- Improves the effectiveness and efficiency of sustainable planning, adaptation and mitigation.
- Contributes to reducing the vulnerability of the Caribbean to climate related hazards.
- Supports regional growth resilient to climate risks.

Caribbean Climate Impacts Database





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BARBADOS NATION





Benefits of the Climate Impacts Database

Provides evidence-based information to determine the appropriate climate risk management options.

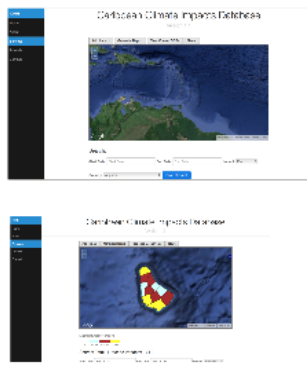
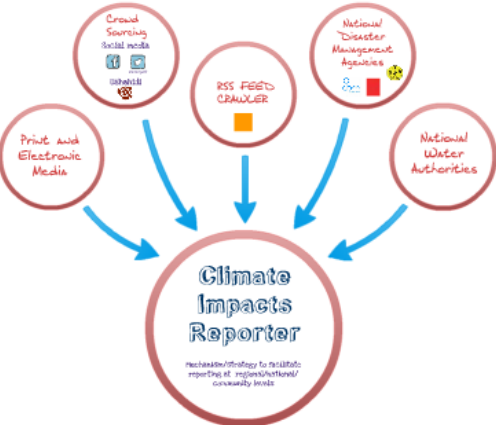
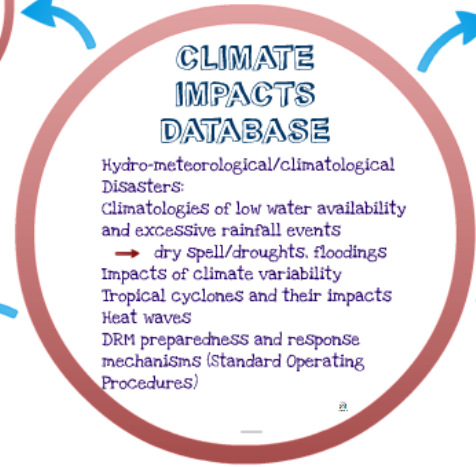
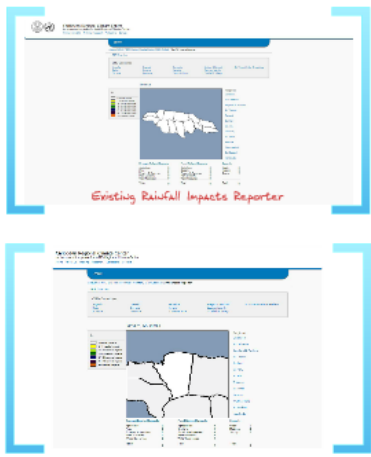
Improves the effectiveness and efficiency of sustainable planning, adaptation and mitigation

Contributes to reducing the vulnerability of the Caribbean to climate related hazards

Supports regional growth resilient to Climate Risks

Caribbean Climate Impacts Database

Integration of the
 CARIBBEAN CLIMATE IMPACTS
 DATABASE
 into a
 CARIBBEAN DISASTER RISK
 MANAGEMENT EARLY WARNING
 INFORMATION SYSTEM ACROSS
 CLIMATE TIME SCALES
 (DRM EWS/ACTS)



CLIMATE IMPACTS DATABASE

Hydro-meteorological/climatological
Disasters:

Climatologies of low water availability
and excessive rainfall events

→ dry spell/droughts, floodings

Impacts of climate variability

Tropical cyclones and their impacts

Heat waves

DRM preparedness and response
mechanisms (Standard Operating
Procedures)



Event	Location	Catchment	Main Cause	Rainfall Stns	R24 (mm)	Dartmouth Severity	Area Affected(sq km)	Dartmouth Magnitude	Damage(USD)
6/1/00	St.James								
00/00/1933	Kingston St.Andrew								
23/11/1937	Northern parishes								
18/11/1940	St.Mary Portland St.Thomas								
25/04/1979	Western parishes								
12/6/79	Western parishes								
19/11/1985-22/11/1985	Clarendon Manchester St.Elizabeth		Tropical Cyclone Kate			1	3960	4.2	NA
15/05/1986	Island wide								\$76,000,000
04/06/1986-15/06/1986	Kingston Savanna La Mar May Pen Lucie Wag Water River Old Harbor Bay		Heavy Rain			1.5	81,750	6.2	\$25,000,000
30/10/1987-01/11/1987	Clarendon St.Catherine Kingston Trelawny Crooked River Riversdale		Tropical Cyclone			1	4600	4.1	\$300,000



Date of Event	GLIDE #	Event	Country	Population	Population Affected	Killed	Housing	Education	Health	Agricultural	Roads/bridges damaged (Transport)	Air/sea ports	Environment
2000													
3/1/00	DR-2000-000138-JAM	Drought	Jamaica	2,713,130									
09/23-10/03/2000	ST-2000-000642-BLZ	Hurricane Keith	Belize	273,700	100,000	4	BS\$75.00			BS\$235.90	BS\$132.70	BS\$7.80	BS\$50.00
2001													
8/21/01	ST-2001-000736-BLZ	Tropical Storm Chantal	Belize	273,700	7,000+								
10/08-09/2001	ST-2001-000553-BLZ	Hurricane Iris	Belize	273,700	68,568*	22							
10/29-11/05/2001??	ST-2001-000615-JAM	Hurricane Michelle	Jamaica	2,713,130									
2002													
05/23-26/2002	FL-2002-000325-JAM	Floods	Jamaica	2,713		6							
09/17-18/2002	ST-2002-000656-JAM	Tropical Storm Isidore	Jamaica	2,713,130									
2004													
8/4/04		Tropical Depression #2	Saint Vincent & the Grenadines	117,193 (2004 est.)							EC\$48,700.00	EC\$14,000.00	
8/9/04		Strong Tropical Wave	Saint Vincent & the Grenadines	117,193 (2004 est.)			EC\$62,039.47			EC\$60,000.00	EC\$15,000.00		
08/11-12/2004	TC-2004-000073 JAM	Hurricane Charley	Jamaica	2,713,130		1							
8/15/04		Tropical Storm Earl	Saint Vincent & the Grenadines	117,193 (2004 est.)			EC\$62,475.38			EC\$60,000.00	EC\$218,800.00		
09/02-05/2004	TC-2004-000083-BHS	Hurricane Frances	The Bahamas	229,697		2	95,500,000		\$3,284,000	45,000,000		12,000,000	
9/7/04	TC2004-000089 BRB	Hurricane Ivan	Barbados	278,289 (2004 est.)									
	TC2004-000089 GRD	Hurricane Ivan	Grenada	102,632	81,553	28	EC\$1.4B	EC\$196,000,000	EC\$11,000,000	EC\$100,000,000	EC\$11,500,000	EC\$4,900,000	
09/10-12/2004	TC2004-000089 JAM	Hurricane Ivan	Jamaica	2,713,130	369,685	17							
9/7/04	TC2004-000089 LCA	Hurricane Ivan	Saint Lucia	164,213 (2004 est.)			J\$11,163.9	J\$806.9	J\$758.4	J\$8,550.0	J\$3,225.9	J\$120.1	J\$2,560.6
9/7/04	TC2004-000089 VCT	Hurricane Ivan	Saint Vincent & the Grenadines	117,193 (2004 est.)		-				3,750,000			
9/7/04	TC2004-000089 TTO	Hurricane Ivan	Trinidad & Tobago	1,096,585 (2004 est.)		1							



DESINVENTAR



DISASTER RISK MANAGEMENT





WATER RESOURCES

WATER
RESOURCES
MANAGEMENT
STRATEGIES

WATER RESOURCES MANAGEMENT STRATEGIES



AGRICULTURE



HEALTH





CDPMN

[About CDPMN](#) / [SPI Monitor](#) / [Decile Monitor](#) / [SPI Outlook](#) / [Rainfall Impacts Reporter](#)

> RIR Overview

CMO Countries

Anguilla Belize St. Lucia	Grenada Guyana Dominica	Barbados Jamaica Turks & Caicos	Antigua & Barbuda Cayman Islands Trinidad & Tobago	St. Vincent & the Grenadines
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Jamaica



Drought Related Impacts

Agriculture:	0
Fires:	0
Forestry & Reserves:	0
Plant & Wildlife:	0
Water Resources:	0

Total: 0

Flood Related Impacts

Agriculture:	0
Erosion:	0
Forestry & Reserves:	0
Plant & Wildlife:	0
Water Resources:	0

Total: 0

Severity

Weak:	0
Medium:	0
Strong:	0

Total: 0

Existing Rainfall Impacts Reporter

Caribbean Regional Climate Center
 in demonstration phase for WMO Regional Climate Centre

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CDPMN

[About CDPMN](#) / [SPI Monitor](#) / [Decile Monitor](#) / [SPI Outlook](#) / [Rainfall Impacts Reporter](#)

> RIR Overview

CMO Countries

Anguilla
 Belize
 St. Lucia

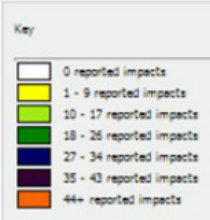
Grenada
 Guyana
 Dominica

Barbados
 Jamaica
 Turks & Caicos

Antigua & Barbuda
 Cayman Islands
 Trinidad & Tobago

St. Vincent & the Grenadines

Jamaica, St. James



Regions

- Clarendon
- St. Catherine
- Kingston/St. Andrew
- St. Thomas
- Portland
- St. Mary
- St. Ann
- Trelawny
- St. James
- Hanover
- Westmoreland
- St. Elizabeth
- Manchester

Drought Related Impacts

Agriculture:	0
Fire:	0
Forestry & Reserves:	0
Plant & Wildlife:	0
Water Resources:	0
Total:	0

Flood Related Impacts

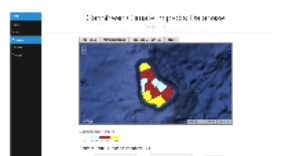
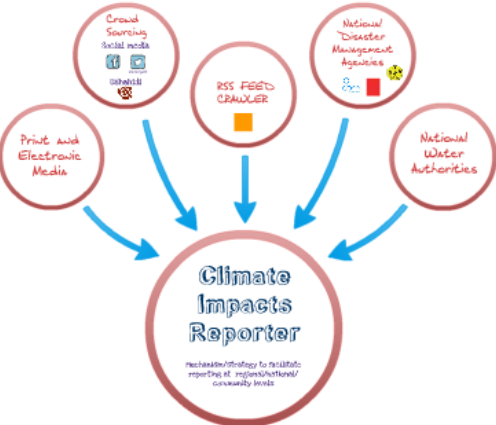
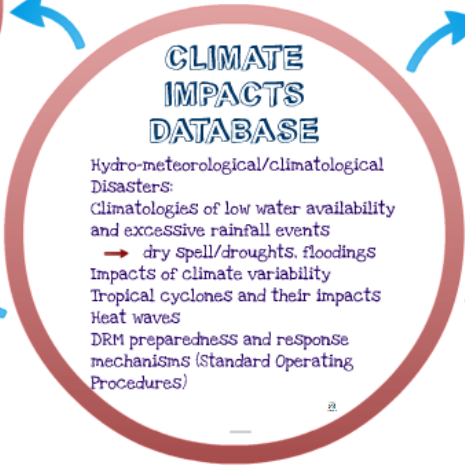
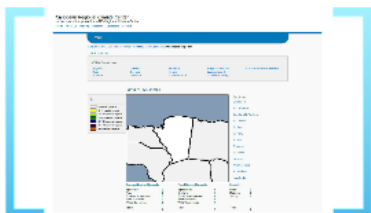
Agriculture:	0
Erosion:	0
Forestry & Reserves:	0
Plant & Wildlife:	0
Water Resources:	0
Total:	0

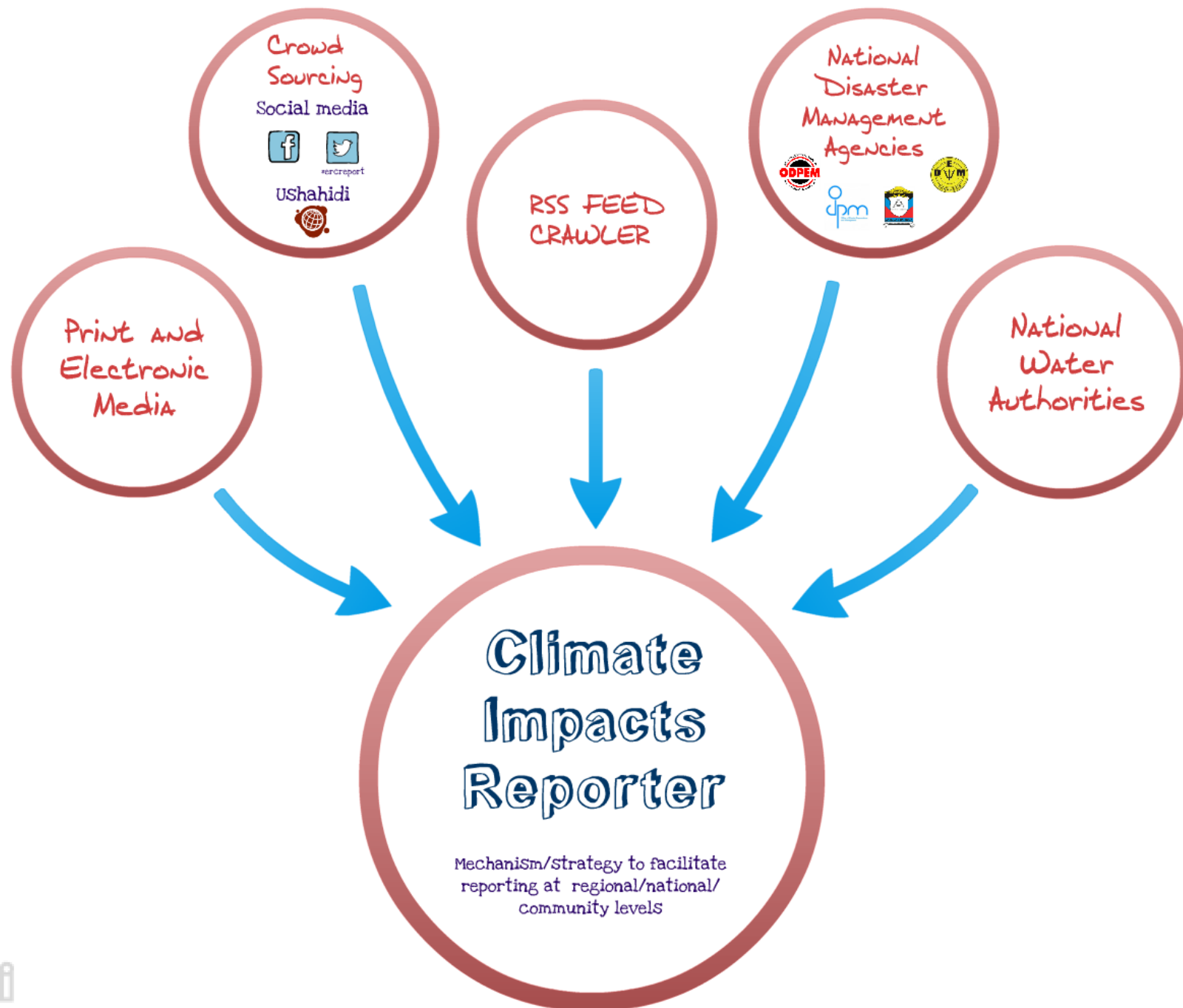
Severity

Weak:	0
Medium:	0
Strong:	0
Total:	0

Caribbean Climate Impacts Database

Integration of the
CARIBBEAN CLIMATE IMPACTS
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into a
CARIBBEAN DISASTER RISK
MANAGEMENT EARLY WARNING
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CLIMATE TIME SCALES
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Climate Impacts Reporter

Mechanism/strategy to facilitate
reporting at regional/national/
community levels

Print AND Electronic Media



Crowd Sourcing

Social media



#ercreport

Ushahidi



RSS FEED CRAWLER



NATIONAL Disaster MANAGEMENT Agencies



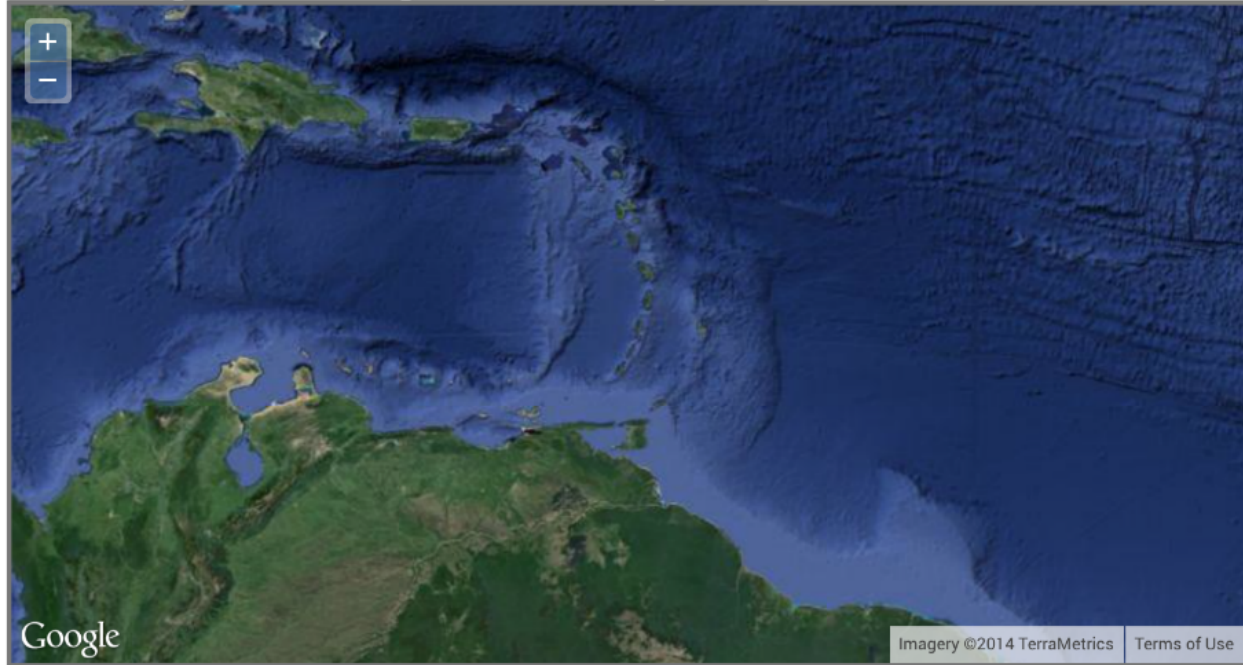
NATIONAL Water Authorities

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- Tutorials
- Contact

Caribbean Climate Impacts Database

Version 1.1

[Add Impact](#) [Generate Report](#) [View Current SOPs](#) [News](#)



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Search:

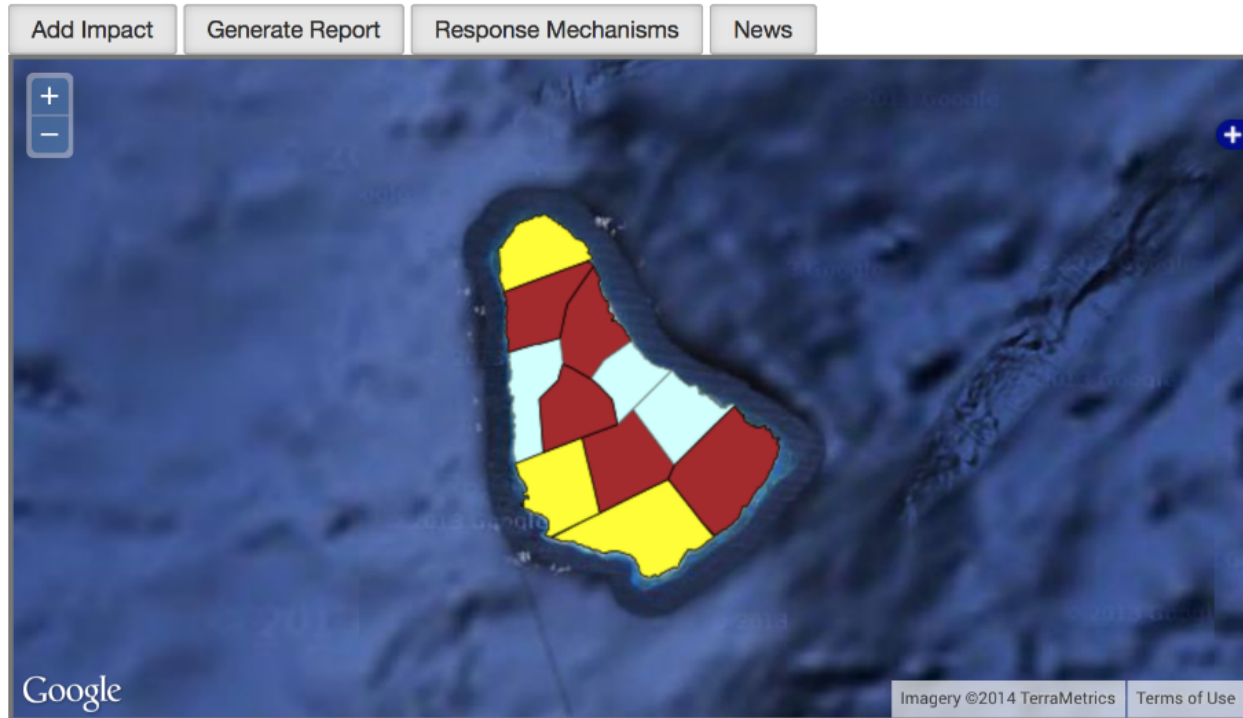
Start Date **End Date** **Impact**

Country [Send Request](#)

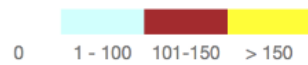
- CIMH
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Caribbean Climate Impacts Database

Version 1.2



Legend: Number of Impacts



Search: Total Hurricane Impacts: 1711

Start Date
 End Date
 Impact



**Integration of the
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into a
CARIBBEAN DISASTER RISK
MANAGEMENT EARLY WARNING
INFORMATION SYSTEM ACROSS
CLIMATE TIME SCALES
(DRM EWISACTS)**



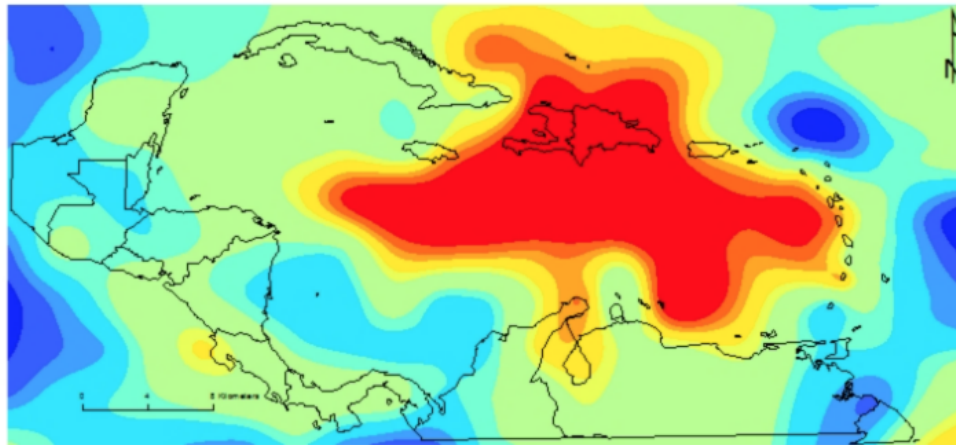


**CARIBBEAN
DRM
EWISACTs**

DROUGHT MONITOR (CDPMN)

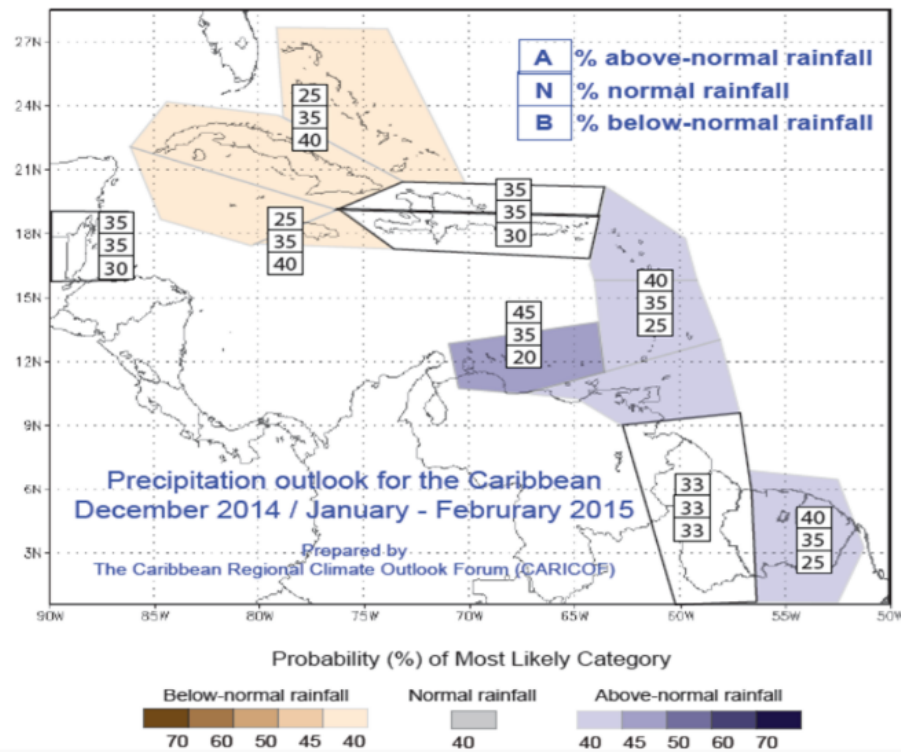
Standard Precipitation Index (SPI)
SPI Outlook

SPI October 2014



<http://63.175.159.26/~cdpmn/spimonitor.html>

CARICOF PRECIPITATION OUTLOOK



DATA FROM AWS



AWS and control tower in Anguilla

Photo credit: ERC Project



FLOOD OUTLOOK

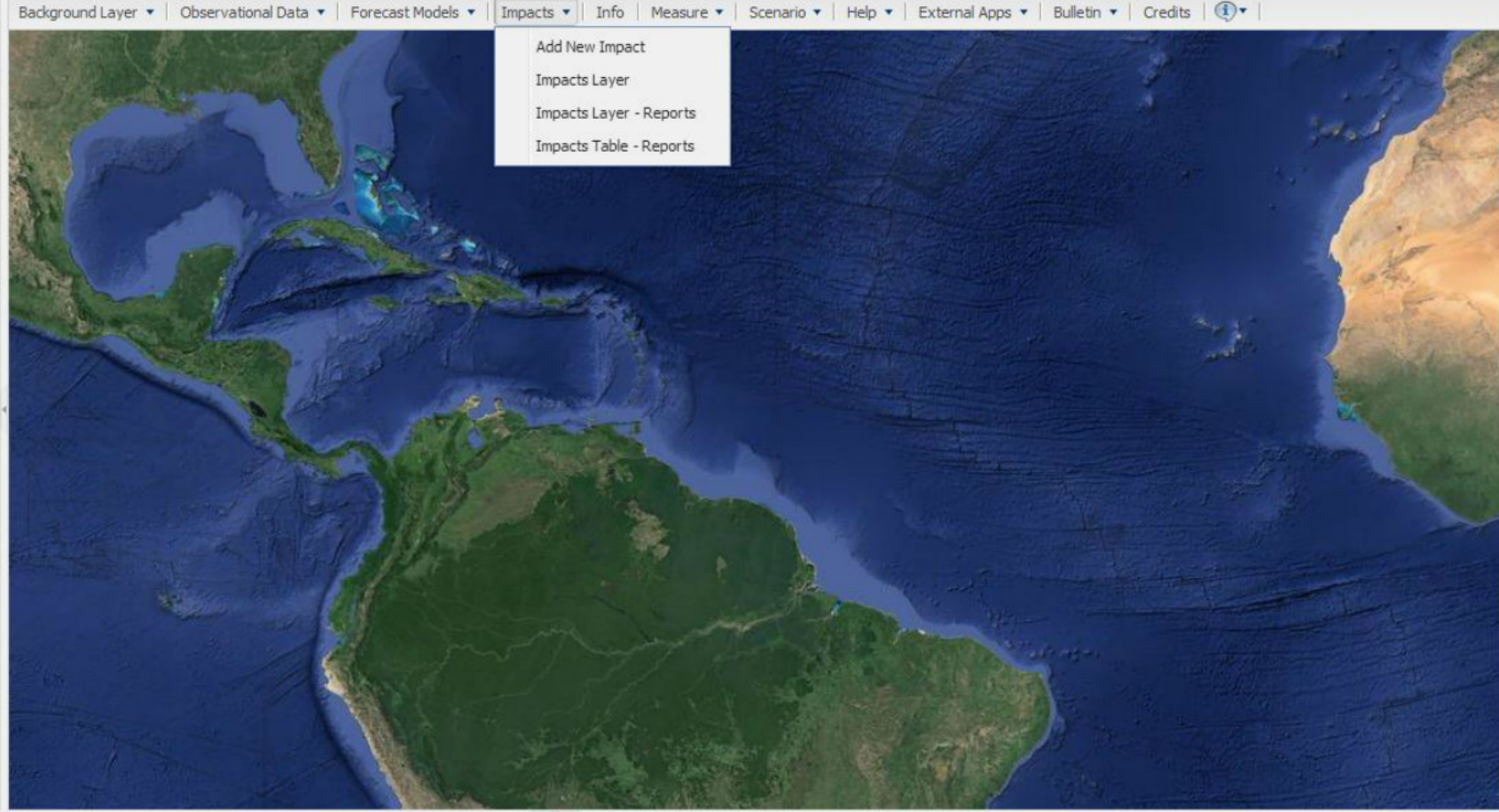


CLIMATE
IMPACTS
DATABASE

Find in Google Maps

Layer List

- Dynamic Layers
 - Rainfall Field 1
 - Legend
- Tool Layers
 - Impacts Layer
 - Search Result
 - Scenario
 - Measure
- Caribbean
- GRD
- DMA
- SVG
- BVI
- SKN
- BRB
- SLU
- ATG
- AIA
- MSR



Start: Monday, 25 November 2013 12:31 UTC

End: Tuesday, 26 November 2013 12:31 UTC

User: cimh

bb02.cimafoundation.org:8080/dewetra/Dewetra.html#



DEWETRA Dewetra

dewetrabk.cimafoundation.org/dewetraTEST/Dewetra.html

Background Layer | Observational Data | Forecast Models | Impacts | Info | Measure | Scenario | Report | Bulletin | Credits

Find in Google Maps

Layer List

- Dynamic Layers
 - Deciles (DEC) 1
 - Standardized Precipitation Index (SPI) 1
- Tool Layers
 - Search Result
 - Scenario
 - Measure
- Caribbean
 - User WMS Layers

Layer Legend: Standardized Precipitation Index (SPI) 1

Data: spi cum 1h 09/2013

Black	-2 and below: exceptionally dry
Dark Grey	-2 to -1.6: extremely dry
Red	-1.6 to -1.3: severely dry
Orange	-1.3 to -0.8: moderately dry
Yellow	-0.8 to -0.5: abnormally dry
Light Green	-0.5 to 0.5: near normal
Green	0.5 to 0.8: abnormally moist
Light Blue	0.8 to 1.3: moderately moist
Blue	1.3 to 1.6: very moist
Dark Blue	1.6 to 2: extremely moist
Purple	2 and above: exceptionally moist

Opacity: 0 0.2 0.4 0.6 0.8

Map data ©2013 Google, INEGI, MapLink Imagery ©2013 TerraMetrics

Start: Monday, 25 November 2013 19:30 UTC

End: Tuesday, 26 November 2013 19:30 UTC

User: cimh

