

# Caribbean Regional Technical Workshop on CCRIF Models

February 16 & 17, 2023

AC Hotel Miami Dadeland  
Miami, Florida

## About the Caribbean Regional Technical Workshop on CCRIF Models

This Caribbean regional technical workshop is being designed for CCRIF's member governments in the Caribbean – technocrats from the ministries of finance, as well as technocrats from the national meteorological services and the national disaster agencies and a few regional organizations – to allow them to take a deep dive into CCRIF parametric insurance models and products so that there is comprehensive understanding.

The workshop also will allow participants to gain insight into CCRIF's latest model upgrades that will underpin the Facility's parametric insurance policies for the 2023/24 policy year. Participants will also be provided with an update on disaster risk financing and new efforts being made across the region by countries to utilize a range of disaster risk financing instruments to financially protect their economies. Some time also will be spent on discussing the "elephant in the room" – how and when is a policy triggered.

As members are aware, in keeping with best practices and ensuring that it continuously improves its services to its members, CCRIF reviews its models periodically. Since the 2019/20 policy year, the System for Probabilistic Hazard Evaluation and Risk Assessment (SPHERA) model has underpinned the CCRIF tropical cyclone (TC) and earthquake (EQ) policies and the XSR 2.5 model has underpinned the excess rainfall (XSR) policy. In policy year 2021/22, CCRIF began updating these models and the new models will be available in the 2023/24 policy year. For each of these models, the exposure, hazard, and vulnerability components have been analyzed and evaluated to include the most up-to-date data and model improvements. The main updates, which commenced in May 2022, are listed below.

### The SPHERA TC model is being updated to include

- Revised wind and storm surge risk assessment based on a new stochastic catalogue which uses state-of-the-art techniques for stochastic tropical cyclone generation
- New bathymetry data with higher resolution
- New data from the most recent tropical cyclones, including Elsa in 2021 and Dorian in 2019 etc., which will allow for a recalibration of the vulnerability functions; the current version of the model was calibrated using data up to 2017
- An additional trigger for extreme localized events

### The SPHERA EQ model is being reviewed and updated for Jamaica, Haiti, and the Cayman Islands. Work being undertaken includes:

- Review of existing seismic hazard studies in Jamaica and surrounding areas
- Preparing a new earthquake catalogue for Jamaica, Haiti, and the Cayman Islands
- Preparing new event loss tables for Jamaica, Haiti, and the Cayman Islands
- Conducting new risk sensitivity analyses

### Updates to the XSR 2.5 model include:

- Using two new WRF configurations at high resolution (approx. 3.6 km) to replace those currently used; the WRF is a climatic-meteorological model developed by NOAA and is one of the sources of rainfall data used in the model.
- Inclusion of IMERG to replace CMORPH as one of the sources of data for the model; NASA's new IMERG system combines information from the current constellation of satellites to estimate precipitation. This algorithm is particularly valuable over the areas that lack precipitation-measuring instruments on the ground.
- Use of data from rainfall events that occurred over the period 2019 to 2021 in the risk analysis.
- Review of the loss calculation methodology
- Adjustment of the vulnerability curves
- Implementation of an additional trigger for extreme localized events
- Inclusion of a wet season factor in the loss calculation to reflect when rainfall events occur in quick succession.
- Use of the standardized precipitation index (SPI) to detect exceptionally dry periods.
- Inclusion of crops in the exposure module (previously these were only in the exposure modules for tropical cyclone and earthquake)

# MAIN OBJECTIVES

*The main objectives of the regional technical workshop are to:*

- 01 Provide in-depth information on the CCRIF parametric insurance models and products to facilitate more comprehensive understanding by member governments.
- 02 Provide an in-depth overview and facilitate a comprehensive understanding of the updates that have been made to the CCRIF models.
- 03 Increase understanding of the rationale for updating the models and awareness of the changes and how these will impact pricing, payouts etc.
- 04 Enhance appreciation for the need for parametric insurance within the wider context of disaster risk financing, risk layering and financially protecting economies.
- 05 Review the role of the country risk profiles, how these were developed, the data used and the rationale for the use of specific data sources; including brainstorming on ways in which the risk profiles can be used by countries for development planning, physical planning, policy development among other purposes; and how regional organizations could make use of the risk profiles in their own programming and in projects being developed and implemented by them.
- 06 Increase understanding of how CCRIF policies are triggered – what drives this and the relationship between coverage levels and payouts.
- 07 Update members on the roll-out of the COAST product for fisheries, the electric utilities product and the microinsurance product for vulnerable groups and shock responsive social protection.
- 08 Obtain feedback from stakeholders that may be critical in the policy renewal process for 2023/24.
- 09 Present information related to the development of new models for agriculture, water utilities etc. and the demand for these products.
- 10 Demonstrate CCRIF's web application tool WeMAp and how it is used.
- 11 Enhance the understanding of CCRIF and the products and services it provides.
- 12 Foster improved stakeholder engagement and enhanced relationships between CCRIF and its members.



7:15 am - 8:15am

## Breakfast - Marbella C

8:30 am - 8:55 am

## Opening Session - Marbella A

- Welcome and Opening Remarks **Mr. Isaac Anthony, CEO, CCRIF SPC**
- Introductions and Icebreaker (Lines and Blobs)
- Objectives of the Caribbean Regional Technical Workshop

9:00 am - 10:00am

## Session 1

- Video - The Work and Impact of CCRIF in the Caribbean
- Presentation – CCRIF Parametric Insurance and How it Works – Linking Parametric Insurance with Debt and Fiscal Sustainability
- The Evolution of CCRIF’s Parametric Insurance Models: The Journey from EQECAT to SPHERA and Beyond

10:00 am - 11:15 am

## Session 2: CCRIF Model Upgrades – Tropical Cyclone

- An In-depth Look at the CCRIF Tropical Cyclone Risk Model (Hazard, Exposure, Vulnerability)
- Understanding the TC Model – The Construct, Modules, Data and Main Elements
- Rationale for Model Upgrades
- SPHERA for Tropical Cyclone – Model Upgrades
- Discussion – Q and A

11:15 am - 11:30 am

## Coffee Break

11:30 am - 12:45 pm

## Session 3: CCRIF Model Upgrades – Excess Rainfall

- An In-depth Look at the XSR Risk Model
- Understanding the XSR Model – The Construct, Modules, Data and Main Elements
- Rationale for Model Upgrades
- XSR Model Upgrades
- Discussion – Q and A

12:45 pm - 2:00 pm

## Lunch - Marbella C

### Luncheon Speaker

- Interview on Disaster Risk Financing and Case Study of Jamaica – Its Approach to Adopting a Fulsome Risk Layering Approach and Incorporating a Myriad of DRF Instruments to Financially Protect their Economy (Questions and Answers)

2:00 pm – 3:00 pm

### Session 4: CCRIF Model Upgrades - Earthquake

- SPHERA Earthquake Model Upgrades – Jamaica, Haiti, and the Cayman Islands
- Understanding the EQ Model – The Construct, Data and Main Elements
- Rationale for Model Upgrades
- SPHERA for Earthquake – Model Upgrades

3:00 pm – 4:00 pm

### Session 5: CCRIF Monitoring and Evaluation

- The Rationale
- Reporting on the Use of Payouts - Understanding the Template
- Questions and Clarifications

4:00 pm – 5:00 pm

### Session 6

- Presentation by the Caribbean Institute for Meteorology and Hydrology (CIMH) – Situational Analysis of Rainfall Network in the Region
- Signing of New MOU – CCRIF and CIMH
- Update of the Feasibility Study for the Integration of Ground Data into the CCRIF XSR Model
- Presentation by the Belize National Meteorological Service on the Project to Enhance its Weather Station Network supported by CCRIF – Benefits, Opportunities, Next Steps
- Signing of Grant Agreements for CCRIF Support of National Weather Station Networks - Cayman Islands, Turks and Caicos Islands, Antigua and Barbuda

5:15 pm - 6:15 pm

### Cocktail Reception - Marbella Foyer

DAY 02

17TH FEBRUARY 2023

7:15 am - 8:15am

### Breakfast - Marbella C

8:30 am – 8:40 am

### Setting the Scene - Marbella A

- Showing of “I am Risk” Spoken Word

8:40 am – 9:00 am

### Session 7: Recap of Day 1

- Recap of Day 1
- Clarification, Questions and Answers

9:00 am – 10:00 am

### **Session 8: The Elephant in the Room**

- The Elephant: Understanding CCRIF Parametric Insurance Policies (The Elements) and Policy Payouts – How and When are Policies Triggered
- Undertaking some practical exercises related to the attachment point, ceding percentage etc.

10:00 am – 11:00 am

### **Session 9: Country Risk Profiles**

- Review of Country Risk Profiles for TC, EQ and XSR based on the Upgraded Models
- Use of Risk Profiles to Underpin CCRIF policies
- Potential Uses of CRPs by Countries (spatial plans, development plans etc.)

11:00 am – 11:15 am

### **Coffee Break**

11:15 am – 12:00 pm

### **Session 10: Using WeMAP**

- Practical Session

12:00 pm – 12:20 pm

### **Session 11: CCRIF Updates**

- Roll-out of COAST Product for Fisheries
- Roll-out of Electric Utilities Product
- New Models in Development (Agriculture, CWUIC, etc.)
- Update and Roll-out of CRAIC (Microinsurance)

12:20 pm – 1:00 pm

### **Session 12: Next Steps, Country Missions, New Opportunities and Stakeholder Engagement**

- CCRIF Renewals Road Show (Timing)
- Country Missions
- Individual Country Training and Stakeholder Engagement
- Other Opportunities for Countries from CCRIF (CCRIF TA Programme)

1:00 pm - 1:15 pm

### **Closing**

1:15 pm

### **Lunch - Marbella C**

## Things to do in Miami – Evening of February 17, 2023

- Coconut Grove Arts Festival
- Wicked the Musical @ The Adrienne Arsht Center for Wicked!
- Chicago the Musical @ Au Rene Theatre at Broward Centre for the Performing Arts
- A Tribute to Louis Armstrong @ Aventura Arts and Cultural Centre
- Miami Hurricanes vs. Penn State Nittany Lions @ Alex Rodriguez Park at Mark Light Field, Miami, FL
- Dancing with the Stars @ Hard Rock Café and Hard Rock Hotel and Casino Hollywood





CCRIF SPC  
198 North Church Street  
2nd floor, Sagicor House  
PO Box 1087  
Grand Cayman, KY1-1102  
Cayman Islands



[www.ccrif.org](http://www.ccrif.org)



[pr@ccrif.org](mailto:pr@ccrif.org)

