

CCRIF SPC Support for

Disaster Risk Management

in the Caribbean Region



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Published by

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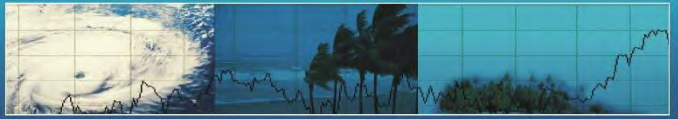
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CCRIF SPC is a segregated portfolio company, owned, operated and registered in the Caribbean. It limits the financial impact of catastrophic hurricanes, earthquakes and excess rainfall events to Caribbean and – since 2015 – Central American governments by quickly providing short-term liquidity when a parametric insurance policy is triggered. It is the world's first regional fund utilizing parametric insurance, giving member governments the unique opportunity to purchase earthquake, hurricane and excess rainfall catastrophe coverage with lowest-possible pricing.

In 2007, the Caribbean Catastrophe Risk Insurance Facility was formed as the first multi-country risk pool in the world, and was the first insurance instrument to successfully develop parametric policies backed by both traditional and capital markets. It was designed as a regional catastrophe fund for Caribbean governments to limit the financial impact of devastating hurricanes and earthquakes by quickly providing financial liquidity when a policy is triggered.

In 2014, the facility was restructured into a segregated portfolio company (SPC) to facilitate expansion into new products and geographic areas and is now named CCRIF SPC. The new structure, in which products are offered through a number of segregated portfolios, allows for total segregation of risk. In April 2015, CCRIF signed an MOU with COSEFIN - the Council of Ministers of Finance of Central America, Panama and the Dominican Republic - to enable Central American countries to formally join the facility.

CCRIF SPC is registered in the Cayman Islands and operates as a virtual organization, supported by a network of service providers covering the areas of risk management, risk modelling, captive management, reinsurance, reinsurance brokerage, asset management, technical assistance, corporate communications and information technology.

CCRIF offers earthquake, tropical cyclone and excess rainfall policies to Caribbean and Central American governments.

CCRIF helps to mitigate the short-term cash flow problems small developing economies suffer after major natural disasters. CCRIF's parametric insurance mechanism allows it to provide rapid payouts to help members finance their initial disaster response and maintain basic government functions after a catastrophic event.

Since the inception of CCRIF in 2007, the facility has made 38 payouts to 13 member governments on their tropical cyclone, earthquake and excess rainfall policies totalling US\$139 million.

CCRIF was developed under the technical leadership of the World Bank and with a grant from the Government of Japan. It was capitalized through contributions to a Multi-Donor Trust Fund (MDTF) by the Government of Canada, the European Union, the World Bank, the governments of the UK and France, the Caribbean Development Bank and the governments of Ireland and Bermuda, as well as through membership fees paid by participating governments.

In 2014, an MDTF was established by the World Bank to support the development of CCRIF SPC's new products for current and potential members, and facilitate the entry for Central American countries and additional Caribbean countries. The MDTF currently channels funds from various donors, including: Canada, through Global Affairs Canada; the United States, through the Department of the Treasury; the European Union, through the European Commission, Germany, through the Federal Ministry for Economic Cooperation and Development and KfW, and Ireland. In 2017, the Caribbean Development Bank, with resources provided by Mexico, approved a grant to CCRIF SPC to provide enhanced insurance coverage to the Bank's Borrowing Member Countries.

CCRIF currently has 21 members:

19 Caribbean governments – Anguilla, Antigua & Barbuda, The Bahamas, Barbados, Belize, Bermuda, British Virgin Islands, Cayman Islands, Dominica, Grenada, Haiti, Jamaica, Montserrat, St. Kitts & Nevis, Saint Lucia, Sint Maarten, St. Vincent & the Grenadines, Trinidad & Tobago and Turks & Caicos Islands

2 Central American governments – Nicaragua, Panama



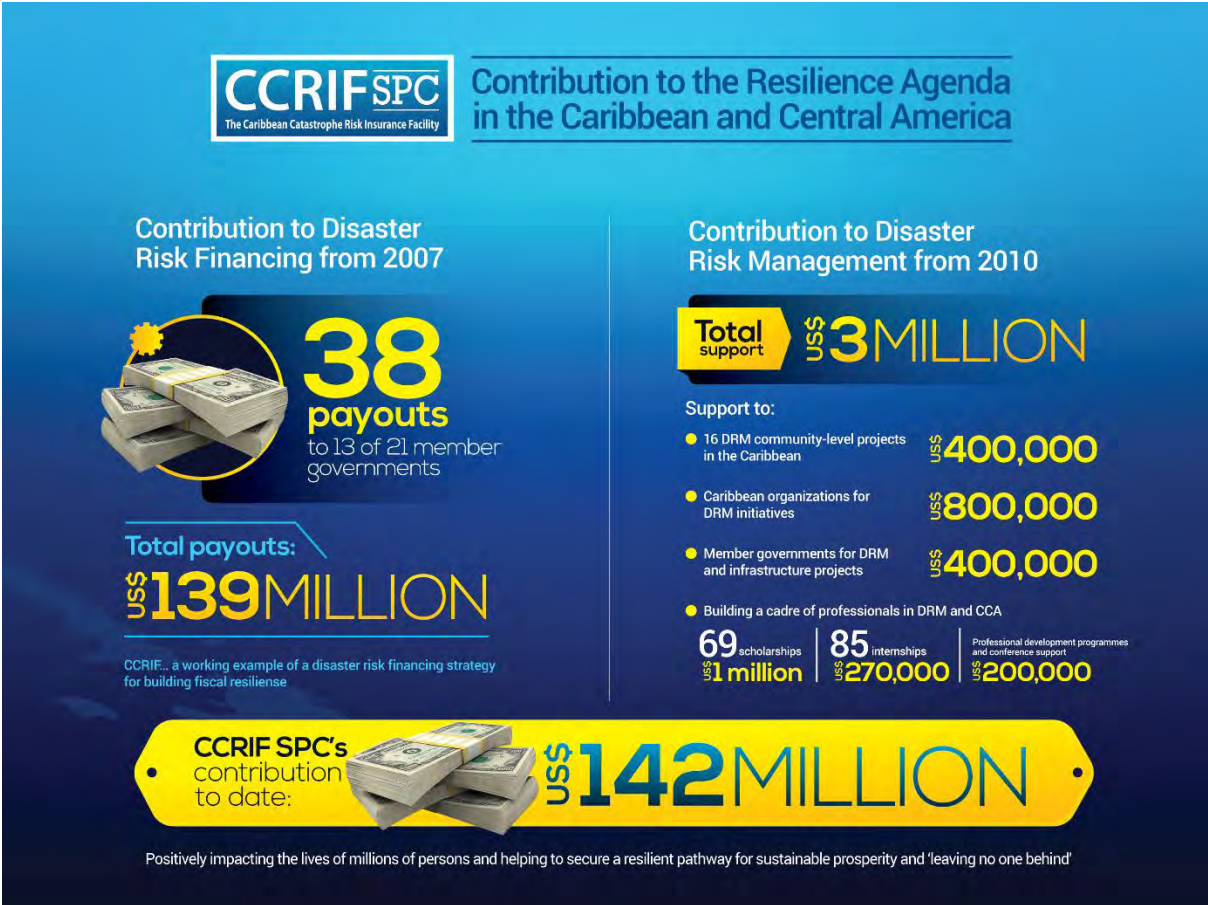
Introduction

CCRIF SPC – formerly the Caribbean Catastrophe Risk Insurance Facility – was designed as a regional catastrophe fund for Caribbean governments to limit the financial impact of devastating hurricanes and earthquakes by quickly providing financial liquidity when a policy is triggered. Currently the Facility provides parametric insurance policies for tropical cyclones, earthquakes and excess rainfall to Caribbean and Central American countries.

Since the inception of CCRIF in 2007, the Facility has made 38 payouts to 13 member governments on their tropical cyclone, earthquake and/or excess rainfall policies totalling US\$139 million.

However, provision of insurance is not the only benefit for CCRIF members. CCRIF has developed a Technical Assistance (TA) Programme for its Caribbean members to enable the Facility to achieve its mission of *assisting member governments and their communities in understanding and reducing the socioeconomic and environmental impacts of natural catastrophes*, while at the same time contributing to the long-term sustainability of the region.

This publication highlights CCRIF’s support to its members and the people of the Caribbean for disaster risk management through its Technical Assistance Programme.



The CCRIF SPC Technical Assistance Programme

Launched in 2010, CCRIF SPC's Technical Assistance (TA) Programme provides an ongoing mechanism for grant support within the Caribbean region for capacity building initiatives and the development and implementation of projects to improve the effectiveness of risk management.



The main aim of the TA Programme is to assist Caribbean countries deepen their understanding of natural hazards and catastrophe risk, and the potential impacts of climate change on the region.

The Programme has three components as follows:

- **Component 1** focuses primarily on support for tertiary level scholarships as well as support for professional development programmes
- **Component 2** focuses on regional knowledge building and involves on one hand, the development and implementation of strategic regional projects in support of disaster risk management (DRM) and other areas of direct and indirect interest to CCRIF.
- **Component 3** is centered on support for local disaster risk management projects and programmes

As CCRIF operates as a not-for-profit organization, the resources made available for the TA Programme is derived from a maximum of 50% of earned investment income as reported in the Facility's audited financial statements of the previous policy year. The actual amount approved for disbursement for each year is then determined by the board of directors following approval of the audited of financial statements of the previous year.

Section I

CCRIF's Support to
**Member
Governments**
for Disaster Risk Management



Overview

CCRIF provides technical assistance to member countries through two main avenues: directly to governments through targeted grants and to non-governmental entities through its small grants programme. In this way, CCRIF has provided technical assistance to seven member countries: Belize, Dominica, Haiti, Jamaica, Saint Lucia, The Bahamas and Trinidad and Tobago.

Support to Member Governments to Implement Disaster Risk Reduction Projects

The CCRIF Board often provides special assistance for post-event recovery and rehabilitation efforts or targeted technical assistance and support to CCRIF member governments, following the occurrence of natural hazard events that have affected these countries. After the events, CCRIF engages in discussion with national government officials and other key stakeholders to determine the most appropriate project(s) with a view to supporting immediate recovery efforts, building capacity and improving disaster and climate change resilience at the national and community levels. **Since 2010, CCRIF has provided grants totalling almost US\$500,000 to four member governments.**

CCRIF Small Grants Programme



Through the CCRIF Small Grants Programme, CCRIF finances small disaster risk reduction projects conceptualized and managed by non-governmental organizations (NGOs), community-based organizations (CBOs), charity organizations in local communities across CCRIF Caribbean member countries and/or CARICOM member countries – or academic institutions for the benefit of local communities or communities throughout the region. Each project should fall within the range of US\$5,000 to US\$25,000.

Funded projects have focussed on activities to increase community resilience to storms and hurricanes, rainfall and flooding as well as drought and ultimately to climate change impacts. These activities have included reforestation – establishing tree nurseries, planting trees and ensuring they are maintained; rehabilitation of wetlands; building dams and strengthening river banks among others. Importantly, all projects include training, awareness raising and community engagement.

To date, CCRIF has provided 13 grants totalling over US\$300,000 to 7 NGOs and 2 departments at The University of the West Indies to implement disaster risk reduction activities through the Small Grants Programme.

Applications are accepted throughout the year
For details, see <https://www.ccrif.org/content/programmes/small-grants-programme>

BELIZE

Support after Hurricanes Richard and Earl

In 2010, CCRIF provided scholarships to two meteorologists employed to Belize's National Meteorological Service, Michele Natalie Smith and Shanea Latoya Young to pursue a Bachelor of Science degree in Meteorology at the University of West Indies, Cave Hill Campus, Barbados. They enabled the Meteorological Service to fill a capacity gap, caused by recent retirement of experienced professionals at the agency. On completion of their studies, these two officers brought important expertise to the National Meteorological Service, thus building the capacity of the agency to deliver better service to the Belizean public.



Michele Natalie Smith and Shanea Latoya Young (far left and right, respectively) meet with CCRIF Chairman, Milo Pearson (centre left) and Director of the National Meteorological Service, Dennis Gonguez (centre right)

Following Hurricane Earl, which affected Belize in August 2016, CCRIF and Government of Belize officials discussed ways to increase the country's resilience to storms and hurricanes and the CCRIF Board agreed to provide support to the Meteorological Service of Belize. CCRIF provided a US\$100,000 grant to the Government to purchase 40-50 automatic weather stations that would provide the Meteorological Service with access to real-time rainfall data. These automatic weather stations are being installed – and installation is expected to be complete in 2019. These stations are improving the Government's ability to monitor, record and forecast rainfall within Belize and better prepare the country for hydrometeorological events.



This initiative has provided opportunities to expand the data collection and research capabilities of other national institutions. For example, the Meteorological Service is partnering with the Sugar Industry Research and Development Institute, who installed additional sensors on 10 of

the weather stations to measure other parameters such as wind speed and direction, air temperature and relative humidity, soil moisture and temperature. An advantage of the new weather station design is that, even though initially, they are being installed with only a rain gauge, other sensors can be added in the future when the opportunities arise.

Support through the Small Grants Programme

CCRIF has awarded a grant of US\$25,000 to Humana People to People Belize to increase farmers' capacity to reduce the effects of climate change on crops in the Toledo District. The project began in early 2019 and will support farmers to be more climate resilient and build human capital through training, awareness-raising, and demonstrations. It will encourage the adoption of agricultural management methods, practices and techniques. This, in turn, will empower the farmers to enhance their livelihoods and be more resilient to the impacts and effects of climate change. It will also provide crucial inputs so the farmers can improve their individual and communal gardens.



DOMINICA

Support after Tropical Storm Erika

In 2016, CCRIF provided a grant of US\$100,000 to the Government of Dominica towards recovery efforts after Tropical Storm Erika that caused great damage to the country in August 2015. This was in addition to the payout of US\$2.4 million under that country's excess rainfall policy which was triggered. The CCRIF funds were used for construction of new fencing at the Douglas-Charles Airport which was damaged by the storm. This fencing is a critical component for maintaining the certification of the airport by the regulatory agency.



The new fencing at the Douglas-Charles Airport in Dominica

HAITI

Support after Haiti Earthquake 2010

CCRIF and the Caribbean Institute for Meteorology and Hydrology (CIMH) provided technical assistance to support the reconstruction efforts in Haiti after the 2010 earthquake. After the earthquake, CIMH developed publicly available, fully automated rainfall and flood prediction products and, in collaboration with CCRIF, assisted the international and regional communities with the use of these products. These tools and the data produced helped planners and relief workers to make better decisions about where to re-settle citizens and re-build infrastructure to minimize people's exposure to flooding and landslides, especially in the earthquake-impacted areas.

Rainfall data were made available through the International Research Institute for Climate and Society (IRI) Haiti weather and climate help desk and were used by Meteo-France Martinique in support of forecasts over Haiti.

Throughout the 2010 Hurricane Season, CCRIF and CIMH provided additional support, recognizing the particular vulnerability of Haiti to heavy rainfall, which typically causes flooding and landslides in this highly deforested country. This support included providing high-resolution rainfall forecasts to the UN Office for the Coordination of Humanitarian Affairs (OCHA) and many other government officials and NGOs in Haiti as well as briefing UN Cluster Heads in Haiti on the ongoing conditions and likely areas of highest impact during Hurricane Tomas. For example, the data helped in the planning of tent camp evacuations. CCRIF and CIMH also supported the development of initiatives to assist with the rebuilding of Haiti's hydrometric network and the training of meteorological and hydrological technicians.



Support after Hurricane Sandy

Hurricane Sandy affected Haiti in 2012. The rain-laden outer bands of Hurricane Sandy triggered extensive flooding which resulted in widespread damage to homes and crops. After discussion with the Government and following a review of post-Sandy disaster risk reduction projects compiled by the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA), CCRIF provided a donation of US\$115,305 to Fondation Amour de Dieu (FADA), a humanitarian non-governmental organization in Haiti, for a project focusing on soil conservation of flooded arable lands around the Bainet River. Activities also included increasing awareness of hazards and vulnerabilities and preventative actions, thus building capacity and leadership within the community.



The Bainet River Bank - before and after the project

Support through the CCRIF Small Grants Programme

CCRIF has provided nine grants totalling almost US\$190,000 to three NGOs in Haiti through the Small Grants Programme. The table below summarizes these projects.



Organization	Project Name	Description	Grant (US\$)
Fondation Amour de Dieu en Action (FADA)	Soil Conservation around Bainet River	Soil conservation of flooded arable lands around the Bainet River. Activities included constructing biological barriers for gullies, erecting fences on gently sloping slopes, planting fruit seedlings as well as forging relationships, increasing awareness of hazards and vulnerabilities and preventative actions/measures, thus building capacity and leadership within the community	115,305
FADA	Climate change training for farmers in the northern department of Haiti	Provided training for farmers to implement climate change-resilient agriculture; increased community awareness of climate change	18,265

Organization	Project Name	Description	Grant (US\$)
FADA	Climate change training for farmers in the northern department of Haiti Phase II	Providing climate change training for farmers to plant climate change-resilient crops and increasing awareness of climate change in additional communities	24,876
FADA	Dam construction project in Torbeck	Construction of a dam using used tyres in the municipality of Torbeck to protect against storm surge	24,960
FADA	Training and awareness about earthquake- and hurricane-resilient construction	Training and awareness about earthquake- and hurricane-resilient construction in Port-de-paix, Saint Louis north and Gros-mornes. Currently being implemented.	24,680
Groupe Encadré du Nord-Ouest (GAENO)	Reforestation at Fond Zombi	Reforestation of the area around the Fond Zombi pond and establishment of a pond association to maintain the area; increased awareness of climate change	24,200
GAENO	Reforestation project within four watersheds in the lower North West Department	Reforestation of four watersheds in the lower North West Department; increased awareness of climate change	22,925
GAENO	Reforestation project within remaining watersheds in the lower North West Department	Reforestation of four watersheds in the remaining area of the North West Department; increasing awareness of climate change	24,970
Urgence Rehabilitation and Development (URDev)	Project for reducing water vulnerability in the community of Boucan Richard in Gros-Morne	Increasing water security of the community by rehabilitating the Derboyé catchment area Currently being implemented	24,489
TOTAL			189,365

JAMAICA

Support after Hurricane Sandy

Shortly after the passage of Hurricane Sandy in October 2012, CCRIF began to engage in discussions with Jamaica regarding possible support for recovery activities. Based on discussions with the Ministry of Finance and Planning, the Office of Disaster Preparedness and Emergency Management and other stakeholders, CCRIF agreed to provide US\$100,000 to support the rehabilitation of residential childcare facilities which were damaged by the hurricane.

Rehabilitation of the Muirton Boys Home included construction of ramps for the disabled and building the kitchen with a concrete slab roof, resulting in a structure that will be resilient to future hurricanes and storms.

Photos of the refurbished kitchen at Muirton Boys Home



Metal grill work, painting, ramp for the disabled with handrails

Kitchen cupboards and kitchen sink installed

Waterproofing Membrane installed on roof slab

Support through the Small Grants Programme

CCRIF has awarded one grant to a Jamaican NGO through the Small Grants Programme – a grant of US\$11,250 to the Douglas Castle Production and Market Organization to develop a community disaster management plan for Douglas Castle and surrounding areas. In preparing its disaster risk management plan, the community, in collaboration with the Office of Disaster Preparedness and Emergency Management (ODPEM) undertook a range of activities including conducting a vulnerability assessment of the community. The preparation of the Disaster Risk Management Plan involved extensive stakeholder engagement which also allowed for the capacity of community members to be built with respect to disaster risk management.



THE BAHAMAS

Support after Hurricane Sandy

In October 2013, CCRIF and the Government of The Bahamas signed a grant agreement for the provision of US\$85,000 towards efforts to strengthen coastal defences damaged by Hurricane Sandy. The project contributed towards the construction of a new sea wall at Sandypoint Beach to protect to reduce the vulnerability of communities in the area to flooding and storm surge.



Sandy Port Beach in The Bahamas before work began



Construction of the sea wall



The sea wall

SAINT LUCIA

Support through the Small Grants Programme

CRRIF has provide grants totaling US\$43,000 to two NGOs in Saint Lucia.

Organization	Project name	Grant (US\$)
Anse-La-Raye Disaster Committee	Flood mitigation project	18,500
People Empowering People	Fond/Malgretoute River Reforestation and Riverbank Stabilization Project	24,500
TOTAL		43,000

Anse-La-Raye Disaster Committee

This project was aimed at reducing flooding in Anse-La-Raye through the rehabilitation of mangroves. Activities included: mangrove restoration training for 34 community members; cleaning debris from mangroves; clearing a natural water channel which was blocked was cleared to allow the free flow of water to the sea and planted a new variety of mangrove in certain areas to lessen on the amount of silt being trapped.



Immediately upon completion of the project, the village experienced heavy rains and the river reached flooding level. Residents in the flood prone zone in the northern part of the village were happy and relieved that they had no issue with flooding as would have been the case if the work had not been undertaken.

People Empowering People

The goal of this riverbank stabilization and reforestation initiative along the Fond/Malgretoute River was to reduce flooding in the community of Malgretoute, Micoud. The Ministry of Forestry, Ministry of Infrastructure, Saint Lucia National Trust, Ministry of Agriculture and farmers in the area worked together to identify the types of plants/fruit trees best suited for the affected area and farmers in the area received training.

Chairman of the People Empowering People (PEP) community organization, Mr. Abraham George, noted the timeliness of the project as the community must deal with unpredictable hurricane seasons. “When it floods it undermines the bridge, the infrastructure that connects the north to the south, which is quite important. The community is virtually marooned because there is one way in and one way out. When the flood water comes in, community members have to run for shelter in the higher area and they cannot get out of Malgretoute,” Mr. George said.



TRINIDAD AND TOBAGO

In response to a request from the Trinidad and Tobago Meteorological Service (TTMS), CCRIF provided a grant of US\$3,750 towards the 5th National Climate Outlook Forum, held in May 2017. This annual forum is a stakeholder meeting which links climate information generated by the TTMS with stakeholders’ needs and their decision-making processes to improve application of climate information in risk management and other decision-making processes. The forum provides a platform for increasing dialogue between the national meteorological service and those sectors that rely on climate information.

The forum’s goal is to facilitate improved decision making for climate risk management and adaptation. The theme of this year’s forum was “Engaging Communities and Disaster Managers for Disaster Risk Reduction”. The meeting brought together over 90 stakeholders from priority climate-sensitive sectors including disaster risk reduction, health, agriculture and food security, water resource management and energy.



Ms. Stacia Yearwood (left) from the CCRIF RMS Team presented remarks on behalf of CCRIF at the Opening Ceremony and also delivered a presentation, titled “Climate Information in Support of Disaster Risk Management, the CCRIF SPC lesson” in the session on Climate Information and Services for Disaster Risk Reduction.

Support through the Small Grants Programme

CCRIF has awarded grants totalling almost US\$32,000 to two departments at The University of the West Indies, St. Augustine Campus. While these projects are being implemented in Trinidad and Tobago, the benefits will accrue not only to that country but across the Caribbean.

Department	Project Name	Grant (US\$)
UWI Department of Food Production	Conservation Agriculture for Climate Change Adaptation in the Caribbean	16,000
UWI Department of Geography	Project to determine the role of quarries in flooding and water transmission under current and future climate change	15,836
TOTAL		31,836

Department of Food Production

This project uses a multi-disciplinary approach to examine the merits of conservation agriculture practices on the resilience of soil to intense rainfall. It is investigating the usability of the 'Job Planter' on soils of varying clay contents in Trinidad and Tobago. The project aims to improve the resilience of crop production systems to excess and intense rainfall and to determine the net economic and labour intensity advantages of adopting conservation agriculture practices. The findings of this study will provide guidelines for the use of these mechanical implements and ultimately inform policy makers and agricultural practitioners on land use policy and climate change adaptation measures.



Conventionally prepared field (left) and field prepared using conservation agricultural practices

Department of Geography

This project will examine the impact of hillside quarries on the stream runoff response to varying rainfall events by comparing the rainfall-runoff response between a naturally forested watershed and an adjacent quarried watershed. In the short term, the project findings will serve to improve the ability to forecast and respond to flood events under high impact rainfall events. In the medium to longer term, the use of this data and information by national agencies will contribute towards a reduction of existing and future vulnerabilities of the local communities. Additionally, the project aims to strengthen guidelines for local and regional environmental management policies regarding hillside quarries. The project will begin in mid-2019.

Section II

CCRIF's Support to
**Regional
Organizations**
for Disaster Risk Management



Partnerships with Regional Organizations

Since 2009, CCRIF has been working in partnership with regional organizations to help build capacity and knowledge bases for the development of disaster risk management and climate adaptation strategies in the Caribbean.

Over the years, CCRIF has signed Memoranda of Understanding (MOUs) with ten organizations.

- Association of Caribbean States – ACS
- Caribbean Community Climate Change Centre – CCCCC
- Caribbean Disaster Emergency Management Agency – CDEMA
- Caribbean Institute for Meteorology and Hydrology – CIMH
- Caribbean Regional Fisheries Mechanism – CRFM
- Inter-American Development Bank – IDB
- Organisation of Eastern Caribbean States – OECS
- United Nations Economic Commission for Latin America and the Caribbean – UNECLAC
- University of the West Indies – UWI
- University of the West Indies Seismic Research Centre – UWI SRC

Partner Organization	Purpose of MOU	Main Accomplishments / Areas of Work	Investment (USD)
Association of Caribbean States – ACS	To enhance and strengthen the understanding of each other's mandates amongst each entity's core stakeholders and facilitate the exchange of experiences, lessons learned and best practices in disaster risk management, risk transfer and insurance within the context of advancing sustainable development in the wider Caribbean region.	Focus areas include: <ul style="list-style-type: none"> • Introduce robust solutions for disaster risk financing and insurance such as those CCRIF provides • Provide information on the work of each organization through our various communication media • Advance partnership building through South-to-South cooperation by facilitating the exchange of technology and knowledge among the countries of the wider Caribbean 	In kind contribution
Caribbean Community Climate Change Centre – CCCCC	To assist the governments of Caribbean states in understanding the risks of climate change to the economies and people of the region and in identifying possible cost-effective adaptation measures to support greater resilience at the local, national and regional level	Conducting revision of Regional Strategic Framework for Achieving Development Resilient to Climate Change	\$50,000

Partner Organization	Purpose of MOU	Main Accomplishments / Areas of Work	Investment (USD)
Caribbean Disaster Emergency Management Agency – CDEMA	To strengthen and expand mutual efforts towards the promotion of Comprehensive Disaster Management (CDM) within the Caribbean region and specifically, to support the Enhanced Regional CDM Framework (2014-2024)	CCRIF has supported the annual and – since 2013 – biennial Caribbean Conference on Comprehensive Disaster Management hosted by CDEMA since 2007	\$320,000
Caribbean Institute for Meteorology and Hydrology – CIMH	To collaborate in the areas of data gathering and research and development for extreme hydrometeorological effects and capacity development for climate professionals in the Caribbean	<p>CIMH plays a critical role in the RTFS training organized by CCRIF; CIMH provides real-time hurricane hazard forecasts through the RTFS for all member governments</p> <p>In 2010 CCRIF and CIMH collaborated to provide assistance to Haiti in its long-term recovery and reconstruction efforts</p> <p>Supported development of Caribbean rainfall model in 2010</p> <p>Current MOU focuses on:</p> <ul style="list-style-type: none"> • Enhancement of measuring networks for extreme wind, rainfall, streamflow and drought events • Collection of hydrometeorological data after major tropical cyclone or rainfall events within CARICOM countries and comprehensive documentation of such events • Development and expansion of data, tools and products for real-time storm forecasting (through Dewetra platform) • Development of a cadre of climate science professionals throughout the region 	>\$100,000
Caribbean Regional Fisheries Mechanism – CRFM	To develop climate-resilient fisheries and aquaculture industries in the region, through collaboration around the Caribbean Oceans and Aquaculture Sustainability Facility (COAST) initiative, which will help to reduce the	<p>The two organizations will focus on:</p> <ul style="list-style-type: none"> • The finalization of a sovereign insurance COAST product for the fisheries and aquaculture sectors in the Caribbean • Supporting the rollout and continued promotion of the COAST product, including inter alia communication to 	

Partner Organization	Purpose of MOU	Main Accomplishments / Areas of Work	Investment (USD)
	risk that climate change poses to food security and nutrition.	<p>improve awareness and understanding among stakeholders, and training for government officials and professionals in the fisheries and aquaculture sectors</p> <ul style="list-style-type: none"> • Exploration and promotion of microinsurance products for small enterprises, fishers and other persons in the fisheries and aquaculture industries • Promotion of climate-resilient fishing, fish farming and resource management practices among CRFM Member States 	
Inter-American Development Bank – IDB	To expand on the ECA study in the Latin American and Caribbean regions – to embed the ECA methodology in the two regions in support of enhanced decision making in light of climate change impacts	IDB produced a study: “Understanding the Economics of Climate Adaptation in Trinidad and Tobago”	In kind contribution
Organisation of Eastern Caribbean States – OECS	To support capacity building and awareness raising among Ministry of Finance, disaster officials in holistic risk management and quantification of risk	<p>OECS countries and OECS Commission personnel trained in RTFS</p> <p>Conducted assessment of vulnerable communities in Saint Lucia and development of strategies and action plans for reducing vulnerability</p> <p>Assessment of vulnerable communities in Saint Lucia and St. Vincent and the Grenadines and development of strategies and action plans for reducing vulnerability within these communities – to be done in all OECS member states, continuing next with the British Virgin Islands and Dominica</p>	\$117,000
United Nations Economic Commission for Latin America and the Caribbean – UNECLAC	To assist the Governments of Caribbean States to adopt policies and disaster risk reduction and mitigation strategies that minimize the socioeconomic, physical and	<p>Conducted research on:</p> <p>Review of ECLAC Damage and Loss Assessments in the Caribbean</p> <p>Assessment of Strategies for Linking ECLAC’s Damage and Loss Assessment</p>	\$128,705

Partner Organization	Purpose of MOU	Main Accomplishments / Areas of Work	Investment (USD)
	environmental damage caused by natural disasters	Methodology to the Post-Disaster Needs Assessment Delivered training on loss and damage assessments.	
University of the West Indies – UWI	Implementation of the CCRIF-UWI Scholarship Programme	A total of 54 scholarships have been awarded since 2010 – see Section on Scholarships above. CCRIF Training Programme, “Understanding Ex-Ante Disaster Financing, CCRIF Parametric Policies and the Relationship with Fiscal and Economic Policy” being institutionalized at UWI	
University of the West Indies Seismic Research Centre – UWI SRC	Establishing and maintaining a new accelerometric network in the Eastern Caribbean and Jamaica to enhance the capability for identifying and mitigating seismic risk in the Caribbean	A total of 15 strong motion sensors were installed – or existing sensors updated – in Grenada, Barbados, Saint Lucia, Dominica, Antigua, St. Kitts, Nevis, St. Vincent and Jamaica.	\$120,033

Section III

CCRIF's Support

Building a Cadre of Professionals

in Disaster Risk Management
across the Region



CCRIF Scholarship and Professional Development Programme



CCRIF-UWI Scholarship Programme

CCRIF launched its scholarship programme with The University of the West Indies (UWI) in 2010. The UWI is the Caribbean's top university, renowned for world class higher education, internationally recognized accredited degrees and research. It is ranked within the top 10 per cent on Webometrics' World University Ranking.

Through the CCRIF-UWI Scholarship Programme, CCRIF provides scholarships to post-graduate and undergraduate students who are pursuing study at the University in areas related to disaster management at all three of its residential campuses (Mona, Jamaica; Cave Hill, Barbados and St. Augustine, Trinidad & Tobago). Eligible programmes of study include Geography/Geology, Civil and Environmental Engineering, Environmental Sciences, Meteorology, Insurance and Risk Management, Natural Resource Management, Land Management and Building and Construction Management. The value of each post-graduate scholarship is US\$11,000 and each undergraduate scholarship US\$8,000 (US\$4,000 per year for two years – second and final years of study).

Since 2010, CCRIF has awarded 25 postgraduate and 29 undergraduate scholarships totalling US\$ 456,250 to students from 9 countries for study at The University of the West Indies.

Applications are accepted during March – May/June each year
For details, see <https://www.ccrif.org/content/programmes/ccrif-uwi-scholarship>

CCRIF Scholarship Programme

The CCRIF Scholarship Programme provides up to four scholarships per year for study in master's programmes in areas related to disaster risk management at universities in the United States, United Kingdom and Canada as well as at local universities (other than UWI) in Caribbean

countries. Eligible areas of study under the CCRIF Scholarship Programme include Catastrophe and Disaster Risk Management; Property/Casualty Insurance; Meteorology; Other hazard/disaster related disciplines as well as MBA programmes with a major in Risk Management and/or Insurance or a related field

Since 2010, CCRIF has awarded scholarships totaling US\$545,561 to 16 students from 8 countries for study in the USA and UK.

Scholarships are valued up to a maximum of US\$40,000 (for extra-regional universities) or US\$20,000 (for Caribbean institutions).

Recipients of CCRIF scholarships undertake to conduct research for their thesis in areas that are of interest to CCRIF and its efforts to build capacity in disaster risk management in the Caribbean.

Some areas of research by CCRIF scholarship recipients

Evaluating current water management strategies in Jamaica to mitigate the impacts of water scarcity and suitability for the future (2040)	Flood Risk Perception, Risk Communication and Flood Management in the Commonwealth of Dominica: A case study of Coulibistrie	Analyzing the responses of the financial services sector to climate change risks in the Caribbean: A case study of Antigua and Barbuda
The effect of drought on the water balance and yield of crops in Belize	Barriers to Flood Mitigation among Households in St. Mary, Jamaica	The Climate Justice Dialogue: Lessons for the Climate Regime from Aid Arrangements
A study to investigate the variation in perceptions to solid waste and waste management behaviours in Albouystown (Georgetown, Guyana)	An analysis of the role of insurance risk management in the minimization of catastrophic risks and disaster management	Mangrove Management in Guyana: A Case of Climate Compatible Development?
		An Assessment of Tropical Cyclone Rainfall Characteristics within the Eastern Caribbean

Applications are accepted during March – May/June each year
For details, see <http://www.ccrif.org/content/scholarship>

Support for Ongoing Professional Development

CCRIF also provides support for ongoing professional development of persons in key regional organizations to attend conferences and workshops, with the goal of building capacity in partner agencies. CCRIF has provided support totalling US\$16,000 to support professionals from:

- Organisation of Eastern Caribbean States Commission – to obtain a professional Certificate in Disaster Risk Reduction by the International Centre for Parliamentary Studies
- Cayman Islands Airport Authority – for a course in Meteorology at the Graduate School of the US Department of Agriculture

- Caribbean Institute for Meteorology and Hydrology – to participate in an International Training Course on Satellite Meteorology held in Beijing, China and to attend the Virtual Laboratory Management Group 5th Meeting and Seminar on Training Matters

CCRIF Regional Internship Programme



CCRIF's flagship professional development programme is its Regional Internship Programme, which was launched in 2015. It is designed to provide opportunities for university graduates who have specialized in the areas of disaster risk management, environmental management, actuarial science, geography, climate studies and other similar areas to be assigned to national and regional organizations where their educational experience can be enhanced through practical work assignments.

During 2015-2018, 85 interns from 9 countries were placed at 27 national and regional organizations with a total investment of almost US\$260,000

Host organizations include national disaster management and meteorology agencies as well as regional entities including the Caribbean Disaster Emergency Management Agency (CDEMA), Caribbean Institute of Meteorology and Hydrology (CIMH), Caribbean Regional Fisheries Mechanism (CRFM), Caribbean Development Bank (CDB), Association of Caribbean States (ACS), Caribbean Centre for Development Administration (CARICAD), numerous departments and centres within the University of the West Indies – among many other organizations.

The programme provides benefits for both interns and host organizations.

Benefits for Interns: Young Caribbean Professionals	Benefits for National and Regional Organizations
<ul style="list-style-type: none">•Promotes academic, career and/or personal development•Provides experiential learning thereby ensuring that interns gain vital skills and experience that they will be able to use throughout their professional career•Exposes interns to the work being undertaken in the region in the areas of disaster risk management, climate change and risk transfer	<ul style="list-style-type: none">•Provides temporary employees with special and new/cutting-edge skills and knowledge•Assists with the organizations' work towards achieving their targets

Key Achievements/Successes of the Internship Programme

Some highlights of the first four years of the programme are presented below.

- Mahendra Sawyack and CCCCC personnel prepared a readiness proposal for the Government of Guyana to access the Green Climate Fund (GCF), which was approved for funding (US\$300,000). The Grant Agreement was signed in December 2015 on the sidelines of the COP 21¹ in Paris. The implementation of the project due to commence in January will support the preparation of the critical infrastructure needed to realize Guyana's Intended Nationally Determined Contributions (INDCs) to greenhouse gas emissions reductions. Specifically, the project will strengthen the capacity of Guyana's National Designated Authority (NDA) to the GCF and the development of a Country Strategic Framework for engaging with the GCF.
- The work of Julian McBarnette and Khaliqa Mohammed at the Caribbean Development Bank contributed to the documentation of valuable baseline country-specific climate data and information which is being used to strengthen the Bank's analysis of climate change issues. CDB retained the two interns for a 2-year internship following the completion of the CCRIF internship



¹ The 21st Conference of Parties to the UN Framework Convention on Climate Change (UNFCCC) – i.e. the 2015 United Nations Climate Change Conference

- Ryan Proverbs provided invaluable support to CDEMA’s Regional Coordination Centre in the coordination of the Regional Response Mechanism which was activated to respond to impacts from Tropical Storm Erika and Hurricane Joaquin – ultimately increasing the capacity at the coordinating unit to respond to the crises.



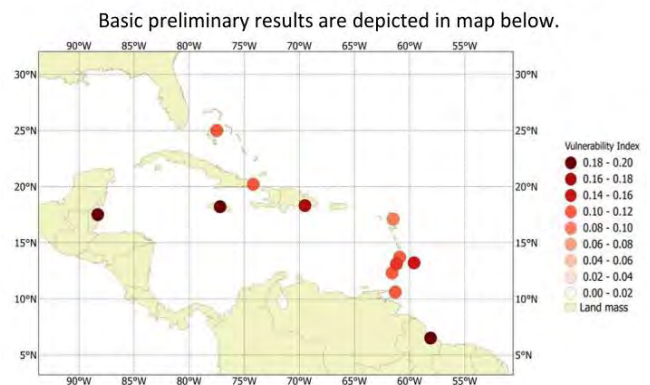
- The Trinidad and Tobago Meteorology Service indicated that the work done by intern Rhea Pierre to evaluate the products and services provided by the TTMS “placed the organization in a position of strength to justify greater investment by Government and will help us to secure additional resources.” The study was the first of its kind done in Trinidad and Tobago.

- Brendon Taylor reviewed and updated existing guidelines for the operation of the Barbados Department of Emergency Management’s volunteer arm, the District Emergency Organizations. The Department indicated that after 17 years, it is now in possession of much needed updated guidelines for the effective functioning of the District Emergency Organizations.



- Rebecca Chewitt’s work on a study of regional/international effects on total suspended particulates from African dust and local sources on the Caribbean will ultimately be used by CIMH to justify and contribute to the development of a Caribbean health warning system with respect to ambient air quality. CIMH offered a full-time position to Ms. Chewitt as a Technical Research Officer.

- Roxann Stennett-Brown was the first to conduct the type of analyses at the Climate Studies Group Mona i.e. creating composite indices to assess vulnerability to climate change. This is work that will ultimately be published in a scientific journal and may form part of the consideration of policies for the region since it highlights the differences in vulnerability across some countries.



- The work of interns, Aaron Santana and Abigail Maxwell at UWI SRC allowed the Centre to make progress on a project which had been hampered by a lack of staff as well as to expand beyond its core remit to tackle other projects of regional importance.
- Anila Maharaj co-authored with the Climate Studies Group Mona a conference paper “Advancing the Caribbean Energy Landscape - A Comprehensive Review of the State of Electric Vehicles and Storage Systems”, submitted for the Caribbean Academy of Sciences 21st General Meeting and Conference in November 2018 in Jamaica

Benefits to Host Organizations

Host organizations uniformly indicated that the programme has greatly benefited their organizations, often surpassing their original expectations. They indicated that the internships often allow them to catch up on outstanding tasks, some of which had been waiting for years to be completed, by:

- providing funded personnel thereby obviating the need to find financial resources and engage in a procurement process to engage consultants
- providing persons with skills that are lacking in the host organization

“I strongly believe that the CCRIF internship is an excellent way of getting participants and host countries to learn more and share ideas. Yadava shared with us stories about his previous placement at Montserrat; given that Montserrat has other hazards that aren’t faced by us here in Cayman, it was thought provoking and helpful to hear how other OTs deal with the hazards they face. It encouraged us to see a wider perspective. Whilst I’m sure that CCRIF has a pool of case studies and reports from interns, it would be good to be able to access these on a public forum or on request, so that host countries can learn from them and perhaps shape the internship around those of other host countries in order to identify and share best practice.”

- Danielle Coleman, Director, Hazard Management Cayman Islands

“The programme continues to grow the local scientific community footprint/talent in many ways and provides opportunities to foster relationships through mentorship and training. It allows for building a stream of young and qualified talents and offers them scope to try out different avenues along their career paths.”

- Kenneth Kerr, Climate Specialist, Trinidad and Tobago Meteorological Service

Benefits to Interns

Interns uniformly indicated that their internships were positive experiences – professionally and personally, with many of the interns living out of their home countries for the first time.

Some benefits identified by interns

Application of studies in a work setting	Knowledge of new cultures	Experience with technical software
Increased accountability	Exposure to experts in the field	Learned how to be more diplomatic
How to prioritize tasks and meet deadlines in a high stress environment	Improved ability to work in a team setting	Exposure to diverse stakeholders (e.g. farmers, government officials)
Positive feeling of having contributed to the work of their host organizations and to the region	Encouragement to “think outside the box” and at a higher level than previously required, this leading to increased confidence	Improved skills in GIS, mapping, database design, research, data collection and analysis

Applications are accepted during March – May/June each year
For details, see www.ccrif.org/content/regional-internship-programme



CCRIF SPC

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