



CCRIF News

CCRIF, A NOT-FOR-PROFIT COMPANY, IS THE FIRST AND ONLY
MULTI-COUNTRY RISK POOL IN THE WORLD

CCRIF Pays Government of Anguilla US\$4.28 Million following passage of Hurricane Earl

On September 16, the Caribbean Catastrophe Risk Insurance Facility (CCRIF) paid the Government of Anguilla US\$4.28 million following the passage of Tropical Cyclone Earl which passed close to the island on August 30, 2010. This amount was due to the Government based on its catastrophe insurance policy for hurricanes which forms part of the country's disaster risk management strategy. The value paid represents almost 20 times the annual premium of US\$225,000 that the Government pays for hurricane coverage with CCRIF. Anguilla has been a member of CCRIF – and has had catastrophe insurance policies for earthquakes as well as hurricanes – since the inception of the Facility in 2007.

Less than 24 hours after the hurricane passed Anguilla, CCRIF determined that a payout would be effected and indicated the approximate amount to the Government. The funds were transferred to the Government after the required 14-day waiting period during which the specific calculations were verified.

Earl passed close to the north of Barbuda, and then even closer to Anguilla before passing the northernmost of the British Virgin Islands, Anegada, and heading towards the southern Bahamas. Earl achieved the minimal requirements of a defined event under the CCRIF policy in three member states: Antigua & Barbuda, St Kitts & Nevis and Anguilla. However, modelled losses were insufficient to trigger the policies for Antigua & Barbuda and St Kitts & Nevis.



Damage to police jetty in Anguilla as a result of the passage of Hurricane Earl

SPECIAL FEATURE: CCRIF's Support for Education in DRR

CCRIF has begun implementation of the educational component of its technical assistance programme. This feature highlights the UWI-CCRIF scholarship programme as well as the disbursement of scholarships for study outside the region and the participation by stakeholders in professional development sessions.

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Support for Haiti

Within weeks of the January 12 catastrophic earthquake, CCRIF began to assist with the long-term recovery and reconstruction efforts in Haiti.

In collaboration with Caribbean Institute for Meteorology and Hydrology (CIMH), CCRIF continues to support CIMH in making available tools and data to help planners and relief workers in Haiti to make better decisions about where to re-settle the citizens of Haiti and rebuild infrastructure to minimise people's exposure to flooding and landslides, especially in light of the 2010 Atlantic Hurricane season.

CCRIF, in partnership with CIMH, is providing the following tools:

- **High-resolution rainfall modelling - Advance Research Weather Research and Forecasting Model (WRF)**
- **Real Time Forecasting System (RTFS), enhanced for Haiti**

Additional inputs being provided include hazard data from the CCRIF Second Generation Model that could be used to inform risk management initiatives. CCRIF also is coordinating the various inputs towards developing a risk management planning platform for the middle and long term recovery processes of Haiti.

The Facility is taking a proactive approach to coordinate with national and international organisations in order to ensure that resources and data are used in the most efficient way.

WRF Rainfall Modelling

The WRF model outputs provide early warning of potential heavy rain events and their location, which are superimposed on the overall drainage basin configuration (as well as draped over topography). This information can help end-users visualise the areas that could be impacted by heavy rainfall.

CCRIF RTFS Forecasts

CCRIF RTFS forecasts cover:

- **Maximum wind speed**
- **Storm surge height (for offshore locations)**
- **Wave height (for offshore locations)**
- **Cumulative rain in the swath of the storm**
- **Impact estimates using appropriate vulnerability functions**

From the RTFS, national and international agencies are provided with location information for critical points such as tent-camps, key operational centres, transportation hubs etc. For each point, actionable information (amount and timing) is provided on the forecast values (wind

speed, rainfall). Outputs are available in Google Earth, GIS (shapefiles) and other formats optimised for the required application.

All information and tools under this technical assistance programme are made available to: **Haitian Government - Civil Protection Directorate and Centre National de Meteorologie; World Bank; International Research Institute for Climate and Society (IRI) at the Columbia University Earth Institute; UN-OCHA (who are primarily interested in the information for short-term contingency planning); International Federation of Red Cross and Red Crescent Societies (who lead the Haiti Shelter Cluster); and World Food Programme (who lead the Haiti Logistics Cluster).**

CIMH continues to provide technical assistance and training support in the use of the tools when required.

"...just want to reiterate how crucial your 48-hour precipitation model is for the humanitarian community here. Many thanks again for the initiative of creating it". Eric Holthaus

Eric is staff member of the IRI at Columbia University in New York - and they work with many humanitarian organisations in Haiti to provide weather and climate information for decision making during the hurricane season. The site specifically for Haiti is: <http://iri.columbia.edu/haiti/>

APPLICATION OF RTFS AND RAINFALL MODEL

Contingency Planning –Obtain a preview of what might happen if a given storm continues along its projected path, and activate appropriate contingency plans based on this insight; update country plans as needed with new information from latest forecast

Tent – Camp Management - Identify impact areas and shelter locations to support shelter allocation decisions; identify potential damage to shelters and plan for alternatives

Emergency Intervention - Identify areas where population is at risk and issue warnings, plan for assistance

CCRIF Releases Results of Economics of Climate Adaptation Study

On August 18, CCRIF released the preliminary results of its study on the Economics of Climate Adaptation (ECA) in the Caribbean. In releasing the results, CCRIF Chairman Milo Pearson indicated that the results will “enable countries in the region to develop fact-based adaptation strategies that can be incorporated into national development plans to increase resilience against climate hazards.”

The preliminary results for eight countries in the Region (Anguilla, Antigua and Barbuda, Barbados, Bermuda, the Cayman Islands, Dominica, Jamaica, and St. Lucia) are published in a short brochure entitled, “**Enhancing the climate risk and adaptation fact base for the Caribbean (Preliminary Results)**”.

The ECA study, launched in February this year, was conducted by CCRIF, with Caribbean Risk Managers acting on behalf of the Facility, and supported by regional partners, the Caribbean Community Climate Change Centre (CCCCC), the UN Economic Commission for Latin America and the Caribbean (UN-ECLAC) and others. McKinsey & Company and Swiss Re provided analytical support. The study has been welcomed by Caribbean countries which realise that climate change has the potential to greatly exacerbate their risks from hurricanes and storms. Findings from the study indicate that annual expected losses from wind, storm surge and inland flooding already amount to up to 6% of GDP in some countries and that, in a worst case scenario, climate change has the potential to increase these expected losses by 1 to 3 percentage points of GDP by 2030.

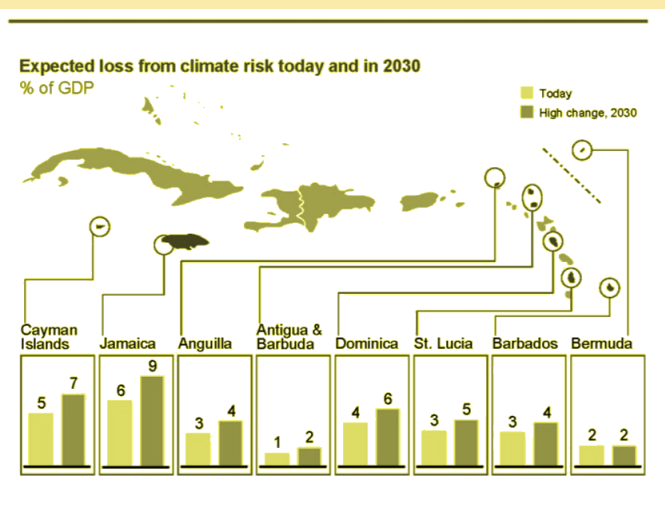
CARICOM Secretary General Edwin Carrington says that the study “makes an important contribution to developing the capacity to address the climate change challenges facing the

Caribbean ... [and] will be of immense value to both Caribbean policymakers and the business sector, in their efforts to develop and implement sound adaptation strategies and plans.”

Decision makers can select both risk mitigation (e.g. constructing sea walls and enforcing building codes) and risk transfer initiatives (e.g. insurance) to address current climate hazards and respond to the growing threat of climate change. Depending on a country’s characteristics, the preliminary results of the study suggest that risk mitigation initiatives can cost-effectively avert up to 90% of the expected loss in 2030 under a high climate change scenario. Risk transfer measures play a key role in addressing the financial consequences of low-frequency, high-severity weather events such as once-in-100-year catastrophes by limiting the financial impact of these events. The expected loss that can be averted cost-effectively is driven by various factors, for example, the value of buildings and the share of expected loss caused by coastal flooding/storm surge. The best approach for each country is determined specifically by its topography, exposure to hurricanes, and value and vulnerability of assets.

The benefits of the ECA study are clear. The study provides a sound economic fact base that countries can use to further develop their national climate adaptation and disaster management strategies. For example, the study prioritises areas and sectors at risk and provides clear inputs for building an economically viable portfolio of adaptation initiatives designed to increase each country’s resilience.

CCRIF’s involvement in climate change has come about because within the wider discussion on climate change it is highlighted as the only working model of a multi-national and parametric-based catastrophe risk pool and is considered a viable template for expansion and/or replication globally as part of the overall climate change adaptation framework. Additionally, there is increasing recognition that there needs to be coupling of risk transfer and risk mitigation activities for effective adaptation to climate change.



Key Regional Findings from the ECA Study

- Current climate risk in the Caribbean is already high, with expected losses of up to 6% of local GDPs
- Climate change could result in a damage increase equaling an additional 1 – 3% of GDP in the worst case scenario
- Some countries could avoid up to 90% of the expected damage by implementing cost-effective adaptation measures

CCRIF Supports Education in Disaster Risk Management

PROFESSIONAL DEVELOPMENT COMPONENT OF CCRIF TA PROGRAMME

This component of the Technical Assistance Programme focuses on enhancing regional capacity in disaster risk management by providing scholarships to students in the region who are pursuing studies in related undergraduate and graduate programmes. There also is support for ongoing professional development of persons in key regional organisations through their attendance in conferences and workshops.

CCRIF believes that creating a cadre of technical experts in disaster risk reduction (DRR) and natural hazards in the region is not only an important contribution towards strengthening the region's capacity to manage hazards, but will ultimately contribute to sustainable prosperity of the region.

In August, CCRIF announced that the Scholarship and Professional Development component of its recently launched Technical Assistance (TA) Programme was underway.

At the beginning of September, the University of the West Indies announced the recipients of the first UWI-CCRIF scholarships, awarded for the 2010/11 academic year. Two students, one entering his second of three years in the BSc. programme for Geography/Geology at the Mona campus, Jamaica and the other in Civil with Environmental Engineering at the St. Augustine campus, Trinidad were the recipients. Three other scholarships will be announced later in the semester. These will be for students entering the MPhil and/or MSc programme in Disaster Risk Management at the Disaster Risk Reduction Centre at the Mona Campus.

Two other scholarships have recently been granted to Caribbean nationals. On August 13th, CCRIF provided a grant of US\$10,000 to Ms Wazita Scott from St Vincent and the Grenadines to attend Reading University in the UK where she will be pursuing an MSc degree in Atmosphere, Ocean and Climate. Ms Scott has demonstrated significant academic success; she was awarded an Organisation of American States undergraduate scholarship in 2008 and graduated with First Class Honours in May 2010 from UWI Cave Hill, Barbados with a double major in Computer Science and Meteorology and a minor in Mathematics. The CCRIF grant matches an International Masters Bursary from Reading University awarded to Ms Scott.

The scholarship will be overseen by the Caribbean Institute for Meteorology and Hydrology (CIMH) under the terms of the Memorandum of Understanding between CIMH and CCRIF. Ms Scott's goal is to actively participate in weather and climate research, especially specific to the Caribbean region and the topic for her Masters thesis will be developed in consultation with CIMH and CCRIF so that the research addresses issues that are important to the region.

Story continues on page 5



In photo at left, Ms Wazita Scott converses with Dr. Warren Smith, Board Member of CCRIF at his office at the Caribbean Development Bank. At this meeting, Dr. Smith presented Wazita with her scholarship and discussed the upcoming programme of studies as well as the work of CCRIF and linkages between both.

Earlier in July, the Facility granted US\$5,000 through the Cayman Insurance Managers Association to Mr Winston Gall, meteorological technician with the Cayman Islands Airport Authority, towards his further studies in Meteorology at the Graduate School of the US Department of Agriculture.



In this photo, Garry Wilkins (left), Board Member of CCRIF presents a cheque for US\$5,000 to Winston Gall, meteorology technician in the Meteorology Section at the Cayman Islands Airport Authority, towards his further studies in Meteorology at the Graduate School of the US Department of Agriculture. Also in this picture is Kerry Powery from the Cayman Islands Airport Authority.

As part of the professional development focus of the TA Programme, CCRIF recently provided assistance to two representatives of CIMH: to facilitate the participation of Dr Andrea Sealy in the International Training Course on Satellite Meteorology held in Beijing, China in late June and to facilitate the attendance of group co-chair Ms Kathy-Ann Caesar at the World Meteorological Organisation (WMO) Virtual Laboratory Management Group, Fifth Meeting held in Beijing in July. Both events enhanced regional expertise in the area of satellite meteorology and in the development of specialised products to improve early warning systems in the region. In an age of growing technologies in the meteorological field and especially in the area of satellite technology there is a need to expand the knowledge base in this rapidly growing field.

"Let me again thank CCRIF for sponsoring my trip to Beijing China to attend the Virtual Laboratory Management Group Meeting V. The group is responsible for overseeing the WMO-CGMS Virtual Laboratory for Training and Education in Satellite Meteorology (VLab). CIMH is one of the Centres of Excellence for satellite training. Centres of Excellence serve as the satellite-focused training resource for WMO Members. For my part, I had been recently asked and have accepted to be a co-chair of the VLab group, and was formally appointed at the meeting. The trip was very successful and pointed to a great deal of future work in the area on online and virtual training that will improve training capabilities and weather forecasting, which will be to the benefit of all."

Ms Kathy-Ann Caesar

CCRIF, though its Technical Assistance Programme hopes to be able to continue to support efforts at building the capacity of key individuals and organisations involved in disaster risk reduction in the region.

Photo at left - Dr Andrea Sealy (1st row, left) at Satellite Meteorology course in Beijing; Photo at right - Ms Kathy-Ann Caesar (1st row, 4th from left) at WMO meeting



CCRIF Welcomes New Board Member

In September, CCRIF welcomed Desiree Cherebin, Caribbean Development Bank appointed board member. She is a banking supervision and financial services consultant. The Board also thanked Garry Wilkins who provided three years of service to the board and who retired from the Board in September. In other news related to the Facility, Caribbean Risk Managers Ltd. (CaribRM) was retained as the CCRIF Facility Supervisor, effective August 1, 2010, for a three-year period. This retention follows an international tender process. The Facility Supervisor manages the day-to-day operations of CCRIF, including risk management, financial planning, catastrophe modelling, interacting with participant governments, coordination of the reinsurance placement and supervision of public relations and outreach efforts.

Real Time Forecasting System (RTFS)

At the start of the 2010 Atlantic Hurricane Season, CCRIF provided access to its secure RTFS site (located on the CCRIF website) to over 100 representatives from its member countries and stakeholder communities. The RTFS provides members with real-time hurricane hazard and impact information for the 2010 hurricane season.

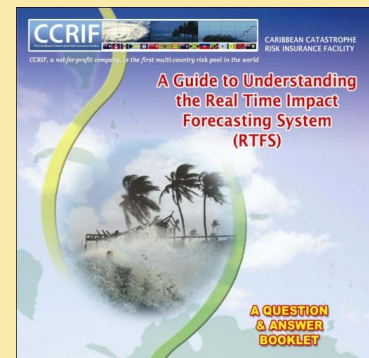
The system enables users to access real-time estimates of the expected hazard levels and impacts on population for all tropical cyclones during the 2010 Hurricane Season. By providing potential hazard footprint maps and site-specific hazard and impact data through this platform, national preparedness and response mechanisms within CCRIF member states are enhanced.

The system is being well-used. Between June and August, the RTFS system was accessed 179 times by users in 7 countries led by Jamaica (110 times), Barbados (32 times) and Haiti (21 times). CCRIF monitors use of the tool to be able to guide further targeted interventions to maximise use of the tool by member countries for the benefit of all.

In order to provide assistance with using the system, the booklet, "A Guide to Understanding the Real Time Impact Forecasting System (RTFS)", was produced and distributed to potential users.

HOT OFF THE PRESS!

CCRIF recently published a booklet "A Guide to Understanding the Real Time Impact Forecasting System (RTFS)". This booklet has been produced to enable key officials such as disaster and emergency managers in our member countries to effectively utilise the real-time hurricane hazard and impact information that this tool provides during the hurricane season. By providing advanced knowledge of a hurricane's expected site-specific impacts, the Real-Time Impact Forecasting System (RTFS) can support effective hurricane preparedness, response and evacuation.



About CCRIF

CCRIF is a risk pooling facility, owned, operated and registered in the Caribbean for Caribbean governments. It is designed to limit the financial impact of catastrophic hurricanes and earthquakes to Caribbean governments by quickly providing short-term liquidity when a policy is triggered. It is the world's first and, to date, only regional fund utilising parametric insurance, giving Caribbean governments the unique opportunity to purchase earthquake and hurricane catastrophe coverage with lowest-possible pricing. CCRIF represents a paradigm shift in the way governments treat risk, with Caribbean governments leading the way in pre-disaster planning. CCRIF was developed through funding from the Japanese Government, and was capitalised through contributions to a multi-donor Trust Fund 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.

CCRIF Vision

CCRIF will be a key partner with the Caribbean region in its disaster risk management strategies to support long-term sustainable development goals.

CCRIF Mission

Our Mission is to serve Caribbean governments and their communities in reducing the economic impact of natural catastrophes. We provide immediate liquidity through a range of affordable insurance products in a way that is financially responsible and responsive to their needs.

Update on 2010 Atlantic Hurricane Season

The 2010 Atlantic Hurricane Season officially started on June 1st and will end on November 30th. Between June 25 and the end of September, there has seen seven tropical storms, seven hurricanes, four of which became major hurricanes. The season began with Alex which became a category two hurricane. In the latter part of August into September, the season was very active with the formation of eleven named storms in about 40 days. In September, eight named storms formed, making this month the highest ever recorded, tying with the season of 2002.



Photo at left shows clean-up activity in Anguilla following Hurricane Earl. Photo at right shows an undermined building at Shoal Park east in Anguilla

Tropical Cyclones – June 1 to September 30

Tropical Storms

- Bonnie
- Colin
- Fiona
- Gaston
- Hermine
- Matthew
- Nicole

Hurricanes

- Alex
- Karl
- Lisa

Major Hurricanes

- Danielle
- Earl
- Igor
- Julia

CCRIF Calendar of Events

Some events in which CCRIF participated during the period June 2010 to August 2010 are:

- Understanding Risk Conference, June 1– 4, 2010, Washington DC
- CCRIF Board Meeting, June 3 – 4, 2010, Bahamas
- 30th Annual Conference of the Insurance Association of the Caribbean, June 13 – 15, 2010, Jamaica
- IICA Agricultural Insurance Symposium, June 16 – 18 2010, Antigua
- CDEMA Council Symposium, June 24, 2010, Barbados
- International Association for the Study of Insurance Economics – Modelling and Mapping Risks, June 24 – 25, 2010, Bermuda
- USAID and IRG Stakeholder Meeting on Climate Variability, Change and Adaptation, July 12 – 14, 2010, Barbados
- CDEMA 2010 Comprehensive Disaster Management (CDM) Programming Consultation, August 19, 2010, Barbados

Some Upcoming Events:

- The Caribbean Division of the Institution of Structural Engineers (IStructE), in partnership with the Jamaica Institute of Engineers, is hosting their fifth conference, September 20-21, 2010, Jamaica
- Climate Week NYC 2010, September 20 – 25, 2010, New York
- Geneva Association, Climate Change & Insurance in Latin America and the Caribbean Seminar, September 27 - 28, Sao Paulo, Brazil
- IDB/World Bank and Energy Ministry Mexico, hosted Energy Efficiency and Access Forum, September 28 – 29, 2010, Mexico
- Side event with Barbados Mission during the 2nd Committee of the UNGA – October/November 2010
- Regional Seminar on Public Investment and Financial Mechanisms, Insurance and Reinsurance against Natural Disasters in LAC, November 22 – 23, 2010, Mexico
- UNFCCC COP 16, November 29 to December 10, 2010
- Caribbean Central American Action (CCAA) Conference, December 1 – 3, 2010, Miami
- World Climate Summit, December 4 – 5, 2010, Mexico
- 5th Annual CDEMA Conference, December 6 - 10, 2010
- CCRIF Board Meeting, November 18 – 19, 2010

CARIBBEAN CATASTROPHE RISK INSURANCE FACILITY

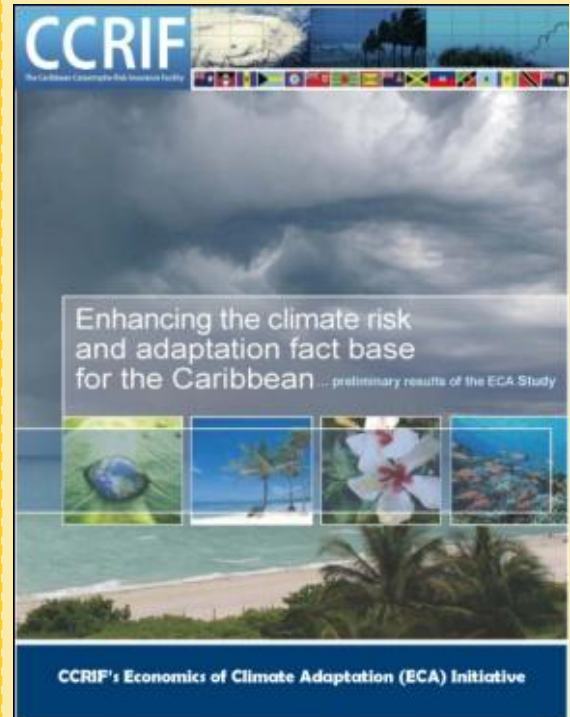


“Enhancing the Climate Risk and Adaptation Fact Base for the Caribbean...Preliminary Results of the ECA Study” (ECA Brochure)

This brochure, *“Enhancing the climate risk and adaptation fact base for the Caribbean”* provides the preliminary results for eight countries on a study on the Economics of Climate Adaptation (ECA) in the Caribbean. The brochure contains the following elements:

- CCRIF’s Economics of Climate Adaptation Initiative;
- Next Steps in the ECA Initiative;
- Key Regional Findings from the ECA Study;
- Potential Next Steps to Turn Results into Action;
- Appendix 1 – The Methodology;
- Appendix 2 – Country Results - Anguilla, Antigua and Barbuda, Barbados, Bermuda, Cayman Islands, Dominica, Jamaica, St. Lucia;
- Appendix 3 – Overview of Results of Analysis of the Agricultural Sector

See related article on page 3 of this newsletter. To obtain copies of the brochure send email to pr@ccrif.org or access our website at www.ccrif.org.



Sixteen governments are currently members of CCRIF:

Anguilla, Antigua & Barbuda, Bahamas, Barbados, Belize, Bermuda, Cayman Islands, Dominica, Grenada, Haiti, Jamaica, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines, Trinidad & Tobago and Turks & Caicos Islands

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