Caribbean Countries to Benefit from New Rainfall Model

On February 25, CCRIF and the Caribbean Institute of Meteorology and Hydrology (CIMH) launched a rainfall model for use in the Caribbean region. The model provides the basis for a new excess rainfall product that CCRIF will offer later this year. The model provides a regional tool which can be used to help manage the risks brought by extreme rainfall events, as well as drought events, which are being experienced in a number of CARICOM countries right now.

The primary model output will be a map of aggregate rainfall for the Caribbean region, produced every 6 hours, and made available to the region via a web-based interface. CIMH will house, operate and maintain the model and will manage the dispersal of its outputs to the region. This real-time synthetic rainfall database represents the first uniform rainfall data set in the region and, we think, in the world.

Equally important is the 60 years of historical rainfall data which is being generated using the same model. So not only will the amount of rainfall across the region be mapped in real time at a constant and high resolution, but there will also be a 60-year context in which to place the current rainfall.

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The 4th Annual Caribbean Conference on Comprehensive Disaster Management was held between December 4 and 7, 2009 in Montego Bay, Jamaica. The theme for the conference was, “Strengthening CDM through Youth and Community Empowerment” and it was designed to create greater awareness about disaster management among communities and youths, to allow them to build resilience to hazards.

The Caribbean Catastrophe Risk Insurance Facility was a main sponsor of the Conference with a sponsorship contribution of over US$100,000. CCRIF delivered one of the professional development sessions at the Conference. Entitled “Hazard Risk Reduction Initiatives in the Context of a Changing Climate: Prospects for Promoting Sustainable Prosperity in the Caribbean,” the session attracted over 60 persons and was described by conference organisers as over-subscribed.

The presenters at the PDS were: Dr. Simon Young, CEO CaribRM, Facility Supervisor, CCRIF; Esther Baur and Nikhil da Victoria Lobo, both of Swiss Re Financial Services Corporation. CCRIF Board Member Ken Blakeley also delivered a key address at the opening ceremony of the conference.

A booth also was set up in the exhibition from which materials and documents were distributed to conference participants.

To offer products and services responsive to members and stakeholders needs
To raise the profile of CCRIF as a Caribbean Community entity
To support disaster risk management
To achieve sustainable financial integrity
To expand coverage and membership
To create a governance framework built on transparency and accountability principles

CCRIF’s Strategic Objectives

“useful, stimulating, relevant and well organised…”
Ronald Jackson, Director General, Office of Disaster Preparedness and Emergency Management, Jamaica on the PDS

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.
The CCRIF UN-ECLAC MoU

The MoU is built on four main pillars as follows:

- The development and enhancement of a knowledge base for key natural hazard risks
- The conduct of regional studies concerning the economics of climate change and the impact of natural disasters on particular sectors such as tourism
- The development of decision-making tools by CCRIF and/or ECLAC to assist in mitigating the economic impacts of natural catastrophes
- The elaboration of climate change adaptation strategies to facilitate decision making across the region

The signing of a MoU with the UN Economic Commission for Latin America and the Caribbean (ECLAC), as well as CCRIF’s partnerships with other key institutions in the region such as UWI, the Caribbean Disaster and Emergency Management Agency (CDEMA) and the Caribbean Institute of Hydrology and Meteorology (CIMH), has resulted in CCRIF developing a technical assistance (TA) programme for the region. The signing of the MoU with ECLAC signalled the start of the roll out of this programme.

As defined by the MoU, CCRIF and ECLAC will work together on one of the components of the technical assistance programme – regional “strategic” knowledge building. The focus of this component is on developing partnerships with regional institutions and providing funding for regional technical projects in natural hazards/risk science.

The provisions of the MoU will better enable CCRIF and ECLAC to further embrace their mutual goal of enhancing regional capacity for comprehensive disaster management (CDM) and coping with catastrophe risks as a result of natural disasters.

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MoU Signing

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Specifically, the MOU will enable CCRIF and ECLAC to:

- determine how the original post-event economic impact estimates made by ECLAC compare to CCRIF’s model based loss estimates and to actual economic impacts six to nine months after an event
- determine the level of basis risk (if any) and whether or not short-term liquidity support would have helped to mitigate economic impact on the country
- undertake a further study on the cumulative macro socio-economic impacts of natural disasters on the Caribbean since 2004
- explore future opportunities for collaboration on regional studies concerning the economics of climate change, as well as the impact of natural disasters on particular sectors as appropriate

At the signing, Milo Pearson, Chairman of CCRIF stated that “Collaborative initiatives such as this are absolutely necessary as we seek to find forward-looking and sustainable solutions to reduce the risks created by the regional natural hazard landscape,” while Neil Pierre, head of UN-ECLAC indicated that CCRIF and ECLAC are “natural partners in the quest to build resilience and enhance the regional disaster risk management process.”

Did you know?

The CCRIF idea was prompted by Hurricane Ivan in 2004, which caused billions of dollars of losses across the Caribbean. In both Grenada and the Cayman Islands, losses were close to 200% of the national annual GDP.

CCrif Calendar of Events

Some events in which CCRIF participated during the period December 2009 to February 2010 are:

- Caribbean Media Exchange Conference (CMEx), 4 - 7 December 2009, St. Lucia
- 4th Caribbean Conference on Comprehensive Disaster Management, 7 - 11 December 2009, Montego Bay, Jamaica
- Symposium on Agricultural Risk Management, 7 - 9 December 2009, Georgetown, Guyana
- CCRIF Board Meeting, 14 - 15 December 2009
- Signing of MOU between CCRIF and UN-ECLAC, 23 February 2010, Trinidad
- CCRIF Strategic Retreat and Board Meeting, 22 - 24 February 2010, Trinidad
- Reinsurance Association of America (RAA) conference, Catastrophe Modeling 2010: Probabilities and Possibilities, 9-11 February 2010, Orlando, Florida

Some Upcoming Events:

- Launch of Rainfall Model and Regional Workshop, 25 February 2010, Barbados
- Launch of Economics of Climate Adaptation Study for the Caribbean, 26 February, 2010, Barbados
- 14th Meeting of the Council for Finance and Planning (COFAP), 27 February to March 1, 2010, Trinidad
- Fighting for Survival: Climate Change and the Vulnerability of America’s Gulf Coast and the Caribbean Basin, May 6 – 7 2010, New Orleans, USA
- Economics of Climate Change Workshop (to discuss findings of Caribbean ECA Study), May 2010
- CCRIF Board Meeting, June 2010
CCrif Rainfall Model

Story continued from Page 1

In addition to its direct use by CCRIF to underpin parametric excess rainfall coverage, the rainfall data can and will be used as a basis for other parametric insurance solutions, particularly in the agriculture sector. It will be invaluable in analysing the impacts of past rainfall (and drought) events and in providing a baseline for projecting the likely changes in rainfall patterns due to climate change.

The model uses the Global Forecasting System initialisation data set as the start point for generating the rainfall totals – this data set includes all meteorological information collected across the region by WMO-mandated agencies, and therefore includes on-the-ground data wherever it is currently available.

To launch its efforts in this area, CCRIF, in collaboration with CIMH, hosted a 1-day workshop for over 50 participants from across the region.

CCRIF believes that this collaborative effort with CIMH is very important as it strengthens the Facility’s relationship with a key regional entity that is focussed on reducing the natural hazards vulnerability of the small island developing states of the Caribbean - in this case, providing tools such as maps and data to enhance comprehensive disaster management strategies in member countries as a pathway to achieving sustainable prosperity.

Benefits of the Rainfall Model

- Used by CCRIF to underpin parametric excess rainfall coverage
- Provides rainfall data that can be used as a basis for other parametric insurance solutions, particularly in the agriculture sector
- Can analyse the impacts of past rainfall (and drought) events and provide a baseline for projecting the likely changes in rainfall patterns due to climate change
- Allows the amount of rainfall across the region to be mapped in real time at a constant and high resolution, within a 60-year context in which to place the current rainfall

Main Rainfall Model Workshop Topics

- The need for an excess rainfall product in the region
- Understanding the new rainfall model – the data behind the model; how the model works and how it can be used
- Differences between the excess rainfall product and other CCRIF products (hurricane and earthquake)
- Understanding how an excess rainfall policy will be structured and triggered
- Update on the CCRIF Second Generation Model to be used for hurricane and earthquake coverage from 1 June 2010, and required adjustments to policies
The Crisis in Haiti - A Special Feature

12 January 2010 in Haiti

A large earthquake struck close to Port-au-Prince, Haiti on January 12, 2010. The United States Geological Survey (USGS) indicated that the quake was a Magnitude 7.0 event at 13km depth just 25km west-southwest of Port-au-Prince.

The earthquake shaking was felt strongly in the Dominican Republic, Cuba and Jamaica, although no significant damage occurred outside of Haiti. The earthquake occurred along the Enriquillo Fault Zone, which runs east-west along Haiti’s southwest peninsula. Although smaller earthquakes are relatively common in Haiti, the last major earthquake to affect the country was in 1842 (devastating Cap Haïtian in the north). Two large earthquakes in the middle of the 18th Century occurred close to Port-au-Prince, likely along the same fault line, and caused widespread devastation. These occurred in 1751 and 1770 and both had an estimated magnitude of 7.5.

As a member of the Caribbean Catastrophe Risk Insurance Facility (CCRIF), the country had been proactive and had secured an earthquake policy as part of its disaster risk management portfolio. Within hours of the quake, CCRIF was able to announce that, based on initial earthquake magnitude/location estimates, a payment would be triggered. One day later, CCRIF announced that the full payment of just under US$ 8 million would be made and attempts were made to contact officials in Haiti to determine where the payment should be sent. Fourteen days after the earthquake, CCRIF paid US$ 7,753,579 to the Government of Haiti. This represented approximately 20 times their premium for earthquake coverage of US$385,500 which was paid by the World Bank and CIDA.

“While US$ 8 million seems like a “drop in the bucket” compared to the vast needs of the country in meeting immediate and long-term needs, ... CCRIF was the first institution to disburse funds directly to the Haitian Government, which were used to pay salaries of government officials.”

Mr. Erick Valbrun, Technical Advisor in Haiti’s Ministry of Finance at CCRIF Works hop in Barbados in February 2010

The Presidential Palace before and after the earthquake
CCRIF Helps Haiti in its Rebuilding Efforts

As efforts in Haiti start focusing on providing shelter for earthquake survivors, on the re-building and reconstruction process, and on improving scientific understanding of earthquake risks, CCRIF believes that it is not too soon to focus also on hydro-meteorological hazards. The hurricane season starts in less than three months – on June 1 - and Haiti’s population remains amongst the most vulnerable in the world to rainfall, flooding and landslide hazards. Margareta Wahlstrom, United Nations representative for disaster risk reduction, warned recently, “There are probably 200,000 families without a roof;” and urged the international community to take measures so that “their disaster, that has already destroyed much of their life, is not exacerbated further.”

Rebuilding Haiti: Collaborative Efforts with CIMH

In light of these concerns, the Caribbean Catastrophe Risk Insurance Facility (CCRIF) and the Caribbean Institute for Hydrology and Meteorology (CIMH) are extending support to Haiti in its long-term recovery and reconstruction efforts, particularly in hazard mitigation and future disaster prevention. CCRIF is supporting 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 re-build infrastructure to minimise people’s exposure to flooding and landslides.

Immediately after the earthquake, CCRIF and CIMH recognised the critical need for the availability of more detailed rainfall data for Haiti in order to reduce future disasters in light of the country’s current high levels of vulnerability. CIMH began running high-resolution weather prediction models over Haiti daily which, according to Dr. David Farrell, Principal of CIMH, “will provide early warning for potential heavy rainfall events over major watersheds, especially those in the earthquake impacted areas. This data is important for informing rescue and recovery efforts in earthquake-impacted areas and indicating hydrometeorological risks to resettlement camps, especially those in, or close to, low lying areas and stream channels.” These 4km resolution, 48-hour rainfall forecasts can be accessed at: http://63.175.159.26/~haiti.

The information may be used freely by the public (without modification) with appropriate acknowledgement of its source and an appreciation of the uncertainties present in the predictions.

“CCRIF’s prompt pay-out to Haiti turned out to be one of the significant sources of financing in Haiti’s hour of need. This is an important feature of CCRIF which was originally envisaged as a mechanism to assist governments by providing short-term liquidity during the ‘funding gap’, the hiatus between the immediate flow of response goods and services after a major disaster and the launch of long-term rebuilding programmes.”

CARICOM Secretary-General Edwin Carrington on CCRIF payout to Haiti in the aftermath of the January 12, earthquake

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In addition to the weather model, CIMH will be developing simple surface water flow models for key drainage basins to delineate the extent of probable flooding. These models, in conjunction with the historical rainfall record derived from the CCRIF Caribbean rainfall model, will be refined to develop flood hazard maps for critical basins.

This information will be available in time to be able to further inform the planning of longer term re-settlement sites and will help decision makers and disaster experts identify those watersheds with high flooding potential that are prone to flooding, in particular flash flooding. CCRIF, with support from CIMH, already provides real-time hurricane hazard forecasts for all its member Governments, and that service will again be further enhanced for the 2010 hurricane season.

CCrif and CIMH view their support for Haiti at this time as a fundamental opportunity to contribute to Haiti’s sustainable and resilient reconstruction and as part of the organisations’ corporate social responsibility.

**Rebuilding Haiti: Collaborative Efforts with International Institutions**

Together with international public and private sector institutions, CCRIF is discussing with the Government of Haiti how it can assist with resilient reconstruction by providing a quantitative hazard/risk framework for redevelopment.

The Government of Haiti is committed to a geographically-diversified reconstruction approach and already has identified multiple regional hubs and specific sectors, which will be nurtured in and around each regional hub.

This project will support the Government of Haiti in formulating policies and plans to ensure these hubs are as resilient as possible against natural hazards (earthquakes and hurricanes) and specifically, would estimate for each hub:

- the expected loss from natural hazards based on a 'Business as Usual' scenario, which assumes a reconstruction according to pre-earthquake building/planning standards
- the costs and benefits of selected adaptation measures that include risk mitigation measures as well as risk transfer measures

This fact base will be a valuable input for area-level planning to minimise risks to locations and respective sectors and at the same time will provide Haiti with an economic framework for managing risks both in the short term and in the longer term (e.g., risk costs built into project budgets from the start).
CCRIF Participates in Caribbean Media Exchange (CMEx) 18th Conference on Sustainable Tourism

Excerpts from the Speech by Isaac Anthony, CCRIF Board Member and Permanent Secretary, Ministry of Finance, St. Lucia

The tourism sector is one on which the Caribbean is highly dependent, for it accounts for about 25-35% of the total GDP of the region and provides about one fifth of all jobs. Climate change is considered to be the most pervasive and truly global of all issues affecting humanity, posing a serious threat to the environment as well as to economies and societies - the impacts of which are likely to adversely affect the tourism sector.

Anthony indicated that organisations such as CMEx and media in general can play a fundamental role in enabling countries to better understand issues related to hazard risk, climate change and adaptation strategies. He stressed that climate variability has exposed the vulnerability of key economic sectors such as tourism and agriculture, and urged the media to use the powerful tool of communication to advance awareness of, and solutions to these issues, in much the same way as they have done in the war against HIV/AIDS.

He asked the media, among other things, to generate the level of public engagement required for policy action; disseminate useful climate information to effectively guide public debate and understanding about climate change; tailor the various messages, press releases around climate change and adaptation strategies to the existing attitudes, values, and perceptions of different audiences, making this complex issue understandable, relevant, and personally important to all.

He said that the changing climate is a global driver of increasing disaster risk and threatens to undermine the critical development gains made by the most vulnerable countries, including small island developing states.

He indicated that for the Caribbean, adaptation to climate change will be the principal way of dealing with the unavoidable impacts of climate change and those adaptation strategies must become the mechanism to manage risks, and to reduce vulnerability for improved business certainty.

Anthony stressed that the CCRIF model, as an innovative risk transfer option, can be included in disaster risk management strategies for countries vulnerable to hurricanes, earthquakes and other natural catastrophe events, and can be a critical component of a country’s climate change adaptation framework.
On February 26 in Barbados, CCRIF launched a study for the Caribbean region based on the Economics of Climate Adaptation (ECA) methodology to enable the development of a quantitative fact base for developing sound climate change adaptation strategies. CCRIF will be working with regional partners in the Caribbean Community Climate Change Centre (5Cs) and the UN Economic Commission for Latin America and the Caribbean (UN-ECLAC). Details about the methodology are available in 'Shaping Climate Resilient Development - a framework for decision-making,' a study by the Economics of Climate Adaptation Working Group, which includes McKinsey & Company and Swiss Re. The report can be downloaded at:

This study will provide Caribbean countries with facts and tools to develop quantitative adaptation strategies and business cases that will be able to be incorporated into national development plans and requests for adaptation assistance. Outputs of this study will include:

- A risk baseline: which will provide transparency about current and future expected losses from climate risks under three climate change scenarios
- Assessment of adaptation measures: identification of feasible and applicable measures to adapt to the expected risks based on quantitative analysis of total cost and expected benefits of risk mitigation and transfer measures.

The innovation of the ECA methodology lies in its positioning across different knowledge sectors, spanning climate science, the financial industry and economic research. The analysis will be based on joining four main elements:
1. Climate change scenarios based on the most recent available scientific evidence
2. Hazard models forecasting the occurrence of hurricanes or other damaging events
3. Economic damage functions linking the intensity of events to economic impact
4. Value distribution models describing each country's economic and population exposure to hazard in a granular, precise way

The focus of the study will be on the impact of climate risks and change on a country’s infrastructure (including

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HOT OFF THE PRESS!

CCRIF recently published a booklet “A Guide to Understanding CCRIF: A Collection of Questions and Answers”. This book provides a number of questions that key stakeholders and other interest groups may have about CCRIF and answers to those questions. It is intended to enable the reader to gain greater insight into the workings of CCRIF as a catastrophe risk transfer facility and its role in comprehensive disaster risk management in Caribbean countries.

Policy Renewals

CCRIF believes that there is a very strong case to be made to the international development community to assist CCRIF’s member countries (and potential new members) in upscaling the role that risk transfer plays in post-disaster financing. In so doing, CCRIF would become an even stronger example of a successful, innovative public-private partnership addressing a core barrier to sustainable development, particularly in the face of climate change.

In fact this sentiment was echoed by World Bank President, Robert Zoellick at the March meeting of the CARICOM Heads of Government in Dominica, where he stated that the Bank had a strong interest in developing “a strategy [for the region] that focuses on growth... good fiscal management, effective use of debt, and building insurance for some of the natural calamities that tend to create a spike in debt.”

CCRIF Participates in 14th COFAP Meeting

The Chairman of the CCRIF Board, Mr. Milo Pearson was invited by the CARICOM Secretariat to attend the 14th Meeting of the Council for Finance and Planning (COFAP) in Trinidad and Tobago between 27 February and 1 March 2010. As part of his involvement, he presented at two sessions - the preparatory meeting of officials on 27 February and the Ministerial level meeting held on 1 March. His presentation covered the following topics: CCRIF key activities in 2009/10; renewals; financial position; donor contribution; reinsurance placement; technical assistance programme; strategic alliances; Haiti Earthquake – CCRIF response; regional rainfall product and upcoming renewals.

“Given the propensity to earthquakes and hurricanes within the region... we encourage member states to evaluate the adequacy of their [insurance] coverage levels [from CCRIF] given their current risk profiles and the devastation in Haiti and Chile”.

Karen Nunez-Teshiera Minister of Finance and Planning, Trinidad making reference to CCRIF at COFAP
Since 2007, sixteen Caribbean governments have included parametric insurance policies against hurricanes and earthquakes from the Caribbean Catastrophe Risk Insurance Facility (CCRIF) as part of their country’s disaster risk management portfolio. In light of the recent earthquakes in Haiti and Chile, many of these countries are re-examining their preparedness for natural catastrophes, including their levels of coverage under CCRIF. The recent payout to Haiti by CCRIF of US$7.75 Million, or 20 times that country’s premium, following the devastating earthquake of January 12 demonstrated the speed at which CCRIF is able to make funds available to governments after a disaster. However, the small size of that payment relative to the levels of devastation highlights the need for increased levels of coverage that would result in larger payouts which can do even more to stabilise government services and provide a springboard to more rapid and comprehensive recovery.

Today, Caribbean countries are faced with decisions regarding the level of their CCRIF coverage, which is renewed each year on June 1, against the backdrop of reduced fiscal space emanating from the continued legacy of the global economic crisis.

In light of the above, CCRIF has been engaged in a number of activities aimed at finding solutions that would enable its members to continue to pursue diversified and dynamic disaster risk management policies. One such activity being led by the CCRIF Board and Dr Simon Young, CEO of Caribbean Risk Managers, the Facility Supervisor of CCRIF, has been meeting with country clients and key stakeholders to ascertain members’ needs towards making the case to international donor partners for the need for assistance in stepping up the level of coverage that countries are able to garner from CCRIF.

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

For additional information, visit our website at www.ccrif.org or email us at pr@ccrif.org