

The Case for Upscaling: *Increasing CCRIF Insurance Coverage for Tropical Cyclone, Earthquake and Excess Rainfall*

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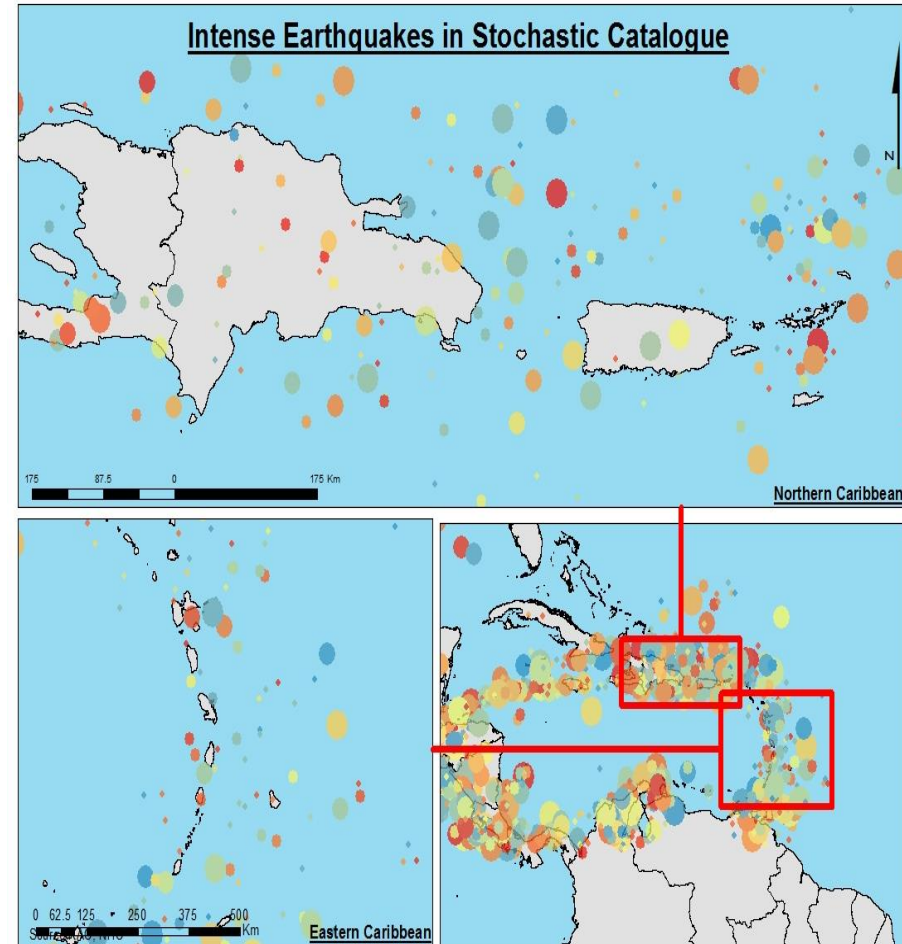


- Caribbean Hazard Risk Profile
- Overview of CCRIF policies
- Case Study: TC Gonzalo
- Adequacy of Coverage
- Conclusions



Earthquakes

- Large (Mag 7.0 and up)
- Potentially damaging events (15km depth and less) are very likely
- Similar to Haiti 2010 earthquake



Source: CCRIF MPRES Stochastic output



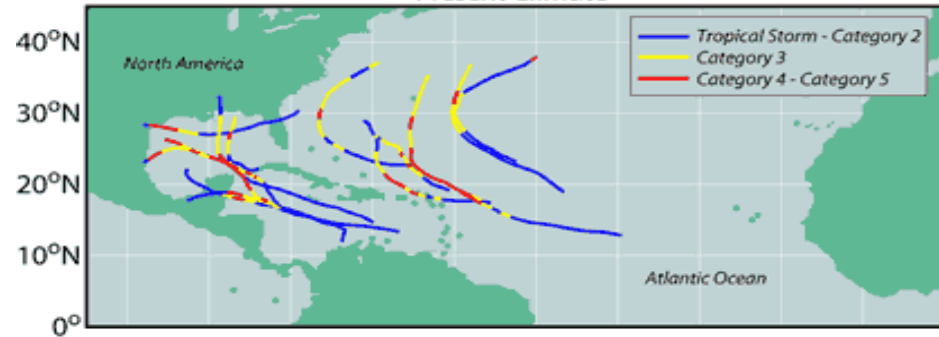
Excess Rainfall

- Intense rainfall for longer duration
- Increased damage due to flooding

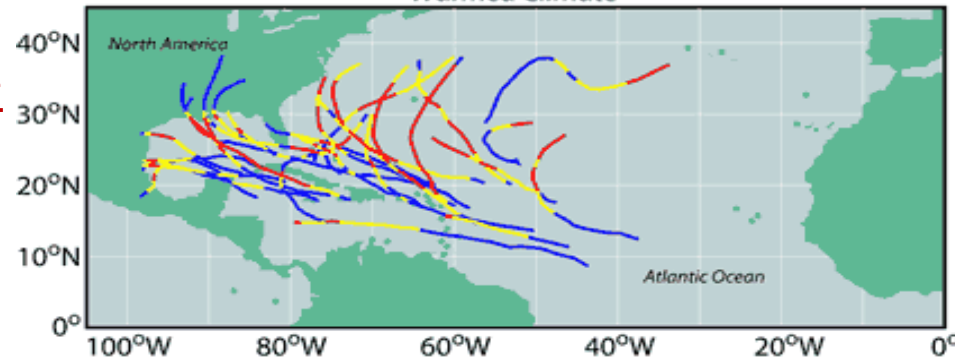
Hurricane/Tropical Cyclone

- Increasing trend in Cat. 4 & 5 hurricanes
- As Climate Warms and CO2 levels increase

Modeled Category 4 & 5 Hurricane Tracks
Present Climate



Warmed Climate



- CCRIF offers Earthquake (EQ), Tropical Cyclone (TC) and Excess Rainfall (XSR) policies.
- TC Model: Covers government losses due to wind and storm surge damage from a defined Tropical Cyclone.
- XSR Model: Covers excess rainfall and is triggered by tropical cyclones and non-cyclonic systems.
- EQ Model: Covers losses due to earthquake events.
- Country selects policy characteristics: Premium, attachment and exhaustion point.



- For example, increase in payouts by changing the attachment point (deductible).

| | Country X | Country X |
|-----------------------|-----------------|-----------------|
| | Policy Choice 1 | Policy Choice 2 |
| Attach | \$218,870,759 | \$119,280,495 |
| Attach (yrs) | 15 | 10 |
| Ceding % | 3.197% | 2.466% |
| Coverage limit | \$32,256,344 | \$27,340,853 |
| Premium | \$1.3 | \$1.3 |
| No. of Payouts | 9 | 13 |

- Policy characteristics are selected by countries



CCRIF Payouts To Date



Earthquake

Dominica-
\$528,021

Saint Lucia -
\$418,976

TC Ike

Turks &
Caicos
Islands -
\$6,303,913

TCs Earl/Tomas

Anguilla-
\$4,282,733
Barbados-
\$8,560,247
St. Lucia -
\$3,241,613
St. Vincent
and
Grenadines -
\$,1090,388

Earthquake

Haiti-
\$7,755,579

TC Gonzalo/ Nov. Trough

Anguilla-
\$493,465
Anguilla -
\$555,249
Barbados-
\$1,284,881
St.Kitts and
Nevis -
\$1,055,408



Covered Area Rainfall Event:

- 21 November 2014 Trough System
- The average accumulated rainfall for this event using the 2-day aggregate was 133.58mm
- Policy threshold exceeded
- The monthly average rainfall in November for Barbados is 110.29mm
- Event surpassed this (model is capturing what it needs to)

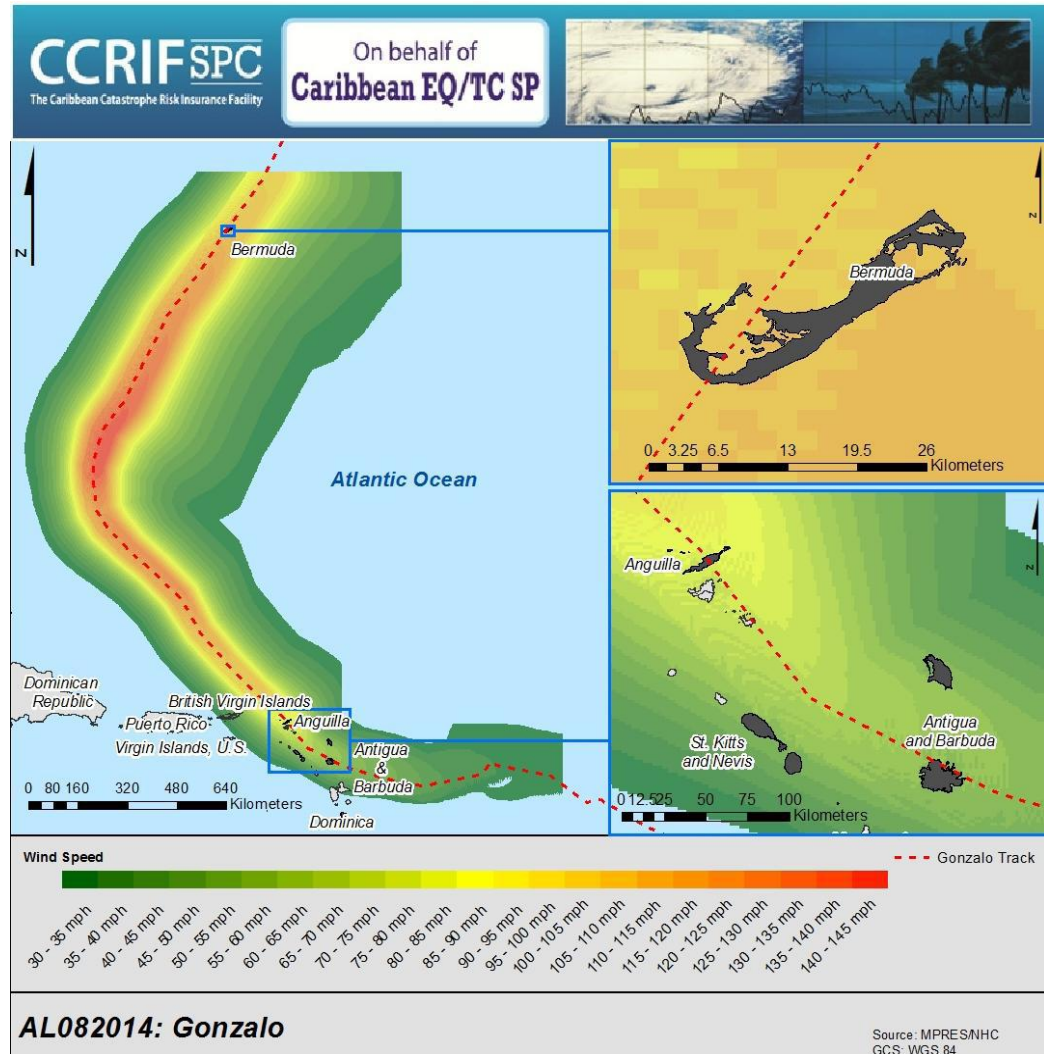




TC GONZALO: CASE STUDY

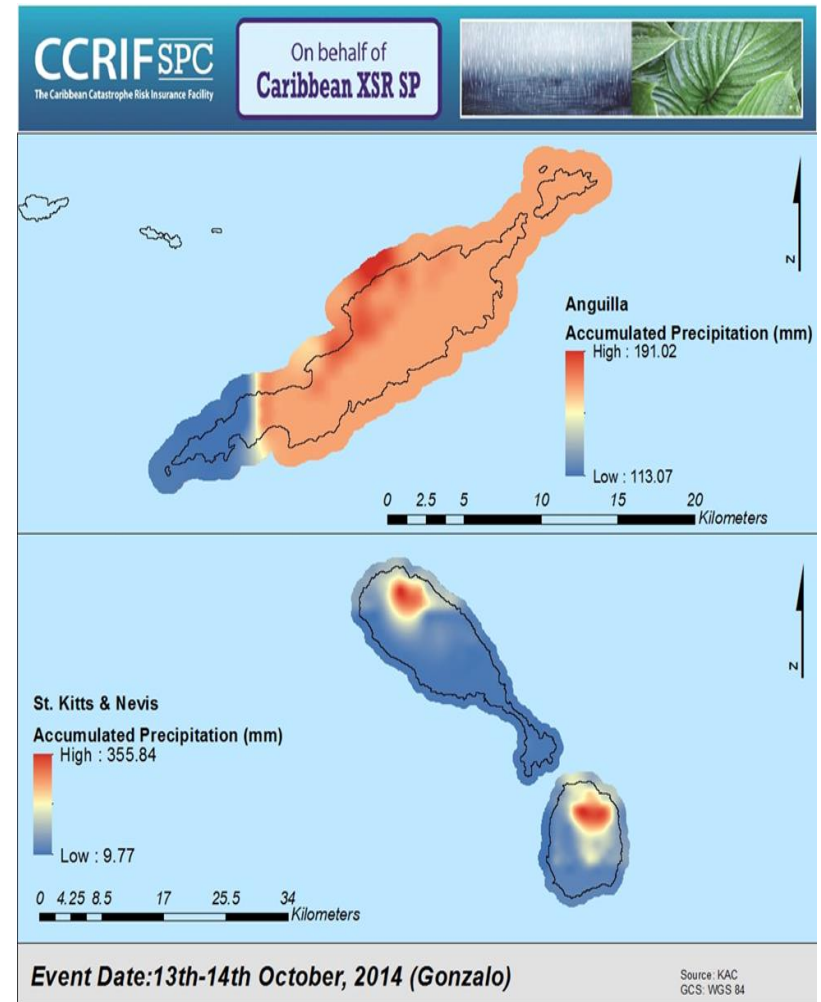


- CCRIF member countries affected: Antigua and Barbuda, Anguilla, Bermuda, and St. Kitts and Nevis.
- 60 mph (95km/h) – 70mph (120 km/h) winds.
- Did not trigger any TC (wind) policies.
- Triggered XSR policy for Anguilla.



TC Gonzalo: One Event, Two Different Policy Triggers

- Of the 4 CCRIF member countries affected, 2 had XSR policies: Anguilla and St. Kitts and Nevis.
- The Caribbean Rainfall Model indicated that a Covered Area Rainfall Event (CARE) was produced in Anguilla starting on 13 October 2014 and ending on 14 October 2014.
- Anguilla's policy subsequently triggered, therefore they were due a payout.
- The St. Kitts and Nevis policy did not trigger.



- The return period is the expected time between hazard events of a certain magnitude.
- For example, a 100-year return period essentially represents the likelihood of an event to occur once every 100 years.
- The return period for an event depends on the country and modeled losses.
- Return periods for TC Gonzalo:

| Country | Return Period |
|-------------------|---------------|
| Anguilla | 13 |
| Antigua & Barbuda | 7 |
| Bermuda | 18 |
| St Kitts & Nevis | 5 |



Adequacy of Coverage

- The definition of ‘adequate’ in this case is set to cover (25%) of Government’s likely losses for both TC and EQ.
- 88% of CCRIF members’ policies cover no more than 15% of TC and EQ national liability.

| 2014/15 Policies | % of Total Premium | Total Coverage Limit |
|------------------|--------------------|----------------------|
| Tropical Cyclone | 63% | \$387,593,795 |
| Earthquake | 37% | \$266,173,282 |
| Total | 100% | \$653,767,077 |

- For XSR, \$2.5 million in premium for \$36 million in total coverage.
- Only 8 countries (50%) with product, currently.



- Takes on greater importance for disaster risk reduction/management.
- Financial constraints are only exacerbated in the aftermath of a disaster.
- 13 out of 16 members with EQ.
- Increase premium spend to buy more coverage (TC/EQ).
- Increase premium spend to maintain coverage levels (if lower TC attach) : approximately 18% on average.
- 8 out of 16 members with XSR.
- Purchase XSR.



➤ **CCRIF Success:**

- Ongoing relevance
- Responsiveness to region's needs

➤ **Disaster Trends:**

- Extreme weather variability and climate change
- Risk financing solution needs

➤ **Member Country Needs:**

- Quick payout; ex ante mechanisms (an option)
- Premium affordability (tackling debt & fiscal challenges)
- Coverage scale up (increase in limits & additional products)

➤ **Financial Sustainability:**

- Donor Support; New product capitalization

