Protecting Paradise

Opportunities for insurance to support marine-based and coastal tourism in the Caribbean

2024

PROBLUE
HEALTHY OCEAN · HEALTHY ECONOMIES · HEALTHY COMMUNITIES

THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

1818 H Street NW
Washington DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org

Please use the following wording when citing this report: Protecting Paradise: Opportunities for Insurance to Support Marine-Based and Coastal Tourism in the Caribbean World Bank. 2024.

Acknowledgments

This report was made possible by the provision of funds from the PROBLUE Multi-Donor Trust Fund, administered by the World Bank.

This report was prepared under the guidance and supervision of Yira Mascaró (Practice Manager, Finance, Competitiveness and Innovation, Latin America and the Caribbean), It was developed under the leadership and coordination of Samantha Cook (Senior Financial Sector Specialist), with inputs from Renata Koch Alvarenga (Consultant, ELCFN) and Brian Owens (Senior Insurance Consultant, ELCFN).

The report content drew on data from country-specific and regional reports of Axco Insurance Information, as well as the Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company (CCRIF SPC).

The report also benefitted from comments and guidance from Monica Parra Torrado (Senior Economist), Juliana Castaño-Isaza (Marine Natural Resources Management Specialist), and Brenden Jongman (Senior Disaster Risk Management Specialist).

Cover photo: Tom Perry_World Bank Flickr

The report was edited by Anne Himmelfarb and designed by X-Tempo Communications.

Table of Contents

TABLES 18

FIGURES 22

BOXES 12

PHOTO CREDIT: VILLEMAIN, UNEP

Abbreviations

BI	Business Interruption
CAT Bond	Catastrophe Bond
CAT XOL	Catastrophe Excess of Loss Reinsurance
CCRIF	Caribbean Catastrophe Risk Insurance Facility
CRAIC	Climate Risk Adaptation And Insurance in the Caribbean
GDP	Gross Domestic Product
LPP	Livelihood Protection Policy
NFIP	National Flood Insurance Program
RISCO	Restoration Insurance Service Company
SIC	State Insurance Company (Antigua and Barbuda)
SIDS	Small Island Developing States
SPC	Segregated Portfolio Company
XCD	Eastern Caribbean Dollar

Executive Summary

PHOTO CREDIT: FREYA MORALES, UNDP

Highly dependent on tourism for its economic development and financial health, the Caribbean region urgently needs to protect its natural ecosystems and biodiversity from climate change impacts such as increasingly frequent and intense natural disasters. Major floods, storms, and hurricanes in recent years have shown that disasters lead to tremendous losses, not only in the natural world, but among multiple businesses and industries—especially those that rely on the health of the environment, such as the Caribbean tourism industry, which depends on coastal ecosystems and marine resources. In the Eastern Caribbean, tourism accounts for 50 percent of regional gross domestic product (GDP) and about 40 percent of employment (Wellenstein and Connors 2022).

The economic and financial losses that result from natural hazards have left Caribbean islands with multiple challenges and limited financial capacity to cope with climate shocks. Some of the main impacts of climate change, such as beach erosion, sea-level rise, and intense flooding, disproportionately affect coastal communities and threaten the blue economy of the tourism sector. Climate change impacts have affected both infrastructure and the natural resources that enable tourism to continue and thrive.

There is untapped potential to utilize insurance products, and in particular innovative nature-based solutions, to reduce disaster risk and increase climate resilience in the region. Coastal areas in the Caribbean can serve as natural defense systems for protection against climate change, and the insurance industry could leverage such systems as part of integrated solutions that protect businesses amid disasters and that foster sustainable tourism. Some small pilots already launched around the world showcase how innovative insurance products can not only reduce the financial risk of disasters but also engage local communities in protecting and restoring natural habitats.

The tourism industry is a key source of income in the economy of the Caribbean, and tourism activities that depend on nature are particularly impacted by hazard events, which have immediate harmful effects on the natural environment, this presents a case to explore BI insurance in this sector. While Insurance coverage in the Caribbean tourism industry is quite high; the cover varies by country (Rozenberg et al. 2021). Grenada and St. Lucia are the islands with the most tourism firms covered by insurance. Most firms in the region have asset loss insurance, and very few have liability insurance or income loss (BI) insurance in place.

Nature-based financial solutions can be an innovative way to protect marine biodiversity in light of climate change impacts and insurance can, and has been designed to support marine conservation. Insurance tied to ecosystems is effective because these financial solutions can not only mitigate risks to the environment before a disaster happens, but also repair damage to natural assets, bringing positive outcomes for nature and the Caribbean population (The Nature Conservancy 2024). Some examples of risk mitigation by natural assets include coral reefs and mangroves. Coral reefs reduce almost 100 percent of wave energy, and thus can decrease the damage caused by storms. The presence of mangroves avoids around US$65 billion in annual losses from floods and storms, mostly related to tropical cyclones (Earth Security 2022).

Some innovative solutions have already been launched, such as the Belize Blue Bond, a pioneering initiative for marine conservation through debt restructuring and insurance. In December 2021, a parametric insurance policy combined with a sovereign debt transaction (a blue bond) was placed on the market for US$364 million. The blue bond was arranged by Credit Suisse, and the "catastrophe wrapper" was created by Willis Towers Watson (with risk capacity provided by Munich Re) as insurance protection for Belize's loan repayments after hurricane events. The catastrophe wrapper helps safeguard the country's 20-year sovereign debt structure, while the parametric transfer of risk strengthens Belize's sustainability and resilience to climate shocks, thereby helping to prevent credit rating downgrades and reducing the time it takes the economy to recover following a shock (Cook and Holliday 2022).

This report explores the case for introducing innovative insurance products for businesses within the tourism industry that leverage and conserve coastal and marine ecosystems. It presents an overview of the insurance market in the Caribbean, an analysis of the potential of insurance products to protect natural assets, and a consideration of international examples to be applied in the region. Insurance has great potential to mitigate disaster risk, but realizing this potential will require investing in education to expand insurance uptake, drawing lessons from prior experiences, minimizing financial burdens, exploring new products and types of insurance, ensuring that solutions are scalable, and improving quantitative tools and data.

KEY FINDINGS

This report finds that insurance can be designed to incentivize nature-based adaptation and help repair natural assets, presenting an opportunity for the Caribbean tourism industry to adopt insurance as a key strategy to reduce disaster risk and meet post disaster funding needs. To date, the main focus of insurers in the Caribbean has been on traditional assets (residential, commercial industrial buildings). However, Insurance markets in the region are slowly growing, but given the increasing intensity of hurricane seasons in the Caribbean, innovation will be an important strategy to safeguard the future of Caribbean small island developing states.

More high-quality data and risk models are essential to develop insurance policies that support the development of insurance products for coastal and marine ecosystems that foster sustainable tourism. The use of more accurate historical data to develop new products is key not only to increasing efficiency and effectiveness, but also to providing more reasonably priced insurance. This is because less accuracy (due to lack of data) will generally increase insurance premiums to compensate for uncertainty (Munich Climate Insurance Initiative 2020). Parametric products could include ecosystems and prioritize conservation and restoration, or hybrid insurance products that include a parametric trigger (to satisfy the parametric insurance guidelines) and also require proof of actual loss (based on a claim like traditional insurance) could and should be explored.

Communities play an important role in building climate adaptation and resilience and in reducing disaster risk, and their participation in insurance products can bring many benefits, including the increase of insurance penetration across the Caribbean. As seen in the NFIP in the United States, communities can be incentivized to collaborate in efforts to reduce risk and foster climate resilience. The NFIP not only provides flood insurance to at-risk communities (specifically property owners and businesses), but it invites them to become active participants in implementing flood protection activities through the Community Rating System. This type of arrangement, which offers discounts to communities that work to reduce risk, could be part of various insurance products, even if they focus on different perils or areas.

Insurance regulators should work with governments and industry across the Caribbean region to stimulate growth in the commercial and industrial insurance sectors and put in place key regulations. Financial incentives could be used to encourage investment in new products and enhance competition, while industry associations and government could collaborate on product promotion. Additionally, industry and regulators should seize the chance to be bold.

Innovation is needed to pioneer insurance products for nature-based solutions and biodiversity protection. Innovative insurance products around the world are proving effective in reducing disaster risk, and they could be adopted in the region to mitigate the impacts of disasters on biodiversity and natural landscapes and to allow the tourism sector to build resilience to climate disasters. There is an untapped opportunity to grow the commercial and industrial insurance markets horizontally through undersold and innovative coverages and products.

Background

PHOTO CREDIT: TOBIN JONES, UN

As natural disasters and extreme weather events become more frequent, intense, and costly around the world, climate-vulnerable regions like the Caribbean are especially affected. The Caribbean is the second most disaster-prone region in the world, with recurrent hurricanes, flooding, and many other types of disasters, and it is now at the center of the climate emergency. For countries with high levels of indebtedness like the Caribbean small island developing states (SIDS), climate-related disasters have only deepened financial vulnerability and overall risk, in turn impacting the insurance sector.

Biodiversity loss is directly associated with climate change, and each has implications for the other: increasing climate change impacts will result in more biodiversity loss, and this loss will have a significant impact on the climate crisis as natural assets disappear. The Caribbean is a biodiversity hotspot, hosting many species that are endemic to the region. It hosts 10 percent of the planet's coral reefs and around 1,400 species of marine mammals and fish (NOAA 2024). Climate-related disasters across Caribbean islands are increasingly threatening the rich and unique biodiversity of this part of the world (Bahamas Department of Statistics 2015).

Biodiversity plays a critical role in the regional economy, and its loss limits the services that ecosystems can provide to the economy, including marine and coastal-based tourism. For example, tourism in The Bahamas (which relies in large part on coastal areas) is estimated to contribute to around 50 percent of the country's gross domestic product (GDP), and

it employs half of the country's workforce (US Department of State, 2020). Changes to marine areas could damage this vital industry by decreasing the number of tourists who visit a natural landscape. These changes can also impact the natural resources available to those who rely on coastal areas for their work, for example, due to the increased vulnerability of food production systems and the climate impacts on the availability of marine fisheries.

In the last 70 years, the Caribbean region has experienced over 400 large disasters, mainly floods and tropical storms, which are intensifying yearly due to climate change.[1] Recently, Caribbean islands have faced several Category 5 hurricanes, including Hurricanes Irma and Maria (2017), Hurricane Dorian (2019), and Hurricane Beryl (2024). The region itself, composed of small islands, has specific physical characteristics that increase its vulnerability to these extreme events; its population, especially people living in low-lying areas close to sea level, is likewise highly vulnerable. The increased frequency of disasters as a result of climate change has deeply impacted Caribbean countries' populations, businesses and key industries, ecosystems, and economies.

Given this context of vulnerability, the Caribbean islands cannot afford to rely only on post-disaster financing strategies. Without pre-arranged (ex ante) financing instruments such as insurance and pre-financing facilities, vulnerable countries are often forced to reallocate their budgets to deal with the aftermath of a disaster, thus shifting funds away from key social and economic development areas. Insurance—a financial tool arranged ahead of disasters to manage the expense of risks that are usually predictable—can help offset these public sector expenses.

This report explores insurance's role in supporting marine-based and coastal tourism in the Caribbean. The first section presents a detailed analysis of the insurance market in 10 Caribbean countries, based on data from Axco, and identifies challenges and opportunities in the regional and domestic insurance industry. The next section discusses the importance of natural assets and biodiversity for tourism and the economy as a whole in the region, and looks at the role of insurance in protecting these natural resources. The third section reviews innovative global products and considers their relevance for the Caribbean. Finally, the last section presents key findings of the research and makes recommendations for Caribbean governments and the tourism and insurance industries.


PHOTO CREDIT: YUTAKA NAGATA, UN

1- Between 1970 and 2019, about half of all disasters around the world were weather, climate, and water hazards, and climate-related disasters accounted for over 70 percent of all reported economic losses (WMO 2021).

Insurance in the Caribbean


PHOTO CREDIT: STUART PRICE, UN

Insurance has a key role to play in mitigating and adapting to the challenges posed by climate change and is an important financial protection measure for disaster-prone regions such as the Caribbean. Insurance can help incentivize risk reduction by ensuring that assets meet minimum standards and by promoting "build back better" policies after an event. Parametric insurance can be an efficient tool for quick payouts after an emergency, when funds are needed most urgently. By delivering immediate liquidity to Caribbean governments, parametric insurance supports relief and reconstruction efforts and mitigates the often large financial impacts of climate disasters.

Insurance has been in the Caribbean since the 1960s, but several factors have led to structural limitations in the insurance industry, including the high costs of premiums, relatively high expense ratios, limited product offerings, and high dependence on reinsurance to manage capital, earnings, and the impacts of losses. Consequently, the insurance markets in the region are not fully developed. However, they do offer a significant opportunity for new product development to drive additional growth.

Reducing the number of uninsured assets—also referred to as "closing the insurance protection gap"—is a vital way of building climate resilience through the insurance industry. The financial gap between insured and uninsured losses is a focus of the insurance industry and regulators around the world, given its high cost and strong impact in a post-disaster scenario (Swiss Re 2018). See box 1 for details.

Box 1. The Insurance Protection Gap

The insurance protection gap measures the difference between the actual insurance coverage in a country and the optimal insurance coverage; it provides information on uninsured losses in the context of a disaster. Due to various systemic factors described in this report, insurance only partly covers economic losses from recurrent disasters in the Caribbean.

Insurance regulators could play a key role in closing the protection gap in the Caribbean, as the lack of a clear regulatory framework in this area is among the main challenges facing the region's insurance market. Another challenge is the lack of awareness of innovative insurance products that could help to reduce the protection gap, especially in the context of biodiversity protection and nature-based solutions.

In many Caribbean countries, the level of property insurance penetration is low to moderate; according to Axco data, it ranges from just over 2 percent in Trinidad and Tobago to 4.2 percent in Antigua and Barbuda. A useful measure of the uptake of insurance in the markets is the total written property-related premium as a percentage of the size of the economy (through GDP). This figure is referred to as insurance penetration (see the subsection entitled "Insurance Premiums and Penetration by Country" for more information). Insurance penetration and GDP are considered positively correlated; as a country and its citizens become richer, the number and value of private assets covered by insurance increases, which can be associated with the economic challenges in the Caribbean and the consequent low insurance penetration. This correlation is also reflected in the annual premium per capita, which according to Axco is comparatively low in the Caribbean, ranging from US$136 (in Belize) to US$970 (in The Bahamas).

Because cover for climate catastrophe–related losses is often provided as part of overall property insurance policies, the region's relatively low property penetration limits countries' capacity to rely on insurance in times of catastrophe. In addition, many economic assets and infrastructure for the Caribbean tourism sector are located in high-risk areas that are prone to floods. Thus the lack of property insurance coverage, coupled with the challenges around high-risk properties, constrains the response that the Caribbean financial sector can offer in the aftermath of disasters and contributes to a lack of financial resilience.

It has been around 20 years since disaster risk financing approaches started emerging in the Caribbean, mainly after Hurricane Ivan (2004) and the subsequent (2007) launch of the Caribbean Catastrophe Risk Insurance Facility (CCRIF)[2]. With the presence of CCRIF in the region, there have been increased efforts to promote disaster and climate risk insurance and so mitigate the risk from recurrent disasters (Munich Climate Insurance Initiative 2020).

As the Caribbean economies continue to grow, insurers operating in the region have an opportunity to invest in product innovation to increase the range of products available. This is particularly true in the commercial and industrial segments of the property markets; as they represent 50–70 percent

2- CCRIF was restructured in 2014 as a segregated portfolio company (SPC).

of the property market in a number of countries, they have the potential for outsize growth. Although insurers would like not cover properties located in high-risk, high-exposure areas, higher insurance penetration in the context of disasters could still be achieved.

INDEMNITY VERSUS PARAMETRIC INSURANCE

Both indemnity and parametric insurance products are available in the Caribbean as risk transfer tools, but their uptake is limited.

Indemnity insurance, or what is often viewed as "traditional insurance," is based on the actual loss experienced, so that the payout depends upon the damage to the insured property or asset. The payout is often slow because a claim must be submitted and damage to the property assessed before the payout can be made. Slow payouts are especially common for catastrophe-related losses, as it can take a long time for the final loss to be reported by the insurance industry (Jarzabkowski et al. 2019). Standard indemnity insurance is widely available in the region through the non-life sector, which offers policies to protect against loss to buildings and contents for standard lines of business (residential, commercial, and, to a lesser extent, industrial risks).

Parametric insurance provides payouts based upon pre-agreed parameters following a triggering disaster or adverse weather event. It provides timely support immediately after a disaster, as it is based on pre-agreed parameters for hazards and their impacts and does not require assessment of individual claims. The parameters can be based on the intensity of an event (hurricane wind speed, rainfall volume, etc.) and/or the calculated loss of the event. When the event meets or exceeds the pre-determined parameter thresholds, the payout can be released. The best-known provider of parametric insurance in the region is CCRIF SPC; as of mid-2024, 19 Caribbean countries are members of CCRIF SPC and have parametric insurance.

At the same time, the uptake of parametric products by domestic insurers in the Caribbean region is limited. According to Axco, there does not appear to be much use of domestic parametric products. Although markets have access to them, traditional indemnity insurance products are more widely used for nonresidential assets. At the regional or international level, more sophisticated parametric catastrophe risk transfer options are available, such as catastrophe (cat) bonds and regional insurance facilities, like CCRIF SPC. For more detail on CCRIF's role in helping Caribbean countries respond to disasters, see box 2.

Box 2. Caribbean Catastrophe Risk Insurance Facility

Launched in 2007, CCRIF SPC is the first-ever multi-country risk pool in the world and provides parametric insurance for various disasters in Caribbean countries. It was established with support from the World Bank and the Government of Japan, and it gives its 19 Caribbean member countries immediate liquidity after disasters. In total, CCRIF SPC has 30 members, including 19 Caribbean islands, four Central American countries, three electric utilities, three water utilities, and one tourist attraction.

With the support of the World Bank, CCRIF SPC has since its launch delivered US$268 million in payouts to 17 member countries (64 payouts in total) and has reached 3.5 million beneficiaries in the region. Currently, CCRIF SPC offers six parametric insurance products (including insurance specifically for water utilities, which was added in September 2023).For every product, the policy is triggered based on a trigger event loss that is agreed on and established in advance of a disaster.

After Hurricanes Maria and Irma in 2017, CCRIF distributed US$29.6 million to affected member countries. This provided quick financial support to the islands but did not serve as funding for full climate adaptation. Most recently, the CCRIF SPC paid out funds to several members as a result of Hurricane Beryl in July 2024, including US$44 million to Grenada on its tropical cyclone policy—the largest payout ever made by CCRIF SPC. Of this amount, almost US$1.1 million went to the fisheries sector via COAST (Caribbean Oceans and Aquaculture Sustainability Facility).

The CCRIF SPC policy that has resulted in the highest total payout from the start of the facility in June 2007 to December 2023 is the tropical cyclone policy, which has paid out over US$144 million, followed by the excess rainfall policy at US$73 million and the earthquake policy at US$50 million.

In 2019, with the launch of insurance policies for fisheries (COAST), CCRIF began offering innovative products to expand insurance coverage in the Caribbean. With the launch of the electric utilities product in 2020, CCRIF SPC pioneered insurance coverage for nonstate actors, including private sector companies (CCRIF SPC 2024).

DOMESTIC INSURANCE MARKETS IN CARIBBEAN ISLANDS

Insurance market profiles across the Caribbean vary substantially; each country has its unique market dynamics, regulatory framework, and risk landscape that contribute to variations in insurance practices. However, there are some commonalities, such as the catastrophe perils countries are exposed to, the types and availability of insurance products they offer, and the levels of industry concentration and insurance penetration within countries. These commonalities underscore the interconnected nature of insurance practices in response to climate-related disasters. The analysis below identifies the larger local and regional insurers operating by country in the Caribbean (see annex 1), breaks down the perils included in standard policies, and looks at how these perils have impacted premiums and penetration in each Caribbean country reviewed.

Countries in the Caribbean region shape their standard insurance policies based on peril, including earthquakes, windstorms, and floods. Most hydrometeorological perils impacting the islands, such as wind and flood, are related to hurricanes and tropical cyclones, although these perils can also occur independently. Coastal surge related to hurricanes is also a factor in some countries but is dependent on the nature of coastal and adjacent underwater terrain.

As part of the review of insurance markets across the Caribbean, based on the data in Axco reports for each country, 10 countries highly dependent on tourism were analyzed: Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Jamaica, St. Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago. These countries need to protect the marine assets that attract tourists and are therefore well suited to the development of innovative commercial insurance products for the tourism industry. They represent a good cross-section of the insurance markets in the region: they include larger markets like The Bahamas, Barbados, Jamaica, and Trinidad and Tobago, which between them write over US$1.5 billion in gross premiums and have total insured assets of almost US$3 billion (as of 2020/21), as well as smaller markets like St. Lucia and St. Vincent and the Grenadines, which have a combined gross written premium of less than US$100 million (as of 2019).

PHOTO CREDIT: KADIR VAN LOHUIZEN, UNDP

Box 3. The Blue Economy in the Caribbean

The activities defined under the "blue economy," that is, those connected to the ocean in some form, are key to the economic development of the Caribbean. These activities include businesses in ports, renewable energy, marine aquaculture, the seafood industry, and ocean-based tourism, among others. As stated by the High-Level Panel for a Sustainable Ocean Economy, US$1 of investment in ocean actions could deliver at least US$5 in global benefits in the next 30 years.

In the Caribbean region, the blue economy is increasingly becoming attached to the disaster risk financing space, with the potential for ocean-related economic activities to be correlated with risk transfer products. The blue economy can likewise be seen as "an emerging investment opportunity" thanks to increased regulations to protect oceans and limit overfishing, technological innovations to improve ocean health, and changes in the preferences of consumers (Rockefeller Asset Management 2024, 2).

In many parts of the world, the tourism industry is associated with (and even dependent on) nature; for SIDS, coastal and marine tourism represents not only the biggest tourism segment, but also the largest economic sector. To protect coastal and marine assets and further engage the local economy, especially those parts of it involved in the tourism

industry, it is essential to understand the blue economy's role in the Caribbean tourism sector (Ram, Ramrattan, and Frederick 2019).

The blue economy and specifically coastal tourism are connected to the health of marine ecosystems. The longevity of this tourism segment depends on a healthy environment, and climate change is already impacting Caribbean coasts and causing severe damage, such as beach erosion, water pollution, and coral reef damage (Moffett 2024). Estimates indicate that over half of the Caribbean's coral reefs could be lost by 2050 due to ocean acidification, a direct result of increased CO2 in the ocean driven by climate change. Such threats to the region's biodiversity also threaten its tourism.

After Hurricanes Maria and Irma in 2017, CCRIF distributed US$29.6 million to affected member countries. This provided quick financial support to the islands but did not serve as funding for full climate adaptation.

The range of products in the non-life sector is remarkably homogeneous across all 10 countries (with the exception of Trinidad and Tobago, though this discrepancy is likely due to a reporting convention). Most of the market consists of policies to cover property and motor risks. The rest of the non-life market comprises personal accident and health policies and (in some markets) aviation, marine, transit, and liability (casualty) risks. In Belize, a small part of the non-life market consists of surety, bonds, and credit; no product offerings currently focus on the blue economy.

From a distribution point of view, the markets are dominated by intermediaries, i.e., brokers and agents. The agency approach dominates in all markets except Trinidad and Tobago, where brokers are responsible for about 80 percent of business transacted. Direct business, in which customers deal directly with the insurer, accounts for 10–15 percent of business in some markets. (Insurance purchased over the internet, which is a form of direct insurance, is beginning to gain a foothold in some markets—in particular Jamaica, where it accounts for approximately 6 percent of business.) By comparison, direct non-life insurance in the United Kingdom accounted for 32 percent of the market in 2021. Intermediary-related distribution could be accessed for blue economy-related products.

The concentration of the insurance markets, based on the market shares of the largest three to five insurance companies, varies. For example, in Jamaica and Belize, the top-five companies have between 80 percent and 90 percent of the market share (a relatively high concentration), whereas in countries like Dominica and Grenada, the concentration is moderate, and the top-10 companies take about 95 percent of the market. By comparison, the United Kingdom is relatively unconcentrated, with the top-five companies accounting for just over 50 percent of the market in 2020. High levels of market concentration are associated with less competition, which in turn can lead to less product innovation and less efficient use of capital.

Several regional and local insurers operate in the Caribbean, along with a single state-owned insurance company, the State Insurance Company (SIC) of Antigua and Barbuda. Several companies active in the Caribbean market have operations across multiple islands in the region.

The industry is now served by companies in the private sector, with the exception of SIC. Despite plans for partly privatizing SIC, it appears to be still wholly owned by the Government of Antigua and Barbuda, as a limited liability company.

Insurance Premiums and Penetration by Country

Insurance penetration is a good measure of the uptake of insurance policies within a country. Based on this measure, the 10 Caribbean countries analyzed have relatively small insurance markets, as shown in table 1. Insurance penetration—insurance premium as a percentage of GDP—is also generally low to moderate, ranging from just over 2 percent in Trinidad and Tobago to 4.2 percent in Antigua and Barbuda.

The amount of property risk retained locally in the Caribbean markets is likewise quite low. It is less than 10 percent in Barbados, Jamaica, and Belize, and a more substantial 23 percent in The Bahamas (table 1). Lower property risk retention by the insurance markets indicates a high dependency on international reinsurance to manage capital levels, earnings volatility, and the level of risk retained. A profitable insurance business is willing to transfer some of its profit to reinsurers in return for the protection that reinsurance offers; but reinsurance can also be used to offset the impacts of poor underwriting.

Table 1. Comparison of Key Insurance Market Statistics

Country	Gross non-life premium and growth	Non-life insurance penetration	Non-life assets and growth	Retained risk
Antigua and Barbuda	US$69.6 million -3.2% (2019)	4.2%, U$716 per capita (2019)	Assets: XCD 599.7 million (US$222 million) +14.9% (2019)	Life and non-life retention is 49.1%; property regionally estimated to be ≤ 20% (2019)
The Bahamas	US$381 million +2.5% (2020)	3.9%, US$970 per capita (2020)	Assets: US$682 million (2020); TSI: US$16.5 billion (2015)	Low; non-life retention is 28.2% (2020); property is 23% (2017); high use of reinsurance
Barbados	US$205 million -1.3% (2021)	4.2%, US$729 per capita (2021)	Assets: US$525 million +1.8% (2021); TSI: US$21.5 billion (2020)	Retention is very low at 3.3% (2021); major use of reinsurance
Belize	US$54.0 million +0.9% (2020)	3.1%, US$135.8 per capita (2020)	Assets: US$178.5 million +10.9% (2020)	Retention is 9.2% (2020); major use of reinsurance
Dominica	US$15.9 million -5.5% (2014)	3.0%, US$223 per capita (2014)	Assets: XCD 179.4 million (US$66.2 million) +9.6% (2014)	Non-life retention is 55.7% (2014)
Grenada	US$36 million +6.6% (2019)	3.0%, US$321 per capita (2019)	Assets: XCD 422.2 million (US$156 million) +10.2% (2019)	Life and non-life retention is 26.3%; property regionally estimated to be ≤ 20% (2019)

Country	Gross non-life premium and growth	Non-life insurance penetration	Non-life assets and growth	Retained risk
Jamaica	US$433.9 million +9.2% (2021)	3.0%, US$153.4 per capita (2021)	Assets: US$670 million (2021); TSI: US$29 billion, with US$18.6 billion for hurricane/ earthquake	Retention is very low at 2.1%, reflecting high dependence on reinsurance (2021)
St. Lucia	US$67.5 million +10.3% (2019)	3.2%, US$369 per capita (2019)	Assets: XCD 699.9 million (US$259 million) +10.4% (2019)	Life and non-life retention is 66.0%, property regionally is estimated to be < 20% (2016)
St. Vincent and the Grenadines	US$23 million -3.4% (2019)	2.8%, US$211 per capita (2019)	Assets: XCD 268.4 million (US$99 million) +9.1% (2019)	Non-life retention is 41.5% (2014); property is 8.8% (2013)
Trinidad and Tobago	US$619.5 million +4.4% (2021)	2.8%, US$441.4 per capita (2021)	Assets: US$946 million +2.0% (2021)	Retention is 55.2% for all non-life but approximately 10% for property (2016)

Source: Axco reports
Note: TSI = total sum insured.

Insurance, particularly insurance protecting against catastrophes, could be more widely accessed in these countries. This conclusion is based on the data presented above on insurance penetration, level of premium per capita, types of policies and local products offered, and number of insurance market participants. This situation has several possible explanations, as outlined in Table 2.


PHOTO CREDIT: KADIR VAN LOHUIZEN, UNDP

Table 2. Potential Reasons for Limited Non-Life Property Premiums and Penetration in Caribbean Countries

Reason	Description	Mitigation
Affordability	Insurance is often seen as too expensive or is unaffordable even for those who see value in having the coverage	Improve the cost-benefit balance to show how the policies are more affordable
Claims process	Claims can be administratively complex, and payments can be slow	Offer parametric products, which provide a quicker payout and do not require claims to be submitted
Insurer of last resort	People's belief (based on prior experience) that the government will bail them out reduces the incentive to purchase policies	Improve the value proposition of insurance so that more people will participate in the insurance sector (though belief in government as insurer of last resort will persist)
Awareness of products/ financial literacy	People are not aware of what products and types of coverage are available	Educate people to improve their awareness of insurance policies, availability, and effectiveness; work with local insurance associations and regulators to promote their value
Financial access	People do not have bank accounts, making payments a challenge (especially outside main cities); people are often not educated about how to manage their money	Find additional ways to make payments, e.g., payments in lieu of cash or via tokens

Source: World Bank 2024

PRODUCT CHALLENGES AND OPPORTUNITIES

The Caribbean insurance markets have shown strong growth in recent years, and the insurance industry in the region has the opportunity to develop and benefit from new products for the commercial and industrial segments of the economy. In particular, there is a significant growth opportunity for business interruption (BI) insurance—which protects against loss of business revenue and is often catastrophe-related—given the limited uptake for this product. In most of the countries discussed in this report, figures for BI uptake are not available, but in Trinidad and Tobago it represents no more than 5–10 percent of commercial premiums.

The low level of BI insurance penetration leaves a considerable insurance protection gap, particularly in the area of commercial revenue-related insurance. In many countries, regulators strive to close this gap, and for the Caribbean insurance industry, efforts to close the gap could be seen as an opportunity for the development of innovative products, which are needed to effectively support marine-based and coastal tourism in the region.

The limited availability of BI policies in the markets has several possible explanations:

» The use and value of BI policies are not well understood by potential insurers.

- Customers who made BI-related claims have had bad experiences. For example, claims related to the pandemic were rejected because they were not related to any physical damage triggers (included in the policy wording); these decisions resulted in disputes, poor customer perception, and business challenges for the insurer.
- Insurers are focused on generating revenue from existing products that are more popular.
- Product offerings and innovation are limited due to weak competition, lack of access to better data, and insufficient regulatory incentives.

The first two reasons relate to product demand, while the last two reasons relate to product supply and incentives; this combination of demand and supply constraints significantly limits the uptake of products related to business interruption.

The commercial opportunities for BI products could include the tourism and marine sectors, especially given the importance of tourism to the region. According to Axco, tourism accounts for 45 percent of GDP in The Bahamas and is a major contributor to GDP in Belize, and both countries are exposed to the wind and surge impacts of hurricanes. These not only directly damage infrastructure and property but also lead to considerable loss of revenue. Thus BI products could provide valuable support to the tourism sector across the region.

The introduction of new regulations is also relevant in this context. Regulations could be designed to align commercial insurance policies with incentives to protect the environment and promote sustainability outcomes, including conserving and restoring natural infrastructure. This alignment could foster the development of new policies that provide coverage for loss of income while at the same time offering credits to the tourism industry to ensure its long-term prosperity. Regulators have a key role to play in encouraging greater competition and innovation in this space.

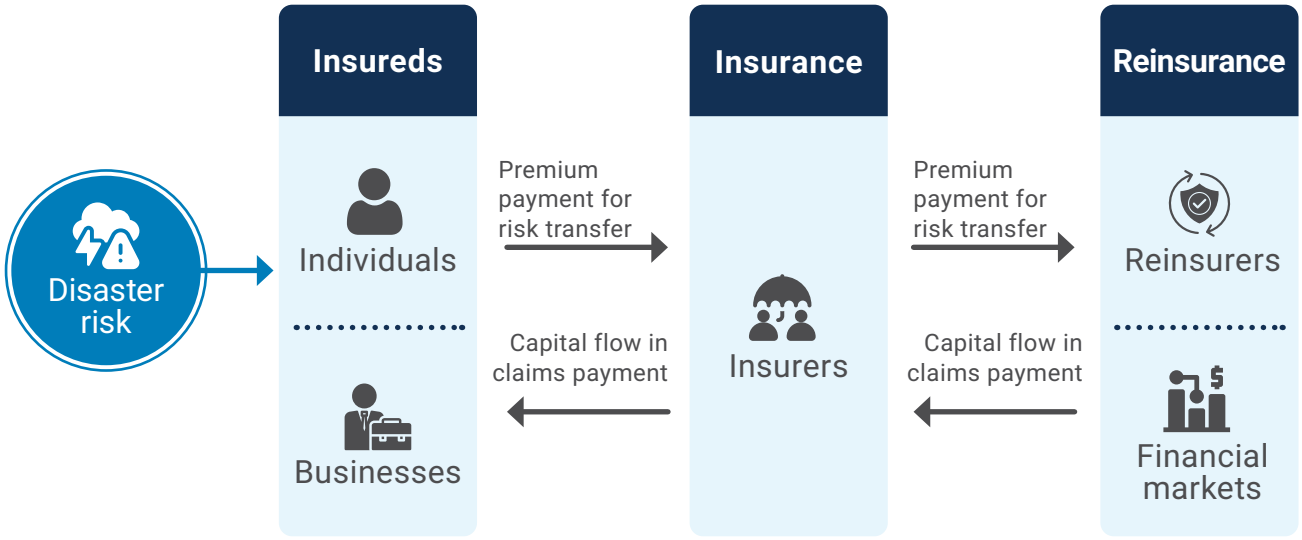
PHOTO CREDIT: KADIR VAN LOHUIZEN, UNDP

THE REINSURANCE MARKET

In the context of disasters, individuals, businesses, and governments are not the only entities that transfer risk to another party (the insurer); insurers themselves can also transfer risk to a third party, both to protect their own solvency and to manage earnings and capital volatility. This transfer of risk by insurers is called reinsurance. Figure 1 illustrates the processes involved.

The evolution of disaster risk insurance is directly associated with the global reinsurance markets, where insurance companies can insure themselves against excessive losses. Because reinsurance helps to spread the concentrated risks of disasters, it supports insurance companies' objective of managing losses, earnings volatility, and capital (Jarzabkowski et al. 2023).

Figure 1. Transferring Risk in the Reinsurance Market



Source: Jarzabkwoski et al. 2023

Hurricane Beryl was an unwelcome reminder that Caribbean islands can be impacted in their entirety by a single natural disaster, such that local insurance carriers can experience significant losses. Although the islands are small, many disasters that have affected the region are large in scale and able to impact an entire national insurer's portfolio. Annex 2 shows that many of the local insurers are also part of multinational and/or regional groups, meaning that these losses can impact insurers across the region.

Hazards that affect an entire region—which the Caribbean often experiences—threaten national budgets and lead to increased debt on a large scale. To address this risk and protect themselves from bankruptcy, insurers rely on catastrophe excess of loss reinsurance (cat XOL). In the Caribbean, as in many reinsurance markets, catastrophe risk is transferred principally by using cat XOL structures. This is evident in table 3, which shows the reinsurance used in connection with recent disasters in Caribbean countries.

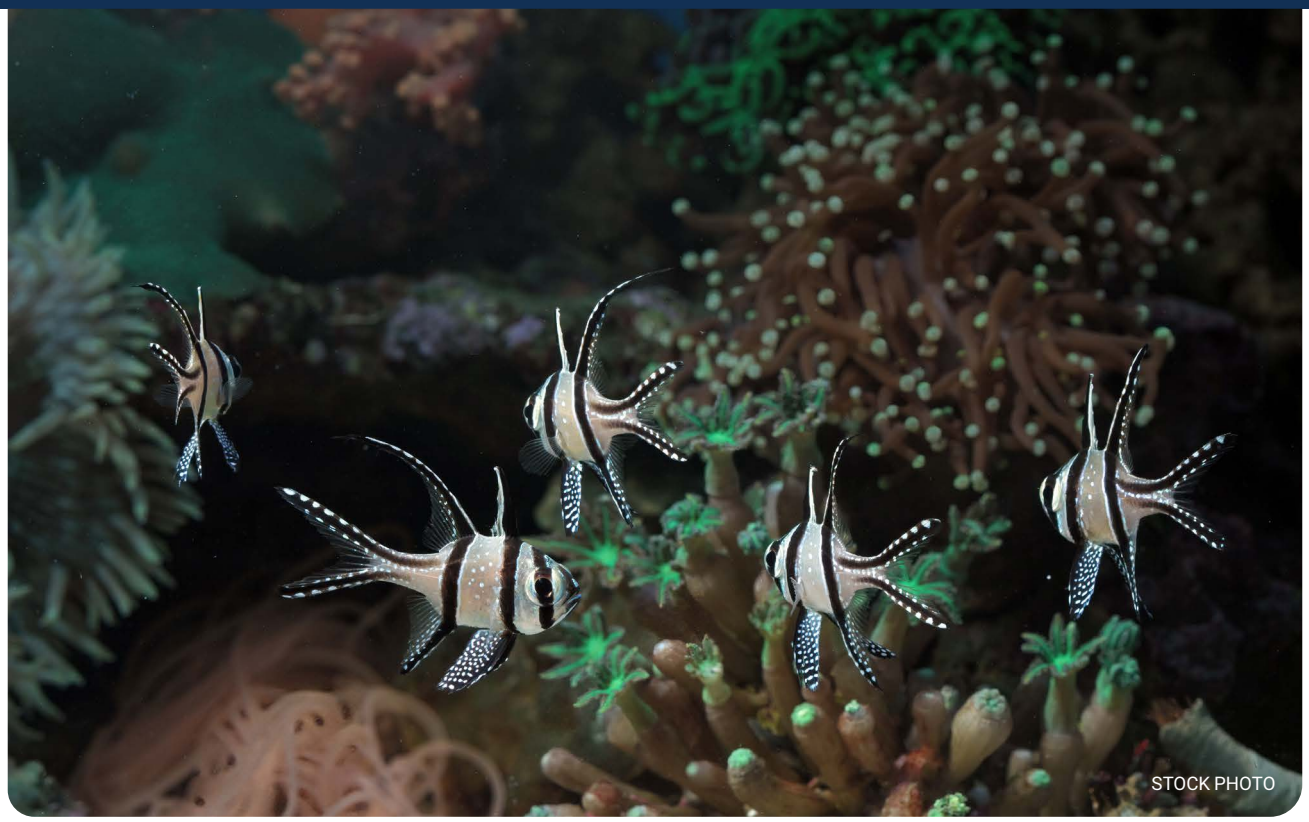
Table 3. Recent Events and Reinsurance in Selected Caribbean Countries

Country	Event	Reinsurance
Antigua and Barbuda	Hurricane Gonzalo (2014); Hurricane Omar (2008)	Named perils prevail; multi-cat XOL offered by most companies
The Bahamas	Hurricane Dorian (2019), US$1.9 billion property loss; Hurricane Matthew (2016), > US$400 million insured property loss	Mainly cat XOL; low retentions using reinsurance
Barbados	Hurricane Elsa (2021); Hurricane Ivan (2004); Hurricane Janet (1955)	Catastrophe reinsurance (usually cat XOL) on net retentions after proportional cessions
Belize	Hurricane Earl (2016), insured loss of US$10 million; Hurricane Richard (2010)	International reinsurers; likely to use cat XOL
Dominica	Hurricane Maria (2017); Hurricane Irma (2017); Hurricane Dean (2007)	Named perils prevail; multi-cat XOL offered by most companies
Grenada	Hurricane Beryl (2024); Hurricane Ivan (2004)	Named perils prevail; multi-cat XOL offered by most companies
Jamaica	Hurricane Beryl (2024); Hurricane Ivan (2004); Hurricane Gilbert (1988); earthquake and tsunami in Port Royal (1692)	Hurricane and earthquake coverage are normally placed together, based on the combined 250-year loss generated by a catastrophe risk model; most cat policies are multi-peril
St. Lucia	Hurricane Tomas (2010); Hurricane Dean (2007)	Named perils prevail; multi-cat XOL offered by most companies
St. Vincent and the Grenadines	Hurricane Beryl (2024); Hurricane Tomas (2010); volcanic eruption (2021)	Named perils prevail; multi-cat XOL offered by most companies
Trinidad and Tobago	Hurricane Ian rain (2022); non-hurricane flood events (2017, 2018); earthquake (2018); Tropical Storm Alma (1974); Hurricane Flora (1962)	Cat XOL is market standard, with 1 reinstatement (100% extra premium)

Source: Axco reports

At the time of writing, no locally based reinsurance companies in the Caribbean islands were found. As seen in table 1, the amount of property risk retained locally in the Caribbean markets is generally low, which indicates a high dependence on reinsurance. The international reinsurance markets would be accessed to transfer risks not retained in the local markets. Note that TRINRE (formerly the Reinsurance Company of Trinidad and Tobago) was privatized in 1994 and is now a direct insurance writer.

Biodiversity in the Caribbean


STOCK PHOTO

The Caribbean region is a global biodiversity hotspot, housing around 10 percent of all coral reefs globally and over 12,000 marine species in its beaches, mangrove swamps, and seagrass beds. Coastal and marine ecosystems in the region are valued at around US$54 billion; they play a key role in the regional economy through tourism, fisheries, and much more (see the section on the blue economy), which generate approximately US$15 billion yearly for the Caribbean. Despite its vulnerability to the impacts of climate change, including hurricanes, droughts, and floods, regional biodiversity itself has an important role in mitigating climate change and disaster risk (High-Level Working Group on Climate Change in the Caribbean 2023).

In the Caribbean, coastal ecosystems make a vital contribution to preserving the well-being of the population. Mangrove forests in the Caribbean represent around 26 percent of the global mangrove cover and, are natural coastline barriers that offer multiple economic benefits, including coastal protection, preservation of local infrastructure, carbon capture and storage, and support for fish and sea life reproduction—thus providing both food and highly sought-after tourism services (Smith 2024). Coral reefs also represent a valuable ecosystem that provides multiple services to the coastal economy, including protection from storms. For example, the Mesoamerican Reef—located within the Caribbean Sea—provides protection to 4.3 percent of Mexico's population, 1.9 percent of its built capital, and 2.4 percent of its hotel infrastructure per year (Reguero et al. 2019). Reefs in Quintana Roo prevented 43 percent of additional damage during Hurricane Dean in 2007, and are critical to keeping the coastline stable and preventing erosion (Escudero et al. 2021).

The health of finances and economies in Caribbean countries cannot be separated from the health of their ecosystems. In Jamaica, for example, current rates of erosion of just a few key beaches (Negril, Montego Bay, and Ocho Rios) are expected to cause an annual loss in value of US$19 million over 10 years via decreases in tourist satisfaction (Kushner et al. 2011). Such erosion is a result of the climate crisis, which is intensifying the financial vulnerability of low-income countries and SIDS. The decline of coral reefs due to bleaching and ocean acidification could also leave beaches more exposed to damaging wave action and cause substantial economic losses.

By one estimate, US$175 billion is needed by 2030 to strengthen marine biodiversity and sustainable fishing and protect the Caribbean coast against climate disasters—but since 2015, only US$10 billion has been allocated toward these ends (Green Climate Fund 2023). In this context of environmental fragility and funding shortfalls, insurance can be an important tool that addresses the risks to biodiversity in the region by integrating finance with nature. Given increasing innovations to the Caribbean insurance market in recent years, there may be space for biodiversity protection correlated to insurance coverage. Conversely, the destruction of biodiversity could have lasting impacts on the insurance and reinsurance industry, deepening the level of catastrophes, and consequently, the coverage required (Cook and Holliday 2022).

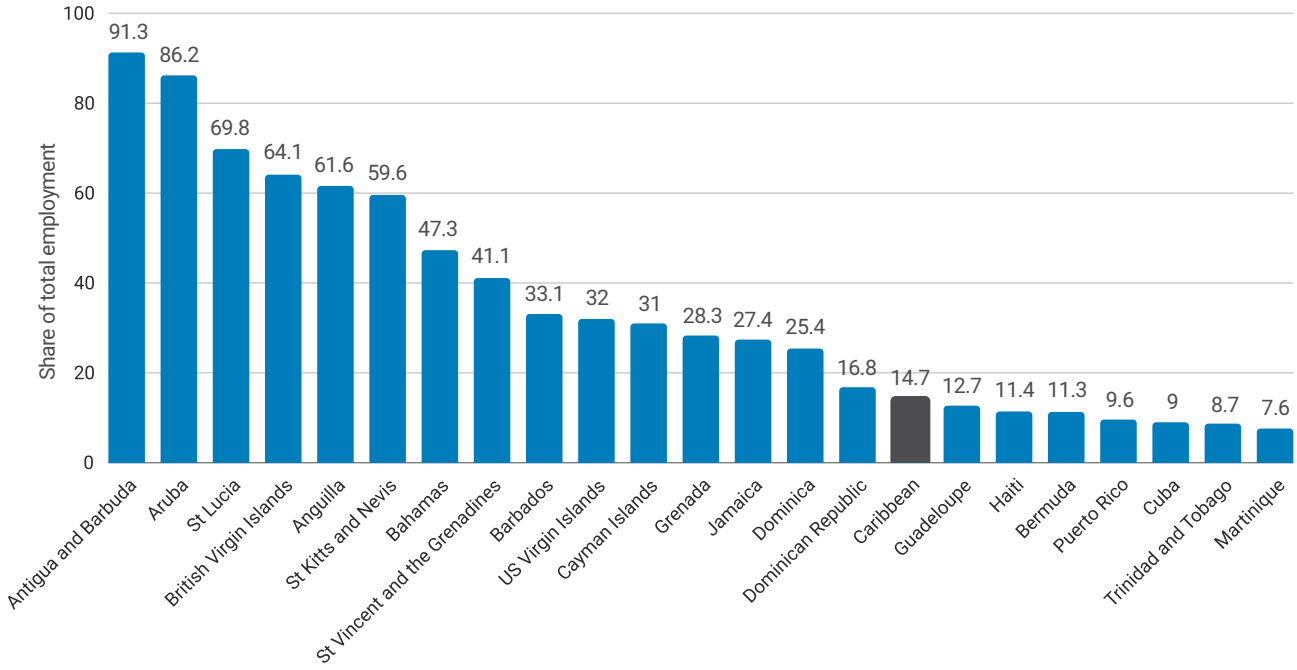
BIODIVERSITY AND THE TOURISM INDUSTRY IN THE CARIBBEAN

The tourism industry is a key source of income in the economy of the Caribbean, and many island states in the region—such as Antigua and Barbuda, The Bahamas, Barbados, Grenada, and St. Lucia—depend on the tourism sector for their development. Tourism accounts for 50 percent of the regional gross domestic product (GDP) and around 40 percent of employment in the Eastern Caribbean (Wellenstein and Connors 2022). Figure 2 shows the percentage of jobs that tourism represents as a share of total employment for the main tourism-dependent economies in the Caribbean region. As of 2020, the tourism industry employed 413,000 people throughout the region (ILO 2020). In Antigua and Barbuda, jobs generated from the tourism industry represented over 90 percent of all employment in the country in 2022.


STOCK PHOTO

Figure 2. Employment in the Tourism Sector as a Percentage of Total Employment in Caribbean Islands (2022)

Jobs in the travel and tourism sector as share of total employment in the Caribbean in 2022, by country or territory



Source: World Bank 2024

The exposure of the Caribbean to hurricanes has had a direct impact on the tourism industry—which is largely active in coastal areas and natural landscapes across the region—and therefore on the Caribbean's main economic activities. Depending on hurricanes' severity and frequency, the impacts can lead to the closure of businesses and reduce overall tourist numbers over the long reconstruction period.

Tourism activities that depend on nature are particularly impacted by hazard events, which have immediate harmful effects on the natural environment. The segment of the tourism industry called ecotourism, which is becoming increasingly popular, is especially vulnerable in this regard, given its direct association with nature. Box 4 summarizes the rise of ecotourism as an alternative to mass tourism across Caribbean islands, highlighting the economic benefits – as well as the benefits for environmental protection – of tourism that is closely connected to natural ecosystems.

Box 4. The Rise of Ecotourism

Ecotourism is defined by the International Ecotourism Society as "responsible travel to natural areas that conserves the environment [and] sustains the well-being of the local people" (TIES 2015). This type of tourism is very prominent in the Caribbean, where much tourism is driven by the islands' appealing ecosystems and natural settings. Ecotourism is often guided by the desire to conserve natural habitats and biodiversity, and it may contribute in various ways to the protection of the environment.

Multiple resorts and hotels in the Caribbean that are located in natural settings and have a sustainability focus have been ranked high in travel guides and have attracted more tourism to the region as a result. Examples include the Secret Bay resort in Dominica, which is a luxury resort surrounded by the island's rainforest (CS Global Partners 2024), and the Oualie Beach Resort in St. Kitts and Nevis, which focuses on sustainable practices and uses low-energy lights, solar heaters, and rainwater for the gardens, where the resort grows its own herbs and flowers (Oualie Beach Resort).

Ecotourism in the Caribbean also plays a role in boosting the economy, creating more jobs and generating income through a more diversified tourism industry, focused not only on the traditional beach hotels, but also on immersive experiences in the Caribbean landscapes.

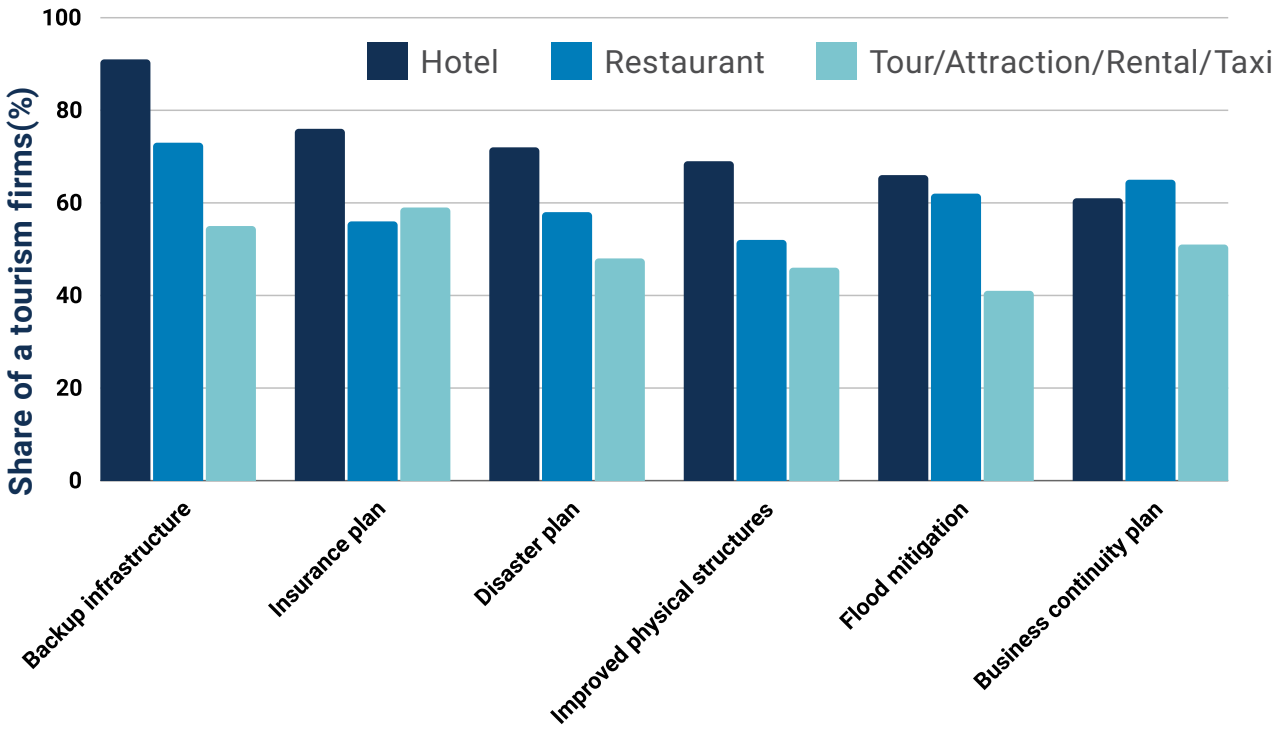
Besides ecotourism, some other subsectors and segments of the tourism industry have direct and indirect impacts on Caribbean ecosystems and also suffer from recurrent disasters; they include cruises, large resorts, and many more. Although all tourism segments are affected, the impacts, costs, and policy implications may be different for each subsector; thus differentiated approaches are needed to deal with the costs associated with biodiversity losses and risks.

Because of the risks that climate-related events pose to marine biodiversity and ecosystems, disaster risk management plans in the tourism sector often include insurance or other pre-arranged finance. Figure 3, which is based on a survey of the Caribbean tourism industry in 2020, illustrates the extent to which tourism firms consider themselves prepared for disasters. It suggests a good level of planning for shocks through insurance and business continuity plans across hotels, restaurants, and other areas (Rozenberg et al. 2021).

PHOTO CREDIT: TOBIN JONES, UN

Figure 3. Level of Disaster Preparedness among Caribbean Tourism Industry Firms

Disaster preparedness in tourism industry firms across the Carribbean



Source: Rozenberg et al. 2021, citing Erman et al. 2021

Around 63 percent of 1,400 surveyed tourism-related firms in the Caribbean have an insurance plan (based on the average of the three types of firms—hotels, restaurants, and tour/attraction/rental/taxi businesses—shown in figure 3); this share suggests a relatively high level of insurance to cover disaster risk. A similar share (approximately 60 percent) of tourism-related firms also have business continuity plans. This figure likewise points to a good level of financial preparedness for disasters. It should be noted, however, that these data are not specific to coastal and marine-based tourism businesses, which have a key role in the blue economy in the Caribbean and are highly exposed to disasters.

An important means of protecting tourism business continuity is the use of catastrophe insurance to fund property repairs after a disaster and (where the policy provides) compensate for lost revenue. A good example of the benefits of such insurance is offered by Mexico: following Hurricane Wilma in Cancun and Cozumel in 2005, the insurance industry paid over US$4.6 billion (adjusted to 2024 values) to cover losses to hotels, the broader hospitality sector, and local services in Mexico (AP 2006).

CONNECTING INSURANCE TO BIODIVERSITY PROTECTION

To help connect business protection to the protection of biodiversity, risk management products will need to measure Caribbean ecosystems' value to society and how this value changes depending on the state of biodiversity. An example of this approach is described in a study by Ferrario et al. (2014), which sought to understand how effective coral reefs are in protecting coastlines.

Using the results of meta-analysis, the study estimated the variation in wave energy and wave height depending on the extent of coral reef environments. This information could then be coupled with information on the damage to coastal infrastructure under different wave conditions to estimate the physical value of coastal biodiversity for coastal flood protection. Combined with data on the cost of replacing infrastructure, a monetary value could be estimated.

Given the complexity of biodiversity, there is no single metric to quantify changes or losses in it; effective insurance solutions will call for different approaches in different contexts. For example, if the aim is to develop an insurance product to protect fisherfolk against marine biodiversity degradation, measurements could focus on the aspect of marine biodiversity considered most important to the beneficiaries. It can be useful to measure both the extent or total quantity of a natural phenomenon, e.g., tons of fish in an area, as well as the diversity of the natural phenomena, e.g., number of different fish species. in an area. Catalogues of marine biodiversity indicators are now being developed and provide a useful starting point when considering which metrics to use.

For products that aim to protect against hazards intensified by climate change, scientific information must be collected on how biodiversity and ecosystems change depending on the shock characteristics (such as wind speed and ocean temperature). This information will inform insurance products that account for the likely damage that different kinds of disaster events will produce. By combining this information with the value biodiversity and ecosystems are estimated to provide to society, insurers can begin to price products that protect society against natural disasters. Box 5 connects the value of nature to disaster risk reduction efforts, showcasing how important natural environments are in decreasing exposure to disasters; key factors for the metrics of a nature-based insurance product.

Box 5. Nature's Role in Disaster Risk Reduction

Nature itself can effectively contribute to reduction of disaster risk. Through forests, coasts, and wetlands, ecosystems often serve as a natural protective barrier to the exposure caused by natural disasters, and their protection, conservation, and even expansion can be powerful methods to decrease the vulnerability to extreme weather events:

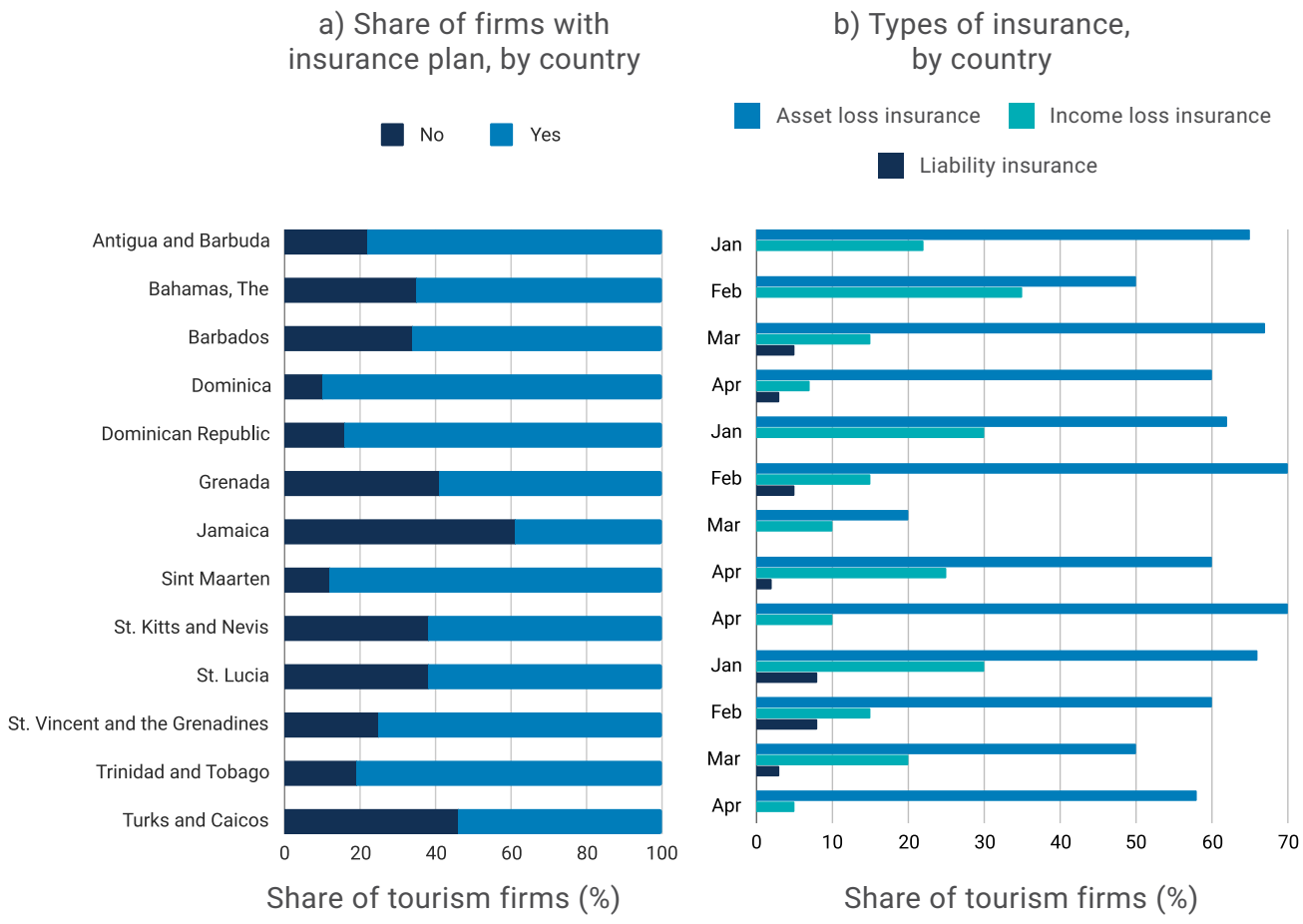
- A study by Swiss Re (Mueller and Bresch 2014) found that in Barbados, every dollar invested in protecting the Folkestone Marine National Park could avoid US$20 million in annual damage as a result of hurricanes.
- In Japan, the coastal forests of the Sanriku Fukko Reconstruction Park were instrumental in reducing the impacts of the tsunami generated by the Great East Japan Earthquake in 2011 (Valero, Miranda, and Murisic 2021).
- Coral reefs are considered a very effective defense system against storms because they dissipate the energy of waves and in turn reduce flooding. One study has found that coral reefs have the potential to dissipate over 90 percent of wave energy (Jones 2024), while another study finds that at a global level, reefs contribute to reducing the annual cost of storms by over US$4 billion (Beck et al. 2018).

INSURING RISK FROM COASTAL-BASED TOURISM

In a region where employment in tourism and other sectors depends on marine ecosystems, many homes and businesses could benefit from improved access to insurance linked to marine ecosystems. This section explores how insurance could be designed to incentivize the protection of marine ecosystems while also protecting homes and businesses in the area.

Insurance coverage in the Caribbean tourism industry is quite high; as indicated above, 63 percent of 1,400 surveyed tourism firms have an insurance plan that covers disasters, although the percentage varies by country (Rozenberg et al. 2021). Grenada and St. Lucia are the islands with the most tourism firms covered by insurance. Most firms in the region have asset loss insurance, and very few have liability insurance or income loss (BI) insurance in place. Figure 4 shows coverage by country.

Figure 4. Insurance Coverage of Tourism Firms in the Caribbean



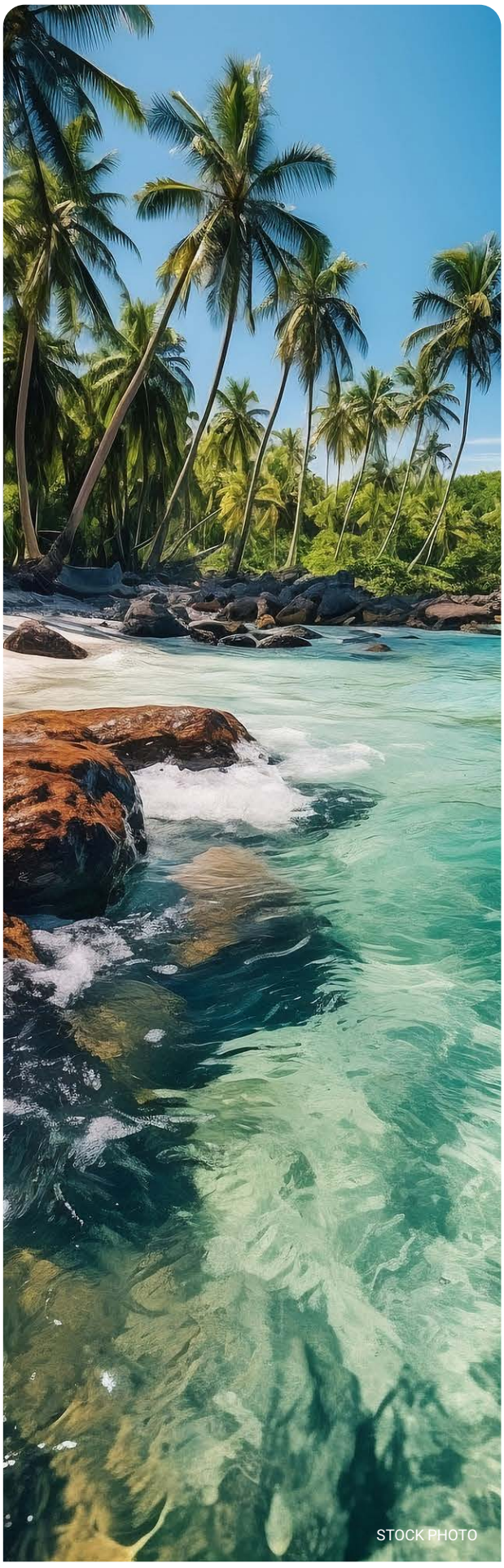
Source: Rozenberg et al. 2021, citing Erman et al. 2021

The survey found that despite the high insurance coverage, only around 23 percent of firms impacted by a disaster reported that insurance was a key part of their recovery process. This response is due to the challenges around utilizing insurance to cover actual loss to the tourism industry, in particular the challenges of covering damage to marine-based ecosystems, such as coral reefs and mangroves. Box 6 shows how impactful disasters can be on the Caribbean tourism industry, affecting key elements related to tourist activities in the region. To increase the usefulness of insurance to firms affected by disasters, insurance products should promote sustainable outcomes not only by transferring risk from coastal-based tourist activities but also by preserving natural environments locally.

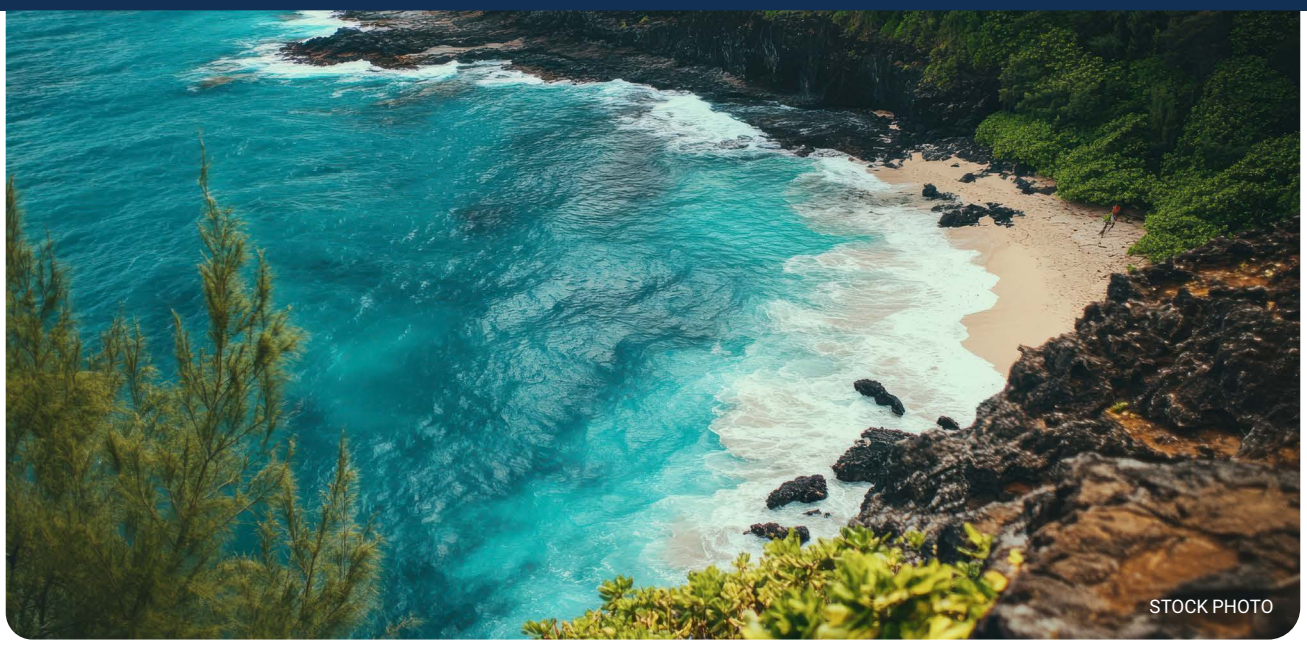
Box 6. Impacts of Disasters on the Caribbean Tourism Industry

Disasters in the Caribbean often end up damaging key infrastructure for the tourism industry, such as airports and hotels. Disasters have the potential to reduce tourist arrivals by 1.2 percent to 2 percent in the year a disaster happens—not only in the countries hit by the disaster, but elsewhere in the region as well (LaFramboise et al. 2014).

After Hurricane Maria (2017), when cruise ships that had planned to stop on the island of Dominica had to change their route, the tourism industry suffered millions in losses. The same happened in Grenada after Hurricane Ivan (2004) due to hotel damage and in St. Kitts and Nevis after Hurricane Omar (2008). The impacts of Hurricane Beryl (2024) are still being assessed.


STOCK PHOTO

Examples of Innovative Insurance Instruments from around the World



Nature-based financial solutions can be an innovative way to protect marine biodiversity in light of climate change impacts and can bring risk transfer and other disaster risk financing tools to bear on marine conservation. Ecosystem-specific insurance—tied to coral reefs or mangroves, for example—would issue immediate payouts (to the organization or business responsible) to protect these natural areas when damaged by a disaster. Some pioneering and innovative disaster risk transfer solutions used in other parts of the world could be replicated in the Caribbean context.

Insurance tied to ecosystems is effective because these financial solutions can not only mitigate risks to the environment before a disaster happens, but also repair damage to natural assets, bringing positive outcomes for nature and the Caribbean population (The Nature Conservancy 2024). Some examples of risk mitigation by natural assets include coral reefs and mangroves. Coral reefs reduce almost 100 percent of wave energy, and thus can decrease the damage caused by storms. The presence of mangroves avoids around US$65 billion in annual losses from floods and storms, mostly related to tropical cyclones (Earth Security 2022).

Both parametric and indemnity insurance policies may be used to protect ecosystems, and although parametric policies can be more effective for immediate restoration following a disaster, a combined parametric-indemnity policy could be a better fit for specific scenarios. In the case of mangrove insurance, for example, an immediate payout from a parametric component could address obvious disaster damage, given the quick liquidity of this type of insurance. However, as mangrove dieback can occur up to six months after a disaster, an indemnity component of an insurance product would be useful for a later assessment and follow-up financing (The Nature Conservancy 2022). Thus, in this case, a combined product might be appropriate; this case is further explored in box 7.

Box 7. A Hybrid Insurance Product for Mangroves

In the effort to connect nature-based solutions with disaster risk insurance, a new area of research has emerged: protecting ecosystem services with catastrophe models and insurance products. As proposed in a report by Systemiq (2023), there is potential to create a hybrid risk transfer solution that combines parametric insurance and indemnity insurance.

Parametric insurance increases liquidity and depends on pre-defined triggers. It could be used to protect mangrove ecosystems from cyclones that reach certain pre-agreed wind speeds. However, it has been shown that mangroves do not always need quick interventions for their survival (unlike coral reefs, for example), and thus they may not need an immediate disbursement of funds (Systemiq 2023). Indemnity insurance is connected to a specific asset, not to a triggering event. Because hurricane damage to mangroves may occur or be evident only sometime after a disaster has taken place, indemnity insurance could be useful in providing a later assessment of specific damage and paying out accordingly (Beck et al. 2022).

Such a hybrid solution, which would allow part of the payout to be made quickly (parametric component) and part to be made after the actual damage has been assessed (indemnity component), has potential for a range of ecosystems. As of now, however, this proposed solution has been explored only for mangroves.

Some innovative solutions have already been launched, such as the Belize Blue Bond, a pioneering initiative for marine conservation through debt restructuring and insurance. In December 2021, a parametric insurance policy combined with a sovereign debt transaction (a blue bond) was placed on the market for US$364 million. The blue bond was arranged by Credit Suisse, and the "catastrophe wrapper" was created by Willis Towers Watson (with risk capacity provided by Munich Re) as insurance protection for Belize's loan repayments after hurricane events. The catastrophe wrapper helps safeguard the country's 20-year sovereign debt structure, while the parametric transfer of risk strengthens Belize's sustainability and resilience to climate shocks, thereby helping to prevent credit rating downgrades and reducing the time it takes the economy to recover following a shock (Cook and Holliday 2022).

To promote the conservation of biodiversity and marine ecosystems in the Caribbean, there should be more investment in insurance products connected to nature and local communities. The products listed below—including nature-based insurance, forecast-based insurance, community participation insurance, insurance for targeted beneficiaries, and bonds—aim to advance risk mitigation by working with people and local ecosystems and have potential for the Caribbean insurance market.

NATURE-BASED INSURANCE

The first-ever insurance policy for an ecosystem covers hurricane risk along a 160 km stretch of coastline in Quintana Roo, Mexico. The mechanism, developed by The Nature Conservancy in partnership with state and municipal governments and the tourism industry, combines a trust fund and an index-based insurance policy. The Trust for Coastal Zone Management, Social Development, and Security was created in 2018 and accepts funds from multiple sources to manage beaches and reefs and purchase hurricane insurance to protect them. This parametric insurance policy is triggered when wind speeds exceed 100 knots within a predefined area around the insured reef. The rapid insurance payout allows repair activities to commence quickly following a storm, preventing further damage, reducing mortality, and allowing enhanced recovery (Reguero et al. 2019). In 2020, the second year of the policy, Hurricane Delta triggered a payout of about US$850,000 from the reef insurance policy; this funding was critical for repairing damage and testing the mechanism. The Mesoamerican Reef Fund, which targets restoration work across the entire Mesoamerican Reef, has adopted this model for other areas through work with Willis Towers Watson, InsuResilience Fund, and AXA Climate. For information on how reef protection insurance supports the tourism industry, see box 8.

Insurance for coral reefs has been replicated and adapted to the state of Hawaii in the United States, where reefs provide more than US$835 million in flood protection for the state annually (Reguero et al. 2021). Originally piloted in a section of Honolulu in 2022, the updated Hawaii reef policy (February 2024) covers the main Hawaiian islands and includes an additional area of 314,976 km^2 (121,613 miles). Triggered by tropical storm winds of at least 50 knots, the policy pays out a maximum of US$2 million annually; the per-storm maximum is US$1 million. The updated policy doubles the minimum payout to US$200,000, which makes possible “a more meaningful post-storm response” (The Nature Conservancy 2024).

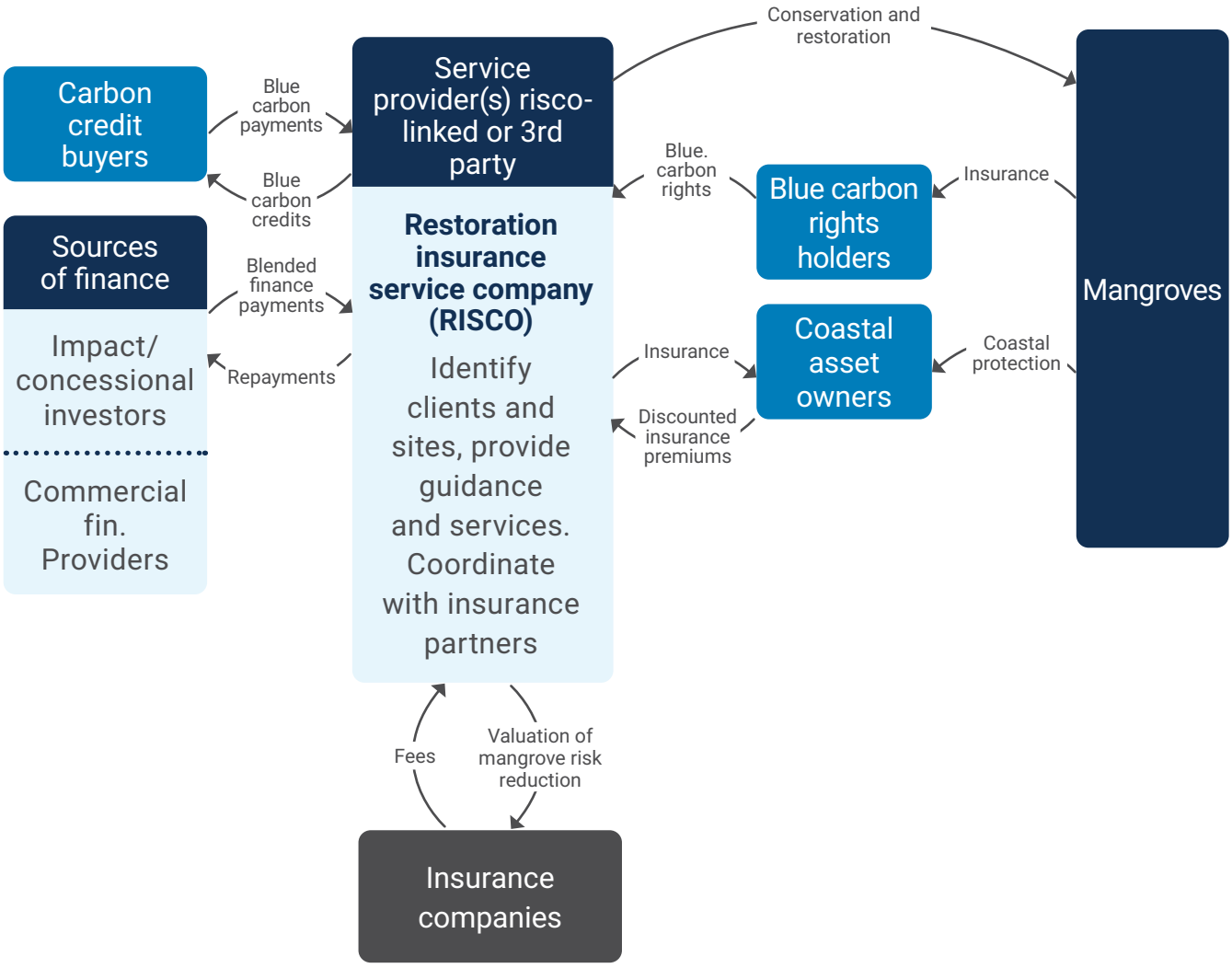
Box 8. Reef Protection Insurance and the Tourism Industry

The Quintana Roo example showcases how a nature-based insurance solution can support and improve the tourism industry. The reduction in damage to reefs as a result of payout-funded restoration not only conserved the coral reef, it also helped reduce the erosion of nearby beaches, which are a key part of the local tourism economy in Mexico. Coral reef protection is associated with the general protection of coastal infrastructure and so is essential for the entire blue economy of the tourism industry (PreventionWeb 2018).

This product for marine conservation worked directly with beachfront hotels to ensure they suffered minimal disaster impacts (e.g., beach debris), based on the parametric insurance policy and its triggers. Hotel association representatives are also part of the Trust for Coastal Zone Management technical committee, which discusses how to use the funds to best protect the beaches and the reefs.

The Restoration Insurance Service Company (RISCO), a social enterprise designed by Conservation International, represents another coastal protection insurance scheme. RISCO creates new revenue streams for the conservation and restoration of mangroves based on mangroves' capacity to reduce the risk of storm impacts. As described by the Global Innovation Lab for Climate Finance: "RISCO will contract directly with insurance companies or associations of insurance companies and will secure an annual payment for continued, verified conservation and/or restoration of mangroves. The annual payment will be linked to a site-specific calculation of the flood reduction benefits provided by the mangroves."[3] RISCO is also working on generating and selling blue carbon credits to interested institutions. Unlike the reef insurance products discussed above, which are parametric products, RISCO is classified as an indemnity product (Systemiq 2023). See Figure 5 for a summary of RISCO's design.

Figure 5. Design of the RISCO Product



Source: Global Innovation Lab for Climate Finance

3- Global Innovation Lab for Climate Finance, "Restoration Insurance Service Company (RISCO)."

FORECAST-BASED INSURANCE

Hazards can have impacts even before they take place, as businesses may shut down in anticipation of a serious event. To address this possibility, Swiss Re Corporate Solutions developed Insur8, the first-ever typhoon warning insurance for businesses operating in Hong Kong. This product, which combines parametric risk transfer tools with non-damage business interruption tools and weather data modeling, triggers when the Hong Kong Observatory issues a level 8 or higher typhoon warning.

COMMUNITY PARTICIPATION INSURANCE

The National Flood Insurance Program (NFIP) in the United States, established by the Federal Emergency Management Agency (FEMA) in 1968, works with communities affected by floods to help them adopt and implement flood management regulations. The goal is to mitigate some of the impacts of future flooding, reduce risk, and encourage climate adaptation in flood-prone areas. To encourage communities to participate and make a positive impact locally, NFIP offers a voluntary Community Rating System, which provides a discount on flood insurance premiums for property owners, renters, and businesses in communities that implement required floodplain standards. This discount highlights the capacity of these standards to reduce flood risk. The Community Rating System uses a credit scoring system to award points for activities that involve public information, mapping and regulations, flood damage reduction, and warning and response (FEMA 2024).

INSURANCE FOR TARGETED BENEFICIARIES

CCRIF SPC offers six insurance products, as listed in annex 3, with one of them going directly to the targeted beneficiaries, COAST (Caribbean Oceans and Aquaculture Sustainability Facility). COAST is a microinsurance product for fishers that covers losses caused by adverse weather (high waves and heavy rainfall) and tropical cyclones (wind and storm surges), which may damage fishing vessels, equipment, and infrastructure. This parametric insurance product helps those in the fisheries sector recover from business interruption losses related to weather challenges and cyclones. It is unique in having a livelihood protection component, which ensures that policyholders (the governments, as with all of CCRIF SPC's products) transfer the insurance payouts to the ultimate beneficiaries (the fisherfolk) (Martinez-Diaz, Sidner, and McClamrock 2019).

The Livelihood Protection Policy (LPP) of the Climate Risk Adaptation and Insurance in the Caribbean (CRAIC) project is another example of an innovative parametric insurance product directed at targeted beneficiaries. The LPP is a weather index parametric microinsurance product in the Caribbean insurance market, implemented by CCRIF SPC, protecting households and institutions from financial losses resulting from heavy rainfall and strong winds, with a focus on low-income individuals. After a pre-defined trigger based on a weather event is met, the payout is released within a week via cash disbursement to affected individuals. LPP is currently active in Grenada, Jamaica, and St. Lucia. It is considered a public-private partnership, given that it is provided through local insurance companies and financial institutions(CCRIF SPC). See box 9 for further details.

Box 9. The Climate Risk Adaptation and Insurance in the Caribbean (CRAIC) project

The CRAIC project is led by the Munich Climate Insurance Initiative, with implementation by CCRIF SPC, and has a focus on fostering climate adaptation and reducing the vulnerability of the Caribbean people to disasters. Its focus on microinsurance through the Livelihood Protection Policy differentiates from the six main products offered by CCRIF, parametric insurance at the sovereign (government) level. Other implementing partners of CRAIC include the International Labour Organization, Munich Re, and DHI (Munich Climate Insurance Initiative 2020).

CRAIC's LPP is a key example of insurance for targeted beneficiaries because the main goal of the weather-index based microinsurance scheme is to support vulnerable populations in the Caribbean. This can include fishers, like in COAST, but also farmers and small businesses, with a focus on livelihood protection. The CRAIC project showcases innovation through public-private partnerships, as the partners work with both governments across the region and insurance companies.

BONDS

One innovative bond has already been mentioned: the Belize Blue Bond for ocean conservation. The Government of Belize included a parametric insurance policy with a sovereign debt transaction—the blue bond—to ensure that debt repayments can be made after a hurricane. It is important to note the incorporation of a commercial parametric insurance policy in the Belize Blue Bonds initiative, as it represents the world's first commercial sovereign debt catastrophe insurance cover. The policy, which is coverage for a Blue Loan debt payment, is triggered by a qualifying hurricane event in Belize (The Nature Conservancy 2022).

A catastrophe bond supporting the Jamaican government with insurance cover of US$185 million for three hurricane seasons was issued by the World Bank in 2021. Notably, the Government of Jamaica was the first government to independently sponsor a cat bond—first not only in the Caribbean, but among all SIDS. As the product is structured, the government is responsible for the premium, which is fixed in order to decrease uncertainty in light of frequent disasters. In the event of a tropical cyclone or other severe climate event that meets pre-defined (parametric) triggers, the payout is disbursed to the government within weeks. In 2024, the World Bank renewed the cat bond transaction with US$150 million in insurance coverage for the 2024–27 hurricane seasons. This step is consistent with the Jamaican government's National Natural Disaster Risk Financing policy (World Bank 2024).

CONCLUSIONS

Two final points should be made in concluding this account of innovative insurance instruments.

First, these instruments are pioneers in their respective countries and regions; but precisely because they are pioneers, they face challenges. The NFIP in the United States, for example, has experienced decreased community participation and increased debt as floods have become more intense (NCCARF Coast Adapt 2016). Other innovative insurance products also face the risk of limited participation and financial instability, given that most of the current products available are small pilots that need to be further replicated and improved for maximum effectiveness.

Second, while insurance is an important tool for transferring disaster risk, it is not the only one; policyholders must be aware that a one-size-fits-all approach cannot work for such a large challenge. Further, all of these insurance products in whatever category (nature-based insurance, bonds, forecast-based insurance, etc.) have both benefits and limitations and will be more effective in some contexts than in others.

STOCK PHOTO

Key Findings and Recommendations

This section summarizes some of the lessons learned as a result of this research into innovative approaches to disaster risk insurance in the Caribbean. The findings focus on education gaps, local communities and insurance beneficiaries, the importance of minimizing countries' financial burdens, lessons on parametric and indemnity insurance products, scalability, and the role of data.

The section also recommends next steps that provide a roadmap for in surance companies, tourism sector businesses, and governments seeking to invest in disaster risk transfer solutions that prioritize nature and climate resilience. These types of insurance solutions are still novel and developing, but the recommendations presented here aim to showcase a possible future in which the insurance industry, regulators, and other stakeholders take bold and innovative action in the Caribbean to safeguard paradise.

KEY FINDINGS

1. Education is vital to broaden insurance market uptake.

Caribbean residents—including business owners and others in the tourism industry—are knowledgeable about insurance for their specific sectors and/or challenges, but there is still a gap in knowledge about new types of insurance, especially beyond indemnity insurance products. A review of different types of insurance is listed in annex 4. This knowledge gap includes innovative products such as parametric insurance and nature-based solutions. Because parametric insurance is activated based on specific triggers and does not require individuals to file a claim, local policyholders (mostly governments in the Caribbean) and the ultimate beneficiaries (which can often be the population or small business) must understand how this type of insurance operates if new products are to be acquired. Information about the insurance market in the Caribbean should be available for and comprehensible to local populations, and it should be applicable to the most vulnerable groups. A better-informed public will in turn generate interest in and demand for products that can close the insurance protection gap.

2. Prior experience with insurance products shows the need to focus on beneficiaries and local communities.

Insurance products that focus on local communities, such as COAST of CCRIF SPC (which targets and supports fisherfolk specifically), provide a good template for structuring future insurance solutions that protect interested parties directly from disaster-related losses. They show that innovative approaches to product development can be successful in attracting investors, while at the same time delivering on their objective to protect coastal ecosystems and groups that are disproportionately affected by these disasters locally.

However, insurance products that target specific groups must ensure that payouts reach the ultimate beneficiaries. This is a critical measure of success and should be part of any review of product options. Some existing innovative insurance products offer lessons about timing and disbursement.

For COAST, governments are classified as the policyholders (as with other CCRIF products), so they send the payouts to fisherfolk through a pre-agreed system. Priority is placed on the rapid transfer of funds to the fisherfolk affected, and beneficiaries are identified before an event takes place to avoid delays in disbursement (InsuResilience Global Partnership 2019).

Hurricane Beryl (2024), for example, triggered large payouts from CCRIF SPC, including via COAST, to the fisheries sector in Grenada. The Government of Grenada received over US$55 million with US$44 million from the the tropical cyclone and excess rainfall policies alone, including a payout of US$1.06 million from COAST, a unique product that provides livelihoods support for fisherfolk (CCRIF SPC 2024). The Government of Grenada received these funds within 14 days of the disaster facilitating providing additional funds to the Government to facilitate relief and recovery activities.

3. Disaster risk transfer solutions must minimize financial burdens.

Where financial services are not affordable or accessible—such as in a context of high economic vulnerability and indebtedness like the Caribbean—they can impede innovative insurance solutions. The assessment done in this report shows that the high costs of insurance premiums have discouraged local businesses and key industries from securing the most effective insurance solutions (or those solutions offering the broadest coverage for disaster events). To generate interest in and drive demand for a proposed new solution, it could be helpful to remove some of the beneficiaries' financial burden and risk as they engage with the insurance market. For example, government might subsidize the premiums for the insurance policies for a number of years, either partially or entirely, and could undertake other measures to make the products accessible and feasible in the context of the Caribbean islands.

4. Parametric insurance solutions are the most used at the regional level in the Caribbean; indemnity solutions are the most familiar and adaptable at the domestic level; and there is potential to develop hybrid products.

Nature-based insurance products—such as mangrove insurance—could include parametric and indemnity components to provide an immediate payout after a disaster and another payout later on based on a follow-up assessment (Beck et al. 2020).

Parametric products have lower costs, require less time to administer, do not require a claims assessment process, and respond correctly when an event occurs, with quick payouts. This type of insurance is more widely used in the Caribbean at the regional level, through CCRIF SPC, while indemnity products are more widely used at the domestic level, through national programs and insurers. Many of the products discussed in this report are parametric in design, but in the context of innovative disaster risk transfer solutions that target the protection of coastal-based tourism, there is potential for a hybrid product.

5. Using scalable solutions allows for larger impact.

Experience with existing products and policies suggests macro-type products are preferable to micro-products, specifically because of their potential to be scaled and the low capacity in the Caribbean region. Micro-products target individuals, such as farmers and fisherfolk, and are harder to scale to a national level for maximum coverage. Macro-type products are easier to scale because they cover a broad number of potential beneficiaries and are simply structured with a single policyholder.

Most of the current innovative insurance examples are operating on a small scale and in specific sectors and countries, given the small size of countries and of the already concentrated insurance markets.

6. Public-private partnerships could be a way to scale an innovative solution and ensure the product reaches its target audience.

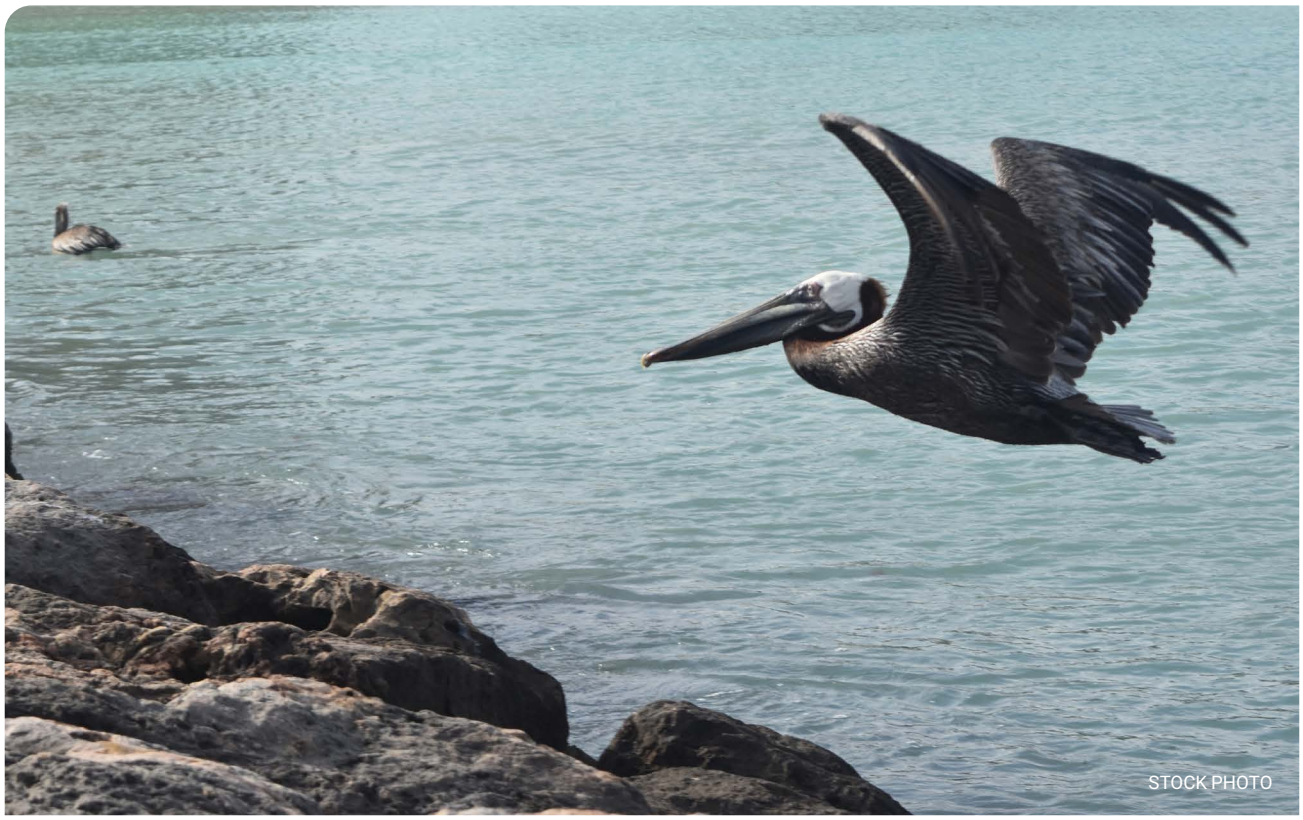
CCRIF SPC is considered a leader in public-private partnerships, as demonstrated by its Livelihood Protection Policy, which is provided through local insurance and financial institutions, and by the National Disaster Fund, a public-private partnership of Global Parametrics, which supports the CCRIF SPC payouts through reinsurance cover to some Caribbean islands (Evans 2024).

7. Greater use of quantitative tools and superior data will enable better understanding of disasters.

Quantitative tools and solutions, such as catastrophe risk models, as well as better data and related analysis are important to improve understanding of the disaster risks impacting the region. They help insurers understand where exposed assets are located and what risks they face. This information facilitates superior product design and more rapid payouts, and it also minimizes product basis risk, improving the confidence of potential policy beneficiaries.

8. In the context of bringing more innovative products to support coastal and marine ecosystems and foster sustainable tourism, high-quality data and risk models are essential.

The use of more accurate historical data to develop new products is key not only to increasing efficiency and effectiveness, but also to providing more reasonably priced insurance. This is because less accuracy (due to lack of data) will generally increase insurance premiums to compensate for uncertainty (Munich Climate Insurance Initiative 2020).



STOCK PHOTO

RECOMMENDATIONS

Innovative nature-based insurance offers companies and governments a way of investing in sustainable solutions in the Caribbean, a disaster-prone region that is also dependent on tourism. Insurers have a role to play in the preservation of nature and biodiversity, and they have a direct financial interest in protecting and insuring fragile ecosystems, thereby boosting the local economy (Cook and Holliday 2022).

Below are some suggested next steps and recommendations:

1.Design insurance to incentivize nature-based adaptation through community participation and targeted payouts.

Leveraging insurance as a tool to reduce the risk of disasters and climate change impacts is valuable, and can be done through creative outlets, including fostering community participation and influencing payouts for the use of nature-based adaptation.

Communities play an important role in building climate adaptation and resilience and in reducing disaster risk, and their participation in certain insurance products can bring many benefits, including the increase of insurance penetration across the Caribbean. As seen in the NFIP in the United States, communities can be incentivized to collaborate in efforts to reduce risk and foster climate resilience. The NFIP not only provides flood insurance to at-risk communities (specifically property owners and businesses), but it invites them to become active participants in implementing flood protection activities through the Community Rating System. This type of arrangement, which offers discounts to communities that work to reduce risk, could be part of various insurance products, even if they focus on different perils or areas. A brief analysis of the peril insurance coverage in the Caribbean is in annex 5, and can help to understand what perils to focus on.

2. Introduce innovation into the market through pioneer insurance products for nature-based solutions and biodiversity protection.

Parametric insurance is currently the most common product to cover disaster risk, mainly because of the speed with which it pays out, but other complementary products should be explored—such as a parametric product that values ecosystem presence and prioritizes conservation and restoration, or a hybrid that includes a parametric trigger (to satisfy the parametric insurance guidelines) and also requires proof of actual loss (based on a claim like traditional insurance). As seen throughout the report, creative insurance products can provide effective nature-based solutions in the Caribbean. However, this is a novel area for the Caribbean insurance markets, and many relevant products are still small pilots.

3. Adopt disaster risk insurance for the tourism industry.

Given the importance of the blue economy to Caribbean tourism (and the Caribbean economy more generally), there is potential for the tourism industry in the Caribbean to focus more on insurance as a disaster risk solution. Innovative insurance products around the world are proving effective in reducing disaster risk, and they could be adopted in the region to mitigate the impacts of disasters on biodiversity and natural landscapes and to allow the tourism sector to build resilience to climate disasters.

4.Create the right environment for innovative insurance product development to meet market opportunities.

Insurance regulators should work with governments and industry across the Caribbean region to stimulate growth in the commercial and industrial insurance sectors and put in place key regulations. These regulations will help close the insurance protection gap for catastrophe-related losses and in particular for BI coverage. Regulations developed from an assessment of best practices across the region will also force the industry to look more carefully at the opportunities that exist in many parts of the world but are nascent and not prioritized in the Caribbean. Financial incentives could be used to encourage investment in new products and enhance competition, while industry associations and government could collaborate on product promotion. Additionally, industry and regulators should seize the chance to be bold. Instead of selling more of what they know in order to grow vertically, there is an untapped opportunity to grow the commercial and industrial insurance markets horizontally through undersold and innovative coverages and products.

Annexes

ANNEX 1 – LISTING OF SELECTED LARGER LOCAL & REGIONAL INSURERS OPERATING BY COUNTRY

	Regional/ Domestic Insurance Companies	Additional Notes
Antigua	Antigua Insurance Company Limited ABI Insurance Company General Insurance Company People's Insurance Company State Insurance Company	The only regional state insurance company
The Bahamas	Bahamas First Royal Star Assurance The Insurance Company of The Bahamas Ltd.Summit Insurance	These first 3 companies control about 65% of the domestic market. In all there are 19 no-life companies operating of which 2 are in run off
Barbados	Sagicor General Insurance Inc. CG United Insurance Limited Insurance Corporation of Barbados Limited Equity Insurance Company Limited	Part of the Massy Group, in turn now part of Coralisle Group
Belize	RF&G Insurance Company Limited Insurance Company of Belize Atlantic Insurance Company Limited	RF&G estimated to have over 50% of the non-life market, with another 40% taken by the other 2 companies listed
Dominica	Insurance Company of the West Indies (ICWI) NAGICO Group	ICWI took over First Domestic NAGICO is present in almost all of the islands featured in the report, except Barbados
Grenada	Guardian General Insurance Company GC United Insurance Limited Netherlands Insurance Grenadian General Insurance Grensure	Jamaica-based National Commercial Bank Financial Group bought Guardian Holdings (2019) GC United Insurance was formerly Massy United Grensure is a Lloyd's operation
Jamaica	British Caribbean Insurance General Accident Insurance Company (Jamaica) Guardian General Insurance Company GK General Insurance Company Advantage General Insurance Company	The top 5 companies comprise almost 80% of the domestic non-life market
St. Lucia	GK General Insurance Company M&C General Insurance Company West Indies General Insurance	Part of Goddard Enterprises, a conglomerate

	Regional/ Domestic Insurance Companies	Additional Notes
St. Vincent	Metrocint General Insurance Company M&C General Insurance Company St. Hill Insurance Company St. Vincent Insurances Limited (Vinsure)	Mostly motor insurance Part of Goddard Enterprises, a conglomerate Vinsure is a Lloyd's operation
Trinidad & Tobago	Guardian Holdings Sagicor General Trinidad & Tobago Insurance Limited Beacon Insurance Company GC United Insurance Reinsurance Company of Trinidad & Tobago	Part of the National Commercial Bank Financial Group in Jamaica Offices in Barbados, St. Lucia & Grenada Part of the Massy Group After privatization, became an insurer only

ANNEX 2 – OVERVIEW OF CARIBBEAN INSURANCE OFFERINGS

	Industry Association	Industry Regulator	Industry Offerings	Distribution
Antigua	Insurance Association of Antigua & Barbuda (IAB)	Financial Services Regulatory Commission (FSRC)	Property, Motor, Marine, Aviation & Transit and Liability Property accounts for 56% of non-life premium (2014)	2020: Brokers do 15% of total non-life market; Agents (64%); Direct (15%)
The Bahamas	Bahamas General Insurance Association	Insurance Commission of The Bahamas (ICB)	Property, Motor, Marine, Aviation & Transit, Personal Accident & Health, and Liability Property accounts 62% of non-life premium; +3%, excl. Personal Accident & Health Commercial & industrial accounts for 70% of Property premium (2020)	2021: Brokers (45%), Agents (55%)
Barbados	General Insurance Association of Barbados	Central Bank & Financial Services Commission (FSC); annual stress testing	Property, Motor, Marine, Aviation & Transit, Personal Accident & Health, and Liability Property accounts for 50% of non-life premium; -1.3% excl. PA, Health; Commercial & Industrial is about 50-70% of Property (2020)	2019 to 2022: Direct, Brokers & Agents

	Industry Association	Industry Regulator	Industry Offerings	Distribution
Belize	Organization of Insurance Companies in Belize (ORINCO)	Office of the Supervisor of Insurance & Private Pension (OSIPP)	Property, Marine, Aviation & Transit, Motor, Personal Accident & Health, Liability, and Surety, Bonds & Credit Property accounts for 55% of non-life market (2020)	2021: Direct (55%), Agents (25%), Brokers (15%); mostly international brokers for reinsurance
Dominica	Financial Services Unit (FSU)	Financial Services Unit (FSU)	Non-life accounts for 68% of the total market, i.e., life and non-life (2014)	2020: Brokers do 10% of total non-life market; Agents (70%); Direct (15%)
Grenada	Association of Grenada Insurance Companies (AGIC)	Grenadian Authority for the Regulation of Financial Institution (GARFIN)	Property, Motor, and Personal Accident & Health	2020: Brokers do 10% of total non-life market; Agents (70%); Direct (15%)
Jamaica	Insurance Association of Jamaica (IAJ)	Financial Services Commission (FSC)	Property, Marine, Aviation & Transit, Motor, Personal Accident & Health, and Liability Property account for 51% of non-life market (2021)	2022: Brokers do 61% of total non-life market; Agents (21%); Direct (12%) & Internet (6%)
St. Lucia	Insurance Council of St. Lucia (ICSL)	Financial Services Regulatory Authority (FSRA)	Property, Motor, and Personal Accident & Health Property accounts for 44% of non-life premium (2018)	2020: Brokers do 10% of total non-life market; Agents (70%); Direct (15%)

	Industry Association	Industry Regulator	Industry Offerings	Distribution
St. Vincent	Insurance Association of St. Vincent & the Grenadines	Financial Services Authority (FSA)	Property, Marine, Aviation & Transit, Motor, Personal Accident & Health Property accounts for 45% of non-life premium (2018)	2020: Brokers do 10% of total non-life market; Agents (70%); Direct (15%)
Trinidad & Tobago	Association of Trinidad & Tobago Insurance Companies (ATTIC)	Central Bank of Trinidad & Tobago (CBTT)	Property, Motor, Personal Accident & Healthcare. 70% is listed as Miscellaneous Commercial & Industrial is about 70% of Property (2021)	2021: Brokers do about 80%, Agents do 8% which is going down, Direct (7%)

Source: Axco reports and industry websites

PHOTO CREDIT: MARIA FLEISCHMANN, WORLD BANK

ANNEX 3 – THE SIX CCRIF SPC INSURANCE PRODUCTS

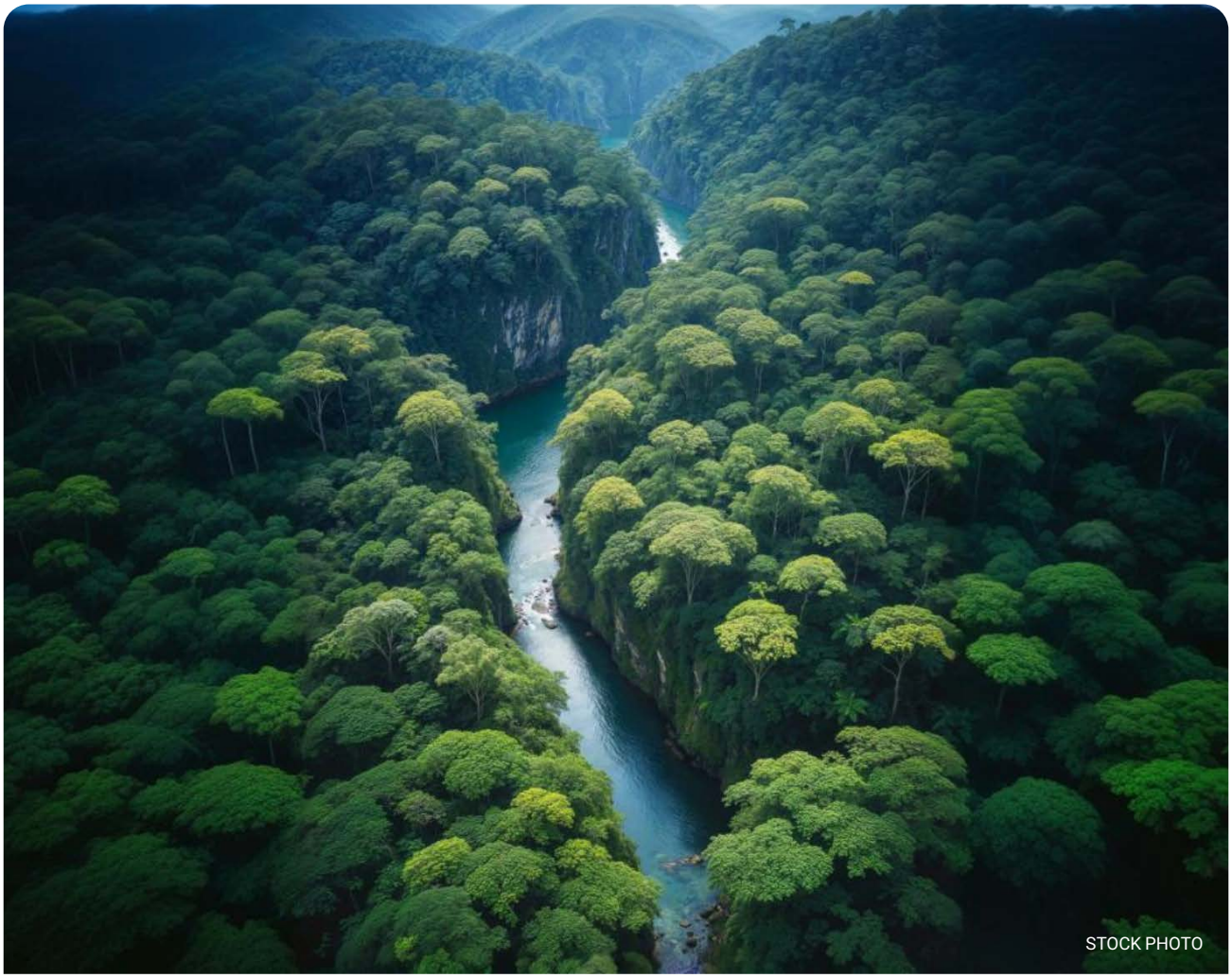
CCRIF Insurance Product	Date started	Trigger	Total Payouts (2007-2023)	Countries/ Companies involved
Earthquake (EQ)	2007	Losses due to ground shaking	US$50,003,222	All CCRIF member countries
Tropical cyclone (TC)	2007	Losses based on wind and storm surge	US$144,398,683	All CCRIF member countries
Excess rainfall (XSR)	2013	Evaluation of soil saturation and pure rain fall in the loss calculation. Based on the multi-trigger CARE (covered area rainfall event).	US$73,222,719	All CCRIF member countries
Fisheries (COAST - Caribbean Oceans and Aquaculture Sustainability Facility)	July 2019	Losses by fisher workers caused by Adverse Weather (high waves and heavy rainfall) and losses caused by Tropical Cyclones (wind and storm surge) that may damage fishing vessels, fishing equipment and fishing infrastructure.	N/A	Grenada and Saint Lucia
Electric utilities	2020	Direct damage to the transmission and distribution (T&D) components of the electric power system due to impacts of wind.	N/A	Anguilla Electricity Company Limited (ANGLEC), Grenada's electric utility company (GRENLEC), St. Lucia Electricity Services Limited (LUCELEC)
Water utilities	2023	Damage to water and wastewater systems/ utilities	US$8.45 million mobilized in grants for the Caribbean Water Utility Insurance Collective, but no payouts so far.	35 water utilities across 29 Caribbean territories have been identified as potential clients. The Caribbean Water Utility Insurance Collective (CWUIC) was established as a segregated portfolio within CCRIF SPC

Source: CCRIF SPC

ANNEX 4 – TYPES OF INSURANCE IN THE CARIBBEAN

There are many different structures and vehicles that build on the extensive experience of the insurance industry and through which governments can manage and insure risks efficiently. The following list showcases the most common types of insurance (World Bank Public Assets Insurance Textbook 2022).

1. **Self-Insurance:** Money set aside by the government to fund an unexpected loss. In Grenada, after Hurricane Ivan in 2004, the government used its revenue sources from development expenditure to fund disaster relief and reconstruction (World Bank 2006);
2. **Mutual Insurance:** An insurance entity formed as a cooperative to provide coverage to members and owned entirely by its policyholders. Any profits earned by a mutual can be retained within the company, rebated to policyholders as dividends, or used to lower future premiums;
3. **Market-Based Insurance:** An insurance company that is part of the insurance market and provides risk transfer to policyholders. Insurance companies return profits to shareholders;
4. **Public Entity Risk Pools:** Public entities join a risk pool through a written agreement to fund similar risks they all have in common. Can be seen as combined self-insurance for asset owners;
5. **Sovereign Risk Pools:** A risk pool provides insurance coverage to multiple countries at a time and access to international reinsurance markets with a joint portfolio. CCRIF SPC is a sovereign risk pool.



STOCK PHOTO

ANNEX 5 – ANALYSIS OF PERIL INSURANCE COVERAGE IN THE CARIBBEAN

The following annex provides an overview of catastrophe peril coverages in the Caribbean, based on a review of corresponding Axco reports.

Windstorms/ Hurricanes

Windstorms shape insurance premiums in the region, influencing post-disaster rate adjustments, and variations in deductibles. A significant portion of overall property rates is designated to the catastrophe element, primarily windstorms. However, the level of risk exposure is what determines the deductibles in many countries, especially in risk-prone nations with coastal areas – such as Trinidad and Tobago, which differentiates rates based on how exposed is the area of the property. Jamaica applies a 2% deductible on the sum insured, with higher deductibles for beachfront exposures. Windstorms consistently shape insurance premiums across the region, leading to post-disaster rate adjustments, deductible variations, and a reliance on regional catastrophe reinsurance dynamics.

Regional catastrophe reinsurance costs, as well as conditions in the international reinsurance market, have important impacts on hurricane belt countries in the Caribbean, and influence the insurance landscape in each nation. Disasters in the region also affect property damage premiums; there were significant rate increases in Puerto Rico after Hurricanes Irma and Maria, as well as in The Bahamas after Hurricane Dorian. The impact of Hurricane Beryl on (re)insurance premiums is yet to be determined.

Floods

Insurance for floods in the Caribbean seems to follow a regional approach, in which rates are usually influenced by competition among insurance companies, and flood coverage is included in standard peril packages. In Barbados, one insurer loads residential rates by 10% in areas prone to flood, where there isn't a separate flood rate, while in The Bahamas, flood is part of the standard peril package with a deductible of 2%.

In some countries, flood coverage is included in their natural perils policies, such as Costa Rica, which incorporates floods within fire and allied lines, and Cuba, where flood peril rate is embedded in the fire and lightning perils rate. Landslides and road infrastructure impacts is another common national budget concern associated with floods.

Earthquakes

Earthquake coverage in Latin America and the Caribbean is typically included in overall property rates, either as part of comprehensive multi-risk policies or as a constituent of general fire and allied lines rates. Common practices involve applying deductibles, usually a percentage of the sum insured, and in some cases, coinsurance, to share the risk burden between insurers and policyholders. Insurers commonly account for earthquakes (and other perils) within the insurance premium; however, some countries offer earthquake coverage free of charge or within package policies, especially in low-risk areas, showcasing flexibility in protection against this specific peril. This happened in Haiti, where rates returned to post-earthquake levels after the hardening of the global insurance market in 2020.

References

AP (Associated Press). 2006. "Insurers Put Wilma Damage at U$3 Billion." Banderas News. https://banderasnews.com/0610/nz-hurricanewilma.htm.

Axco. 2023. "Insurance Market Report (Non-Life): Eastern Caribbean: Antigua and Barbuda, Dominica, Grenada, St. Lucia, and St. Vincent and the Grenadines." Axco, London.

Axco. 2023. "Insurance Market Report (Non-life): Regional: The Bahamas, Barbados, Belize, Jamaica, Trinidad and Tobago." Axco, London.

Axco. 2023. "Insurance Market Report (Non-Life): United Kingdom." Axco, London.

Axco. 2023. "Insurance Market Report (Non-Life): United States." Axco, London.

Bahamas Department of Statistics. 2015. "The National Accounts Environmental Review." https://www.bahamas.gov.bs/wps/wcm/connect/ea51894e-0ff5-4cbe-967c-bc28802735f4/Environmental+Review+2015_for_wesbite.pdf?MOD=AJPERES.

Beck, Michael W., Nadine Heck, Siddharth Narayan, Pelayo Menéndez, Borja Reguero, Stephan Bitterwolf, Saul Torres-Ortega, et al. 2022. "Return on Investment for Mangrove and Reef Flood Protection." Ecosystem Services 56 (August). https://doi.org/10.1016/j.ecoser.2022.101440.

Beck, Michael W., Nadine Heck, Siddharth Narayan, Pelayo Menéndez, Saul Torres-Ortega, Iñigo J. Losada, Mark Way, Martha Rogers, and Lianna McFarlane-Connelly. 2020. "Reducing Caribbean Risk: Opportunities for Cost-Effective Mangrove Restoration and Insurance." The Nature Conservancy. https://www.nature.org/content/dam/tnc/nature/en/documents/TNC_MangroveInsurance_Final.pdf.

Beck, Michael W., Iñigo J. Losada, Pelayo Menéndez, Borja G. Reguero, Pedro Díaz-Simal, and Felipe Fernández. 2018. "The Global Flood Protection Savings Provided by Coral Reefs." Nature Communications 9. https://doi.org/10.1038/s41467-018-04568-z.

CCRIF SPC (Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company) 2024. "CCRIF SPC Payouts." https://www.ccrif.org/aboutus/ccrif-spc-payouts.

CCRIF SPC (Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company). 2024. "CCRIF Will Make Payouts to the Government of Grenada of over US $44 Million (EC $118 Million) Following the Passage of Hurricane Beryl." July 9, 2024. https://www.ccrif.org/news/ccrif-will-make-payouts-government-grenada-over-us44-million-ec118-million-following-passage?language_content_entity=en.

CCRIF SPC (Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company) and World Bank Group. 2019. "COAST: The Caribbean Oceans and Aquaculture Sustainability Facility." https://www.ccrif.org/sites/default/files/publications/CCRIFSPC_COAST_Brochure_July2019.pdf.

Cook, Samantha Jane, and Susan Clare Holliday. 2022. "Insuring Nature's Survival: The Role of Insurance in Meeting the Financial Need to Preserve Biodiversity." Washington, DC, World Bank Group. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099850304272234140/idu02b17904f04af504b8f087f708041ff6d79d4.

CS Global Partners. 2024. "Ecotourism across the Caribbean." https://csglobalpartners.com/resources/articles/ecotourism-across-the-caribbean.

Earth Security. 2022. "Insurance Underwriting with Nature: How Mangroves Can Transform the Climate Strategy of Companies, Cities, and Re/Insurers." https://www.earthsecurity.org/reports/insurance-underwriting-with-nature-how-mangroves-can-transform-the-climate-strategy-of-companies-cities-and-re-insurers.

Erman, A., S. De Vries Robbe, N. Browne, and C. Solis Uehara. 2021. "Resilience of the Caribbean Tourism Industry—New Evidence from a Firm Survey." World Bank, Washington, DC.

Escudero, M., Reguero, BG., Mendoza, E., Secaira F., and Silva, R. 2021. Coral Reef Geometry and Hydrodynamics in Beach Erosion Control in North Quintana Roo, Mexico. Frontiers in Marine Science 8, https://doi.org/10.3389/fmars.2021.684732.

Evans, Steve. 2024. "Hurricane Beryl Payouts Trigger CCRIF Parametric Reinsurance Program." Artemis. https://www.artemis.bm/news/hurricane-beryl-payouts-trigger-ccrif-parametric-reinsurance-program.

FEMA (Federal Emergency Management Agency). 2024. "Community Rating System." https://www.fema.gov/floodplain-management/community-rating-system.

Ferrario, F., M. W. Beck, C. D. Storlazzi, F. Micheli, C. C. Shepard, and L. Airoldi. 2014. "The Effectiveness of Coral Reefs for Coastal Hazard Risk Reduction and Adaptation." Nature Communications 5: 3794. https://www.nature.com/articles/ncomms4794.

Global Innovation Lab for Climate Finance. "Restoration Insurance Service Company (RISCO)." https://www.climatefinancelab.org/ideas/restoration-insurance-service-company-risco.

Green Climate Fund. 2023. "Plugging the Finance Gap in the Caribbean." December 2, 2023. https://www.greenclimate.fund/news/plugging-finance-gap-caribbean.

High-Level Panel for a Sustainable Ocean Economy. "A Sustainable Ocean Economy for 2050: Approximating Its Benefits and Costs." https://oceanpanel.org/wp-content/uploads/2022/05/Ocean-Panel_Economic-Analysis_FINAL.pdf.

High-Level Working Group on Climate Change in the Caribbean. 2023. "Safeguarding Caribbean Biodiversity." Global Americans. https://globalamericans.org/wp-content/uploads/2023/07/Safeguarding-Caribbean-Biodiversity-6.pdf.

ILO (International Labour Organization). 2020. "Labour Overview in Times of COVID-19: Impact on the Labour Market and Income in Latin America and the Caribbean." 2nd ed. Technical note. https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@americas/@ro-lima/documents/publication/wcms_756697.pdf.

InsuResilience Global Partnership. 2019. "Creating a More Resilient Fisheries Sector in the Caribbean: The Case of COAST." https://www.insuresilience.org/news/creating-a-more-resilient-fisheries-sector-in-the-caribbean-the-case-of-coast.

Jarzabkowski, Paula, Konstantinos Chalkias, Eugenia Cacciatori, and Rebecca Bednarek. 2023. Disaster Insurance Reimagined: Protection in a Time of Increasing Risk. Oxford: Oxford University Press.

Jarzabkowski, Paula, Konstantinos Chalkias, Daniel Clarke, Ekhosuehi Iyahen, Daniel Stadtmueller, and Astrid Zwick. 2019. "Insurance for Climate Adaptation: Opportunities and Limitations." Global Commission on Adaptation. https://gca.org/reports/insurance-for-climate-adaptation-opportunities-and-limitations.

Jones, Benji. 2024. "The Caribbean Has a Defense System against Deadly Hurricanes—but It's Vanishing." Vox. https://www.vox.com/down-to-earth/358329/down-to-earth-coral-reefs-hurricane-defense.

Kushner, Benjamin, Peter Edwards, Lauretta Burke, and Emily Cooper. 2011. "Coastal Capital: Jamaica: Coral Reefs, Beach Erosion, and Impacts to Tourism in Jamaica." Working paper, World Resources Institute. http://pdf.wri.org/working_papers/coastal_capital_jamaica_tourism.pdf.

Laframboise, Nicole, Nkunde Mwase, Joonkyu Park, and Yingke Zhou. 2014. "Revisiting Tourist Flows to the Caribbean: What Is Driving Arrivals?" IMF Working Paper, International Monetary Fund, Washington, DC. https://www.imf.org/external/pubs/ft/wp/2014/wp14229.pdf.

Martinez-Diaz, Leonardo, Lauren Sidner, and Jack McClamrock. 2019. "The Future of Disaster Risk Pooling for Developing Countries: Where Do We Go from Here?" Working paper, World Resources Institute. https://typeset.io/pdf/the-future-of-disaster-risk-pooling-for-developing-countries-3k4dvhz7uy.pdf.

Moffett, Hollie. 2024. "Preserving the Blue: Coastal Tourism and the Blue Economy." E Co. April 17, 2024. https://www.ecoltdgroup.com/preserving-the-blue-coastal-tourism-and-the-blue-economy.

Mueller, Lea, and David Bresch. 2014. "Economics of Climate Adaptation in Barbados: Facts for Decision Making." In Safe Havens: Protected Areas for Disaster Risk Reduction and Climate Change Adaptation, edited by R. Murti and C. Buyck, 15–21. Gland, Switzerland: IUCN.

Munich Climate Insurance Initiative. 2020. "Climate Risk Insurance in the Caribbean: 20 Lessons Learned from the Climate Risk Adaptation and Insurance in the Caribbean (CRAIC) Project." https://climate-insurance.org/wp-content/uploads/2020/11/OnlineVersion_CRAIC_LL_201116.pdf.

NCCARF (National Climate Change Adaptation Research Facility) Coast Adapt. 2016. "Snapshot: National Flood Insurance Program (NFIP), USA." https://coastadapt.com.au/sites/default/files/case_studies/SS8_US_flood_insurance.pdf.

NOAA (National Oceanic and Atmospheric Administration). 2024. "Caribbean Region." https://ecowatch.noaa.gov/regions/caribbean.

Oualie Beach Resort. "About the Resort." https://www.oualiebeach.com/about-the-resort.html.

PreventionWeb. 2018. "The Nature Conservancy and the Government of Quintana Roo Announce Innovative Financial Mechanism for Insuring and Conserving Coral Reefs." March 9, 2018. https://www.preventionweb.net/news/nature-conservancy-and-government-quintana-roo-announce-innovative-financial-mechanism.

Ram, Justin, Dindial Ramrattan, and Raquel Frederick. 2019. "Measuring the Blue Economy: The System of National Accounts and Use of Blue Economy Satellite Accounts." CDB Working Paper 2019/02, Caribbean Development Bank. https://www.undp.org/sites/g/files/zskgke326/files/migration/bb/undp-bb-Measuring-the-Blue-Economy.pdf.

Reguero, Borja G., Fernando Secaira, Alexandra Toimil, Mireille Escudero, Pedro Díaz-Simal, Michael W. Beck, Rodolfo Silva, Curt Storlazzi, and Iñigo J. Losada. "The Risk Reduction Benefits of the Mesoamerican Reef in Mexico." Frontiers in Earth Science 7, https://doi.org/10.3389/feart.2019.00125.

Rockefeller Asset Management. 2024. "Shifting Tides: Rising Need for Investments and Engagement in the Blue Economy: Executive Summary." https://rcmbrand.rockco.com/wp-content/uploads/2024/02/RCM_OceanEngagement_Summary_2024_v3.pdf.

Rozenberg, Julie, Nyanya Browne, Sophie De Vries Robbé, Melanie Kappes, Woori Lee, and Abha Prasad. 2021. "360° Resilience: A Guide to Prepare the Caribbean for a New Generation of Shocks." World Bank, Washington, DC. https://hdl.handle.net/10986/36405.

Statista. 2024. "Jobs in the Travel and Tourism Sector as Share of Total Employment in the Caribbean in 2022, by Country or Territory." https://www.statista.com/statistics/814200/caribbean-direct-contribution-travel-tourism-employment-country/#:~:text=In%202022%2C%20the%20contribution%20of,below%20that%20average%20that%20year.

Smith, Renée. 2024. "Unveiling the Marvels of Mangrove Forests: The Mighty Coastal Wetlands." Caribbean Biodiversity Fund. February 2, 2024. https://caribbeanbiodiversityfund.org/blog/unveiling-the-marvels-of-mangrove-forests-the-mighty-coastal-wetlands/#:~:text=Mangroves%20in%20the%20Wider%20Caribbean,in%20the%20past%2025%20years.

Swiss Re. 2018. "Closing the Protection Gap: Disaster Risk Financing: Smart Solutions for the Public Sector." https://www.swissre.com/dam/jcr:38a7cfdf-c7b8-4b53-a197-d282815a805b/Closign_the_protection_gap.pdf.

Swiss Re Corporate Solutions, "The First-Ever Typhoon Warning Insurance Solution for Businesses Operating in Hong Kong: Insur8." https://corporatesolutions.swissre.com/dam/jcr:e38cf590-0f40-4b5c-b2ba-dc18b1b2be8f/insur8-brochure.pdf.

Systemiq. 2023. "The Mangrove Breakthrough Financial Roadmap." https://www.mangrovealliance.org/wp-content/uploads/2023/11/Mangrove_Breakthrough_Financial_Roadmap_Finance_Coastal_Ecosystems_2023.pdf.

The Nature Conservancy. 2022. "Case Study: Belize Blue Bonds for Ocean Conservation." https://www.nature.org/content/dam/tnc/nature/en/documents/TNC-Belize-Debt-Conversion-Case-Study.pdf.

The Nature Conservancy. 2024. "Major Upgrade to First U.S. Coral Reef Insurance Policy Increases Coverage and Enables More Robust Post-Storm Response." February 14, 2024. https://www.nature.org/en-us/newsroom/upgrade-to-first-us-coral-reef-insurance-policy/.

TIES (The International Ecotourism Society). 2015. "TIES Announces Ecotourism Principles Revision." January 7, 2015. https://ecotourism.org/news/ties-announces-ecotourism-principles-revision/.

US Department of State. 2020. "2020 Investment Climate Statement: Bahamas,The."https://www.state.gov/reports/2020-investment-climate-statements/bahamas/#:~:text=Tourism%20contributes%20over%2050%20percent,American%2C%20visit%20the%20country%20annually.

Valero, Sara, Juan Jose Miranda, and Maja Murisic. 2021. "Nature-Based Solutions for Improving Resilience in the Caribbean." World Bank. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/779381635295766132/360-resilience-a-guide-to-prepare-the-caribbean-for-a-new-generation-of-shocks-nature-based-solutions-for-improving-resilience-in-the-caribbean.

Wellenstein, Anna, and Genevieve Connors. 2022. "Unleashing the Blue Economy of the Eastern Caribbean." World Bank Blogs. July 19, 2022. https://blogs.worldbank.org/en/latinamerica/unleashing-blue-economy-eastern-caribbean.

World Bank. "World Bank Catastrophe Bond Provides Jamaica with Financial Protection against Tropical Cyclones." https://thedocs.worldbank.org/en/doc/43a111757d3b1ff1cabde80ee7eb0535-0340012021/original/Case-Study-Jamaica-Cat-Bond.pdf.

World Bank. 2021. "World Bank Catastrophe Bond Provides Jamaica with Financial Protection against Tropical Cyclones." https://thedocs.worldbank.org/en/doc/43a111757d3b1ff1cabde80ee7eb0535-0340012021/original/Case-Study-Jamaica-Cat-Bond.pdf.

World Bank. 2024. "Feasibility Study – Disaster Risk Finance and Insurance (DRFI) Solutions for Family Farmers in El Salvador, Guatemala, and Honduras." https://openknowledge.worldbank.org/handle/10986/40964.

World Bank. 2024. "World Bank Returns to the Cat Bond Market Providing Financial Protection to Jamaica." https://www.worldbank.org/en/news/press-release/2024/04/25/world-bank-returns-to-the-cat-bond-market-providing-financial-protection-to-jamaica.

WMO (World Meteorological Organization). 2021. "Weather-Related Disasters Increase over Past 50 Years, Causing More Damage but Fewer Deaths." https://wmo.int/media/news/weather-related-disasters-increase-over-past-50-years-causing-more-damage-fewer-deaths.

2024

PROBLUE
HEALTHY OCEAN · HEALTHY ECONOMIES · HEALTHY COMMUNITIES

THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

1818 H Street NW
Washington DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org