



Resilient Islands

A PARTNERSHIP FOR CLIMATE READINESS

Strong, resilient coasts are vital for community wellbeing in Old Harbour Bay Fishing Village, Jamaica. © Steve Schill/TNC

The Caribbean region is among the world's most vulnerable to the impacts of climate change. Coastal flooding and erosion caused by hurricanes and severe storms threaten lives, homes, jobs, and infrastructure. As the impacts of climate change escalate, extreme weather events are becoming more frequent and destructive. This means Caribbean communities, many of which have limited resources to protect against climate-related threats, are facing grave risks to their safety and wellbeing.

CONSERVATION MEETS RISK REDUCTION

As the impacts of climate change are increasingly evident across the globe, island nations throughout the Caribbean are particularly at risk. However, science shows that healthier mangroves, coral reefs, and other natural systems can help protect coastal communities by significantly reducing storm surges, flooding, and shoreline erosion. The protection and restoration of these natural systems provide a cost-effective approach to climate-smart, sustainable development that benefits nature as well as communities.

The Nature Conservancy (TNC) and the International Federation of the Red Cross and Red Crescent Societies (IFRC) forged *Resilient Islands* at this intersection between conservation and disaster risk reduction.

Resilient Islands is an innovative partnership that inspires community action for the protection of nature in the Dominican Republic, Grenada, and Jamaica.

Since 2017, backed by a grant of nearly US\$6 million from the government of Germany's International Climate Initiative, TNC and the IFRC have collaborated with governments, communities, and partners in each of these countries to develop national plans for a more sustainable future through nature-based disaster risk management. To advance these plans, *Resilient Islands* identified one high-risk community in each country to pilot nature-based approaches for building climate resilience and readiness—Miches, Dominican Republic; Grenville Bay, Grenada; and Old Harbour Bay, Jamaica.

THE PATH TOWARD RESILIENCE

After identifying the three pilot communities, *Resilient Islands* partnered with each municipality to address the unique needs of its vulnerable residents. Working closely together, TNC and IFRC leadership, NGO partners, community-based organizations, national and local government entities, the private sector, academia, and—most importantly—the communities of Miches, Grenville Bay, and Old Harbour Bay:

- assessed the needs and risk levels of each community through extensive stakeholder engagement and by using advanced modeling techniques and technologies to reveal where communities are most vulnerable to threats and where natural assets exist to protect them.
- identified opportunities to improve legislation so that it emphasizes nature as an important tool in achieving coastal resilience for the three targeted countries.
- built local capacity, awareness, and buy-in through specialized trainings for local government officials and community leaders and the creation and dissemination of educational materials for the broader community.
- co-created comprehensive portfolios of actionable, nature-based solutions with each community, tailored to local needs and risk assessments.

OUR VISION



60,000 people better protected against hurricanes and coastal flooding



50,000 acres (20,000 hectares) of natural assets like corals and mangroves restored



30 miles of coastline strengthened with healthier coral reefs and mangroves



ONE *Resilient Islands* model with potential to scale across the Caribbean and beyond



Community members plant mangrove seedlings to help protect shorelines in Miches, Dominican Republic. © CEBSE

This collaboration toward a more resilient future was propelled by science-based decision making, well-informed advocacy for improved policy, and community-driven action planning. The planning phase for each municipality is complete, and the focus for *Resilient Islands* now is the execution of pilot projects that will restore nature, improve livelihoods, help safeguard thousands of people, and protect millions of dollars in property, resources, and critical infrastructure.

Together, TNC and the IFRC seek to leverage the German Government's initial US\$6 million investment and raise an additional US\$8.7 million to support these on-the-ground and in-the-water resilience efforts over the next four years. Funding will enable us to:

- protect 60,000 people from increasingly severe coastal flooding and erosion.
- restore more than 50,000 acres (20,000 hectares) of mangroves, coral reefs, and other natural systems.
- strengthen over 30 miles of coastline to improve resilience against intense waves and storm surge.

Importantly, this holistic approach will serve as a model for other at-risk coastal communities to protect themselves against the threats of climate change. Success in Miches, Grenville Bay, and Old Harbour Bay will better position TNC, the IFRC, and partners to scale and replicate *Resilient Islands* efforts across the Dominican Republic, Grenada, Jamaica, and beyond.

NATURE-BASED PROJECT PORTFOLIOS

The *Resilient Islands* planning process generated nature-based project portfolios for each pilot community. Each portfolio consists of up to a dozen resilience projects spanning a range of approaches including large-scale restoration of coastal vegetation and corals, the creation of living breakwaters, and reduction of wastewater runoff that harms corals and mangroves. Below are highlights of the work *Resilient Islands* will advance, with community support, in the years ahead.

DOMINICAN REPUBLIC Miches

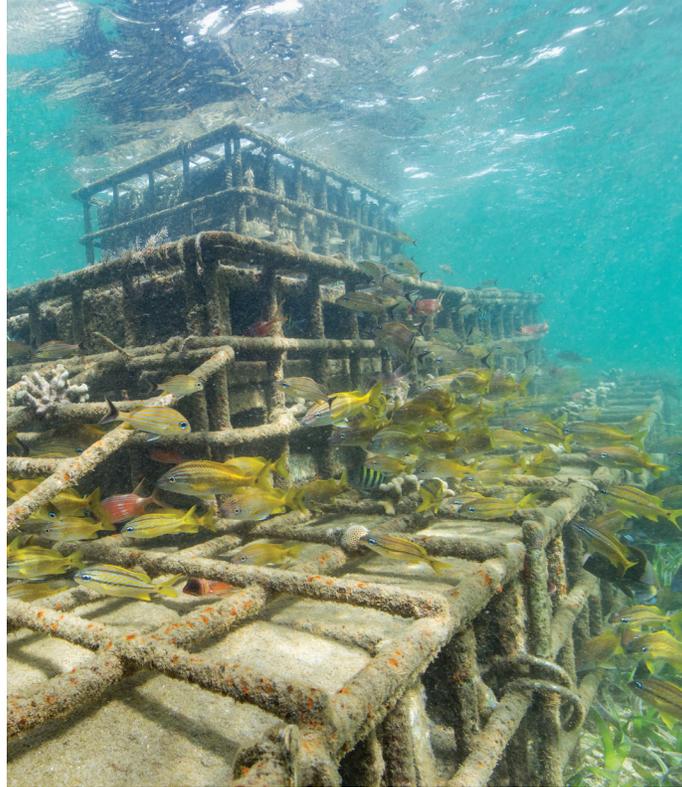


- In partnership with the Center for the Conservation and Ecological Development, salt-tolerant plants—including beach grapes, poplars, and red mangroves—are being planted to prevent erosion and flooding and provide crucial habitat for fish and wildlife.
- Local smallholder farmers and ranchers will be provided with fruit trees to plant on farmland that borders the Yeguada River. The plantings will provide a new crop for farmers to harvest and sell while reducing erosion and polluted agricultural runoff that flows into the sea and harms mangroves and coral reefs.

GRENADA Grenville Bay



- Coral and coastal vegetation nurseries will be established to increase capacity for restoring reefs on a large scale and building shoreline resilience. Using the nurseries, thousands of mangroves and other coastal vegetation will be planted through a shoreline stabilization project designed to reduce erosion and better protect communities, critical infrastructure, and fishers from an encroaching sea.
- The nurseries will also support efforts to strengthen an existing engineered hybrid reef that incorporates “gray” elements like rocks and other local materials as well as “green” elements such as coral. Attached corals will grow and ultimately overtake the gray structure, further increasing coastal resilience while creating new habitat for a diversity of species.
- A climate-smart facility will be constructed, including the installation of a jetty for fishers to provide storage



A hybrid reef, or human-made structure on which corals attach and grow, helps bolster fish populations and protect coasts in Grenville Bay, Grenada. © Tim Calver

- and storm protection for boats and equipment, while improving fishers’ access to the sea and therefore bolstering livelihoods.
- Working with farmers, rainwater harvesting systems and natural retention ponds will be installed to reduce polluted runoff, which will improve the health of coral reefs and mangroves that provide coastal protection.

JAMAICA Old Harbour Bay



- Mangroves will be planted to stabilize the fragile cays that protect communities and fishers from storm surge—and that are disappearing due to storm-related erosion.
- Working closely with fishing communities, sustainable fisheries strategies will be developed, including management and monitoring plans to better track the status of fish catch, habitats, water quality, and biodiversity. These practices will reduce pressures on corals and mangroves, which promote healthy fisheries and protect communities from flooding.
- A living breakwater will be developed to stabilize the shoreline, which will consist of constructed berms with mangrove plantings as well as restored coral habitats. The breakwater may use some of the hybrid reef technologies piloted in the Grenville Bay project and will reduce erosion and better protect communities from coastal flooding.

A RESILIENT AND SUSTAINABLE FUTURE

Nature-based solutions incorporating the protection and restoration of critical natural systems not only strengthen coastal and community resilience against the dangerous impacts of climate change, but also provide habitats for ecologically, commercially, and recreationally important fish and wildlife. This is a win-win approach for nature and the people of the Caribbean.

Resilient Islands is uniquely positioned to apply cutting-edge science and proven techniques for the greatest possible on-the-ground benefits. With your support, we can advance and scale up these benefits to truly make a difference for the waters, coasts, and other natural resources that are so vital for the safety, wellbeing and prosperity of Caribbean communities.

Your support can create transformative change. Together, we can help ensure a resilient, sustainable world where all of nature, including humanity, thrives—for this generation and those to come.



Families learn about the protective value of reefs and mangroves at Reef Week, a community event in Grenville Bay, Grenada. © T&R Communications

LEARN MORE

ResilientIslands.tnc.org

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Supported by:



based on a decision of the German Bundestag

OUR PARTNERS

DOMINICAN REPUBLIC

- Dominican Red Cross Society
- The town of Miches
- Municipal Committee for Disaster Prevention, Mitigation and Response
- National Council for Climate Change and the Clean Development Mechanism
- Ministry of Environment and Natural Resources

GRENADA

- Grenada Red Cross Society
- Grenada Fund for Conservation
- Local schools in the Grenville Bay area
- Fisheries Division of the Ministry of Sports, Culture, The Arts, Fisheries and Cooperatives
- Ministry of Tourism, Civil Aviation, Climate Resilience and the Environment

JAMAICA

- Jamaica Red Cross Society
- Old Harbour Bay fishing community
- Office of Disaster Preparedness and Emergency Management
- Technical Advisory Group
- Technical Committee on Policy
- National Fisheries Authority
- Caribbean Coastal Area Management Foundation
- National Environment and Planning Agency
- Urban Development Corporation
- Ministry of Housing, Urban Renewal, Environment and Climate Change
- Ministry of Economic Growth and Job Creation

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