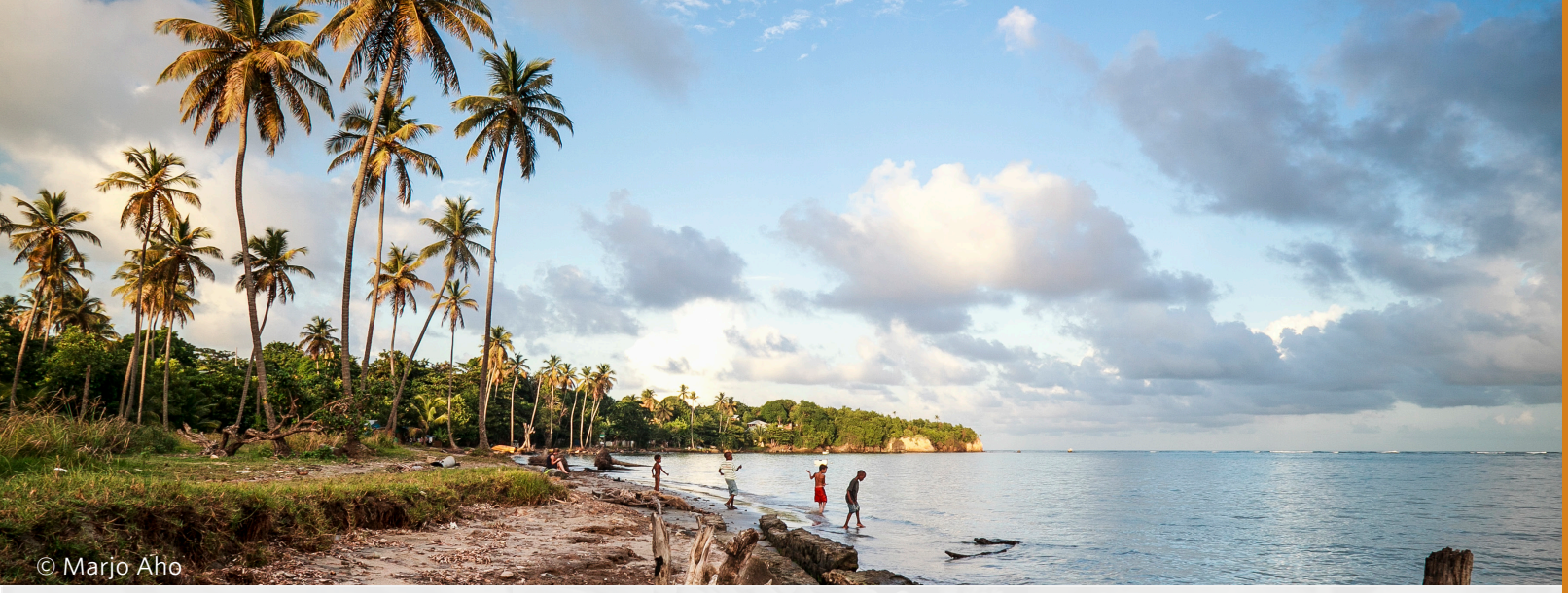
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AT THE WATER'S EDGE (AWE)

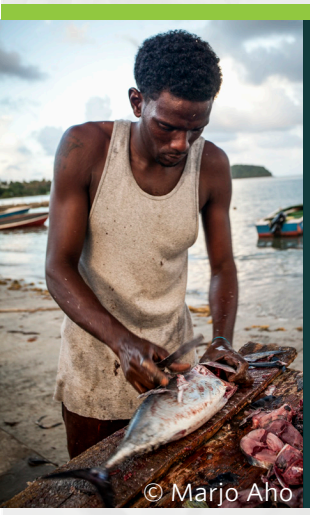
Enhancing coastal resilience in Grenada and St. Vincent and the Grenadines

AWE builds resilient island communities by empowering people to assess the social, ecological and economic risks of climate change and make informed decisions on the use of their coastal environment.

Mobilize communities: Bringing communities together to develop tools to secure their future and build environmental awareness.

Test hybrid reefs: Testing structures designed to enhance the protective functions of a reef and reduce flooding and severe coastal erosion.

Restore coastal vegetation: Strengthening the shoreline and stabilizing dunes by planting mangroves and beach vegetation.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Grenville, Grenada

The communities of the Grenville Bay Area are already experiencing the impacts of a changing climate. Erosion, flooding from sea level rise, increased storm surges, and loss of fishing resources threaten food security, livelihoods and property.

What are nature-based solutions?

The use of nature-based solutions, also referred to as *ecosystem-based adaptation*, is the sustainable management, conservation and restoration of natural habitats, which reduce risks from climate change or severe weather, and build more resilient communities. These habitats enhance food security, support economic opportunities and provide physical protection.


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The Nature Conservancy
Protecting nature. Preserving life.

Grenada Red Cross Society

Grenada Fund for Conservation Inc.

MOBILIZE COMMUNITIES

Grenville Bay Area community members created action plans to increase their resilience against climate change by using expert input from local partners, The Nature Conservancy, government officials, coastal engineers, landscape architects, and habitat restoration specialists.

NATIONAL INITIATIVES

The Nature Conservancy collected and combined national-level data to create a web-based mapping tool, which allows users to examine the connections between ecological, economic, physical and social vulnerability.

Try the mapping tool: coastalresilience.org/network

LOCAL INITIATIVES

Grenville Bay Area was identified as the project pilot site by examining national-level vulnerability data and consulting with partners. Site-level initiatives include:

- A participatory mapping activity with community members to incorporate local knowledge and cultural resources.
- A Vulnerability Capacity Assessment, conducted with the Grenada Red Cross Society, to determine the communities' strengths and vulnerabilities.
- A community resilience plan, developed with the National Disaster Management Agency, the Grenada Red Cross Society, partners and community members, to determine strategies to increase resilience.


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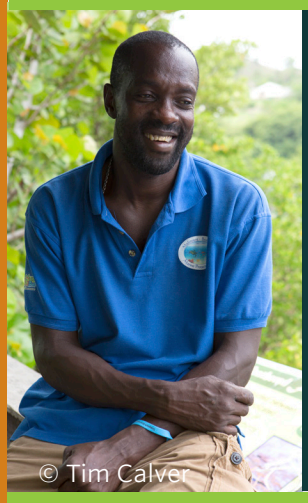
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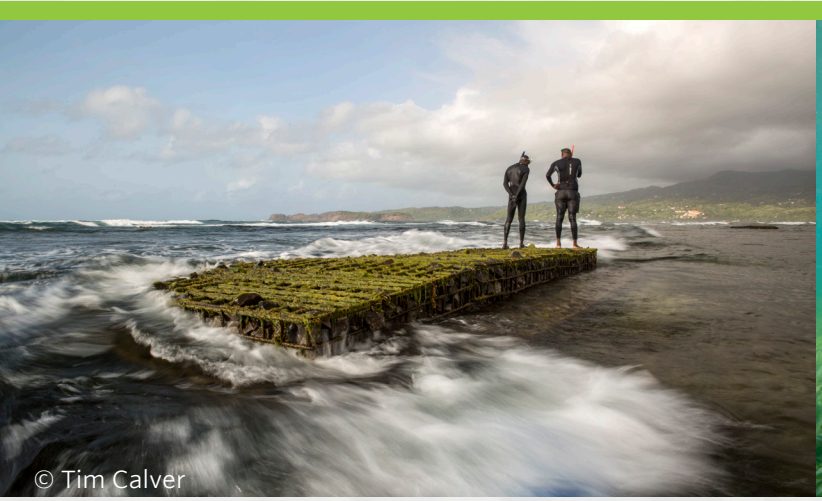
Chris Alleyne,
Hybrid reef monitoring team member

"I am from a fishing village and people of my community are very proud of our village. The Nature Conservancy has laid the foundation to help people become aware of the danger they face with hurricanes and sea level rise. Now the average man on the street is asking questions."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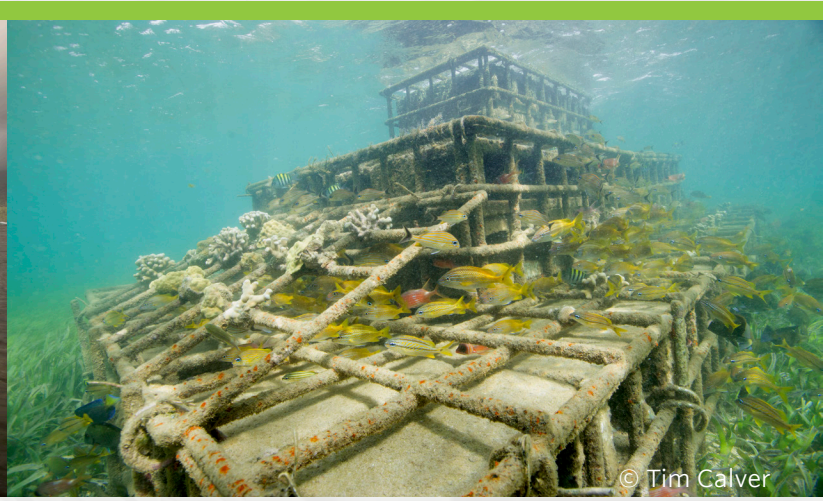
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TEST HYBRID REEFS

Coral reefs slow destructive wave energy and contribute to economic and environmental resources. The Nature Conservancy designed innovative "re-engineered" or "hybrid" structures on the northern reef in Grenville Bay using models with sixty years of wave data. Funded by the German Federal Foreign Office, the pilot structures are some of the first in the world specifically designed and tested to reduce wave energy while supporting natural coral growth and biodiversity.

ADDITIONAL STRUCTURES WOULD
- Reduce wave energy to stabilize the shore and minimize flooding
- Utilize local labor and materials for construction
- Increase cultural, livelihood, and ecosystem benefits along the shore
- Last over 30 years
- Host coral and crustose coralline algae growth

See how ESRI and IH Cantabria informed the reef design:
www.coastalresilience.org/world-premier-video-mapping-the-reef-in-grenada

RESTORE COASTAL VEGETATION


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Mangroves provide a powerful and natural buffer for homes and businesses along the coast. Their complex root systems support beaches, reduce erosion and create a breeding ground for fish.

Grenada Fund for Conservation, Inc. trained community members to collect, care for and plant mangroves seedlings along specific vulnerable areas. This activity encouraged unity within the communities and fostered a sense of responsibility for the well-being of their natural resources.

Hear the story of how mangroves protected a school during a hurricane:
www.nature.org/newsfeatures/specialfeatures/nature-kept-us-safe.xml


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Restoration of Ashton Lagoon

Together with Sustainable Grenadines, Inc., *AWE* also restores and enhances mangroves in Ashton Lagoon, Union Island (St Vincent and the Grenadines). Tidal circulation, disrupted by a failed marina project, will be restored to improve water quality and enhance the biodiversity in an area that was once a vibrant mangrove ecosystem.

***AWE*'s holistic approach, which combines community resilience planning and engagement with the restoration of natural infrastructure, could transform the way small islands adapt to climate change. The locally-sourced solutions can be adapted to protect coastal communities throughout the world.**

KEYS TO SUCCESS

- **Partnership:**
  A coalition of partners with different strengths can effectively design and implement a comprehensive and sustainable approach to community resilience.
- **Participation:**
  Sustained community involvement throughout the project is essential for long-term success.
- **Information:**
  Combining advanced and accurate data with government and community consultations ensures information and decisions are locally relevant and effectively utilized.

IMPACT

- **Social:**
  The communities developed a united vision to work together to increase their resilience, protect their homes and safeguard their livelihoods.
- **Economic:**
  Training activities empower residents with skills and employment opportunities. For example, residents trained in mangrove restoration now assist with projects around the island.

- **Ecological:**
  The reef structures could not only protect homes and businesses, but would also reduce wave energy to allow the mangrove seedlings to thrive. Together they provide habitat for fish and other species that the fishing communities of Grenville Bay Area rely on.
- **Decision-making:**
  The online data-mapping tool and community resilience plan provide accessible information and a portfolio of strategies. This helps communities, investors and governments make informed decisions to reduce risk.

To learn more:
coastalresilience.org/project-areas/grenada-st-vincent-and-the-grenadines-introduction

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