

Financing Mesoamerican Reef Resilience to Extreme Climatic Events

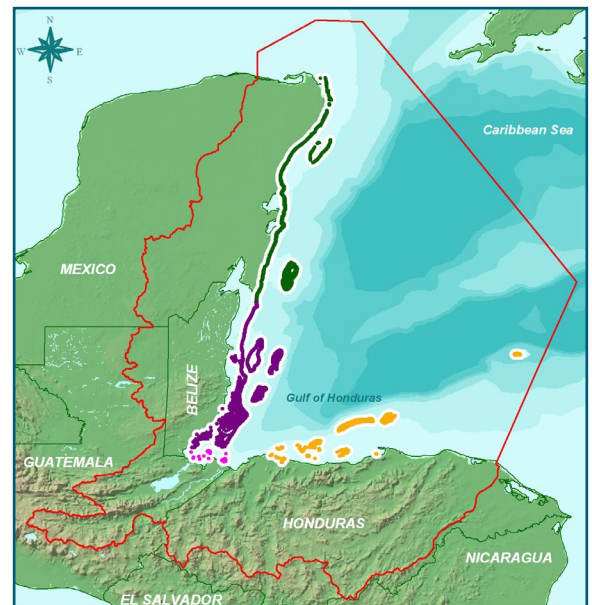
An innovative solution for the conservation of coral reefs and the environmental services they provide

The Mesoamerican Reef

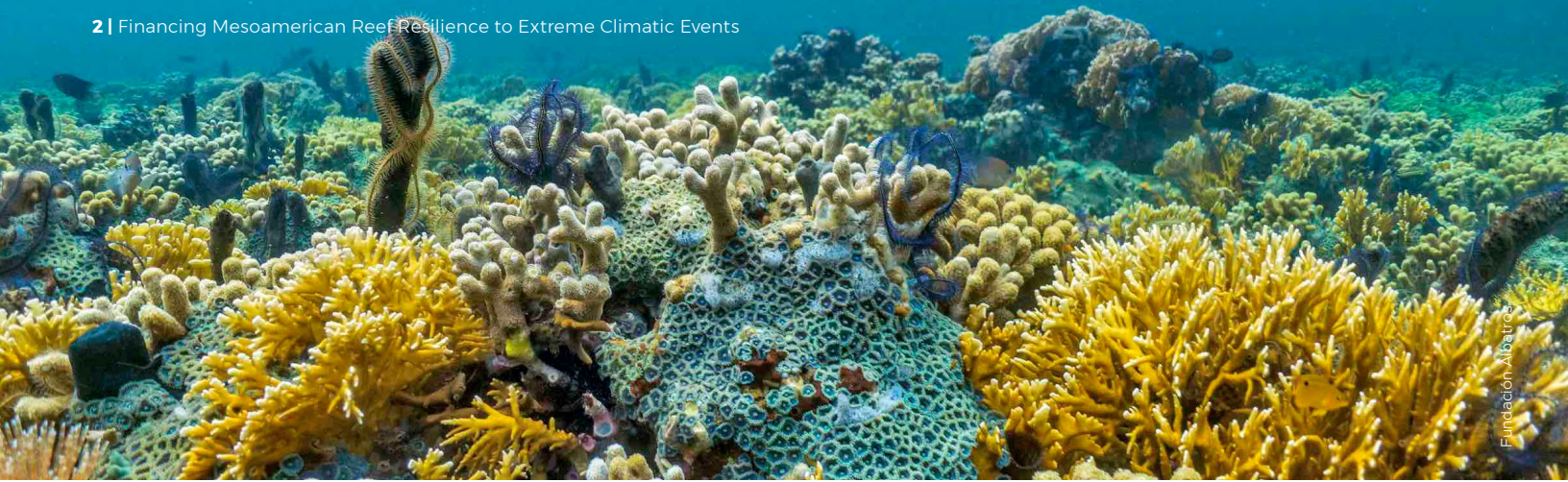
The Mesoamerican Reef (MAR) stretches over 1,000 kilometres along the coast of Mexico, Belize, Guatemala, and Honduras benefiting millions of people. The MAR is one of the most beautiful, diverse, and fragile ecosystems on the planet, and a critical natural infrastructure asset, that protects against storm surges, beach erosion, and wave-induced damage from these storms.

The MAR also offers essential ecosystem services that support the livelihoods of communities and economic growth in the four countries. Every year, the reef contributes \$6.2 billion in economic value to the tourism, commercial fisheries, and coastal development sectors of the MAR countries, providing coastal protection, food security, recreation, and livelihood opportunities for local communities, and is itself a global public good, supporting the integrity of nature as a biodiversity hotspot¹.

The role of coral reefs in maintaining a sustainable ocean environment, critical to underpinning human wellbeing, biodiversity, and a healthy global climate, underscores the “global public good” aspect of the MAR.



¹ UN Environment, ISU, ICRI and Trucost 2018. The coral reef economy: The business case for investment in the protection, preservation, and enhancement of coral reef health. 36 pp.



The Challenge

Each year, communities of the four countries are threatened by high intensity hurricanes, which cause damage and disruption, imperilling lives, and livelihoods. They are also a key driver of live coral cover loss in the MAR, as high winds on land generate debris which ends up on reefs, and hurricanes generate heavy seas—both harm coral reef ecosystems, causing impacts such as breakage of coral colony tips and branches, sand and debris burial, and dislodgement of large colonies.

Additionally, as human activities directly harm coral, the reef's natural ability to recover from extreme climate events damage is reduced. The combination of storm destruction and reef degradation presents a serious threat to the world's coral reefs and, therefore, the livelihoods and resilience of coastal communities.

While the MAR has faced, and survived, the impacts of hurricanes for eons, the effects of climate change and other stressors exert increasing pressure on the reef, and the risk of a hurricane impact leading to irreversible coral degradation and mortality has grown ever more rapidly.

“The insurance instrument is designed to cover the cost of reef response. For a given hurricane event, if hurricane intensity increases at a particular site, reef damage also increases”.

Simon Young, Global Lead, Parametric Innovation, Climate and Resilience Hub at WTW.

An Innovative Solution

Concerned about the economic and biodiversity value of the MAR reefs and the critical services they provide, in 2010 the Mesoamerican Reef Fund (MAR Fund) developed the novel idea of an insurance mechanism to provide funding for emergency reef response and restoration.

To advance such a mechanism, the MAR Fund has developed strategic alliances with key partners. One of these alliances is the one established with Willis Towers Watson (WTW) with whom the *MAR Insurance Programme* was jointly designed. The main objective of this programme is to implement cost-effective insurance to cover hurricane risk to the MAR and the millions of local beneficiaries who depend on it.

The Ocean Risk and Resilience Action Alliance (ORRAA), with the financial support of the Government of Canada provided through Global Affairs Canada, joined these efforts by funding the project ***Financing Mesoamerican Reef Resilience to Extreme Climatic Events***. This initiative is focused on the initial design and analysis of a parametric insurance mechanism for key sites in the MAR countries, as a solution to provide quick and appropriately-scaled financing after hurricane impacts. The insurance instrument is designed to “trigger” pay-outs that will cover to the cost of reef response at priority reef sites. The entire project focus on the development of useful analysis, tools, and recommendations towards the implementation of efficient risk financing for the MAR.

Developing Regional Capacities

Countries and local communities could significantly reduce the negative impacts of hurricanes on coral reefs by implementing damage assessments and response activities such as removing debris and re-planting coral species, immediately after the storm retreats. Early action to clean up the reef and jump-start regeneration and recovery is critical to reducing the overall impact of lost ecosystem services—in both social and economic terms.

Reef response preparedness is critical to connect the MAR insurance instrument to concrete reef resilience. A main pillar of the MAR Insurance Programme is the reef response preparedness required to turn insurance pay-outs into resilience outcomes for the region and the communities it supports.

Currently, the MAR Fund is building local capacities at each key reef site through training on post-hurricane response in coordination with governmental agencies of the four MAR countries, The Nature Conservancy, and other partners.

“After a hurricane, it is essential to get to the reef and begin restoration actions as soon as possible”.

María del Carmen García, Director at Puerto Morelos Reef National Park, México.



Fundación Albatros

The Response and Resilience Landscape

The reef insurance solution provides cost-effective cover for hurricane risk and complements and supports the holistic strategy that MAR Fund is implementing in the region for risk and coastal resilience.

In this context, MAR Fund implements the Reef Rescue Initiative, a regional initiative aimed at contributing to the conservation of the MAR by increasing its resilience and recovery ability and thereby the services it provides, through capacity building, regulations, economic incentives, and financial sustainability required for effective and timely restoration.

For this purpose, an Emergency Fund was established as a financial mechanism to provide immediate funds for emergency response and reef restoration actions in the MAR in the case of reef damage caused by hurricanes. Through the Emergency Fund it will be possible to address and repair the damages to corals caused by natural disasters and other threats.



“Having a parametric insurance for reefs is very important because ensures that our economies can rebound and go on after a major hit from any natural disaster”.

Valdemar Andrade, Executive Director
at Turneffe Atoll Sustainability Association, Belize.

A Strategic Partnership

Established in 2004, the MAR Fund is a private regional financial mechanism created to mobilize regional funding and partnerships for the conservation, restoration, and sustainable use of the MAR region.

Willis Towers Watson’s Climate and Resilience Hub is a team of internationally recognised experts with a track record in the development and implementation of innovative parametric insurance programmes.



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