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# Designing insurance for coral reefs

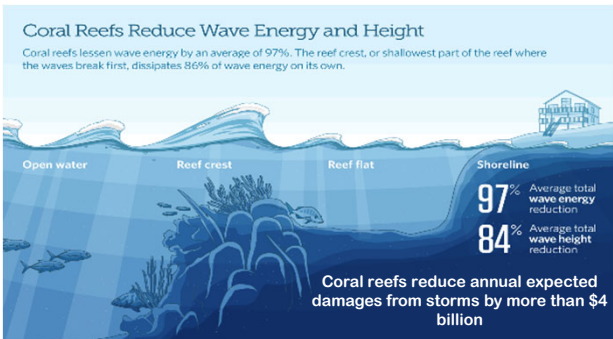
Why, what and how?  
Andrea Camargo - 11 November 2021

1

## Why?

Coral reefs provide a myriad of services with an estimated value of **2.7 billion per year**.

- One key service provided by coral reefs is **disaster risk reduction**.
- Across reef coastlines, coral reefs reduce the annual expected damages from storms by more than **\$4 billion**.



**Coral Reefs Reduce Wave Energy and Height**

Coral reefs lessen wave energy by an average of 97%. The reef crest, or shallowest part of the reef where the waves break first, dissipates 86% of wave energy on its own.

Open water | Reef crest | Reef flat | Shoreline

**97%** Average total wave energy reduction  
**84%** Average total wave height reduction

**Coral reefs reduce annual expected damages from storms by more than \$4 billion**

Source: F. Ferrario, M.W. Beck, et al. The effectiveness of coral reefs for coastal hazard risk reduction and adaptation, 2014


It is expected that by 2050:

**800 million people** in coastal areas will be at risk from the impacts of extreme weather events such as raising seas and storm surges

with an annual cost of more than **\$ 1 trillion** to coastal urban areas

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2



## Why?

- The **capacity of coral reefs to provide disaster risk reduction services is at stake.**
- Coral reefs are being lost due to **several threats** that they are constantly exposed to, such as:
  - Bleaching due to elevated sea surface temperatures
  - Habitat loss and degradation due to unsustainable coastal development
  - Overfishing
  - Pollution
  - Careless tourism
  - Natural hazards such as storms, earthquakes, and volcano ash falls


An increase of 1.5 C in water temperatures could result in the loss of **70-90%** of reef areas. An increase of 2 C will result in almost total loss.

- To guarantee that coral reefs continue providing their disaster risk reduction services as other services, it is urgent to adopt **comprehensive approaches to manage the various threats and risks** to which coral reefs are exposed to.

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3




## What?

- Insurance against insurable risks to which coral reefs are exposed to , to finance restoration and conservation.
- Insurance could be **one piece** of that comprehensive risk management approach, where other risk financing tools could be combined.
  - ✓ Insurance will be better suited to transfer high severity, low frequency events

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4




## How?

- The design of sustainable insurance schemes to protect MCEs relies upon some conditions:
  - It must be **technically feasible** to insure coral reefs;
  - A series of minimum **enabling factors** must be present in the country in which the insurance scheme will be developed;

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5



## How?


1. It must be **technically feasible** :

Coral reefs should provide quantifiable services to "owners of action"	The risks threatening coral reefs should be insurable	<ul style="list-style-type: none"> <li>✓ Sites where coral reefs provide a wide range of services to a myriad of "owners of action"</li> <li>✓ Sites where coral reefs are recognized globally for the services they provide</li> <li>✓ Sites where data quantifying services and impact of their loss is available</li> <li>✓ Sites where restoration and conservation projects are ongoing</li> </ul>
Insurance should be a cost-efficient tool to restore and protect	The site selection process should be considered crucial for the scheme sustainability	

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6



## How?


2. A series of minimum **enabling factors** must be present in the country in which the insurance scheme will be developed:

- Supply:** Countries have favourable supply conditions depending on the level of development of their insurance market and the restoration and conservation programmes available in the country
- Demand:** Favourable demand conditions relate to the fact that there is a wide range of “owners of action” in the selected sites with willingness and ability to pay for these insurance products.
- Enabling environment:** Countries with enabling environments are characterised by having or abiding to policy, regulatory and self-regulatory frameworks that provide mandates to “owners of action” to act.

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7



# Thank you

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8