



Willis Towers Watson



Willis Towers Watson (WTW) is a global advisory, broking and solutions company. With roots dating back to 1828 their 40,000 employees serve more than 140 countries, providing innovative finance and risk management solutions to build the resilience of ecosystems. Development of novel tools and solutions is a focus for them, considering terrestrial, coastal, and marine ecosystems along with the connections between climate and biodiversity issues.

Their purpose is to create clarity and confidence today for a more sustainable tomorrow; in the case of nature-related issues they recognise the need for wide collaboration, working with policy makers, local communities and other conservation and finance institutions.



Global Ecosystem Resilience Facility (GERF)

WTW launched the Global Ecosystem Resilience Facility (GERF) in 2018 at The Economist World Ocean Summit in Mexico. It is the first facility of its kind, aiming to develop resilience for vulnerable ecosystems such as coral reefs and mangroves through innovative finance and risk management tools and products. It also aims to support public and private understanding of the true value of ecosystems (and effective protection measures).

The Facility focuses on ocean and coastal ecosystems, which have to date received less attention in the way of practical risk management and mitigation measures. WTW recognise that with more intense storms, floods and droughts, higher sea levels and water temperatures, and ocean acidification, coastal communities become more vulnerable. To safeguard lives and livelihoods, the resilience of the environment that supports them must be strengthened. The Facility therefore addresses both the role of human activity and natural processes; communities building resilience through sustainable practices under their control, and disaster risk finance protecting against events outside of their control. Building local capacity for climate mitigation and adaptation while providing a facility to finance increased resilience at a global scale will be needed. This global approach will be combined with the regional frameworks required for governments to support the management of the marine environment and sustainable development of the blue economy. Risk pools and mutual insurance entities are in development as key risk management tools for the communities and ecosystems. Alternative risk transfer solutions, especially parametric insurance, are also being developed or adapted and, when upfront capital investment is required, the structuring of resilience bonds. The Facility also provides access to catastrophe and financial modelling, as well as options for risk management and risk transfer.

Initial work has focused on the protection of ecosystems such as coral reefs, mangroves and seagrasses to support resilience of coastal communities and livelihoods at threat from hurricanes and coral decline. Understanding the value of and risks to ecosystem services – to fisheries, tourism and as coastal protection for example – is critical to effective risk management. The GERF supports development of such understanding, and then works to incentivise continued ecosystem stewardship and asset maintenance through risk finance. Insurance programmes are structured to encourage risk understanding, assessment, and the coordination and pre-planning of swift post-event recovery. GERF also aims to facilitate risk pooling to help regions bridge the post-disaster funding gap and provide a targeted, structured response to coastal communities and infrastructure, ecosystems and fisheries in particular.

“ The Global Ecosystem Resilience Facility allows for the financing of increased resilience at a large scale. This global approach is key to building a sustainable blue economy and protecting coastal communities from climate impacts. We are proud to lead the way in the development of innovative mechanisms to extend financial protection to ecosystems and to incentivise sustainable growth.”

**Rowan Douglas, Head of Willis Towers
Watson’s Climate and Resilience Hub**

Mesoamerican Reef Fund (MAR)

In 2018, WTW (through GERP), and the Mesoamerican Reef Fund (MAR Fund) agreed to collaborate on formulating, funding and executing an insurance programme to support reef recovery following hurricane impacts in the four countries of the Mesoamerican Reef Region (MAR). The challenge is to develop insurance for natural assets – similar to current parametric insurance for crops and cattle. Insurance for reefs can contribute to reef recovery by funding proven reef restoration activities such as clearing debris and reattaching broken coral fragments. In June 2021 the team successfully launched the Mesoamerican Reef Insurance Programme – the world’s first multi-national coral reef insurance programme.

The MAR Fund is a private regional environmental fund whose mission is to enable innovative, transnational solutions to critical MAR issues through providing long-term financial support and reef management advice. The insurance programme (across sites in Mexico, Belize, Guatemala and Honduras) supports early response and restoration actions after a hurricane event, reducing long-term damage, speeding up recovery, and improving resilience and the creation of natural capital value in the Mesoamerican Reef. The policy has a bespoke pay-out structure based on the cost of response at a specific reef site at different damage levels with pay-outs distributed to fund rapid response, restoring ecosystem services to reef beneficiaries. The insurance model underpinning the service utilises an underlying parametric index capturing reef damage as a function of hurricane intensity through a grid of peak windspeed, which has been established as a suitable proxy for reef damage.

“ This programme helps us learn how insurance can provide a unique shared governance framework to manage reefs and other vulnerable natural ecosystems. ”

John Haley,
Chief Executive of Willis Towers Watson

<https://www.willistowerswatson.com/en-CM/News/2021/06/wtw-collaborates-on-world-first-insurance-protection-for-endangered-mesoamerican-coral-reef>

Ocean Risk and Resilience Action Alliance (ORRAA)

In 2019 the Ocean Risk and Resilience Action Alliance (ORRAA), a collaboration between the finance sector, governments and environmental civil society organisations, was launched to develop finance and insurance products that unlock investment in coastal resilience, accelerate research to manage ocean risk and inform policy, governance and public understanding. In collaboration with AXA Climate and with support from ORRAA, WTW is leading development of a risk modelling and risk transfer execution platform to capture the protective benefits of ecosystems and to facilitate parametric insurance coverages for ecosystem service interruption / reinstatement and investments in nature-based solutions, applicable to Protected Areas across the world.

Pacific Ocean Finance Programme – Insurance

The Pacific Ocean Finance Program was implemented by the Pacific Islands Forum Fisheries Agency (FFA) and the Office of the Pacific Ocean Commissioner (OPOC), with funding from the World Bank and the Global Environment Facility.

The insurance workstream of the Pacific Ocean Finance Programme (POFPI) project focused on the feasibility and design of insurance instruments to support Pacific Ocean health and thereby increase the resilience of Pacific communities. As part of this project, WTW conducted a Pacific-wide ocean risk assessment and feasibility analysis for the use of insurance instruments and developed three novel insurance concepts with initial product design in Fiji, Palau, and Vanuatu.

These insurance concepts include parametric insurance coverage for blue infrastructure (e.g., coral reefs and mangroves) from climate shock events, including acute threats (such as storms) and chronic threats (such as increasing ocean temperatures), and the design of a livelihood protection product to support fisherfolk resilience and incentivise improved fisheries management. This project also included a large component of local consultation, including two multi-country roadshows to develop and present the insurance concepts.

This work showed that insurance can be effectively deployed to protect existing investments in conservation and marine environment stewardship. Further, innovative financial instruments can themselves be made more effective when they are designed to incentivize hazard mitigation and adaptation activities.

Climate Change Risk Modelling Services for the Government of Antigua and Barbuda

Guided by the Government of Antigua and Barbuda's Department of Environment, this project provides climate change risk modelling datasets, analytics, and associated stakeholder/capacity building activities to support National Adaptation Plan development.

In addition to quantifying risk of climate-related hazards to grey infrastructure (man-made residential, commercial, and public assets) across Antigua and Barbuda, the project recognises the critical role of marine and terrestrial ecosystems in supporting social, economic, and cultural activities across the islands.

Climate impact modelling was undertaken to quantify the vulnerability of Antigua and Barbuda's coral reef ecosystems to bleaching resulting from ocean heatwaves events, and extreme winds from tropical cyclones. This work demonstrated that coral reef ecosystems across the islands will likely experience worsening impacts from climate-related threats. Given the considerable value that Antigua and Barbuda currently derives from its reef ecosystems (through fisheries, tourism, and coastal protection), developing strategies to protect this critical natural infrastructure should be a priority. To this end, WTW have been working with Cefas to develop a Green Climate Fund proposal that focuses on implementing ecosystem-based adaptation measures.

The Nature Conservancy

WTW are working with The Nature Conservancy (TNC) [to explore how insurance innovation can support investment in ecosystem risk management](#), including consideration of reef damage and wildfire events.

[Studying the development of parametric insurance solutions in Hawaii and Florida](#) showed how they could finance early and comprehensive response to impactful climate events including ocean heatwaves causing coral bleaching, hurricanes causing reef damage, and possibly even heavy rainfall causing high coastal turbidity. The work found that coral reefs could reduce up to 97% of wave energy hitting the shoreline worldwide, and, in Hawaii provide more than \$836 million in coastal protection, support nearshore coral reef fisheries worth \$13.4 million and support reef-related tourism contributing more than \$1.2 billion to the state's economy.

The risk reduction benefits of eco-forestry management approaches in California, through modelling of changes in indemnity and parametric insurance analytics for wildfire risk have been explored. Proactive forest management involves thinning that can result in healthier forests that are more resistant to drought, fire and a warming climate as well as providing broader ecosystem benefits such as maintenance and restoration of biodiversity. The associated parametric insurance product could also yield substantial savings in home insurance premiums.

The campaign is being led by the [Institute of Chartered Accountants in England and Wales](#) alongside the [World Business Council for Sustainable Development](#), [IUCN](#) and [Oppla](#).



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