WWF

Coral Reef
Rescue Initiative

Coral Reef Rescue Initiative - 2023 Highlights Report

RAJA AMPAT, INDONESIA.
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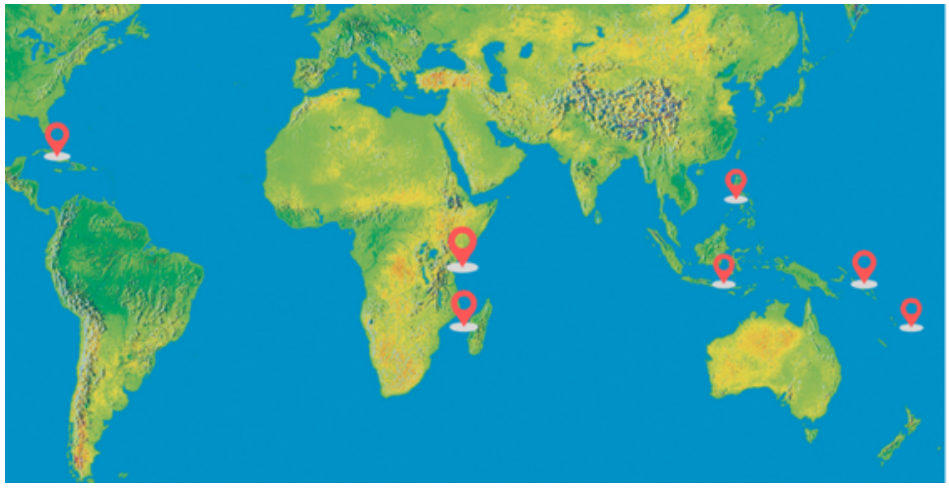
The Coral Reef Rescue Initiative

The Coral Reef Rescue Initiative (CRRI) works to secure the future of coral reefs beyond the mid-century and the global climate crises, by focusing on reefs that are less exposed to climate change impacts and better positioned to regenerate nearby reefs in the future.

CRRI has initially identified seven countries as having resilient reefs: Cuba, Fiji, Indonesia, Madagascar, Philippines, Solomon Islands, and Tanzania. CRRI will be expanding our efforts regionally.



CRRI works for resilient reefs in (L-R) Cuba, Tanzania, Madagascar, Indonesia, Philippines, Solomon Islands & Fiji.

CRRI Partners

CRRI is a global programme partnership between seven organisations : Blue Ventures, CARE International, Rare, Wildlife Conservation Society (WCS), University of Queensland (UQ), Arizona State University/Allen Coral Atlas and WWF (World Wide Fund for Nature).

Arizona State University's Center for Global Discovery and Conservation Science leads spatially-explicit scientific & technological research with a focus on mitigating & adapting to global environmental change. The Center leads the Allen Coral Atlas, a program utilizing high-resolution satellite imagery and advanced analytics to map and monitor the world's coral reefs in unprecedented detail. The Atlas and its data products support coral reef science, management, conservation, and policy across the planet.

Working in partnership with coastal communities, Blue Ventures develop science-led approaches to marine conservation. Their conservation models demonstrate that locally led management of marine resources improves food security and makes economic sense. Working in Madagascar, Blue Ventures created the largest locally managed marine area (LMMA) in the Indian Ocean, along with its biggest community-based monitoring programme for artisanal sea turtle and shark fisheries.

CARE is a global humanitarian organization that provides disaster relief to areas in crisis, while providing long-term solutions to poverty around the world. They reach out to over 50 million people in 90 countries worldwide, through approximately 950 poverty-fighting development and humanitarian aid programmes that cover everything from health and education to food security, poverty and women's empowerment. 90% of their income and fundraising goes directly into these projects.

Rare inspires change so people and nature thrive. Working at the intersection of conservation, sustainable development and social change, Rare is the global leader in using principles of behaviour change to design people-centred approaches and achieve lasting results. Rare has partnered with local leaders in over 60 countries to protect nature and the people, communities and livelihoods it sustains.

Ranked in the world's top 50, the University of Queensland is a leading research and teaching institution, with over 6,000 research groups and cutting-edge facilities such as the Centre for Biodiversity and Conservation Science (CBCS). The centre works in partnership with scientists, governments, NGOs and industry to solve the most important conservation problems around the world. The University of Queensland is the key science partner for CRRI.

Headquartered in New York City, the Wildlife Conservation Society (WCS) was founded in 1895 as the New York Zoological Society (NYZS). WCS runs around 500 field conservation projects in 65 countries worldwide, covering more than two million square miles of wild places. WCS uses scientific knowledge to engage and inspire decision-makers, communities and their millions of supporters to take action to protect the world's wildlife.

WWF is an independent conservation organization with over 30 million followers and a global network active in nearly 100 countries. Their mission is to stop the degradation of the planet's natural environment and build a future in which people live in harmony with nature. WWF works to achieve this ambition through multiple projects, aimed at conserving biological diversity; promoting the use of sustainable, renewable natural resources; and advocating the reduction of pollution and wasteful consumption. Read more at panda.org.

The front cover image was taken by Tommy Schultz. We use his image as a dedication to his life's work taking images of the natural environment. Through his work, Tommy championed ocean conservation for many years.

Foreword

PEPE CLARKE

OCEANS PRACTICE LEADER
WWF

WWF's Ocean Practice supports targeted initiatives to restore ocean health and support the social, economic and environmental pillars of sustainable development. The Coral Reef Rescue Initiative is our global initiative for coral reefs, inspired and informed by the aspirations and well-being of communities that depend on coral reefs for survival.

By working with coastal communities and partners through the CRRI, we are helping to facilitate a worldwide coral reef revival while strengthening community resilience through diversified skills and livelihood opportunities to help build their economic capacity.

The CRRI was launched with support from philanthropic funding which kickstarted the development and implementation efforts, as well as efforts to secure the Global Environment Facility (GEF) funding with the support from the WWF US GEF Agency. The GEF funding is now in place and the first stages were achieved this year through the implementation of the new Coral Reef Rescue: Resilient Coral Reefs, Resilient Communities Project (CRR GEF7). The CRR GEF7 project is executed by the University of Queensland (UQ) in partnership with national technical facilities in the six project countries (Wildlife Conservation Society – Fiji, Solomon Islands and Madagascar, Reef Check – Indonesia, Palawan Council for Sustainable Development – the Philippines and Marine Parks and Reserve Unit – Tanzania). This is an important milestone which sees the first steps of implementation of the in-country phase of the initiative.

This is the start of the CRRI vision to be actualised on the ground. The CRR- GEF7 project will begin to build contacts with the Initiative country governments and to begin work at the national level. This will lead to strengthening of capabilities, motivation and opportunities for stakeholders in-country at multiple levels to lead the different efforts necessary to protect coral reefs over time. The CRR GEF project is helping to build enabling conditions and national platforms that support the development of solutions for blue economies and resilient coastal communities.

The momentum is also building in many other CRRI elements. CRRI collaborated with Palo IT to establish a comprehensive monitoring and evaluation (M&E) platform, collecting reef data from locations in Indonesia, and will be expanding to other CRRI focus countries.

Additionally, CRRI has been working to establish mechanisms and platforms for generating and sharing new knowledge as well as widespread advocacy to build global support. In partnership with the University of Queensland (UQ), CRRI successfully launched the Knowledge Hub website. The Knowledge Hub will continue to be built to offer a mix of custom designed Massive Open Online Courses (MOOC) and curated resources that will be identified as important by the CRR GEF7 and CRRI stakeholders.

Within this highlight report CRRI features some of the activities that the Initiative undertook in 2023. From Ecological Monitoring in Indonesia's climate refuge reefs to launching the first of a suite of online courses introducing the urgent challenge of coral reef conservation, 2023 has been an action packed year for CRRI. We are indebted to our funders and supporters, who we could not exist without. We hope you see your generosity reflected in the activities that CRRI undertake now and into the future. I'm sure you will join me in WWF's excitement to track the achievements of CRRI in 2024!

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Ecological Monitoring Expedition Alor Marine Protected Area Indonesia.

In May 2023, the WWF Indonesia and CRRI team conducted ecological monitoring in the Alor Marine Protected Area, at monitoring sites that were last surveyed in 2021.

HARIES SUKANDAR
SITE COORDINATOR FOR ALOR MPA, WWF-INDONESIA

MIKO BUDI RAHARJO
PROJECT LEADER FOR LESSER SUNDA SUBSEASCAPE, WWF-INDONESIA

DANIEL E. LEATEMIA
MARINE BIODIVERSITY OFFICER FOR ALOR MPA, WWF-INDONESIA

The Alor Marine Protected Area , located in East Nusa Tengarra Province, Indonesia.

Ecological Monitoring in the Alor Marine Protected Area network was conducted in May 2023, and collected benthic data (coral reef and substrate cover on bottom of ocean) and reef fish data.

Located at the heart of the Coral Triangle, the Alor Marine Protected Area (MPA) covers an area of 277,072 hectares in the Alor region of East Nusa Tenggara Province, Indonesia. The Alor MPA has high biodiversity seascapes consisting of a variety of fish species connected to pristine coral reef ecosystems, as well as healthy mangrove forests and seagrass beds. In addition, Alor MPA is also a habitat and migration route for cetaceans and charismatic marine megafauna such as whale sharks, manta rays, dugongs, dolphins, whales and sea turtles.

The WWF Indonesia and CRRI team consisted of marine biologists including small and large fish and benthic experts and data and IT professionals from Palo IT working in metrics and evaluation.

The first days of the expedition involved training by The Branch Office of Marine and Fisheries Agency as Alor MPA Management Authority and were attended by Water Police, the Navy, and local academics from Tribuana University.

The training covered reef health monitoring, seagrass, mangrove, and marine species, Mermaid (Marine Ecological Research Management Aid) data system, as well as ReefCloud.ai (special thanks to Dr. Manuel Gonzalez Rivero from AIMS for the training workshop)

The expedition was the first time that AI technology through ReefCloud was used in monitoring and surveying and the data was captured through digital means using the photo ID method allowing a more accurate survey in comparison to previous monitoring exercises.

The richness of marine resources in Alor MPA is one of the important things in supporting the lives of coastal communities in Alor Regency.

The ecological and oceanographic factors in these waters also provide resources for the fisheries sector, aquaculture, and the development of other economic sectors of coastal communities.

Unfortunately, the park and its rich marine biodiversity is under threat from illegal and destructive fishing and other pressures related to unsustainable coastal development.

In an increasingly uncertain living environment, communities face difficult choices between exploiting their natural environment for short-term personal needs and protecting it for long-term, broader societal needs.

Data Automation for CRRI Conservation Efforts

To maximise the impact of conservation efforts, the CRRI is partnering with PALO IT, to design a Monitoring, Evaluation and Learning (MEL) system to effectively showcase and track the overall progress of ongoing conservation efforts within the Initiative.

VLADIMIR TROHAROV
PALO IT

Coral reefs are vital ecosystems that support a remarkable diversity of marine life and provide essential benefits to our planet. However, they face unprecedented threats from human activities and climate change, including rising sea temperatures, ocean acidification, pollution, and destructive fishing practices. These challenges have led to significant coral bleaching events and widespread reef degradation, raising urgent concerns for their survival and the well-being of the marine species and coastal communities that rely on them.

To address these critical issues and maximise the impact of conservation efforts, the CRRI is currently partnering with PALO IT, to design a Monitoring, Evaluation and Learning (MEL) system to effectively showcase and track the overall progress of ongoing conservation efforts. The system is expected to enable comprehensive data collection, analysis, and reporting, providing crucial insights into the health and resilience of coral reefs.

Throughout the planning phase, our team at Palo IT has been engaging in extensive consultations with subject matter experts and coral reef monitoring communities to understand any bottlenecks and cumbersome processes comprehensively.

Palo IT embarked on an ecological monitoring expedition with CRRI and WWF Indonesia to Alor Marine Protected Area, Indonesia.

We conducted a problem tree analysis workshop, survey, and prioritisation exercise in close collaboration with CRRI partners to anticipate challenges central to the CRRI MEL problem statement. During the process, we identified critical challenges of establishing the MEL system and explored how we can meet these challenges. We are currently engaging in ongoing discovery to verify the recommendations proposed.

Our team embarked on an expedition with CRRI and WWF Indonesia to Alor Marine Protected Area in Indonesia to gain deeper insights.

Our team joined the expedition with CRRI and WWF Indonesia to Alor Marine Protected Area in Indonesia to gain deeper insights. Our primary task during this expedition was to closely observe and engage with the CRRI and WWF team responsible for gathering, transferring, analysing, and reporting benthic and fish data.

The in-depth research and hands-on engagement with CRRI stakeholders allowed the team at Palo IT to understand data gathering and storage challenges. By addressing these specific challenges, we are delivering a tailored and effective solution that maximises the impact of CRRI's conservation efforts while incorporating local perspectives and minimising wasteful data practices.

PALO IT

Coral Reef Rescue - Global Environment Facility Project

JOELLE ALBERT
PROJECT MANAGER,
CORAL REEF RESCUE GEF
UNIVERSITY OF QUEENSLAND,
INTERNATIONAL DEVELOPMENT

In March 2023, the Global Environment Facility funded Coral Reef Rescue: Resilient Coral Reefs, Resilient Communities Project (GEF CRR) embarked on its four-year epic journey to build capacity and solutions to ensure the long-term survival of climate refuge coral reef ecosystems. The project Inception workshop, held in Bali, Indonesia bought together the project's extensive team of implementing, executing and partner agency representatives to develop a shared understanding of the CRR GEF project and its contribution to the broader Coral Reef Rescue Initiative and undertake participatory project planning.

The Global Project Steering Committee, the projects decision making authority, was established and its first meeting held on 21 June 2023. The Global Project Steering Committee (PSC) is responsible for strategic guidance and oversee the technical and financial execution of the project. The Global PSC membership is comprised of focal government representatives of the six project countries (Fiji, Solomon Islands, Indonesia, Philippines, Tanzania and Madagascar), representatives of CRRI partners (WWF, UQ, WCS, Care International and Rare), WWF GEF Agency and a Scientific Advisor from UQ. UQ International Development, the Project Management Unit act as the Secretariat. For Year 1, CRRI lead Carol Phua is the elected Chair and Mr Chanel Iroi (Solomon Islands Ministry of Environment, Conservation and Disaster Management) the Deputy Chair.

Global activities under project Component 1 have built on initial modules developed by the CRRI, and the first massive online learning course (MOOC), developed by UQ's School of Environment is now available to provide the opportunity for global learners to build and share their knowledge on the Challenges and Solutions for Coral Reef Conservation and Management.

The Participants at the project Inception workshop, held in Bali, Indonesia.

The project Inception workshop held many breakout sessions where participants were able to brainstorm the project for each country.

Given the importance of monitoring and evaluation to enable adaptive management and support learning, communication, accountability and planning, the CRR GEF Project Management Unit and CRRI team have been working with Palo IT to develop an online M&E portal for the project.

The portal will enable work plan activity tracking and achievement against the intended project outcomes as outlined in the project's results framework.

With project work plans for year one now developed and aligned with national priorities in the six project countries of Fiji, Solomon Islands, Indonesia, Philippines, Tanzania and Madagascar; country and global project teams are focused on building teams and implementing year one work plan activities.

CRRI Partner Snapshot

Rare: Coastal 500 Initiative makes finals for Earthshot!

Rare's Coastal 500 initiative, a global network of mayors committed to thriving coastal communities and ecosystems, was named a finalist for the 2023 Earthshot prize!

ROCKY SANCHEZ TIRONA
MANAGING DIRECTOR
FISH FOREVER PROGRAM
RARE

The Coastal 500, along with the 14 other Earthshot Finalists, were chosen from more than 1,100 nominees. WildAid was ultimately awarded the prize in the Revive Our Ocean category.

Currently, the Coastal 500 consists of more than 160 mayors or their equivalent from communities in Brazil, Guatemala, Honduras, Indonesia, Micronesia, Mozambique, Palau, and the Philippines.

These leaders represent communities adjacent to coastal waters, which are high in biodiversity and critical habitats, but are under enormous pressure from climate change, overfishing, pollution, and other human activity.

The Coastal 500 leaders commit to protecting and restoring coastal ecosystems to safeguard ocean biodiversity, which improves the livelihoods and food security for half a billion people worldwide, while curbing climate change.

Coral Reef Alliance & Allen Coral Atlas: New Coral Bleaching Toolkit!

The Coral Bleaching Toolkit & Comprehensive Guide aims to pull together a wealth of global resources for understanding, monitoring, and mitigating coral bleaching events

ANDREA RIVERA-SOSA
PROJECT & OUTREACH MANAGER
CONSERVATION SCIENCE
CORAL REEF ALLIANCE

The Coral Bleaching Toolkit & Comprehensive Guide is a crucial step towards coral reef conservation. The toolkit includes educational materials, advanced monitoring tools, on-site monitoring resources and actionable guidelines to raise awareness, empower conservationists, and promote sustainable tourism.

The toolkit was created to:
Raise Awareness: Educate individuals and communities about the critical importance of preserving coral reefs and the dire consequences of inaction.

Empower Conservationists: Provide conservationists, researchers, and local stakeholders with the tools they need to monitor and respond effectively to coral bleaching events.

Promote Sustainable Tourism: Equip dive operators and tourism agencies with the knowledge to minimize their impact on reefs and actively contribute to their protection.

WCS: New Guide on Managing Wastewater and Pollution.

A coastal health working group has just launched a new practitioner's guide for managing wastewater and other types of land-based pollution that harms both coral reefs and coastal communities

AMELIA WENGER
ONE WATER LEAD
WILDLIFE CONSERVATION SOCIETY

The Science for Nature and People Partnership (SNAPP) Improving Coastal Health working group formed in 2020 to develop resources to help marine conservation and sanitation practitioners work together on integrated conservation and sanitation programs.

Informed by the outcomes of a needs assessment launched in 2021 to better understand the challenges and opportunities related to integrated programs, we created this document as a first step towards providing advice on implementing integrated conservation and sanitation programs.

The purpose of the guide is to:

- Create awareness among stakeholders about the impacts of poor sanitation and wastewater pollution on ocean health and the importance of more integrated solutions.
- Outline the benefits of an integrated approach for achieving human and ecosystem health goals and simultaneously improving climate resilience.
- Provide guidance to the conservation and sanitation sectors on how to work in partnership.

Green Climate Fund progress: Fiji

The CRRI team worked hard in 2023 to secure contracts for in-country representation in the 7 CRRI countries. Here we hear from the Fiji Islands Country Focal Point: Margaret Tabunakawai – Vakalalabure.

MARGARET TABUNAKAWAI – VAKALALABURE

CRRI COUNTRY FOCAL POINT - FIJI ISLANDS

Margaret Tabunakawai – Vakalalabure after community workshops in Sogobiau Village, District of Nadogo, Fiji.

There is much action on the ground in Fiji working with communities of climate resilient reefs. My previous experience in Fiji Government and Non-Government organisations, is critical to the work for CRRI over the next few years. We will be working across the different communities in the districts of which the resilient coral reefs will be surveyed as well as using the networks and my knowledge and skills around policy layouts and Governance within the Fiji Islands as well as working to help advocate on the National Plan of Action on Coral reefs.

This year, the Green Climate Fund (GCF) Fiji Project has also kicked off with the Fiji Inception Workshop. The workshop was cohosted by the Government of Fiji through the Climate Change Division and WWF Pacific Office, on October 31st and November 1st, 2023.

The process is underway with training conducted by the **Accredited Entity team from WWF US** as well as a site visit to the Great Sea Reef and initial meetings with potential partners and stakeholders within the Province of Macuata.

Over the next 16 months, WWF Pacific will be engaged in Feasibility Studies carried out by the University of Queensland, as well as identifying a potential consortium of agencies to connect and make an assessment on current new and existing Financial Systems for Regenerative Production and Practices with Market Outcomes.

There will also be an extensive assessment around the necessary safeguards documents to comply with WWF's Environment and Social Safeguards Framework (ESSF), as detailed in the Safeguards Integrated Policies and Procedures (SIPP).

The Great Sea Reef, Fiji.

The Government of Fiji through the representatives of the Ministry of I Taukei Affairs, Fisheries and Forestry, Agriculture & Waterways, Lands, Rural Maritime Development, Environment, Fiji Development Bank and our colleagues from Climate Change Division are all looking forward to using this opportunity to synergise some gaps between Ministries through legislation as well as through implementation and current projects, especially through the four Provinces seeing that Great Sea Reef covers four of the largest Provinces in Fiji.

UN Climate Champions - Coral Reef Breakthrough

The Coral Reef Breakthrough aims to secure the future of at least 125,000 km2 of shallow-water tropical coral reefs with investments of at least US$12 billion to support the resilience of more than half a billion people globally by 2030.

YABANEX BATISTA

DEPUTY HEAD, UN GLOBAL TEAM
GLOBAL FUND FOR CORAL REEFS

The International Coral Reef Initiative (ICRI), a network including 45 countries who represent over 75% of the world's coral reefs, has launched the Coral Reef Breakthrough in partnership with the Global Fund for Coral Reefs (GFCR) and the High-Level Climate Champions (HLCC). The Coral Reef Breakthrough aims to secure the future of at least 125,000 km2 of shallow-water tropical coral reefs with investments of at least US$12 billion to support the resilience of more than half a billion people globally by 2030.

In addition to broad-based climate action, the Coral Reef Breakthrough will be achieved through:

Action point 1: Stop drivers of loss: Mitigate local drivers of loss including land-based sources of pollution, destructive coastal development, and overfishing.

Action point 2: Double the area of coral reefs under effective protection: Bolster resilience-based coral reef conservation efforts by aligning with and transcending global coastal protection targets including 30by30.

Action point 3:Accelerate Restoration: Assist the development and implementation of innovative solutions at scale and climate smart designs that support coral adaptation to impact 30% of degraded reefs by 2030.

Action point 4: Secure investments of at least USD 12 billion by 2030 from public and private sources to conserve and restore these crucial ecosystems.

The Coral Reef Breakthrough is grounded on science-based, measurable, and achievable goals for state and non-state actors to collectively conserve, protect, and restore coral reefs at the scale that is needed to secure the future of these vital ecosystems and their critical contributions to humanity.

Setting the first global targets for coral reefs, the Breakthrough will be realized by catalyzing public and private financial flows and supporting sustainable conservation investments. These will activate and enhance proven solutions and mobilize aligned actions to achieve the Sharm-El Sheikh Adaptation Agenda's Ocean and Coastal Impact System targets and the Kunming-Montreal Global Biodiversity Framework (GBF), adopted at the 15th meeting of the Conference of the Parties to the Convention on Biological Diversity.

Meeting the targets of the Coral Breakthrough will be instrumental in achieving the Sustainable Development Goals (SDGs), particularly SDG14, Life Below Water.

Actions to conserve, protect and restore 50% of the world's coral reefs would potentially generate over US$18 billion in tourism revenues annually, preserve important fishing grounds and spawn aggregations for commercially important species, and safeguard US$5.5 billion of coastal economic value through shoreline protection. Securing the future of coral reefs identified as climate refugia would also provide hope for lasting recovery and potential to resist climate threats in the decades to come.

Achieving the Coral Reef Breakthrough will mean preventing the functional extinction of one of the world's most threatened, yet most valuable, and most biodiverse ecosystems.

Online Course Launched on edX

CRRI and partners UQ, WWF and CRR GEF have released the first online course on platform edX, Coral Reefs: Introduction to Challenges and Solutions, designed to support the conservation and management of coral reef ecosystems.

LARISSA SHERMAN

PARTNERSHIP OUTREACH & COMMUNICATIONS
CRRI

Ove Hoegh-Guldberg, Professor of Marine Studies at the University of Queensland and Scientific Advisor for CRRI , presents a section in the online course: Coral Reefs: Introduction to Challenges and Solutions.

Education and access to knowledge has the power to transform and catalyse important change. After many years of preparation and planning from many Initiative team members, Partners and Funders, our Massive Open Online Course (MOOC) has launched on platform edX!

The course *titled Coral Reefs: Introduction to Challenges and Solutions*, has a range of multidisciplinary and interrelated topics designed as a big picture introduction to the urgent challenge of coral reef conservation. The course was created to act as a catalyst for creating a network of connected, engaged and informed participants ready to discuss challenges and find solutions for climate refuge reefs.

Created through a collaboration between the University of Queensland's (UQ) School of the Environment, CRRI, WWF and Coral Reef Rescue Global Environment Facility (CRR GEF) and funded by the CRRI, WWF and the Global Environment Facility this MOOC will be one of many this team produces. The delivery of the MOOC was coordinated by the CRRI Knowledge Lead's Erin Lord-Lynch and Loren Recchi-Bannah and led by Professor Ove Hoegh-Guldberg at the UQ School of Environment.

The CRRI believes that this course represents an important step toward supporting the conservation and management of climate refuge coral reefs and supporting climate adaptation efforts for coastal communities most dependent on these reefs.

The course work developed by the UQ global team, drew on expertise from partners including CRRI, WWF, WCS, Care International, The University of Arizona, NOAA Coral Reef Watch and experts from within UQ, Griffith University and CSIRO. This course is the first in a suite of 4 online courses as part of building the CRRI knowledge network.

Accessibility for learners was a key focus in the design and development of the course, with the addition of an Indonesian language translation to be made available early in 2024.

The partnership will be looking to translate the MOOC into more of the CRRI country languages in the very near future.

Participants completing this course, will be able to:

- Identify the parts of coral reef ecosystems outlined in the course and describe how the components function and interact.
- Justify the importance and describe the roles of coral reef ecosystems.
- Describe the local and global threats and stressors that coral reef ecosystems face.
- Examine, critique and justify solutions for how we can begin to reverse the loss of coral reef ecosystems.
- Demonstrate the ability to cooperate effectively with others to share information and solutions.

Our aim in releasing this course and developing more education modules, aims to support the achievement of CRRI and GEF CRR goals and contribute to securing the future of global coral reef ecosystems and the communities that depend on them.

Reflections for 2023 from CRRI Lead

It's been a busy year for many of us and compiling the Highlights Report has given us time to reflect on the year's achievements and lessons.

CAROL PHUA

CRRI LEAD

It has been a year of adjustments and ambition…

Adjustments, because we have quickly gone back to travelling at full speed post-pandemic. The 'work from home' and remote working culture that was fostered during the global pandemic, led to some people feeling a sense of balance and prioritisation for what is important in our lives.

The pandemic also demonstrated that people and communities are resilient. We can bounce back stronger than we were before by creating solutions to problems we didn't have previously. Many of these solutions have stayed, even after the pandemic, as they add value to our lives.

During the pandemic, enrolment in remote learning courses dramatically increased, with many educational institutions offering courses completely online. An unexpected benefit for CRRI, as with investments from WWF donors and University of Queensland, and contributions from our wonderful partners, we have launched a Massive Open Online Course for everyone to access for free. We've adjusted our learning journeys to go virtual. We have also adjusted to the way we think of machine learning and artificial intelligence through tools like ReefCloud, which we will be mainstreaming in our monitoring of coral reefs. It has been truly inspiring working with colleagues from AIMS, who are leading the way globally in utilising machine learning in ocean conservation.

Ambition, because this year the global coral reef community came together to develop the Coral Reef Breakthrough targets to double the area of coral reefs under Marine Protected and Conserved Area management. The Coral Reef Breakthrough seeks to mobilise USD 12 billion in resources for coral reefs by 2030.

Greg Asner, Andrea Rivera-Sosa, Robin Martin and Carol Phua at the Hawaii Marine Education and Research Centre.

These targets also come at a time where we have had many of our colleagues in the Caribbean and elsewhere, witness tremendous loss through the Northern Hemisphere summer bleaching events, coinciding with the devastation caused by the Stoney Coral Tissue Loss Disease. As I write this we brace for the El Nino in the Southern Hemisphere with baited breath. Now more than ever climate action is critical and 1.5°C is a difference between not surviving and thriving.

The Coral Reef Breakthrough targets were adopted in October at the International Coral Reef Initiative General Meeting in Hawaii. Whilst in Hawaii, Andrea Rivera-Sosa from the Coral Reef Alliance and myself were very fortunate to visit the Hawaii Marine Education and Research Center, led by Robin Martin and Greg Asner from the Asner Lab & Arizona State University (who run the Allen Coral Atlas, a CRRI Partner). Often you meet people who are pushing technology to the very edge of what it can do to help conserve our planet, but seldom do you see the same people with a grounded heart in supporting their local communities in taking their rightful seat at the table. Robin and Greg demonstrated to us that it's possible to do both, and do it with humility and kindness.

As the CRRI team we prepare our hearts and minds for work ahead in 2024, and while ambition for the planet is important, we must do it with compassion. Which means allowing us to be moved by the needs we see.

It is easy to be desensitised and disenfranchised by the lack of ambition we see at the global level, bleaching events and the degradation of the world's reefs, but these places are home to communities of people and nature, and definitely worth fighting for.

Focusing our efforts to conserve and protect the coral reefs and communities that rely on them is a worthy pursuit and one the CRRI and partners will be following into 2024.

To read more about Robin Martin and Greg Asner's work see this YouTube video : The Pope, the Environmental Crisis, and Frontline Leaders | The Letter: Laudato Si Film


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