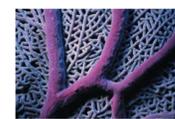


Over one-half of the world's population lives within **100 kilometres of the sea.**



Coral Reef Targeted Research & Capacity Building for Management Centers of Excellence

Centers of Excellence: Bridging Global Research and Local Management

Implications for Coral Reef Management

Four regional Centers of Excellence are associated with the Coral Reef Targeted Research & Capacity Building for Management (CRTR) Program, reflecting the distribution of coral reefs throughout the world.

The partnerships have been formed to enable the Centers of Excellence to serve as a convening location for each of the CRTR Working Groups. This ensures research can be discussed and implemented with regional and local scientists in a collaborative spirit.

The Program supports a series of workshops at the Centers of Excellence each year which brings researchers from the various Working Groups together to orient field research, provide briefings on key findings and engage in training opportunities.

The Centers of Excellence serve as important focal points for the network of CRTR scientists to engage with managers, NGOs, local stakeholders and other interested groups.

Goal

Build scientific capacity necessary to provide the information needed for management and policy, so that coral reef ecosystems under threat from climate change and multiple human

stressors can be sustained for current and future generations.

Turning Knowledge into Practice

Currently, most coral reef research is based in universities and research institutes in the developed world, whereas most coral reefs are located in developing countries.

Rectifying this global imbalance in knowledge and capacity is a key mission of the CRTR Program.

To accomplish this, the Program intends to build or enhance the capacity of institutions in at least three developing country sites, and a fourth based in a developed country, within the first phase so that they can function as

regional Centers of Excellence. The Centers of Excellence provide facilities and technical support for the various CRTR Working Groups.

The Centers of Excellence provide facilities and technical support for each of the CRTR Working Groups and also support training for local and regional students and scientists. The Centers will be an important bridge in communicating research results to management and policy communities, engaging in consultation with relevant stakeholders such as organisations of fishers, coastal managers and local government.



Southeast Asia

The Marine Science Institute/Bolinao Marine Laboratory of the University of the Philippines (UPMSI), Philippines

The Bolinao Marine Laboratory (BML) is situated 275km north-west from Manila, at Cape Bolinao, Pangasinan Province, on the western side of the mouth of the Lingayen Gulf in Luzon Island. BML is the principal field research station of the UPMSI. The Center of Excellence has become the focus for coral reef research in Southeast Asia.

The local research priorities identified to be undertaken during Phase One include:

1. Coral identification and taxonomy
2. Coral disease and marine microbiology
3. Connectivity of populations of economically-important reef species

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East Africa

University of Dar es Salaam, Institute of Marine Sciences (IMS), Zanzibar, Tanzania.

As the Center of Excellence for the Eastern Africa region IMS is collaborating with CRTR Working Groups to build regional capacity through graduate scholarships, training workshops strengthening expertise, such as remote sensing analysis and modeling techniques to support regional coral reef research. Information outreach will also be emphasized for coral bleaching, restoration and remediation, and general coral reef and fish ecology.



Three local research priorities have been identified:

1. Investigations on coral settlement, recruitment, restoration and associated environmental factors.
2. Mapping and characterization of coral reefs and associated threats.
3. Information dissemination on coral reefs and indigenous knowledge.

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Mesoamerica/Western Caribbean

Unidad Académica Puerto Morelos (UAPM), Instituto de Ciencias del Mar y Limnología, Universidad Nacional Autónoma de México

UAPM is located 2.5 km from Puerto Morelos, 30 km south of Cancun, in the proximity of a reef lagoon. The UAPM maintains close ties with national and local organizations including government agencies in charge of fisheries, the environment, science and technology. It maintains research partnerships with numerous institutions in Mexico and abroad and also maintains important linkages to local or regional NGOs, activities and projects with relevance to the CRTR Program.

Individual faculty members at UAPM maintain active collaborations with individual scientists from institutions from around the world.

Although UAPM does not participate actively in regional management projects, such as the Mesoamerican Coral Reef Initiative, the UAPM is an important partner in the management of the local Marine Protected Area. In addition, individual faculty members are members of several technical committees in charge of managing other coral reef related MPAs.

Two UAPM faculty serve as core members of the CRTR Working Groups on coral bleaching and coral disease.



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Australasia/South Pacific

University of Queensland Heron Island Research Station (HIRS), Queensland, Australia

The HIRS operates as one of the largest platforms of coral reef research in the world. It is situated 80km offshore from Gladstone on the southern Great Barrier Reef. The Australasian Center of Excellence aims to draw upon the knowledge of managers of the Great Barrier Reef, the reefs of Western Australia, Indonesia and the Pacific region to develop a regional understanding of research needs for management.

The Australasian Center of Excellence is working towards:

1. Providing a solid technical platform for the Working Group research and training activities.
2. Establishing critical equipment and undertaking research and training activities related to stress markers, bleaching, disease, connectivity and remote sensing.
3. Training courses for students in advanced material and techniques on coral reefs and environmental change.
4. Stimulating and building regional networks across the Australasian, Indonesian and western Pacific in research and training expertise.
5. Supporting activities aimed at increasing regional capacity for understanding and managing coral reefs under environmental change.



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More information

The University of Queensland is the Project Executing Agency (PEA). More information about the CRTR Program can be obtained from the PEA:

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The CRTR Program is a partnership between the Global Environment Facility, The World Bank, The University of Queensland (Australia), the United States National Oceanic and Atmospheric Administration (NOAA) and approximately 40 research institutes and other third parties around the world.

The four sites or Centers of Excellence are **Southeast Asia:** Marine Science Institute of Bolinao, University of the Philippines; **East Africa:** Institute of Marine Sciences, University of Dar es Salaam, Zanzibar, Tanzania; **Mesoamerica/Western Caribbean:** Unidad Académica Puerto Morelos, Universidad Nacional Autónoma de México, Mexico; and **Australasia/South Pacific:** Heron Island Research Laboratory, Centre for Marine Studies, The University of Queensland, Australia.