

# **Caribbean Regional Implementation Committee (CRIC)**

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## **1. LONG-TERM GOALS**

The Caribbean scientific community has agreed on specific needs in the region regarding marine biodiversity, both in an immediate and in 5-6 year term: exploration of unstudied habitats, coordination of field studies, new inventories of species, management of specimen collections, expansion of taxonomic expertise, production of electronic databases, and establishment of a regional network of collaboration, information exchange and fund raising. In this regard, together with several National and Regional Implementation Committees (NRICs), the Census International Secretariat in Washington DC has initiated an effort with the World Bank/Global Environment Facility and its affiliates to obtain significant long-term funding for capacity building in eligible regions on the basis of Centers of Excellence. The main goal of the CRIC will be to build support of this initiative as well as to become more closely involved with the official national government biodiversity systems associated with the Convention of Biological Diversity including the designated Political and Operational Focal Points of the GEF (Global Environmental Facility), as well as to keep up the current links with CoML projects and establish new ones. The CRIC aims for more resources and a better management, knowledge and understanding of marine biodiversity in a coordinated and integrated way for the Caribbean region within the umbrella of the Census of Marine Life.

## **2. OBJECTIVES**

The CRIC will act as an umbrella under which regional initiatives might be developed. The duties and responsibilities of this CRIC will be:

- To coordinate the individual CoML projects
- To support the Secretariat funding drive initiatives, i.e., GEF
- To link the Caribbean projects with the international CoML projects and committees
- To link the CRIC with other organizations and programs of relevance

- To participate in the raising of funds for regional activities, meetings and workshops and sponsor initiatives to access funds to develop the field projects.

### 3. APPROACH AND WORK COMPLETED

After submitting a proposal to the Alfred P. Sloan Foundation entitled: To Strengthen the Implementation of the Census of Marine Life in the Caribbean, we received approval of the proposal in November 2005 and the funds in February 2006. During 2006, we have been working in expanding some of the CoML projects to the region. These are:

**NaGISA:** This effort is under the direct coordination of Dr. Juan José Cruz, Universidad Simón Bolívar, Venezuela. Two NaGISA workshops have taken place in this year joining the Caribbean-South American regions. The first workshop was organized by Universidad Simón Bolívar (Patricia Miloslavich and Elizabeth Huck) and took place between January 16 – 19 at Morrocoy National Park, Venezuela. Dr. Brenda Konar from the University of Fairbanks acted as instructor along with Dr. Patricia Miloslavich and Dr. Juan Cruz from Universidad Simón Bolívar. A total of 17 scientists from different institutions in Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Jamaica, Peru, Uruguay, and Venezuela. For the workshop, two sites were selected at Morrocoy National Park, Falcon State. The first was a seagrass bed at Las Luisas Bay and the second is a coral key (Cayo Sal) in which most of the coral has died and the coralline community has been replaced with macroalgae. Samples were taken in the field (one field day for each site), and processed in the FUDENA station located at Chichiriviche. The last day, the group carried out a discussion session in which logistical problems, sampling adjustments, site selection criteria, taxonomic issues, and funding were addressed. Most of the participants of the workshop confirmed the feasibility of carrying out the protocol in their country's site within 2006, however, some participants were very concerned about not being able to obtain local funds to completely support the project.

The second workshop took place between June 3 – 7 at Jamaica and was organized by Universidad Simón Bolívar (Juan Cruz) and Norman Quinn (Discovery Bay Marine Laboratory). A total of 6 scientists from different institutions in Jamaica, Curacao, Trinidad, San Andrés Island (Colombia), Venezuela and Chile participated in this workshop. The samples will be used by the Jamaican team to input them in the NaGISA database.

Finally, Patricia Miloslavich also traveled to Mombasa, Kenya to lead the Indian Ocean NaGISA protocol workshop (June, 2006) hosted by Edward Kimani from KEMFRI (Kenyan Marine Fisheries and Research Institute), and discuss the better way to implement the protocol in the region.

**Publications:** several abstracts and a few papers were submitted to the NaGISA World Congress to be held at Kobe, Japan in October 2006.

**Grants and support:** To carry out the workshops, we received two grants from NaGISA headquarters, University of Kyoto, Japan. The first grant to Universidad Simón Bolívar (Patricia Miloslavich) was of US\$ 38,400 and includes the costs of the workshop plus a salary for a NaGISA assistant for the Caribbean and SA regions (Elizabeth Huck). The second grant to Universidad Simón Bolívar – Discovery Bay (Juan Cruz) was of US\$ 5,512 and covered the costs of the workshop in Jamaica.

The Venezuelan NaGISA team submitted a grant to Chevron seeking for funds to carry out the NaGISA protocol as a marine biodiversity monitoring program in the east region of the Venezuelan coast, which was approved for 2007 (US\$ 20,000).

**HMAP:** Dr. Andrzej Antczak, Universidad Simón Bolívar, is working on the edition of the proceedings of the Early Human Impact on Mollusks workshop (EHIM), which was held in September 2005 at Isla de Margarita, Venezuela, and sponsored by HMAP. There are a total of 17 papers in this proceeding, which will be published in the British Archaeological Report Series, Archaeopress, Oxford, and edited by Andrzej Antczak and Roberto Cipriani (Universidad Simón Bolívar). Countries participating in this proceeding are Japan, New Guinea, India, South Africa, Brazil, Chile, Venezuela, Panama, USA, Canada, Denmark, England and Israel. The publication is expected to be released by 2007. Dr. Antczak is in conversations with Poul Holm and Anne Marboe about the possibility of obtaining funds to support the edition of the volume and the EHIM network.

**Funding:** to carry out the workshop, Dr. Antczak received a grant of US\$ 26,000 from Syddansk Universitet (HMAP) and US\$ 1,000 from Conservation International.

**OBIS:** During the June 2004 Caribbean Workshop and since, we have discussed that one of the main problems to launch OBIS in the Caribbean is that most of the databases, located in museums and collections, despite having good data and many taxa covered, were not in a digital form (only specimen labels and in some cases in catalogs) and most of them were not georeferenced. It was agreed that one of the most complete databases, and more readily to begin sending data to OBIS was the Sistema de Información de Biodiversidad Marina (SIBM) of the Museo de Historia Natural Marina de Colombia (MHNMC) at the Instituto de Investigaciones Marinas y Costeras (INVEMAR), located in Santa Marta, Colombia. We also agreed that to persuade our nations and institutions to support OBIS we must have at least one example of a Caribbean database on-line and demonstrably useful. Thus, as a next step, we are integrating the SIBM into OBIS by:

- Georeferencing the collections of fishes, mollusks, echinoderms and cnidarians of the MHNMC
- Establish and generate the software filters required to select the biological records that will be made available to the OBIS users, using a client server connected to INVEMAR.
- Developing the necessary software to integrate the SIBM system to the OBIS network in consultation with user groups.

Grants and support: the Caribbean Committee will support these activities with the amount of US\$ 11,000. INVEMAR will provide matching funds in kind.

**Coral Reefs:** Dr. Ernesto Weil, Universidad de Puerto Rico and Dr. Jorge Cortés, Universidad de Costa Rica have acted as consultants to the Coral Reef Project of the CoML. We aim to include the Caribbean at long term in the larger proposal.

**CoMarge:** Dr. Elva Escobar-Briones (Universidad Nacional Autónoma de México, UNAM) is acting consultant for the CoMarge project under the coordination of Dr. Miriam Sibuet.

## **Other initiatives:**

**Los Peces de la Costa Caribe de Venezuela** (Fishes of the Caribbean Coast of Venezuela): This project is under the leadership of Dr. Juan Posada (Universidad Simón Bolívar) and Dr. Ross Robertson (STRI, Panama). The Caribbean Committee is supporting this initiative which is part of the larger project Los Peces Costeros del Gran Caribe (Coastal Fishes of the Greater Caribbean), which will be an electronic guide being prepared by Dr. Ross Robertson (STRI) and James Van Tassel (Natural History Museum, USA). The goal of this guide is to have a complete survey of fishes by sampling remote and unexplored zones in the greater Caribbean. The fish guide will be freely accessed by the web.

**Book:** Presentation and distribution of the book Caribbean Marine Biodiversity, published by DesTech Publications and edited by Patricia Miloslavich and Eduardo Klein.

**Framework Committee:** Patricia Miloslavich is also participating in the Framework Committee of the CoML led by Paul Snelgrove with the aim of providing information and insight about how the CoML will better benefit and have the most impact worldwide at all levels.

## **4. WORK PLANNED**

**ONE:** To build readiness to support the Census International Secretariat in its drive to obtain significant long-term funding for capacity building in the region on the basis of Centers of Excellence in marine biodiversity whose establishment would contribute to carrying out the CoML.

**TWO:** To become acquainted with the structure, function, and outputs and to establish links and an active communication for coordination, with the official national government biodiversity system associated with the Convention of Biological Diversity, including the designated Political and Operational Focal Points of the GEF (Global Environmental Facility). These would be the necessary allies for the multimillion dollar grants for which CoML & CRIC aim.

**THREE:** To identify potential donors/co-financers, at the national and/or regional levels, private or public, for the GEF intermediate proposals (PDF-A, PDF-B) and the full-size subsequent proposal. National/regional matching funds will heavily influence which regions the GEF finally supports.

**FOUR:** Organize meetings/workshops to coordinate CoML Caribbean projects. There is no reason to delay such activities, which fit the schedule of the CoML and will also provide powerful evidence for the preparedness of region to build true Centers of Excellence. During a 16 month period, we expect to carry out at least two workshops. These workshops would focus on the ongoing activities within the CoML projects above mentioned and seek out new links with other projects. OBIS and Coral Reefs. The projects NaGISA and HMAP would likely also hold regional meetings.

Regarding OBIS, the workshop is aimed to estimate for the cost of developing and transferring the present databases into the digital portal. For this, a more detailed inventory of the databases of the region is required as well as the determination of the quality of such databases. So far, the Caribbean has not established a "regional node" for OBIS. The value and sustainability of such a node, and alternative means of proceeding, need to be assessed.

Regarding Coral Reefs, the Caribbean scientific community has agreed in the need of participating more actively in the broader CoML Coral Reef initiative. It is also envisioned, that the Coral Reef team will become acquainted with the GEF program “Coral Reef Targeted Research And Capacity Building For Management ([www.Gefcoral.Org](http://www.Gefcoral.Org))”.

**FIVE:** To prepare progress reports of activities and updates as a CoML - NRIC to the CoML International Secretariat at CORE (Consortium for Oceanographic Research and Education). At present, the International Secretariat requires an annual report to be discussed at the annual CoML SSC-NRIC joint meeting, as well as two other activity updates. So far, the CRIC has prepared such reports for the years 2004, 2005 and 2006.

**SIX:** To coordinate the ongoing projects of the CoML in the region: besides coordinating the ongoing projects (NaGISA, HMAP), and the “to be” projects (GEF, OBIS and Coral Reefs), it is a desired goal of the CRIC to further implement other research projects in the region, specially those that study areas that are completely unknown such as the deep sea. The CRIC will also welcome the input and ideas of the scientific community regarding the research needs of the region. Several technologies now being deployed in CoML field projects would be exciting to extend into the Caribbean.

**SEVEN:** To maintain and update the CoML Caribbean web page and develop outreach material with information about the CRIC: the web page is presently at the INTECMAR server and is maintained and updated regularly with new information. It is our goal to be able to keep it up as well as to produce outreach printed material for the Caribbean public, that will be distributed nationally and regionally. To improve public awareness; materials will describe the CoML program as well as the Caribbean involvement.

**EIGHT:** To establish links with research and educational institutions at national and regional levels as well as with conservation and potential funding agencies: this is a key point, since it is a desired goal to expand the CoML program in the region, incorporate new participants and be able to raise funds to carry out the research needs in a coordinated way. This is done by establishing communication channels between the CRIC and national/ international agencies concerned with research in marine biology and biological oceanography. Inviting such agencies to CRIC workshops and meetings is very helpful.

**NINE:** To administer the funds provided for the support of the CRIC: the CRIC office will be committed to the production of the financial reports for all grants received.

## **5. RESULTS**

Obtention of renewal of funds from the Alfred. P. Sloan Foundation

Proposals to NaGISA Headquarters to carry out standardization workshops and accomplishing them

Proposal to Chevron to obtain funds to carry out a monitoring program of marine biodiversity using the NaGISA protocol and obtention of funds

Distribution throughout the Caribbean, South America and worldwide of the book: “Caribbean Marine Biodiversity: The known and the unknown”, edited by Patricia Miloslavich and Eduardo Klein. This

book provides an overview of what has been done in marine biodiversity research in 10 countries of the Caribbean and summarizes the major initiatives carried out in research and conservation of this complex ecosystem. It also incorporates, in one single publication, a significant amount of scientific and gray literature, surpassing 800 references including scientific papers published in both international and local journals, technical reports, undergraduate theses, dissertations, and so on.

Ongoing activities of above mentioned projects

## 6. IMPACT AND APPLICATIONS

The CRIC has interacted so far with 17 countries, 13 universities, 4 research institutions, 4 research programs, 2 museums, 2 conservation organizations and 3 oil companies, all of which have significant weight in decisions regarding education, research initiatives, conservation policies and management strategies in the Caribbean region. We have also broadened our scopes to other regions, examples of which are our participation and support of the Indian Ocean region (NaGISA) and worldwide (HMAP). We hope that the established network will improve communication and establish a broader collaboration in the region. The major needs identified in the Caribbean are: taxonomic expertise, new inventories of species, exploration of unstudied habitats, coordination of field studies, management of specimen collections, production of electronic databases, and establishment of a regional network of collaboration, information exchange and fund raising. The CoML - GEF initiative based on Centers of Excellence is particularly important since it will provide the opportunity for capacity building and training, which at this moment is vital for marine ecosystem and resource management.

## 7. GEOGRAPHIC EXPANSION

Project Name	Principal Investigator	Geographic Locale	Funding (USD)
NaGISA	Dr. Juan Cruz	Caribbean and South America	From NaGISA International From Chevron From Universidad Simón Bolívar
HMAP: Early human impact on mollusk populations	Dr. Andrzej Antczak	Caribbean and worldwide	From University of Southern Denmark From Universidad Simón Bolívar
OBIS	Adriana Gracia	Caribbean (southern)	From the CRIC (Alfred P. Sloan Foundation) From INVEMAR

## 8. NEW PROJECTS & RELATED EFFORTS

### a. Affiliated Projects

Project Name	Principal Investigator(s)	Scope of Project
Caribbean fishes	Juan Posada Ross Robertson	Caribbean (greater)

### b. Partnerships

Organization Name	Point-of-Contact	Nature of Relationship
The Nature Conservancy	Anthony Chatwin	Potential partners in a regional research and conservation initiative in the Caribbean
Conservation International	Luis Solórzano	Potential partners in a regional research and conservation initiative in the Caribbean
Chevron	Jonathan Lilien José Durán	Funding of monitoring project of marine biodiversity using the NaGISA protocol

## 9. PUBLICATIONS

Above mentioned in section 3.

## 10. EDUCATION & OUTREACH

The CoML program is being publicized at the universities, among students and colleagues, as well as with several organizations (NGO's, conservation agencies, oil companies). The launching of the book (Caribbean Marine Biodiversity) has definitively helped to further disclosure the CoML in the region at all levels. The program has also been presented before the Venezuelan Oceanographic Commission, leaded by Dr. Hernán Pérez Nieto who is know an important member of the Intergovernmental Oceanographic Commission (IOC)