PROGRESS REPORT

Caribbean Marine Atlas

Target Country or Region: CARIBBEAN

Budget code: 513RLA2006

Contract number

Funding sources: FUST

Total Budget approved: US$ 308,000

Reporting Period: June 2012-September 2013

Executing Agency: UNESCO/IOC

Implementing partners

Project starting date: 23/04/2009

Project completion date 31/12/2013

Responsible Sector: SC/IOC

Name of Person completing Report: P.Pissierssens/ R. Roach

1. Summary and Background (1 page)

Environmental and natural resources represent an important asset for the Caribbean region. Environmental challenges include natural disasters, climate change and management of natural resources. With a significant portion of the population of the Caribbean island states living on or within 10km of the coastline, high quality marine and coastal data is of paramount importance in disaster planning, mitigation and remediation. In addition to natural disasters, Caribbean states face many environmental challenges including climate change, fish stocks management, biodiversity loss, and waste and toxic chemical management, all of which impact strongly on the region’s economic and social development. Having relevant, current and quality marine and coastal datasets is the first step to managing these environmental issues.

The advent of the Spatial Data Infrastructure (SDI) as a tool to coordinate access to spatial data is gaining momentum in the Caribbean as was confirmed at the recent conference for Spatial Data Infrastructure (GSDI-10, Trinidad, 2008). The lack of harmonized and universal access to seamless datasets from marine and terrestrial data providers has been identified as a challenge to the development of national SDIs to cover the land and marine environments. Greater integration between marine and terrestrial spatial data will facilitate improved access to more interoperable data and information, enabling a more integrated and holistic approach to management of the coastal zone.

A Marine Atlas can help not only to identify and locate important data resources, but can also create and disseminate the information principles and standards need to ensure future datasets can be made accessible and used by all who need them. A Marine Atlas can also provide a seamless platform to allow planners to model, monitor and manage both marine and land environments particularly the land-sea interface.

The purpose of the Caribbean Marine Atlas (CMA) is to identify, collect and organize available spatial datasets into an atlas of environmental themes for the Caribbean region, under the sponsorship of the Intergovernmental Oceanographic Commission's (IOC) International Oceanographic Data and Information Exchange (IODE) and Integrated Coastal Area Management (ICAM) Programmes.

Furthermore, using the skills obtained through the capacity building component of the CMA project, participating countries will be developing national marine atlases based on the structure and functionality of the regional atlas but focused on the national coastal/marine area management priorities of the respective states. Thus the CMA will, through its products and services available at the national level, directly contribute to the sustainable development and integrated management of marine and coastal areas in the region.

The Caribbean Marine Atlas will be the core activity of small islands sub-region of the Ocean Data and Information Network for the Caribbean and South America (ODINCARSA) project, implemented by IODE.

1. Description of project activities undertaken during the reporting period

December 2012

A technical cooperation meeting was held between the Coordinator of the CMA and Francisco Hernandez, the Manager of the Flanders Marine Data Center. Over the course of two days, the code library of the CMA application was revised and updated, which enabled it to interact with the updated web-based GIS code library of the Flanders Marine Institute (VLIZ). The updated code base was then used as the template for national atlases development for the National Atlas Creation Workshop.

December 2012

A National Atlas Creation Workshop was held at the IODE offices in Oostende, which gave participants the theoretical knowledge and practical experience necessary for the development of national marine atlases based on the structure and functionality of the regional CMA atlas. The workshop brought together national marine data managers (MDMs) from five Caribbean countries who have been active participants in the CMA project.

Topics covered by the workshop included:

* The components of the CMA platform
* Managing spatial data in Geoserver
* Styling spatial data layers in Geoserver using Styled Layer Descriptor code
* Managing metadata in Geonetwork
* Building a national atlas web application using the CMA and VLIZ code libraries

For each topic, the participants were given exercises to develop their practical skills. The workshop ended with the presentation of the various national atlas applications by the respective participants.

1. Difficulties and Problems encountered and measures taken, any changes in implementation.

National Atlas Projects

Unfortunately due to travel difficulties the representative from Turks and Caicos was not able to attend the National Atlas Creation Workshop. As such, only 5 of the 6 planned national atlases were created over the course of the workshop. All of the training materials were shared with the Turks and Caicos representative, however efforts to coordinate the creation of a national atlas remotely were unsuccessful.

In addition a national atlas stakeholder meeting was planned for Dominica in early 2013. However, a lack of cooperation from the national representative of Dominica to facilitate local arrangements for the meeting ultimately prevented it from taking place.

Regional Atlas Development/Review Workshops

In the original schedule for the reporting period, a joint CMA and Ocean Biogeographic Information System (OBIS) was planned for July-August of 2013. The purpose of the meeting was to bring together regional marine biological data managers and management agencies from around the Caribbean to assess and discuss their data management and information dissemination needs, and to determine if one or both IODE projects could assist in data and information management and delivery. Ultimately however the meeting was rescheduled to early 2014 in light of possible changes to the mandate and scope of the CMA if it is extended into a second phase and partnered with the Caribbean Large Marine Ecosystem (CLME) project.

Similarly, the planned review and closing meeting for the CMA project, originally scheduled for late 2013, was cancelled.

1. Project Results achieved during the reporting period

December 2012

The technical cooperation meeting resulted in an updated regional atlas application with additional functionality, including interactive layer ordering, layer transparency control and WFS query control. All of this additional functionality was incorporated within the various national atlas prototypes.

December 2012

As a result of the National Atlas Creation workshop, a total of five prototype national marine atlases have been implemented (Barbardos, Cuba, Dominica, Jamaica, Trinidad and Tobago). The addresses of the atlases are:

• Barbados – barbados.caribbeanmarineatlas.org

• Cuba – cuba.caribbeanmarineatlas.org

• Dominica – dominica.caribbeanmarineatlas.org

• Jamaica – jamaica.caribbeanmarineatlas.org

• Trinidad and Tobago – tnt.caribbeanmarineatlas.org

In addition, the CMA map application (http://atlas.caribbeanmarineatlas.org/) has been updated with additional datasets and features with assistance again from VLIZ, and the CMA metadata catalog (http://geonetwork.caribbeanmarineatlas.org) has been populated with both regional datasets and published datasets from the respective national marine atlases.

1. Lessons learned and Sustainability

Implementation Challenges

As has been noted in previous reports, it has been difficult to maintain enthusiasm for the project at the national level. Participants tend not to hold positions devoted to data management in their respective agencies, and as such finding time for atlas development activities and national coordination has been difficult. Furthermore the ongoing economic crisis impacting the region (and the world) has led to a reduction in the resources (human and financial) available at the national and regional level to implement/coordinate national development tasks.

In addition, while powerful and robust, the current platform of the CMA (Geoserver, GeoNetwork, OpenLayers) can be difficult to manage and administer, and requires considerable effort to deploy production-ready data layers and applications. A programming background is also required to modify the functionality of the system; a background lacking in all of the national representatives involved in the atlas project.

1. Evaluation recommendations when applicable

n/a

1. Visibility: describe any visibility action implemented during the reporting period

June 2013

A presentation on the development of the CMA project was given at the International Coastal Atlas Network (ICAN6) meeting in Victoria, British Columbia, Canada. The presentation outlined the achievements and challenges of the project and was well received by the other meeting participants.

1. Work plan for the following period

CMA activities for the next reporting period are shown below.

#### Semi-Annual Workplan

Project Code and Title: Caribbean Marine Atlas Year: 2013 – Project End (late 2013)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Planned Activities | Expected Outputs | Timeframe  From | Timeframe To | Responsible Party |
| Caribbean Marine Atlas Review and Planning Workshop | Completed workplan for Phase 2 of the CMA project (linked with the CLME+ program) | December 2013 | December 2013 | IODE |