Drafting Workshop for the development of a training and Repository Portal for the Caribbean Large Marine Ecosystem

Cartagena, Colombia
9–11 April 2019
Drafting Workshop for the development of a training and Repository Portal for the Caribbean Large Marine Ecosystem

Cartagena, Colombia
9–11 April 2019

UNESCO 2019
The authors are responsible for the choice and the presentation of the facts contained in this publication and for the opinions expressed therein, which are not necessarily those of UNESCO and do not commit the Organization. Every care has been taken to ensure the accuracy of information in this publication. However, neither UNESCO, nor the authors will be liable for any loss or damaged suffered as a result of reliance on this information, or through directly or indirectly applying it. The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariats of UNESCO and IOC concerning the legal status of any country or territory, or its authorities, or concerning the delimitation of the frontiers of any country or territory.

For bibliographic purposes, this document should be cited as follows:

Workshop of the Technical Task Team for the development of a Strategy and tools providing “Caribbean and North Brazil Shelf Large Marine Ecosystems” – CLME+ Stakeholders with access to training and capacity building opportunities, materials on issues of key/cross-cutting importance for the CLME+ SAP Strategies

Organized by

IOCARIPE of IOC UNESCO

Cartagena, Colombia, 9–11 April 2019
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Summary</td>
<td>(ii)</td>
</tr>
<tr>
<td>1. OPENING OF THE MEETING</td>
<td>1</td>
</tr>
<tr>
<td>2. CLME+: SETTING THE SCENE</td>
<td>1</td>
</tr>
<tr>
<td>2.1 INTRODUCTION AND PRESENTATION OF THE CLME+ SAP AND PROJECT</td>
<td>1</td>
</tr>
<tr>
<td>2.2 PRESENTATION OF THE TERMS OF REFERENCE (TORS) FOR THE TTE TEAM AND THE IMPLEMENTATION SCHEDULE</td>
<td>2</td>
</tr>
<tr>
<td>3. POTENTIAL USEFUL PLATFORMS, FUNCTIONALITIES &amp; TOOLS</td>
<td>3</td>
</tr>
<tr>
<td>4. STAKEHOLDERS MAPPING, PLATFORM FUNCTIONALITIES &amp; DELIVERY MECHANISMS, CONTENT, MATERIALS, PARTNERSHIPS</td>
<td>12</td>
</tr>
<tr>
<td>5. GROUP REPORTING IN PLENARY</td>
<td>13</td>
</tr>
<tr>
<td>5.1 SUMMARY OF GROUP NO 1</td>
<td>13</td>
</tr>
<tr>
<td>5.2 SUMMARY OF GROUP NO 2</td>
<td>15</td>
</tr>
<tr>
<td>6. MANAGEMENT ARRANGEMENTS, STRATEGY AND WORK PLAN</td>
<td>17</td>
</tr>
<tr>
<td>7. MAIN TECHNICAL TASK TEAM RECOMMENDATION</td>
<td>22</td>
</tr>
</tbody>
</table>

## ANNEXES

<table>
<thead>
<tr>
<th>Annex</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>PROVISIONAL AGENDA</td>
</tr>
<tr>
<td>II.</td>
<td>PROVISIONAL TIMETABLE</td>
</tr>
<tr>
<td>III.</td>
<td>PROVISIONAL LIST OF PARTICIPANTS</td>
</tr>
<tr>
<td>IV.</td>
<td>LIST OF ACRONYMS</td>
</tr>
</tbody>
</table>
Executive Summary

Following the successful completion in 2014 of the Project “Sustainable Management of the Shared Living Marine Resources of the Caribbean Large Marine Ecosystem (CLME) and Adjacent Regions” (PIMS 2193), the UNDP/GEF Project Document for the Project “CLME+: Catalysing implementation of the Strategic Action Programme (SAP) for the sustainable management of shared Living Marine Resources in the Caribbean and North Brazil Shelf Large Marine Ecosystems” was endorsed by the CEO of the Global Environment Facility (GEF) in 2015.

This new, 5-year UNDP/GEF CLME+ Project (GEF ID 5542; 2015–2020), with UNOPS as the Executing Agency, became operational on 1 May 2015. The project seeks to facilitate Ecosystem Based Management/an Ecosystem Approach to Fisheries (EBM/EAF) within the CLME+ region, in such a way that a sustainable and climate resilient provision of goods and services from the region’s living marine resources can be secured.

Given its regional and comprehensive nature, the CLME+ Project is uniquely positioned to address the root causes of environmental degradation, such as gaps and weaknesses in transboundary and cross-sectoral governance arrangements, and lack of knowledge and capacity among CLME+ stakeholders. In this same context, the project will seek to offer opportunities to enhance stakeholder capacity, and assist stakeholders in achieving improved coordination, collaboration and integration among the wide array of ongoing and newly planned programmes, projects and initiatives (PPIs) within the CLME+.

IOC of UNESCO and IOCARIBE, through their global and regional mandates, have the responsibility to promote international cooperation and to coordinate programmes in research, services and capacity-building, in order to learn more about the nature and resources of the ocean and coastal areas and to apply that knowledge for the improvement of management, sustainable development, the protection of the marine environment, and the decision-making processes of its Member States. IOC of UNESCO and IOCARIBE are, therefore, uniquely positioned to coordinate/execute those elements of the CLME+ Project which have the following double focus: (thematically) science & capacity building/marine environment, and (geographically) region-wide (wider Caribbean).

The selection of IOC of UNESCO as a co-executing partner for the CLME+ Project is fully aligned with the formal mandates of IOC of UNESCO and IOCARIBE; the designation of IOC of UNESCO as responsible party under the CLME+ Project Document; and the decisions of the CLME+ Project Steering Committee.
1. OPENING OF THE MEETING

Mr Cesar Toro, Head of the Secretariat of the UNESCO/IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIPE) and representative of the Intergovernmental Oceanographic Commission (IOC), addressed the meeting on behalf of Mr Vladimir Ryabinin, Assistant Director General of UNESCO and Executive Secretary of IOC. He reminded participants attending the meeting that the Technical Task Team will discuss the general approach towards contributing to sustainable management of marine resources in the Caribbean and North Brazil Shelf Large Marine Ecosystems (CLME+ region) and to the achievement of the GEF/UNDP CLME+ Project (“CLME+: Catalysing implementation of the Strategic Action Programme (SAP) for the Sustainable Management of shared Living Marine Resources in the Caribbean and North Brazil Shelf Large Marine Ecosystems”) Outcome for Component 2, namely a conceptual description of a sustainable online “training portal,” to be collaboratively developed and linking those CLME+ stakeholders that are either providing or searching for, or that could potentially finance training opportunities on CLME+ SAP-relevant matters, with each other. This general outline will be complemented by a more detailed technical implementation plan, the “Work Plan,” with associated “Terms of Reference”.

2. CLME+: SETTING THE SCENE

2.1 INTRODUCTION AND PRESENTATION OF THE CLME+ SAP AND PROJECT

Mr Patrick Debels, Regional Project Coordinator of the CLME+ Project (UNDP/GEF), made a presentation where he summarized the CLME+ project talking about its objectives, products, goals, strategy, among other topics, in order to make the participants of the meeting aware of the essence of the CLME+ project.

Abstract

In 2013, countries bordering and/or located within the Caribbean and North Brazil Shelf Large Marine Ecosystems (the “CLME+ region”) adopted a 10-year Strategic Action Programme for the Sustainable Management of shared Living Marine Resources of the Caribbean and North Brazil Shelf Large Marine Ecosystems, the “CLME+ SAP.” This “SAP,” which has been politically endorsed by more than 20 countries, provides a roadmap towards sustainable living marine resources management, to be achieved by strengthening and consolidating cooperative governance arrangements at the regional and sub-regional levels. As an ambitious “umbrella” SAP, its implementation cannot be achieved through a single project, nor by a single organization. Rather, better articulation and collaboration will be required among the different organizations with a mandate for marine resources management in the CLME+. Enhancing the capacity of CLME+ stakeholders will be key to ensuring successful implementation of the CLME+ SAP.

The development objective of the CLME+ Project is to facilitate Ecosystem-Based Management (EBM) and the implementation of the Ecosystem Approach for the management of key Fisheries (EAF) in the CLME+ region in the next decade, in order to ensure the sustainable and climate-resilient provision of goods and services from shared living marine resources.

The 5-year CLME+ Project (2015–2020) will kick-start the implementation of the 10-year CLME+ SAP through a series of activities and outputs structured under 5 distinct Project Components/Outcomes. Project activities will address the different root causes of environmental degradation, which were identified under the predecessor project “CLME.”
2.2 PRESENTATION OF THE TERMS OF REFERENCE (TORS) FOR THE TECHNICAL TASK TEAM (TTT), AND THE IMPLEMENTATION SCHEDULE

Mr Cesar Toro, Head of Secretariat of the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE) made a presentation entitled "Terms of Reference (TORs) for the Technical Task Team (TTT), and the Implementation Schedule."

Abstract

Overarching CLME+ Project Development Objective:

The development objective of the CLME+ Project is to facilitate Ecosystem-Based Management (EBM) and the implementation of the Ecosystem Approach for the management of key Fisheries (EAF) in the CLME+ region in the next decade, in order to ensure the sustainable and climate-resilient provision of goods and services from shared living marine resources.

The 5-year CLME+ Project (2015–2020) will kick-start the implementation of the 10-year CLME+ SAP through a series of activities and outputs structured under 5 distinct Project Components/Outcomes. Project activities will address the different root causes of environmental degradation, which were identified under the predecessor project “CLME.”

CLME+ Project Component 2

Outcome: Enhanced institutional and stakeholder capacity for sustainable and climate-resilient sLMR (shared Living Marine Resources) management at regional, sub-regional, national and local levels (with special attention to regional and sub-regional organizations with key roles in SAP implementation).

Output # 1: Strategy and tool(s) providing CLME+ stakeholders with access to training and capacity building opportunities/materials on issues of key/cross-cutting importance for the CLME+ SAP Strategies (related to CLME+ Project Output 2.5 (O2.5))

Activities under OUTPUT # 1

The Technical Task Team (TTT) will be tasked to draft the Strategy, the Work Plan and Terms of Reference for the information products that are required under the Strategy: portal of training opportunities, repository of training materials. The TTT should particularly:

- Provide a detailed description of the conceptual, schematics and desired functionality for each product with special attention to: the way content is acquired (manual entry or content harvesting); the update cycle (timing) and user interface (how the portal can be consulted);
- Draft a Sustainability Plan for the implemented solutions, including a proposal for sustainable financing;
- Map the most relevant, existing stakeholder empowerment and training/capacity building initiatives, mechanisms, materials and associated portals (targeting governmental bodies, civil society, CBOs, FFOs), within the CLME+ region and/or serving the CLME+ region;
- Review relevant online software platforms already in place amongst the partnership and compare these with the requirements;
- Recommend an online software platform solution(s) based on one or more existing platforms;
• Provide overview of required technical work, cost and timing to implement the two products as a joint product/service for the partnership
• M&E and reporting on portal/repository performance (visitor stats, geographic distribution of visitors, use of the different sections, …)

The following aspects should be taken into account for the design and implementation of the portal(s)/repository:

- UNDP/GEF CLME+ Project and CLME+ Partnership branding.
- CLME+ SAP root causes, strategies and sub-strategies.
- Avoidance of replication; consider and, where feasible, build upon what may already have been put in place by other initiatives/projects/organizations.
- “Partnership” approach; acknowledges and seeks integration of existing work/efforts, especially where proven “long-term” sustainability track record or perspectives exist.
- After-project Sustainability.
- Sensitivity for gender and minority groups.
- Desired (minimum) functionality to include:
  - Attractive, inviting GUI, reflective of current state-of-the-art and design tendencies; tailored.
  - At least version in English and Spanish (preferable also in French).
  - Possibility of accessing the portal both as a stand-alone portal as well as a portal embedded within, or directly accessible through the CLME+ web portal (the latter is to be developed & implemented by the CLME+ PCU) (“integration” in terms of CLME+ branding & functionality).
  - Calendar functionality.
  - Geospatial GUI – visualizing location of workshops/ training opportunities (consider incorporation of “time slider”).
  - Advanced search functionality; keywords linkable to CLME+ SAP strategies, concepts, topics and priorities.
  - Scalability/replicability: possibility to consider the CLME+ portal(s)/repository as “prototype” for application in other LME’s; liaise with LME: LEARN/IW:LEARN and possibly other IW/LME projects, both in the region and globally, and explore possibility of pooling resources into the development and implementation of the portal.
  - Detailed portal/repository M&E data, easily accessible for CLME+ PCU, Advisory Body and TTT; key stats visible to the broader public, M&E mechanism should be built in such a way that it allows to answer the questions: (a) how successful were we in enhancing awareness among CLME+ stakeholders on relevant training/capacity building opportunities; (b) how successful is it in addressing CLME+ stakeholders’ training/capacity building needs.

3. POTENTIAL USEFUL PLATFORMS, FUNCTIONALITIES & TOOLS

In this item, each representative was invited to provide a brief presentation on their agency / institution strategies and tools for training and capacity building opportunities/ materials, and propose preliminary proposals on collaborative activities.
Mr Tim Deprez from Ghent University made an introduction to Marine Training portal.

### Abstract

In order to boost the development of “Blue Careers”, the EMBRC (European Marine Biological Resource Centre) Marine Training Platform offers an overview of current Marine and Maritime training, whilst being a supporting framework to foster new Blue Growth training initiatives and supporting exchange of best practice including a set of tools for the hosting and advertisement of Blue Career focussed trainings. In the forthcoming period, next to increasing the visibility of new trainings, the platform will expand its services for end-users. The supporting framework committed to training organizers will offer a dedicated e-Learning Platform and tailor-made solutions for extensive advertisement, application and registration follow-up, dissemination of training material, and discerning certification.

The purpose of the Marine Training Platform is to

- Group and advertise Marine Training Initiatives in a coherent and integrated way;
- Attract and actively capture new training initiatives;
- Offer services to training organizers:
  - Application / Registration / and Trainee Follow-up
- Offer a dedicated e-Learning Platform;
- Facilitate e-trainings;
- Offer services to trainees and serve as:
  - A single access point to investigate training possibilities,
  - A single access point to register to training possibilities,
  - A platform through which Training Grants can be advertised and promoted.
- Allow long-term follow-up of both trainings and trainees.

Mr Pablo Lloret from Cap-Net UNDP, made an introduction to Virtual Campus.

### Abstract

The Cap-Net Virtual Campus is built on a web platform and is proposed as a transversal platform for all Cap-Net activities, for associated networks, and for allies who wish to benefit from online learning. The campus will serve both face-to-face courses and new virtual courses.

- Online education works. It is growing and it is here to stay. Online education is financially and environmentally efficient.
- It does not replace or compete with face-to-face education. It completes it. Thanks to online education we can expand our outreach Cap Net & Online Capacity development.
- We are filling a gap and responding to demands.
- Ideas for 2019 add new type of courses self-paced “flag ship” courses on key topics and main partners “Cap Talks’s” Webinars.
- Very high and unattended demand for water online courses from all regions.
- Accept many participants, knowing in advanced that some will drop off. To aim for 80 active participants.
- Do not underestimate the value of a good course coordination and facilitation.
• Significant savings in tickets, hotel, meals. However, high quality staff time is needed
   (in kind!). Effective and efficient solution in times of low funding.
• An online course is not about a list of readings available in a website.
• Feedback from experienced facilitators and general and individual follow up by the
   coordinator are key.
• Course duration matters. Try not to exceed 8 weeks.

Cap Net online courses have specific aspects, which make them “real” courses:
  o Progressive content coverage in modules,
  o Compulsory readings,
  o Assignments to be delivered,
  o Participatory forums,
  o Quizzes to close each module,
  o Suggested readings, videos, web sites,
  o Course evaluation form.

Mr Maurice McNaughton from University of the West Indies (Centre of Excellence &
Innovation) made an introduction to Scaling Digital Literacy in the Caribbean.

Abstract

Caribbean School of Data (CSOD).

A Business Model for scalable digital capacity building.

Big Idea: Increasing employability and economic opportunities for at risk youth across the
Caribbean through digital literacy and data skills training.

Establishing a distributed, scalable digital skills training capability through a network of regional
partners in seven (7) countries across the Caribbean.

Developing a portfolio of multilingual, modular, training courses to deliver digital literacy
competencies and basic and advanced data skills.

Training at least 1,500 marginalized youth in seven (7) countries across the Caribbean over a
two-year period.

Building a vibrant virtual community of CSOD trainees, alumni, mentors and prospective
employers to help in realizing the strength and earning potential of data and digital literacy.

CSOD Partnerships

• Local country training partners

Country level partners in the target countries will form a key component of the CSOD’s
innovative blended learning delivery model to enable regional scale through local presence.

• Community based Organizations (CBO)

CBO partners will provide important touchpoints and the locus of engagement with the target
beneficiaries to facilitate the outreach, recruitment as well as ongoing support for the capacity
building activities.
Education Partners

CSOD partners will seek dialogue and partnerships with local and regional education bodies, especially in the secondary and TVET (Technical and vocational education and training) domains, to address issues such as alignment and certification.

Private Sector Partners

Increased employment and employability through digital literacy and data skills training, is one of the primary goals of this initiative. Private sector partners can provide job opportunities, funding, mentorship and other forms of support for the youth participants.

Mr. Ned Dwyer from International Coastal Atlas Network (ICAN) made an introduction to Coastal Web Atlases (CWAs).

Abstract

The International Coastal Atlas Network (ICAN) Project of the IODE (http://ican.iode.org) is made up of a community of practice of organizations and individuals who focus on scoping and implementing data interoperability approaches to Coastal Web Atlases (CWAs). A key objective of the project is to share experiences and to find common solutions to CWA development (e.g., user and developer guides, handbooks and articles on best practices, information on standards and web services, expertise and technical support directories, education, outreach, and funding opportunities, etc.), while ensuring maximum relevance and added value for the end users.

The network Members have a global reach, but the majority of active members are based in Europe, the Americas and Africa. Every two years, ICAN organizes an international workshop to discuss and share experiences about CWA development and applications (e.g. Marine Spatial Planning, Ocean Literacy). Moreover, from time to time it organizes regional workshops to discuss issues of specific interest at a regional level. Members also contribute to expert groups, workshops, seminars and training courses some organized under the auspices of IOC-IODE. ICAN representatives have contributed to CMA (Caribbean Marine Atlas) developments.

Capacity building is an ongoing major activity of ICAN. It achieves this by ensuring Member representatives are available to participate in relevant face-to-face and remote training activities, through programmes such as Ocean Teacher Global Academy (OTGA) and others. Furthermore, ICAN is making available its training materials such as technical cookbooks, handbooks and guides for the use of CLME + activities. All such resources can be catalogued in the CLME + capacity building portal to be developed.

ICAN is exploring the potential of developing a mentorship programme, where experienced web atlas developers are connected with emerging atlas developers in order to support them through the development process. CLME + organizations could become early adopters in this programme.

Some members of ICAN have significant capacity in the use of Earth Observation technologies (e.g. space borne sensors) for coastal and ocean management and can support CLME + organizations in capacity building through linkages with initiatives such as the European Space Agency funded Coastal Thematic Exploitation Platform project.

Mr. Luis Castellanos from Sistema de Integración Centroamericana (SICA) made an introduction to the Regional Environmental Observatory (OAR) of the Central American Commission on Environment and Development (CCAD).
Abstract

Regional Environmental Observatory

AOR is a specialized regional tool that provides the Council of Ministers and other relevant stakeholders with up-to-date and timely information for decision making, derived from the proposed actions contained in the Regional Environmental Strategy Framework 2015–2020 (ERAM).

It seeks to consolidate the different information products generated in a single portal, ordered according to the following themes:

1. Water Resource Management
2. Climate Change
3. Forests and Biodiversity
4. Environmental Quality
5. Trade and Environment
6. Funding Mechanisms

Ms Candice Sankars is a freelance eLearning Instructional Designer and made a presentation to Online Training Content in the Value Chain.

Abstract

Successful examples of e-learning portals, platforms and products already demonstrate effective human capital development. As such, an examination of “value” along the 3 key areas of e-learning segmentation: content, technology and services would be beneficial.

Mrs Sankars focused on the area of content, and used a modified version of Porter’s Value Chain (or VC Analysis) to outline a content value chain and critical decision-making questions for the delivery of online training to adults. The stages used along the value chain were: content research/sourcing; content planning, structure & development; content authorization & access; content marketing and delivery; and content consumption. Suggestions were also based on success stories and lessons learned across the value chain, and on similar projects in the past. Among these were the adoption and use of: official course templates, LMS governance (content inclusion, content lifecycle, content ownership policies etc.), Communications and advocacy plan, course analytics, monitoring, evaluation and reporting templates. Decision-making questions at each identified stage in the value chain were used to make the scope of the proposed initiative more discernible to team members.

Mr Anton Ellenbroek from the Food and Agriculture Organization of the United Nations (FAO) made an introduction to FAO Capacity Building in Fisheries.

Abstract

FAO Rome presented a part of its capacity development portfolio related to online information management, with a focus on SDG 14.4.1. Presented solutions range from data collection tools for artisanal fisheries (such as Artfish and SSFK that is developed with Santa Lucia, Trinidad and Tobago and Panama, or the mobile data collection App Platform SmartForms), fisheries data harmonization (such as the iMarine VRE for WECACFC), geospatial data management (such as the Vulnerable Marine Environments VRE and the FIRMS Map Viewer), and
SDG 14.4.1 training (in an interactive eLearning stock analysis tool). FAO has implemented the Fisheries and Resources Monitoring System (FIRMS), and in particular the WECAFC-FIRMS partnership (some 50 stocks). Although most presented capacity building is of course fisheries sector oriented, also spatial planning, statistics and ecological issues are covered at regional and global level.

FAO will continue, through the FIRMS partnership and other activities, to support fisheries and aquaculture related capacity development, and the CLME+ project can continue to liaise with FAO Headquarters and regional office on collaborations. For specific capacity development activities related to the above, FAO can assist in establishing knowledge platforms or services.

Ms Claudia Delgado from OceanTeacher Global Academy made an introduction to OTGA Concept and Network.

Abstract

The OceanTeacher Global Academy (OTGA) Project aims at building equitable capacity related to ocean research, observations and services in all IOC Member States.

UNESCO/IOC's International Oceanographic Data and Information Exchange (IODE) Programme has built a comprehensive Learning Management System (OceanTeacher) that, in combination with classroom training, has trained thousands of marine professionals since from 120 countries since 2005. This success demonstrates the expertise within IODE and its potential to expand the use of this methodology to other IOC programmes. The OTGA Project can support other existing training programmes of the IOC and make the OceanTeacher e-Learning Platform widely available. The OceanTeacher Global Academy benefits all IOC Member States with special emphasis on developing regions. The regional implementation methodology enables the training programmes to be self-driven with great attention to local requirements, language and culture. Equally substantial attention is given to local ownership as the Regional Training Centres (RTCs), supported by the host countries. In addition, the OceanTeacher Global Academy validates the expertise available in developing regions and promotes their self-reliance in terms of specialized technical training and higher education related to ocean science, observation and data/information management.

The specific objectives of the OceanTeacher Global Academy (OTGA) Project are:

- Promoting the establishment, and assisting with the start-up, of Regional Training Centres (OTGA RTCs) that will plan, organize and implement training courses that are of relevance to, and serve needs within their region;
- Promoting the use of local experts as lecturers and training assistants by the OTGA Regional Training Centres;
- Promoting the collaboration between the OTGA Regional Training Centres by enabling (through advanced information technology) lecturers from multiple regions to contribute lectures;
- Further developing the OceanTeacher Learning Management System to cover multiple IOC (and associate) programmes.

Mr Alejandro Acosta from the Gulf and Caribbean Fisheries Institute (GCFI) made a presentation entitled “A scientific forum for fisheries and marine resource management in the Gulf of Mexico and the wider Caribbean.”

Abstract

To advance the goals of sustainable use, wise management, conservation, and restoration of marine and estuarine fisheries and resources in the region by providing a forum for the
exchange of information and perspectives among decision makers, scientists, managers, educators, resource users, and students.

“Building Capacity through Scientific Exchange”

Offered to all Caribbean based fisheries professionals a training opportunity at the University of Florida, USA.

“Objective: Facilitating Resiliency in Fisheries and Associated Ecosystems.”

A four-month training will focus on:

(1) Fisheries governance and policy,
(2) Community based fisheries co management,
(3) Data collection and analysis methods or
(4) Learning GIS.

**CLME+ Partnership**

Identify Science Policy Gaps in the countries sharing the Caribbean and North Brazil Shelf Large Marine Ecosystems.

1. Expand the knowledge base required for implementation of Ecosystem Approach of Key Fisheries including flyingfish; spiny lobster; and shrimp and groundfish in the CLME+ region.
2. Expand the knowledge base to support habitat protection and restoration in the CLME+ region.
3. Expand the knowledge base required for the efficient and cost effective reduction of LBS pollution in the CLME+.

Ms Margarita Ontiveros from the National Council of Science and Technology (CONACYT) of Mexico made an introduction to Virtual Training Center to CONRICYT.

**Abstract**

The Training Center of Consorcio Nacional de Recursos de Información Científica y Tecnológica [National Consortium of Scientific and Technological Information Resources, CONRICYT] has as a goal to foster information literacy as regards information retrieval skills.

**Contents**

Each module comprises a topic and must follow a thematic structure from the simplest to the most complex knowledge.

At the end of each Module, end users have to assess themselves to find out whether they reached or not the objectives of the module in question.

**Didactic design of the content**

In the platform, each course will have its own space, which will be divided into Modules and these, in three sections.
LMS authoring tools for distance education

These tools are edition programs from open source educational websites with them, web contents can be produced with no need for technical expertise in programming, and they are intuitive and easy to use.

Possible uses for these tools:

a. Create a website with its corresponding main menu
b. Implement multimedia content
c. Export projects, mainly in two formats: independent website and SCORM
d. Create interactive activities such as:
   - Multiple choice questionnaires,
   - True false,
   - Short answer.
e. The content generated can be viewed with the most important web browsers: Chrome, Mozilla Firefox, Internet Explorer and Safari

Ms. Laura Jaramillo from Conservation International (CI) made an introduction to the Ocean Health Index (OHI).

Abstract

CI presented the Ocean Health Index (http://www.oceanhealthindex.org/), which is a comprehensive framework for evaluating the conditions of many things people value about oceans. A collaborative initiative between the National Center for Ecological Analysis and Synthesis (NCEAS) and Conservation International, OHI is the first ocean assessment tool to scientifically compare and combine key elements from all dimensions of the ocean’s health – biological, physical, economic and social. By integrating information from many different disciplines and sectors, the Index represents a significant advance over conventional single-sector approaches to assessing ocean condition.

The OHI utilizes nearly 200 global data sets that provide information on ocean and coastal habitats and species, ocean physical attributes (temperature, acidification), ocean economies, fisheries, mariculture, and natural products, and human use.

While all of these data are open access, they are often locked in spreadsheets, making it hard to quickly visualize overall trend information or make comparisons with local datasets.

In partnership with Esri (Environmental Systems Research Institute), OHI will be able to unlock these data and lower the barriers for ocean managers to better understand their regional ocean health and make sustainable ocean management decisions.

Ocean Health Hubs will make engaging ocean governments more efficient by streamlining ocean data management, target setting, and communication into one tool that can be easily accessed and updated by multiple collaborators (citizens, scientists, managers, non-profits, and governmental agencies).

These data visualization and collaboration centres will allow for faster progress on establishing ocean policies and advancing ocean priority setting. The Ocean Health Hubs can be used as
the first step in regional OHI+ assessments or on their own to track ocean conservation investments and sustainable ocean management within a region.

Ms Paula Sierra from Marine and Coastal Research Institute (INVEMAR, Colombia), made an introduction to Caribbean Marine Atlas.

Abstract

Caribbean Marine Atlas (CMA) has a goal to offer a digital online platform that supports process as Integrated Coastal Zone Management (IZCM) and Ecosystem-Based Management (EBM). These platforms can be a storage system for spatial files (as shapes, images, etc.) that are the result of the virtual training courses. The CMA information can have access through web services (https://www.caribbeanmarineatlas.net/developer/).

The clearinghouse mechanism (CHM), provide to the users in Member States with direct and rapid access to relevant sources of information, practical expertise in the transfer of marine technology, as well as to facilitate effective scientific, technical and financial cooperation to that end.

This platform has great versatility to upload information, extract structured data from web services and using web scraping for direct extraction from web pages. It is useful to index data about the availability of the courses. However, is not useful to structure data content and reference material to virtual training.

Mr Christopher Corbin from the Caribbean Environment Programme of the United Nations Environment Programme (UNEP-CEP) made an introduction to Pollution & Communications Secretariat to the Cartagena Convention.

Abstract

“Mr Chris Corbin, representing the Cartagena Convention Secretariat and Regional Seas Programme for the Wider Caribbean Region (Caribbean Environment Programme) presented an overview of the geographical scope and mandate of their programme. He highlighted the major areas of focus as the protection and conservation of marine biodiversity and the control, prevention and reduction of pollution from land and marine-based sources.

Several capacity building and training activities have been organized by their Secretariat to assist Governments in complying with their national Convention obligations. These were designed to enable more effective use of management tools and approaches; support improved national and regional oceans governance; empower persons including resource managers; youth; local communities; support enforcement and informed policy & decision-making; facilitate data and information generation, analysis, sharing and reporting and help respond to environmental risks and hazards.

Mr Corbin highlighted some of the lessons learned from their capacity building and data sharing activities including the importance of using existing regional frameworks and institutions and targeting multiple stakeholders/users with one of the main challenges being the sharing of sensitive water quality data. The success of networks such as CAMPAM for Marine Protected Area Managers and Professional/Community Exchanges were highlighted.

Mr Corbin then identified some of the frameworks as well as existing tools and mechanisms managed and/or under development by the Secretariat. These frameworks include use of: Government Experts for Biodiversity & Pollution; Regional Activity Centres, Collaborating Agencies & Partners, and Regional Nodes forming a supporting Regional Activity Network for provision of training and capacity building.
He concluded by emphasizing the importance of defining: (1) Modality for Training; (2) Audience; (3) Level - Regional, National, or Local; (4) Training opportunities, and recommended that training should consider the target audience, language and culture; should include both formal and informal opportunities; and consider different delivery mechanisms including Massive Open Online Courses (MOOCs), Online Courses and Blended Training. The increased importance of Citizen Science and the incorporation of Social Media and Digital Tools were singled out.

He concluded by reiterating the importance of having ongoing Monitoring & Evaluation of the effectiveness of any Training carried out as well as the use of the proposed portal with the underlying basis of ensuring Institutional & Financial Sustainability.

4. STAKEHOLDERS MAPPING, PLATFORM FUNCTIONALITIES & DELIVERY MECHANISMS, CONTENT, MATERIALS, PARTNERSHIPS

The participants were organized into two groups, each of these to discuss two main themes of the product:

Group 1. The development of the technical and operational part of the web portal. System design & architecture - overview of relevant technology solutions.

<table>
<thead>
<tr>
<th>NAME</th>
<th>AFFILIATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tim Deprez</td>
<td>Ghent University</td>
</tr>
<tr>
<td>Maurice McNaughton</td>
<td>University of the West Indies</td>
</tr>
<tr>
<td>Ned Dwyer</td>
<td>International Coastal Atlas Network (ICAN)</td>
</tr>
<tr>
<td>Luis Castellanos</td>
<td>Sistema de Integración Centroamericana (SICA)</td>
</tr>
<tr>
<td>Anton Ellenbroek</td>
<td>FAO</td>
</tr>
<tr>
<td>Margarita Ontiveros</td>
<td>CONACYT</td>
</tr>
<tr>
<td>Leonardo Arias</td>
<td>Marine and Coastal Research Institute (INVEMAR, Colombia)</td>
</tr>
<tr>
<td>Julian Pizarro</td>
<td>Marine and Coastal Research Institute (INVEMAR, Colombia)</td>
</tr>
</tbody>
</table>

Group 2. The development of the content, materials, partnerships and tools contained in the web portal. Identification of training and capacity building, opportunities/materials on issues of key/cross-cutting importance for the CLME+ SAP Strategies.

<table>
<thead>
<tr>
<th>NAME</th>
<th>AFFILIATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pablo Lloret</td>
<td>Cap-Net UNDP</td>
</tr>
<tr>
<td>Candice Sankars</td>
<td>eLearning Instructional Designer</td>
</tr>
<tr>
<td>Claudia Delgado</td>
<td>Ocean Teacher Global Academy</td>
</tr>
<tr>
<td>Alejandro Acosta</td>
<td>The Gulf and Caribbean Fisheries Institute</td>
</tr>
<tr>
<td>Laura Jaramillo</td>
<td>Conservation International</td>
</tr>
</tbody>
</table>
5. GROUP REPORTING IN PLENARY

5.1 SUMMARY OF GROUP NO 1.

Development of the technical and operational part of the web portal. System design & architecture - overview of relevant technology solutions.

Summary of Discussions on the Training/Capacity Building Platform:

Functional and User Requirements:
- A place to find formal courses,
- A place to find content and resources,
- A place to find trainers,
- An archive for (or gateway to) training resources,
- Needs to support multilingual interface; content is in original language only,
- Ability for users to report errors,
- Ability for users to upload course details subject to approval by administrators,
- Insure structure search.

Audience:
- Students (undergrads),
- Professionals,
- Practitioners,
- Trainers,
- Government officers,
- Researchers,
- Policy/decision-makers.

Existing Resources:
- Technical:
  - Marine Training.eu, based on the Drupal Framework and on the XCRI – CAP standard,
  - CKAN – an out of the box system (a tool for making open data websites),
  - Build a new platform from scratch,
  - Use a profile of the standard in order to ensure minimum set of fields gathered.
- Content:
  - An inventory of 777 courses (BS, MS, and PhD) in the Americas,
  - A subset of these from the CLME + could be entered as a starting point,
FAO training in relation to SDG 14 (e.g. sustainable fisheries) : the requirements of the Projects,

FAO/WECAFC has data on stocks and fisheries,

CMA 2 to underpin geospatial capacity building,

Consider not just courseware but other resources (e.g. meetings, events, other capacity building materials),

Should allow finding self-training materials: maps; training materials; POGO is one example,

Maps, atlases, and other resources should be captured,

Moodle and other interactive courses.

**Resources Required:**

- Allocate a responsible person in the secretariat to decide priorities,
- Need people for the data entry,
- Ten records per day-person can be entered,
- There needs to be a design that takes on board different user journeys through the platform,
- If Marine Training.eu chosen, then an agreement needed to be developed,
- Ensure that a content QA plan is in place.

**Institutional Interactions:**

- Provide incentives to course providers; if they provide records to the portal, you offer them a customised course presentation page that they can embed in their own websites;
- Start with some university” ambassadors” to showcase such a collaboration.

**Possible case studies:**

- Training and CB in relation to the SDGs,
- Training and capacity building towards MSP.

**Evolution and Sustainability:**

- Need a core group to oversee and maintain the platform,
- Consider how to measure impact,
- Consider how it can evolve towards being a collaborative platform,
- Virtual Research Environments (e.g. ESA-TEPs. iMarine) are platforms that offer the possibility of geospatial data analysis for CLME+ goals,
- Marine Training. EU has sustainability guaranteed for a number of years,
- How do we get info from NGOs, government agencies, etc. in the platform,
- Incentives to providers of formal course e.g. embed our website in theirs,
- Scalable and modular.
5.2 SUMMARY OF GROUP NO 2.

Development of the content, materials, partnerships and tools contained in the web portal. Identification of training and capacity building, opportunities/materials on issues of key/cross-cutting importance for the CLME+ SAP Strategies.

The first purpose is to define what kind of content should the portal have considering that the countries are interested in using the EBA (Ecosystem Based Adaptation) for the management of the resources; and that a permanent coordination system is being prepared. Therefore, the task of this team is to determine what kind of training will lead them to this end. What are the topics that are needed for them to manage their resources?

For example, it is a known fact that one of the barriers to achieve EBA is the weak governance structure; therefore, the countries need to develop the capacities in order to understand fully their functions.

Basic Contents:
To develop a proposal for basic contents it is necessary to identify:

a. Core areas: Governance, pollution, fisheries, climate change, marine biodiversity. Additionally, transboundary subjects that are vital for the coordination and regional management of the ecosystems.

b. Targeted audience: Governments, senior policy makers, country’s representatives in international conventions, and the stakeholders with some input in the management of the marine resources (private sector),

c. Potential partners,

d. Materials,

e. Identification of knowledge gaps,

Trainings:

1. Governance:
   1.1 Institutions, policy and regional legislation in the Caribbean,
   1.2 Leadership and decision making,
   1.3 MSR/UNCLOS (Possible alliance),
   1.4 Small scale fisheries governance (Too big to ignore),
   1.5 Long term mechanisms for financial sustainability of CLME+ region,
   1.6 Disaster preparation (risk reduction, natural hazards),
   1.7 Development of Safeguards and inclusion of traditional knowledge, minority groups and gender equality,
   1.8 Species identification for commercial purposes (strengthening capacities of borders officials),
   1.9 Reporting methods towards SDGs.

2. Pollution:
   2.1 Pollution literacy 101,
   2.2 Monitoring and analysis and reporting of pollutants (Priority most important pollutants),
2.3 Appropriate Communication of the collected Pollution data (Ex: story maps and social media),
2.4 Technology choices for the management of the pollution,
2.5 Best practices for prevention and reduction,
2.6 Circular economy,
2.7 Economic and social assessment of the impacts of pollution,
2.8 Mitigation of the Harmful Algae Blooms (IOC).

3. Fisheries:
3.1 Fisheries 101 (managers and fisherfolk) concepts and terminology and methods,
3.2 Stock assessment,
3.3 EBA to fisheries and fisheries sustainability,
3.4 New technologies for the control and surveillance of the resources,
3.5 Traceability and eco-labeling,
3.6 Data limited situations for decision making,
3.7 Fisheries regulation,
3.8 Conflict resolution technics (successful experiences),
3.9 Exchange “in fisheries” (ex. between fishermen from industrial and artisanal sectors),
3.10 Relation between fisheries and pollution,
3.11 Socioeconomic context and assessment.

4. Climate Change (CC):
4.1 Climate change for financial institutions in Latin America and the Caribbean (Inter-American Development Bank [IADB]),
4.2 Climate change impacts on ecosystems (oceans acidification, coral bleaching vs temperature),
4.3 Climate change adaptation and mitigation (INVEMAR, British Columbia),
4.4 Climate change science in negotiations (SDG Academy),
4.5 Climate change International Legislation framework,
4.6 Green development and CC (United Nations Institute for Training and Research [UNITAR]),
4.7 CC modeling and scenarios (decision support system),
4.8 Disaster preparation (risk reduction, natural hazards),
4.9 Sargassum management (Gulf and Caribbean Fisheries Institute [GCFI]).

5. Marine Biodiversity:
5.1 MPA (OTGA),
5.2 Marine Habitat conservation,
5.3 Ecosystems good and services valuation,
5.4 Marine spatial planning,
5.5 Integrated Coastal zone Management,
5.6 OBIS Biodiversity data management (Ocean Biogeographic Information System [OBIS]),
5.7 Blue Economy,
5.9 Tourism best practices,
5.10 Exploration and exploitation: petrol, oil, carbon,
5.11 Restoration (corals, mangroves….),
5.12 Invasive species.

6. Crosscutting contents (TBD):
6.1 Communications,
6.2 Ocean literacy,
6.3 Social economical contexts and challenges.

Alliances / Partnerships
1. International Oceans (IO) Institute
2. Canari
3. Non-Governmental Organizations (NGOs)
4. International Atomic Energy Agency (IAEA)
5. Food and Agriculture Organization of the United Nations (FAO)
6. Inter-American Development Bank (IDB)
7. Conservation training (TNC online)
8. Ocean Biogeographic Information System (OBIS)
9. EDX Platform for education and learning
10. International Maritime Organization (IMO)
11. MetEd
12. Secretaries of the international agreements
13. INVEMAR-RTC LAC (OTGA)

Materials and tools:
— Existing platforms and initiatives,
— Depending on the methodology decided for the classes.

6. MANAGEMENT ARRANGEMENTS, STRATEGY AND WORK PLAN

Audience:
• The idea is to start defining the audience that are the CMLE + stakeholders such as policy makers, political level and the management level such as the technicians (Ministries, agencies, officers…), there are also the regulatory persons and the ones
related to enforcement, monitoring and data analysis, private sector, decision makers, and the ones who communicate the decisions, academy and researchers, NGOs

- Suggestion: include the policy cycle, visual clarity to remember us why this is the targeted audience.

- The general public will not be excluded, so it is important to include the communities, students, amongst others.

- Strategically is better to prioritize the people surrounding (responsible for) the policy cycle and then expand it to the general public.

- It would be dangerous to restrict the audience at this point. For a TTT is better to include all the sectors and later on prioritize.

**Topics:**

These have to be related to the CLME+, and as a strategy, the project could do a baseline and a survey with the focal points.

When the group 2 was discussing the contents, it was more regarding the topics and scoping the umbrella area that could respond to the needs of the region.

It could be useful to have a sort of cross cutting to the sub subjects. Ex: integrated approaches, from reef to ridge, amongst others. The task is for the project team to do so.

In the group 2 document, the references in (brackets) are courses or trainings that already exist.

The group reviewed the proposal for the areas that are recommend for the portal.

The *search engine* should be able to link these topics with broad standardized *thematic categories*.

**Functionality:**

- It is very important to map the available resources such as marine training, OTGA. Other more generic platforms were not discussed in the group.

- It is important to have alliances that may have other solutions.

- It would be useful a matrix comparing the groups identified actors.

- The features of the portal such as a catalog are key.

- TTT recommends the adoption of Marine training as a starting point of collaboration and acknowledges that other solutions are available.

- The Drupal platform proposed allows tailoring to the region´s requirements.

- This is considering the time and budget limitations.

- In the marine training is necessary to consider the number of data collected, which requires a lot of manpower. It would be necessary to consider that they needed a person working full time for 2 years.
• Adopt a minimum profile and standard to minimize the resources requirements.
• The platform could offer something in return to the people that offer the courses.
• Adaptation of the attributes.
• The professional exchanges and student internships are an opportunity.

What are the minimum elements in order to apply this platform?
• Establish the collaboration between platforms and agencies.
• Data loading in the platform - source of information.
• Design the system and interfaces/ user experience CLME Customize.

What is the most relevant content to upload in the platform?
• Location of the server is not a relevant issue if it serves the region.
• Does the platform harvest the content or is it uploaded?
• How many people will have access and membership?
• Feedback on the different platforms and trainings being used by the CLME+.
• Repository of what exists as a catalogue.
• The platform will have a membership or alliances to access it.
• The solution has to have a lot of marketing.
• Survey to the countries to determine their needs and interests. GCIf can help with their mailing list. The other members of the team could also help with this.
  o This to gain the recognition and their inputs.
  o What kind of training have you already done in the last 3 years? (formal, short term, long term and topics or thematic (click for the topic)
  o Where did you go to find out the available training? link
  o Would you be interested in a portal containing marine training opportunities?
  o No open questions.
  o Link providing.
  o Communications strategy to avoid multiple efforts.
  o Introduction and deadline.
  o Candice is going to send a text document for the TTT to review and to send it through survey monkey.
• Conclusion: Existing platform and tailor it to include the topics relevant for CLME +.
• Include a consultative process to validate the initiative with some key stakeholders (regional, practitioners, amongst others).

• Prioritize the content using the resources that are known and recognized by the group.

• Alliances with particular agencies to be able to share their resources.

What do we need to achieve the deadline and the estimate costs?

• For the platform to be online there is a great need of time. On the other hand, with the EU marine training platform that would be easier.

• Assuming that the platform is ready in a couple of months, does the secretary has the resources to upload the information? What are the minimum requirements?

• The platform has to be at least as good as the webpage of the CLME+.

• The implementation could be divided in 5 subparts:
  o Identify the profile,
  o Review the web design and define if it is in accordance with the project,
  o Otherwise, we need to develop the interface,
  o Implement the minimum attributes as well as the web design,
  o Upload the system.

• It is easier to use the existing design, so the platform has the same identity.

• It is necessary to review if the functionalities of marine training to respond to the necessities of the CLME+.

• Big worries: are the agencies interested (have the capacity) in other entities having their information? Is it possible to harvest directly?

• Web scrapping VS person who is in charge of uploading the information.

• **Data on every course has to be in the platform in order to be searched. So we have to harvest the information by:**
  o Link.
  o By hand pulling the information and copping, it in the platform because not all the formats are the same (excels by hand). These people need to be trained.
  o At this stage, it is not possible to make an automatic process. Maybe in a long term, when the project can probe the value of the tool and offers something interesting in exchange.
  o Use of multilanguage.

• There are many variables for the time estimation.
There is a need of a discussion with the Marine Training platform developers to determine the critical phases and in order to adapt.

In 7 months we could have beta version in accordance with the collected data. The project can collect the information and develop the web page at the same time. The time depends on the goals of the project in terms of the information they want to publish.

It is important to start raising the awareness of the CLME on this matter so the collection of the data will be easier.

An estimation of cost is very hard to achieve, but we know that it is necessary to have a full time operator. That is trained in feeding the beta version.

There is a way of sharing the information through an application that allows the agencies to feed the information in the platform because of the use of the same interface. **It is important to consider how these alliances are going to be.**

**How is going to be the update of the platform?**

- With a modification of the selected web page for an automatic harvesting from the original sources.
- With a harvesting semi-automatic because the data are not complete so that would need manual process.
- When there are no resources, some has to it manually through a format. Entities will be in charge of that and they will need to have to will to feed the platform.

**Do we have any idea of how many courses on these fields are available?**

**Human resources:**

- Coordination manager,
- IT (designer developer) - probably a team at different scales,
- Entry person,
- Charge of the allies?
- Communications person.

The partners of the CLME should provide some resources so they feel as a part of the initiative.

Where is it going to be hosted? That also represent some costs.

The idea is for the platform to go operational in July 2020. For that, it is necessary to determine:

- Content (# of courses),
- Feeding system-integration features,
- User base.
Sustainability plan:

- Effective IT system that is easily upgraded,
- Estimation of future costs,
- Allocation of funds pf external GEF projects,
- Use of the alliance with Marine Training (cost),
- Allocation resources from the secretary and the CLME+,
- Publicity- communications strategy –networks-social media,
- Real capacity building program.

It is necessary that all the allies feed their own platform.

The future integration of the training and capacity-building portal with capacity building activities in the region will have to be described. In the first step, we inventory the sources and content of the training but we are not validating the impact of it on capacity building, and CLME+ does not provide support for online, customized training. A next phase should consider if and how CLME+ can deliver effective training and capacity building.

7. MAIN TECHNICAL TASK TEAM RECOMMENDATION

Among the main tasks, the Technical Task Team was tasked to Review relevant online software platforms already in place amongst the partnership and compare these with the requirements, and based on that review, to Recommend an online software platform solution(s) based on one or more existing platforms.

Considering the review carried out by the Technical Task Team and the time and financial and human resources allocated / available to develop and implement the capacity-development (CD) portal, the TTT recommended to develop the CLME+ CD, training portal by using as basis and core platform “MarineTraining” of the University of Ghent. (Ref. http://www.marinetraining.eu/)

Figure 1. Marine Training portal from University of Ghent.
### ACTIVITY

| Output #1: Strategy document and tool(s) providing CLME+ stakeholders with access to training and capacity building opportunities/ materials on issues of key/cross-cutting importance for the CLME+ SAP Strategies |
|---|---|
| **1.1. T.PI1. (Milestone) Advisory Body and Technical Task Team (TTT).** | 25/02/19 | 25/02/19 |
| **1.2. (Milestone) Technical Task Team (TTT) face-to-face meeting.** | 09/04/19 | 11/04/19 |
| **1.3. Strategy document and Work Plan.** | 09/04/19 | 26/04/19 |
| **1.4. T.PI2. (Target) Beta-version online.** | 09/04/19 | 15/07/19 |
| **1.5. (Target) Online, multi-lingual repository or portal.** | 09/04/19 | 16/09/19 |
| **1.6. T.PI3 (Target) Online repository and portals (embedded in or dynamically linked to the CLME+ Partnership Portal).** | 09/04/19 | 11/12/19 |
| **1.7. T.PI4. Sustainability Plan, endorsed by the CLME+ SAP Interim Coordination Mechanism.** | 09/04/19 | 11/12/19 |

### Output #2: Content and materials for the CLME+ SAP M&E and the CLME+ “State of the Marine Environment and associated Economies in the CLME+ region” (“SOMEE”) reporting mechanisms

| **2.1. T.PI2. (Target 1) Proposal specifying the content & materials to be contributed by IOC of UNESCO.** | 15/10/18 | 27/05/19 |
| **2.2. (Target 2) Contents and materials developed for CLME+ SOMEE and SAP M&E web portal(s), and agreed set of (sub)chapters and materials for the first SOMEE report.** | 15/10/18 | 10/09/19 |

*Figure 2. Logframe and deadlines*
ANNEX I

PROVISIONAL AGENDA

TUESDAY, 9 APRIL 2019

Session 1
09h00–10h00

1. OPENING OF THE MEETING
   1.1 Welcome
   1.2 Adoption of the Agenda
   1.3 Introduction of participants

2. CLME+: SETTING THE SCENE
   2.1 Introduction and presentation of the CLME+ SAP and project.
   2.2 Presentation of the Terms of Reference (TORs) for the Technical Task Team (TTT), and the Implementation Schedule

10h00–10h20 Break

Session 2
10h20–12h00

2.3 Presentation of the Output #1 to be developed: Strategy document and tools providing CLME+ stakeholders with access to training and capacity building opportunities/ materials on issues of key/cross-cutting importance for the CLME+ SAP Strategies.

3. POTENTIAL USEFUL PLATFORMS, FUNCTIONALITIES & TOOLS

   Each representative will be invited to provide a brief presentation on their agency / institution strategies and tools for training and capacity building opportunities/ materials, and to make preliminary proposals on collaborative activities.

   1. Ghent University - Marine Training platform
   3. University of the West Indies (Centre of Excellence & Innovation)
   4. ICAN

12h00–13h30 Lunch break

Session 3
13h30–17h30

5. SICA
6. Candice Sankarsingh
7. FAO (iMarine)
8. IODE & OTGA
9. GCFI
10. CONACYT – CONRICyT
11. Conservation International
12. INVEMAR-CMA2.
13. UNEP-CEP.

17h30–17h45 Group 1 and Group 2 organisation.

**WEDNESDAY, 10 APRIL 2019**

<table>
<thead>
<tr>
<th>Session 1</th>
<th>08h30–12h00</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. STAKEHOLDER MAPPING, PLATFORM FUNCTIONALITIES &amp; DELIVERY MECHANISMS, CONTENT, MATERIALS, PARTNERSHIPS.</td>
<td></td>
</tr>
<tr>
<td>4.1 Participants will be divided in 2 groups:</td>
<td></td>
</tr>
<tr>
<td>• Group 1 will be responsible for contributing to the development of the technical and operational part of the web portal. System design &amp; architecture - overview of relevant technology solutions.</td>
<td></td>
</tr>
<tr>
<td>• Group 2 will be responsible for contributing to the development of the content, materials, partnerships and tools contained in the web portal. Identification of training and capacity building, opportunities/materials on issues of key/cross-cutting importance for the CLME+ SAP Strategies</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Session 2</th>
<th>13h30–15h30</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. GROUP REPORTING IN PLENARY</td>
<td></td>
</tr>
<tr>
<td>5.1 Summary of the working groups. Group 1 and Group 2 will report in plenary and summarize their main recommendations and conclusions</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Session 3</th>
<th>15h50–17h30</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.2 Functionality requirements</td>
<td></td>
</tr>
<tr>
<td><em>Based on the results obtained from the workshop so far, the functionality requirements, delivery mechanisms, contents and materials for the platform will be discussed.</em></td>
<td></td>
</tr>
</tbody>
</table>

**THURSDAY, 11 APRIL 2019**

<table>
<thead>
<tr>
<th>Session 1</th>
<th>08h30–12h00</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. MANAGEMENT ARRANGEMENTS, STRATEGY AND WORK PLAN</td>
<td></td>
</tr>
</tbody>
</table>
| *Elaboration of the Draft Strategy Document and Work Plan, detailing conceptual design & scheme for the online “training opportunities & materials” portal, and associated implementation steps).*

*Based on the results from the previous agenda items, the objective, output, and associated timeline and management arrangements will be reviewed, and revised as applicable.*
<table>
<thead>
<tr>
<th>Time</th>
<th>Session 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>12h00–13h30</td>
<td>Lunch break</td>
</tr>
<tr>
<td>13h30–17h00</td>
<td>Continuation and finalization of item 6, Management Arrangements, and Work Plan. Summary of the TTT recommendations.</td>
</tr>
</tbody>
</table>

**CLOSING OF THE MEETING**
## ANNEX II

### PROVISIONAL TIMETABLE

<table>
<thead>
<tr>
<th>Hrs.</th>
<th>TUESDAY / MARTES 9 April/Abril</th>
<th>WEDNESDAY / MIERCOLES 10 April/Abril</th>
<th>THURSDAY / JUEVES 11 April/Abril</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00</td>
<td>08:30 – 0900 Registration.</td>
<td>4. STAKEHOLDER MAPPING, PLATFORM FUNCTIONALITIES &amp; DELIVERY MECHANISMS, CONTENT, MATERIALS, PARTNERSHIPS.</td>
<td>6. MANAGEMENT ARRANGEMENTS, STRATEGY AND WORK PLAN</td>
</tr>
<tr>
<td></td>
<td>1. OPENING OF THE MEETING</td>
<td>4.1 Participants will be divided in 2 groups:</td>
<td>Elaboration of the Draft Strategy Document and Work Plan</td>
</tr>
<tr>
<td></td>
<td>1.1 Welcome</td>
<td>• Group 1. System design &amp; architecture - overview of relevant technology solutions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.2 Adoption of the Agenda</td>
<td>• Group 2. Content, materials, partnerships and tools contained in the web portal.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.3 Introduction of participants</td>
<td>5. GROUP REPORTING IN PLENARY</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. CLME+: SETTING THE SCENE</td>
<td>5.1 Summary of the working groups.</td>
<td>Continuation of item 6, Management Arrangements, and Work Plan.</td>
</tr>
<tr>
<td></td>
<td>2.1 Introduction and presentation of the CLME+ SAP and project.</td>
<td>Group 1 and Group 2 will report in plenary and summarize their main recommendations and conclusions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.2 Presentation of the Terms of Reference (TORs) for the Technical Task Team (TTT), and the Implementation Schedule</td>
<td>5.2 Functionality requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Group Photo</td>
<td>Based on the results obtained from the workshop so far, the functionality requirements, delivery mechanisms, contents and materials for the platform will be discussed.</td>
<td></td>
</tr>
<tr>
<td>10:00</td>
<td>COFFEE BREAK / CAFE</td>
<td>Continuation and finalization of item 4.</td>
<td>Continuation of item 6, Management Arrangements, and Work Plan.</td>
</tr>
<tr>
<td>10:20</td>
<td>2.3 Presentation of the Output #1</td>
<td>5. GROUP REPORTING IN PLENARY</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. POTENTIAL USEFUL PLATFORMS, FUNCTIONALITIES &amp; TOOLS</td>
<td>5.1 Summary of the working groups.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1) Ghent University - Marine Training platform</td>
<td>Group 1 and Group 2 will report in plenary and summarize their main recommendations and conclusions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2) Cap-Net PNUD – LA WETnet.</td>
<td>5.2 Functionality requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3) University of the West Indies.</td>
<td>Based on the results obtained from the workshop so far, the functionality requirements, delivery mechanisms, contents and materials for the platform will be discussed.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4) ICAN</td>
<td>5.3 Summary of the recommendations.</td>
<td></td>
</tr>
<tr>
<td>12:00</td>
<td>LUNCH / ALMUERZO</td>
<td>5.4 Summary of the recommendations.</td>
<td></td>
</tr>
<tr>
<td>13:30</td>
<td>5) SICA</td>
<td>5.5 Summary of the recommendations.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6) Candice Sankarsingh</td>
<td>6. MANAGEMENT ARRANGEMENTS, STRATEGY AND WORK PLAN</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7) FAO (iMarine)</td>
<td>Elaboration of the Draft Strategy Document and Work Plan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8) IODE &amp; OTGA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9) GCFI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:30</td>
<td>COFFEE BREAK / CAFE</td>
<td>5.2 Functionality requirements</td>
<td>Continuation and finalization of item 6, Management Arrangements, and Work Plan.</td>
</tr>
<tr>
<td>15:50</td>
<td>10) CONACYT – CONRiCyT</td>
<td>Based on the results obtained from the workshop so far, the functionality requirements, delivery mechanisms, contents and materials for the platform will be discussed.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11) Conservation International</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12) INVEMAR-CMA2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>13) UNEP-CEP.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:30</td>
<td>17h30-17h45 Group 1 and Group 2 organisation.</td>
<td>7. CLOSING OF THE MEETING</td>
<td></td>
</tr>
<tr>
<td></td>
<td>After dark</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 18:00 Informal get together</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ANNEX III

PROVISIONAL LIST OF PARTICIPANTS

TECHNICAL TASK TEAM WORKSHOP CLME+ PROJECT

(Cartagena, Colombia 9 – 11 April 2019)

EXPERTS

Dr Alejandro ACOSTA
Gulf Caribbean Fisheries Institute GCFI
Science Coordinator
Florida Fish and Wildlife Conservation Commission.
Fish Wildlife Research Institute/S. FL. Regional Lab.
2796 Overseas Hwy., Suite 119.
Marathon, FL 33050, USA
Ph. 305-676-3273; Lab:305-289-2330;
Fax 305-289-2334
E-mail: Alejandro.acosta@myfwc.com
Alejandro.acosta@gcfi.org
alejandro.acosta12@gmail.com

Mr Leonardo Jose ARIAS ALEMAN
INVEMAR
Information Research
Calle 25 # 2-55 Playa Salguero,
Rodadero, Santa Marta, COLOMBIA
Tel: +57 5 4328600 3008144587
E-mail: leonardo.arias@invemar.org.co

Mr Luís CASTELLANOS
SICA /CCAD
Boulevard Cancilleria Final
Antiguo Casco Tlaq
San Salvador, EL SALVADOR
E-mail: luis.castellanos@sica.int

Mr Christopher CORBIN
Programme Officer
Pollution and Communications Sub-Programmes
Cartagena Convention Secretariat
Ecosystems Division UN Environment
14-20 Port Royal Street,
Kingston, JAMAICA
Tel. # 1 876 922 9267-69

Mr Patrick DEBELS
Project Coordinator CLME+( UNDP/GEF)
Edificio Chambacu Oficina 405 Cartagena
Cartagena, COLOMBIA
Tel: (575) 6648882
E-mail: PatrickD@unops.org

Mr Edward DWYER
IODE-ICAN Steering Group Member
RANDBEE Consultants
Rua F De Macaëns 21
2775-573, Carcaveis, PORTUGAL
Tel: +351 964250 602
E-mail: ned.dwyer@randbee.com

Ms Claudia DELGADO
IODE Training Coordinator & OTGA
Project Manager
Wandelaaarkaai 7
Pakhuis 61
8400 Oostende; BELGIUM
Tel: + 32 59340158
E-mail: c.delgado@unesco.org

Mr Tim DEPREZ
Ghent University
Coordinator Marine Training Platform
Krijgslaan 281/S8
B-9000 Gent, BELGIUM
Tel:+32 (0) 9 2644693
E-mail: tim.deprez@ugent.be

Mr Anton ELLENBROEK
FAO of the UN
FAO Fisheries Department
iMarine Officer
Via de Ile Terme di Caracola
00153, Rome, ITALY
Tel: 0039-0657064029
Ms Laura JARAMILLO  
Conservation International  
Marine Programme Manager  
Tel: 311 5663235  
Cra 13 # 71-41  
Bogota, COLOMBIA  
Tel: (571) 3452854  
E-mail: ljaramillo@conservation.org

Mr Pablo LLORET  
LA WETNET CAP-NET PNUD  
Pasaje 3 y Chimaborazo  
Cumbaya Quito, ECUADOR  
Tel: +593 994933958  
E-mail: pablo.lloret@gmail.com

Mr Maurice MCNAUGHTON  
Director Centre of Innovation  
Mona School of Business UWI  
University of the West Indies  
Mona Campus  
Kingston, JAMAICA  
Tel: +1 876 452-0222  
E-mail: Maurice.mcnaughton@uwimona.edu.jm

Ms Margarita ONTIVEROS  
Asesor Independiente del  
Consortio Nacional de Recursos de  
Informacion Cientifica y Tecnologica  
CONRICyT  
Avenida Insurgentes Sur 1582  
Colonia Credito Constructor del Benito Juarez  
C.P. 03940, Mexico D.F., MEXICO  
Tel: +5528550763  
E-mail: margarita.ontiveros@gmail.com

Mr Julian PIZARRO PERTUZ  
Head of Information Services Laboratory  
INVEMAR  
Calle 25 # 2-55 Playa Salguero,  
Rodadero, Santa Marta, COLOMBIA  
Tel: +57 5 4328600 Ext 441  
E-mail: julian.pizarro@invemar.org.co

Ms Candice V. SANKARSINGH  
Consultant ELearning  
Multimedia Instructional Designer  
548 Riverside Drive, Lange Park  
Chaguaramas, TRINIDAD & TOBAGO  
Tel: 1-868-744-2647  
E-mail: cvsankars@gmail.com

Ms Paula Cristina SIERRA  
Coordinadora Investigación e Información de Gestión Marina y Costera  
INVEMAR Calle 25 # 2-55 Playa Salguero,  
Rodadero, Santa Marta, COLOMBIA  
Tel: +57 5 4328600 Ext 441  
3157520406  
E-mail: paula.sierra@invemar.org.co

IOC (of UNESCO) SUBCOMMISSION FOR THE CARIBBEAN AND ADJACENT REGIONS IOCARIBE

Mr Cesar TORO  
Head IOC of UNESCO Regional  
Secretariat for IOCARIBE  
Torices, Edificio Chambacu, Oficina 405  
Cra 3B # 26-78  
Cartagena de Indias, COLOMBIA  
Tel.: (575) 664 0955  
Fax: (575) 664 0288  
E-mail: c.toro@unesco.org

Mr Alex Fernando CACERES  
IOCARIBE CCO  
E-mail: af.caceres-reactiga@unesco.org

Mr Alex PALOMINO  
IOCARIBE CCO  
E-mail: datosiocaribe@cco.gov.co

Ms Bianis Palacios Llamas  
IOCARIBE Administrative Assistant  
E-mail: b.palacios@unesco.org

Ms Patricia WILLS-VELEZ  
Office of the Head IOC of UNESCO  
Regional Secretariat for IOCARIBE  
E-mail: p.wills-velez@unesco.org
### ANNEX IV

**LIST OF ACRONYMS**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBD</td>
<td>Convention on Biological Diversity</td>
</tr>
<tr>
<td>CBO</td>
<td>Community based Organizations</td>
</tr>
<tr>
<td>CC</td>
<td>Climate Change</td>
</tr>
<tr>
<td>CCAD</td>
<td>Central American Commission on Environment and Development</td>
</tr>
<tr>
<td>CHM</td>
<td>clearinghouse mechanism</td>
</tr>
<tr>
<td>CI</td>
<td>Conservation International</td>
</tr>
<tr>
<td>CITES</td>
<td>Convention on International Trade in Endangered Species of Wild Fauna and Flora</td>
</tr>
<tr>
<td>CLME</td>
<td>Caribbean Large Marine Ecosystem</td>
</tr>
<tr>
<td>CMA</td>
<td>Caribbean Marine Atlas</td>
</tr>
<tr>
<td>CONACYT</td>
<td>National Council of Science and Technology</td>
</tr>
<tr>
<td>CONRICYT</td>
<td>National Consortium of Scientific and Technological Information Resources</td>
</tr>
<tr>
<td>CSOD</td>
<td>Caribbean School of Data</td>
</tr>
<tr>
<td>CWAs</td>
<td>Coastal Web Atlases</td>
</tr>
<tr>
<td>EAF</td>
<td>Ecosystem Approach for the management of key Fisheries</td>
</tr>
<tr>
<td>EBA</td>
<td>Ecosystem Based Adaptation</td>
</tr>
<tr>
<td>EBM</td>
<td>Ecosystem-Based Management</td>
</tr>
<tr>
<td>EMBRC</td>
<td>European Marine Biological Resource Centre</td>
</tr>
<tr>
<td>ERAM</td>
<td>Regional Environmental Strategy Framework</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
</tr>
<tr>
<td>FIRMS</td>
<td>Fisheries and Resources Monitoring System</td>
</tr>
<tr>
<td>GCFI</td>
<td>Gulf and Caribbean Fisheries Institute</td>
</tr>
<tr>
<td>GEF</td>
<td>Global Environment Facility</td>
</tr>
<tr>
<td>IAEA</td>
<td>International Atomic Energy Agency</td>
</tr>
<tr>
<td>ICAN</td>
<td>International Coastal Atlas Network</td>
</tr>
<tr>
<td>IDB</td>
<td>Inter-American Development Bank</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>IMO</td>
<td>International Maritime Organization</td>
</tr>
<tr>
<td>INVEMAR</td>
<td>Marine and Coastal Research Institute</td>
</tr>
<tr>
<td>IOC</td>
<td>Intergovernmental Oceanographic Commission (UNESCO)</td>
</tr>
<tr>
<td>IOCARIBÉ</td>
<td>IOC Sub-Commission for the Caribbean and Adjacent Regions</td>
</tr>
<tr>
<td>IZCM</td>
<td>Integrated Coastal Zone Management</td>
</tr>
<tr>
<td>MSR</td>
<td>Marine Scientific Research</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
</tr>
<tr>
<td>OAR</td>
<td>Regional Environmental Observatory</td>
</tr>
<tr>
<td>OBIS</td>
<td>Ocean Biogeographic Information System</td>
</tr>
<tr>
<td>OHI</td>
<td>Ocean Health Index</td>
</tr>
<tr>
<td>OTGA</td>
<td>OceanTeacher Global Academy</td>
</tr>
<tr>
<td>PPIS</td>
<td>Programmes, projects and initiatives</td>
</tr>
<tr>
<td>RTC</td>
<td>Regional Training Centres</td>
</tr>
<tr>
<td>SAP</td>
<td>Strategic Action Programme</td>
</tr>
<tr>
<td>SDG</td>
<td>Sustainable Development Goal</td>
</tr>
<tr>
<td>SICA</td>
<td>Sistema de Integración Centroamericana</td>
</tr>
<tr>
<td>TTT</td>
<td>Technical Task Team</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
</tr>
<tr>
<td>UNEP-CEP</td>
<td>Caribbean Environment Programme of the United Nations Environment Programme</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
</tr>
<tr>
<td>UNITAR</td>
<td>United Nations Institute for Training and Research</td>
</tr>
</tbody>
</table>