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INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

INFORMATION DOCUMENT

PROGRESS IN THE IMPLEMENTATION OF THE INTEGRATED COASTAL AREA MANAGEMENT (ICAM) STRATEGY, INCLUDING MARINE SPATIAL PLANNING AND LARGE MARINE ECOSYSTEMS

Summary. This Information document provides an overview of the activities implemented since the 27th Session of the IOC Assembly in 2013 by the Marine Policy and Regional Coordination Section in support of the ICAM programme strategy (endorsed by the IOC Assembly at its 26th session in 2011), including in the areas related to marine spatial planning and large marine ecosystems.

Introduction

Following the endorsement of the ICAM Strategy (Document IOC-XXVI/2 Annex 11), the Assembly at its 26th Session endorsed the following three programmes objectives for the IOC/ICAM Programme:

> **[O1] Increase collective capacity to respond to change and challenges in coastal and marine environments through further development of science-based management tools such as Integrated Coastal Area Management, Marine Spatial Planning, Ecosystem-Based Management, and the Large Marine Ecosystem Approach;**
>
> **[O2] Build on IOC's and UNESCO's coastal programmes in developing Member States' capacity in the application of ecosystem-based management tools; and**
>
> **[O3] Promote the integration of climate change adaptation and coastal hazards preparedness through the use of area-based management approaches.**

Despite the significant cut in Regular Programme funding for the 2014–2015 biennium (reduction by 75% compared to pre-2011 biennia), the ICAM programme has been able to maintain a number of activities supported through extra-budgetary resources. In the following section, under each objective, a description of achievements and future activities is provided.

[O1] Increase collective capacity to respond to change and challenges in coastal and marine environments through further development of science-based management tools such as Integrated Coastal Area Management, Marine Spatial Planning, Ecosystem-Based Management, and the Large Marine Ecosystem Approach

1. IOC's Marine Spatial Planning (MSP) Initiative: IOC continues providing guidance and training to most of MSP initiatives and is recognized as the leading international organization on MSP issues.

The IOC Guide "Marine Spatial Planning: a step-by-step approach towards ecosystem-based management" (IOC/2009/MG/53) has been used as the reference document to develop the new policy context in the European Union (Directive 2014/89/EU establishing the framework for maritime spatial planning) which is also an incentive to other regions in order to advance with their own marine spatial planning initiatives towards the blue growth. This guide has been made available in English, Chinese, Vietnamese, Portuguese and Russian, the Spanish version was launched in 2014 with the support of the Spanish Oceanographic Institute.)

A new IOC Guide on "Evaluating Marine Spatial Plans" (IOC/2014/MG/70) was published in December 2014 thanks to the support of the Moore Foundation. The new guide expands guidance on the practice of implementing monitoring and evaluation of MSP initiatives. As part of the project, examples of good practices of MSP performance monitoring and evaluation are being documented and made available on the IOC MSP Website. The guide is currently available in English and a Spanish version is in preparation.

In January 2015, the ICAM programme secured a fourth grant with the Moore Foundation to continue to advance the field of MSP. The new programme running over 2015–2017 will further advance practice of ocean planning or marine spatial planning (MSP) advances through: (1) documentation of ocean planning practice world-wide; (2) a summary of "lessons learned" from over 40-50 global initiatives and an online update of the IOC Guide to MSP (2009) through a remodelling of the IOC MSP website (http://www.unesco-ioc-marinesp.be) and joint publication on the OpenChannels website; and (3) the international network of MSP practitioners will be strengthened through the convening of the second international IOC conference on MSP in 2016.

2. Large Marine Ecosystems (LMEs)

Building on its experience in providing support to nations for the development of decision support tools for coastal management, IOC is bringing forward the latest knowledge in ecosystem-based management and relevant supporting data products and services to the Community of Large Marine Ecosystems projects.

The new GEF funded project "Strengthening Global Governance of Large Marine Ecosystems and their Coasts through enhanced sharing and application of LME/ICAM/MPA knowledge and information tools" (LME:LEARN), will take advantage of the experience gained by IOC in ecosystem-based management tools, capacity development interventions, and the development of data products and services (through IODE).

Building on its role as technical secretariat of the Annual LME Meeting, IOC will host the Project Coordination Unit of the recently approved LME: Learn project, in collaboration with UNDP, NOAA, ICES, IUCN, and Conservation International. The project is expected to start at the end of 2015.

The primary objectives of the Full-scale project during the implementation period (2015-2018) are the following.

1. Global and regional network of partners to enhance ecosystem-based management and to provide support for the GEF-IW LME/ICM/MPA projects to address MPA needs and incorporate climate variability and change.
2. Synthesis and incorporation of knowledge into policy-making, capture of best LME governance practices, and development of new methods and tools to enhance the management effectiveness of LMEs and to incorporate ICM, MPAs and climate variability and change including the five LME modules.
3. Capacity and partnership building through twinning and learning exchanges, workshops, and training among LMEs and similar initiatives (e.g., Seascapes).
4. Communication, dissemination and outreach of GEF LME/ICM/MPA project achievements and lessons learned.

With more than 12 GEF-supported LME projects in operations and that will benefit from the LME:Learn Project, this is a unique opportunity for engaging IOC programmes (global and regional) in supporting regional transboundary and ecosystem-based management initiatives.

[O2] Build on IOC's and UNESCO's coastal programmes in developing Member States' capacity in the application of ecosystem-based management tools; and

This objective is being met through the implementation of regional ICAM Projects, namely:

1. South Pacific Information and Data Management to support integrated coastal area management (SPINCAM):

SPINCAM was designed to establish a **framework of integrated coastal management indicators** at the national and regional levels in the countries of the South Pacific region (Chile, Colombia, Ecuador, Panama and Peru) focusing on the state of the coastal and marine environment and socio-economic conditions. The indicators and coastal spatial data available will be published in the form of **atlases and data repositories** at the national and regional levels, with the aim of supporting **future integrated coastal area management (ICAM) and development practices for sustainable use**.

SPINCAM I (2008–2012) focused on developing a harmonized approach to design a basic set of national indicators and reach agreement between the five countries involved to design a basic set of five common regional indicators and develop a common methodology for their implementation.

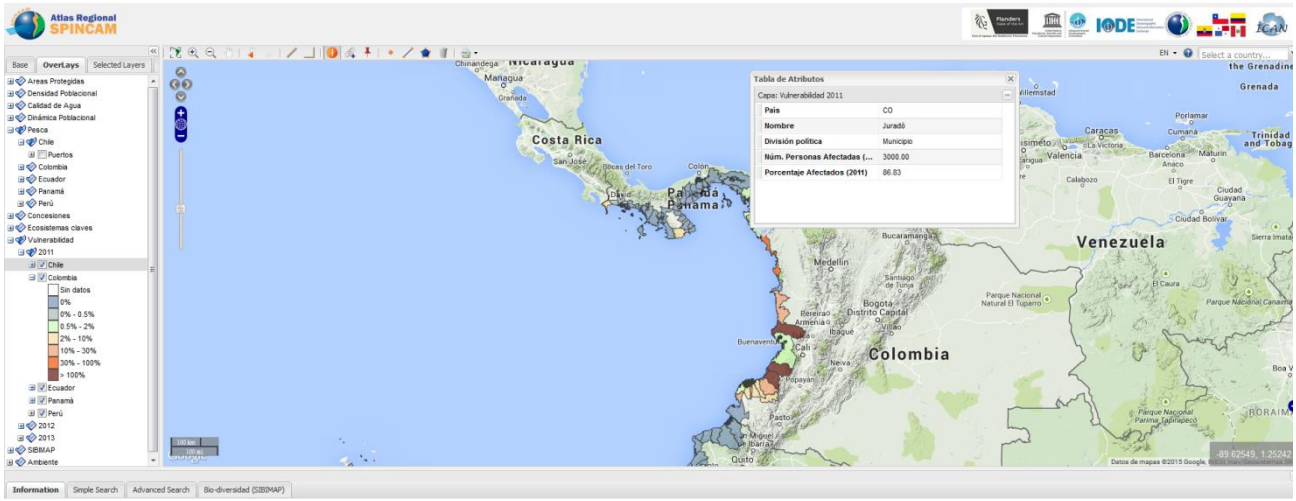
One of the objectives of the project was to build national and regional information systems to support the development of indicators, their spatial representation, and the dissemination of ICAM resources and experiences, including the communication strategy and format. Special attention was paid to communicating the data from the indicators to a broad public, ranging from technical personnel to the various stakeholder groups in coastal areas.

SPINCAM II (2012–2016) is supporting the implementation and sustainability of ICAM in the region. The partners consider that SPINCAM has highlighted the importance of national and regional coastal areas, contributing to a dynamic and up-to-date vision of coastal and marine resources. The second phase of the project supports national decision-making processes by identifying baselines and ecological and socio-economic trends in the use of coastal resources in order to define future strategies to deal with global changes.

www.atlasspincam.net

The countries involved in SPINCAM recognize the benefits of the project and the importance of this second phase, which is focused on formulating new regional indicators and consolidating the indicators previously identified. During this period, the updating of products and information has continued, including the integration of national indicators in the national atlases and intensive national capacity-building to implement information systems and products to support coastal and marine management.

From a global perspective, SPINCAM is providing an excellent opportunity to contribute to the establishment of an information mechanism on the state of the coastal and marine environment in the region, as required by the national reporting mechanism for coastal management in the region, in accordance with the Global Ocean Science Report (GOSR) and the regular process of the United Nations General Assembly through the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including socio-economic aspects.



In 2015, SPINCAM is implementing the pilot case studies at local scale in collaboration with national and local authorities of Algarrobo, El Quisco and El Tabo (Chile), Guapi (Colombia), Churute Ecological Reserve (Ecuador), Las Perlas Archipelago (Panama) and Piura-Bay of Sechura (Peru). The pilot case studies will contribute to develop the information needs and the tools to support local initiatives of integrated coastal area management by improving the involvement of relevant stakeholders and promoting the public participation, especially the young generations.

The proposal of continuing SPINCAM for a third phase involves a long-term strategy with a programme approach, for both coastal management and marine spatial planning in the Southeast Pacific, in recognition of the geographical coverage, magnitude and complexity of the environmental problems of the region's ocean and coasts in order to support sustainable growth of coastal, marine and maritime areas, recognizing the importance of these settings as drivers of the regional economy, with great potential for innovation and growth in line with the Convention for the Protection of the Marine Environment and Coastal Areas of the Southeast Pacific, commonly known as the Lima Convention.

The SPINCAM project is benefiting from the support of IODE with respect to the data and information management, the development of coastal and marine atlas through the support of the International Coastal Atlas Network (IODE Project) and capacity building activities through the OceanTeacher Global Academy and its regional training centers.

2. PEGASO (People for Ecosystem Based Governance in Assessing Sustainable Development of Ocean and Coast): The aim of PEGASO was to build on existing capacities and develop common novel approaches to support integrated policies for the coastal, marine and maritime realms of the Mediterranean and Black Sea Basins in ways that are consistent with and relevant to the implementation of the ICZM Protocol for the Mediterranean.

From 2010 to 2014, IOC led the development of a set of indicators for the implementation of the ICZM Protocol for the Mediterranean which are also widely applicable in the context of the implementation of Integrated Coastal Zone Management elsewhere. In the framework of the PEGASO project, IOC has been in charge of two main tasks: (i) developing a set of indicators for coastal and marine assessments; and (ii) developing an integrated regional assessment for the Mediterranean and the Black Sea.

PEGASO set of indicators, as a final product of the project, was linked to the ICZM policy objectives, and in the Mediterranean, to the ICZM Protocol for the Mediterranean Sea. The measurements of indicators in the application should be able to provide information around integrated coastal zone management plan objectives, e.g. how to increase the resilience of the coastal zone to natural hazards and climate change impacts rather than finding solutions for coastal erosion. PEGASO's set of ICZM indicators serve as not only a descriptive but also an analytical tool for the understanding of the coastal system, being it a region (the Mediterranean or the Black Sea), a country or a local coastal area. Twenty-six Indicators factsheets were developed and made available on the PEGASO website (www.pegasoproject.eu).

The second final product under IOC's leadership was the Integrated Regional Assessment (IRA) in English, French and Arabic (IOC/2014/TS/111). The PEGASO IRA was designed to address the complexity of multidimensional issues related to the coastal and marine environment of the Mediterranean and the Black seas with the specific objectives to:

(i) build an integrated and multidisciplinary approach based on best available information;

(ii) gain a better understanding of how human activities put pressure on and impact ecosystems and develop responses and policy options across scales and issues;

(iii) support future integrated assessments and inform policy in the context of the ICZM Protocol in the Mediterranean;

(iv) support relevant policy and decision-makers on the way towards the development of a similar legal instrument in the black sea.

3. AQUACROSS Project on assessing ecosystem services

AQUACROSS aims to support EU efforts to enhance the resilience and stop the loss of biodiversity of aquatic ecosystems as well as to ensure the ongoing and future provision of aquatic ecosystem services. It focuses on advancing the knowledge base and application of the ecosystem-based management (EBM) concept for aquatic ecosystems by developing cost-effective measures and integrated management practices. AQUACROSS considers the EU policy framework (i.e. goals, concepts, time frames) for aquatic ecosystems and builds on knowledge stemming from different sources (i.e. WISE, BISE, Member State reporting, modelling) to develop innovative management tools, concepts and business models (i.e. indicators, maps, ecosystem assessments, participatory approaches, mechanisms for promoting the delivery of ecosystem services) for aquatic ecosystems at various scales. It thereby provides an unprecedented effort for seeking synergies and overcoming barriers between policy objectives, concepts, knowledge, data streams, and management approaches for freshwater, coastal, and marine ecosystems to support the timely achievement of the targets set out by the EU 2020 Biodiversity Strategy and the Strategic Plan for Biodiversity (2012–2020) adopted at COP-10 of the Convention on Biological Diversity.

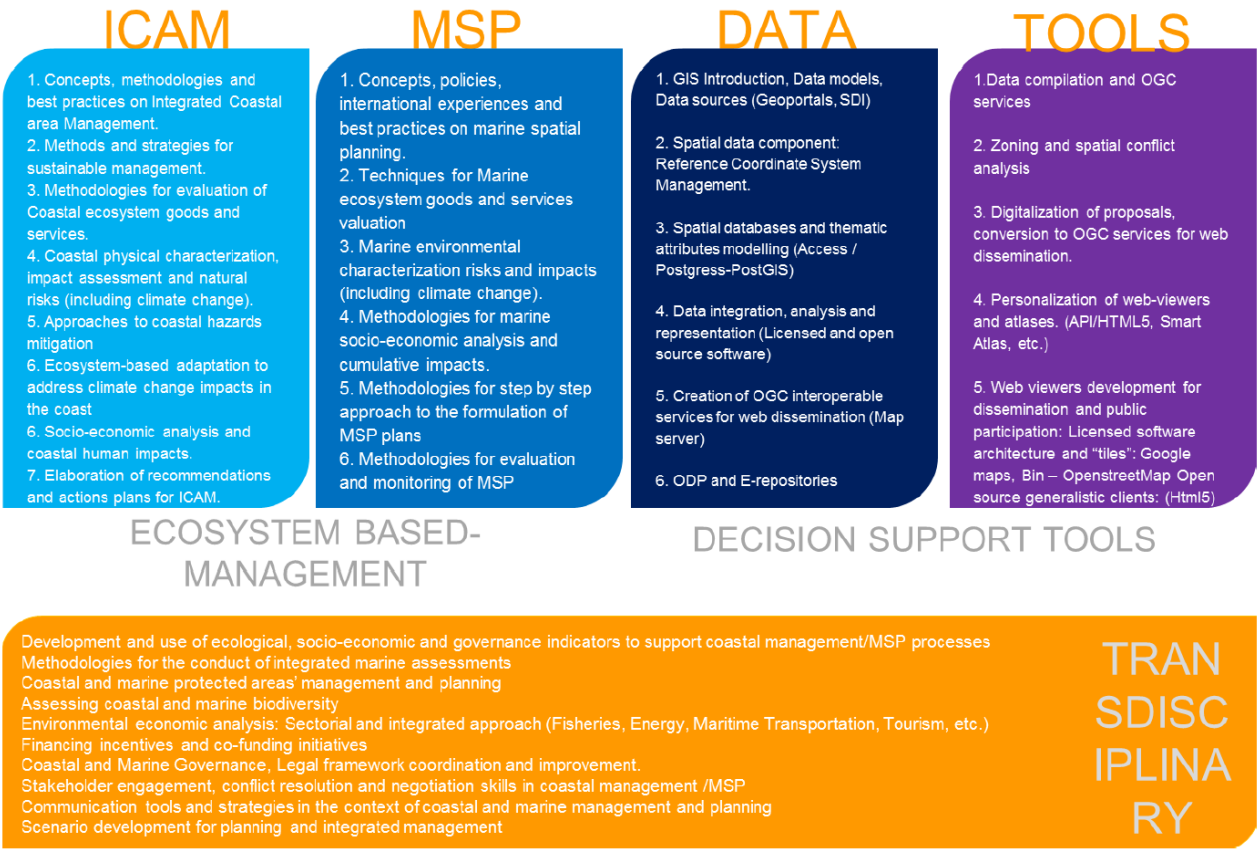
The main objectives of AQUACROSS are:

- To **support the coordinated implementation** of the EU 2020 Biodiversity Strategy and international biodiversity targets for an improved functioning of aquatic ecosystems as a whole;
- To explore, advance and support the implementation of the **EBM** concept across aquatic, ecosystems in the EU and beyond for the purposes of enhancing human well-being;
- To specifically identify and test **robust, cost-effective and innovative management and business models and tools** for seizing all the opportunities offered by aquatic ecosystems services that correspond to the objectives and challenges faced by stakeholders, businesses, and policy makers; and,
- To **mobilize policy makers, businesses, and societal actors** at global, EU, Member State, and case-study levels in order to learn from real-world experiences aligned to EU policy implementation and to co-build and test assessment frameworks, concepts, tools, management approaches, and business models, to ensure end-users' uptake of project results.

The role of IOC is to lead the coastal thematic area and the WP dedicated to design and implementation of the project's information platform considering our experience at programmatic level and our previous involvement in global projects such as the GEF – Transboundary Water Assessment Programme (Large Marine Ecosystem Component). IOC-UNESCO will also lead the implementation of a pilot case study on the analysis of transboundary water ecosystems and green/blue infrastructures in the Intercontinental Biosphere Reserve of the Mediterranean Andalusia (Spain) – Morocco. The pilot case study will identify the major drivers and pressures of the study site, which will include water management and planning, transboundary fragmentation of water bodies, pollution, water uses, water prices, illegal extraction, drought and water scarcity. A set of indicators will be identified to assess the provision of ecosystem services across the Biosphere Reserve, which can be applied to the 20 diverse natural protected sites in both Andalusia (Spain) and Morocco. Green and blue infrastructures will be further extended as nature-based management solutions in the Mediterranean context and the Strait of Gibraltar.

4. Capacity development activities

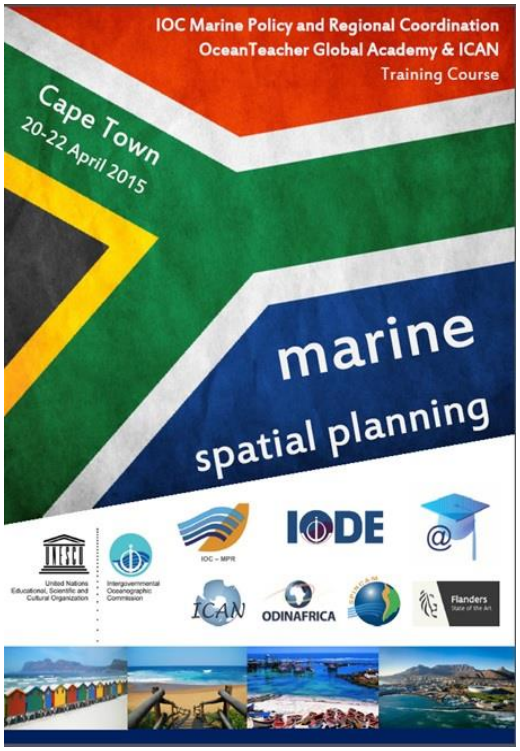
Guidelines, training materials and tools have been developed to support the institutional processes on integrated coastal area management and marine spatial planning. The modules presented in the figure below highlights the four main capacity development needs identified in relation to ICAM, MSP, data/information and tools as decision support systems. Additionally, other transdisciplinary activities could be considered attending the needs of each Member State with respect to the stakeholder community. These are used to guide the capacity development interventions of the MPR section.



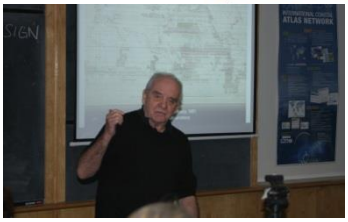
In terms of capacity development, since July 2013 the IOC/ICAM programme is providing support in the organization of training activities related to ICAM and MSP in Spanish, English and Portuguese, involving national partners of IOC projects and key relevant experts from the large marine ecosystem community in Africa, Latin America and the Caribbean:

- Ocean Data Portal training course, Buenos Aires, Argentina, October 2013

- Workshop on coastal and marine indicators, Santa Marta, Colombia, December 2013
- Workshop on data/information management and visualization tools, Santa Marta, Colombia, December 2013
- Ocean E-repository training course, Guayaquil, Ecuador, May 2014
- Workshop on SmartAtlas, Coastal and Marine Research Centre – University College Cork, Ireland, May 2014
- Summer course: Planning and managing the coast and the ocean of the future (In Spanish, Portuguese and English), International University of Andalusia, Spain, July/August 2014
- University Expert Course on GIS and Internet Web Tools to support ICAM, MSP and Public Participation, International University of Andalusia, Spain, October-December 2014
- International Seminar on Marine Spatial Planning, Ministry of Environment of Brazil, Brasilia, Brazil, November 2014
- Workshop on Data management and visualization tools, Guayaquil, Ecuador, December 2014
- Workshop on Communication needs and the communication strategy of SPINCAM, Guayaquil, Ecuador, December 2014
- OceanTeacher/MPR training course on marine spatial planning in the context of the 7th International Coastal Atlas Network Conference, Cape Town, South Africa, April 2015
- OceanTeacher/MPR/INVEMAR training course on integrated coastal area management and marine spatial planning for local/national authorities, Santa Marta, Colombia, May 2015.



IOC UNESCO OceanTeacher & ICAN 7 Training Course on Marine Spatial Planning
Cape Town, South Africa, 20-22 April 2015



Additionally, the programme is contributing to the Erasmus Mundus Education Programme on Marine Spatial Planning led by the Universities of Venice (IT), Seville (ES) and Azores (PT) which is a two-year advanced professional master programme, in which the three mentioned Universities will prepare students to become specialists, providing a multi-disciplinary background – to enable them to operate both in public institutions as well as independent professionals or researches in policy formulation and planning strategies for the maritime space, to improve the management of

resources from an environmental, economic, social and legal perspective within the framework of maritime policies.

On the occasion of the IOC Sub-Commission for Africa and the Adjacent Island States session (IOCAFRICA, April 2015) and the IOC Sub-Commission for the Caribbean and Adjacent Regions session (IOCARIBE, May 2015), the MPR Section prepared a training proposal on integrated coastal area management, marine spatial planning and development of decision support tools.

[O3] Promote the integration of climate change adaptation and coastal hazards preparedness through the use of area-based management approaches.

Guide on Coastal Risk Reduction for Local Authorities: A Technical Working Group (TWG) was established in 2011, composed of natural and social scientists, coastal engineers and coastal zone managers. The Group was tasked with preparing a guide on Coastal Risk Reduction for Local Authorities. The guide represents a step-by-step approach on how to reduce coastal hazards risk in local communities with specific tasks and actions that will contribute to the assessment of coastal hazard risks, agree on actions to reduce these risks, implement these agreements and adjust efforts over time as circumstances change.

The group of experts have already completed the final draft and the launch is expected by the end of 2015. Support is provided by WMO, the Republic of Korea and the Government of Flanders (Belgium).

Financial and administrative aspects

In order to respond to the needs of IOC Member States, the IOC/ICAM programme will seek extra-budgetary resources to continue to facilitate training on marine spatial planning, particularly in the Mediterranean, Latin America and Caribbean, South and Southeast Asia, and Africa, building on the OceanTeacher MSP courses organized in Cape Town in April 2015.

Support will also be sought for organizing a *Second international conference on Marine Spatial Planning* proposed for 2015, a decade after the first conference organized by IOC to assess and celebrate progress.

A P3 staff secondment has been provided to the Secretariat by the Government of Flanders (Belgium) until June 2016 to assist with the implementation of current FUST projects, and other related coastal and marine initiatives.

New collaborations

Collaboration with IODE and the International Coastal Atlas Network (ICAN) will be increased in the context of SPINCAM-II project and wherever else possible, with regards to the development of marine atlases as decision support tools in ICAM and MSP.

Further collaboration with the UNESCO World Heritage Centre (WHC) is envisaged. IOC/MPR has prepared together with the WHC a project proposal on MSP in World Heritage sites and Marine Protected Areas: Securing the long-term sustainability of the world's top ocean locations in order to reinforce the expected result nº 102/Expected Result 8, the UNESCO Major Programme IV (Culture), Main Line of Action 1, ER1 on "Tangible heritage identified, protected, monitors and sustainably managed by Member States, in particular through the effective implementation of the 1972 Convention", and the Major Programme II (Natural Sciences), MLA3, ER6 on "Member States' institutional capacities reinforced to protect and sustainably manage ocean and coastal resources".

Collaboration with the UNESCO Man and Biosphere Programme, in the context of the Flemish funded project “Biosphere Reserves as a Tool for Coastal and Island Management in the Southeast Pacific Region (BRESEP), in which IOC has an important role in terms of ICAM, MSP and capacity development, will also be pursued.

The collaboration with the UNESCO International Hydrological Programme (Natural Science) will also be reinforced with the new GEF-funded project on LME Global Governance (LME:Learn), as a close and complementarity activity to the International Waters Learning Exchange and Resource Network Project (IW:Learn), to benefit from its rich history, and to feed LME information into IW:Learn for the continuation of the mission as portal for information on international waters (both freshwater, coastal and marine).

IOC/MPR has strengthened the collaboration with the Organization for Economic Co-operation and Development (OECD) with a clear contribution to the assessment of the ocean economy to 2030, with special emphasis on the development potential of emerging ocean-based activities, being ICAM and MSP the most adequate processes to lead the future of the ocean economy. As part of this collaboration, IOC has actively participated in the OECD workshop entitled “The future of maritime spatial planning and ocean monitoring: what potential for economic tools and satellite technologies” that was held in Lisbon, Portugal, 4-5 June 2015, in parallel to the Blue Week organized by the Ministry of Agriculture and Sea.

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