



**INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION**  
(of UNESCO)

**Thirty-third Session of the IOC Executive Council**  
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Agenda Item: 4.1.4

**OCEANS 21 DEVELOPMENT PLAN**

In the framework of the IOC-IGU Cooperation, a joint project *Oceans 21* has been established in 1999. It intends to contribute to the interaction between the natural and social processes involved in ocean and coastal studies. It will address the need to integrate the knowledge and information of the natural sciences with the social sciences that describe anthropogenic activities and pressure, profoundly affecting coastal areas and deep ocean. An integral part of the project will address the root causes and solutions in the framework of global changes, land use, demographics, education and training at all levels.

The Executive Council will be informed of the developments and planned activities, and will be requested to approve the development plan of the project, as presented in this document.



## I. BACKGROUND

1. In April 1997 an *ad hoc* workshop was held in Paris with the aim to identify main directions for future cooperation between the Intergovernmental Oceanographic Commission (IOC) and the International Geographic Union (IGU) and to organize a IOC-IGU joint seminar. One year later, in May 1998 a second meeting was held during the International Conference “*Education and Training on Integrated Coastal Area Management: the Mediterranean Prospect*” in Genoa, Italy in order to further discuss the joint seminar and finalize a tentative IOC-IGU cooperation programme.

2. Following the above workshops the joint seminar on “*The Role of Ocean Science and Geography in Facing Ocean Management for the 21<sup>st</sup> century*” was organized between the IOC and the IGU, in September 1998, Sagres, Portugal. The seminar was organized in the framework of the *1998 International Year of the Ocean*, with the intention to design a cooperation programme involving IOC and IGU which would focus on the interaction between coastal and ocean ecosystems and the socio-economic factors. The objectives of the cooperation are to be defined in relation to *Agenda 21*, Chapter 17 and in view of this, will aim at implementing and complementing the existing IOC and IGU programmes. The output of the seminar was a draft Memorandum of Understanding (MOU) between IOC and IGU, and a comprehensive project called ***OCEANS 21***, focusing on issues related to Integrated Coastal Area Management, where IOC should contribute with its marine expertise and the IGU with the socio-economic aspects. **Five major areas of work were defined** as forming the basis for Oceans 21 project:

- (i) **Inter-disciplinary Approaches to an Integrated Coastal Management Science Plan**-interaction between climate change-triggered processes and globalization of economic and social contexts in coastal areas and expected impacts on coastal management patterns;
- (ii) **Marine Scientific and Technological Information System for Integrated Coastal Management** - data collecting and processing in an inter-disciplinary perspective, data banks integrating natural and social information, management-oriented information systems on coastal areas;
- (iii) **Methodology Development in Support of Integrated Coastal Management**-conceptual and methodological backgrounds on coastal systems, methodological approach to coastal management, methodological approach to coastal planning, the use of scientific data by managers and social groups;
- (iv) **Coastal and Deep Ocean Monitoring System for Integrated Coastal Management**-monitoring and evaluation of coastal systems and management patterns, monitoring and evaluation of deep-ocean uses;
- (v) **Training, Education and Mutual Assistance in Marine Science** - background education for integrated coastal management, training on coastal management sectors and special concerns, long-term education, distance learning-based educational tools.

3. In October 1998, a smaller meeting was held with the aim to review the Programme and to formulate a Background Science Plan which should include the five core projects, as well as to finalize the MOU and identify and organize the 1<sup>st</sup> Steering Committee meeting.

4. The MOU between IOC and IGU was signed in December 1998. Following this the First Steering Committee Meeting was held in Paris, in May 1999. The meeting resulted in the identification of sub-projects for the *Oceans 21* Programme and the recommendation to establish an

Advisory Committee. In December 1999, a smaller meeting was held in Paris in order to discuss the follow-up of the Steering Committee meeting. The Scientific Background Plan had been reviewed and accepted.

## **II. PROGRAMME**

### **Description**

5. *Oceans 21* was designed to develop research, management ability and professional skills focusing on the interaction between human communities and ecosystems in both the coastal areas and deep-ocean. It is marked by two basic distinctive features: the holistic view of the coastal and ocean systems, and the inter-disciplinary approach. In this perspective, *Oceans 21* is intended as filling the gap between the physical and biological science on the one hand, and the social sciences on the other in designing and implementing management approaches. Hence, this programme has self-evident complementary roles with both the programme frameworks of intergovernmental organizations, particularly IOC, and the research programmes convened in the context of ICSU (International Council for Science) and ISSC (International Social Science Council).

6. *Oceans 21* is essentially addressed to decision-makers, managers and planners. As a result, most expected outcomes consist of guidelines and technical tools. Nevertheless, Project I is intended to bridge practice with theoretical and logical backgrounds with the final objective of contributing to effective inter-disciplinarity. The following structure has been established for the project.

#### **Project I – *Achieving Inter-disciplinary in ICM Research***

- I.1 Approach to ecosystem management
- I.2 Approach to aquifers' management
- I.3 Approach to sea-level rise

#### **Project II – *Marine Scientific and Technological Information Systems for ICM***

- II.1 Ocean information system
- II.2 Coastal management case studies
- II.3 World coastal management programmes
- II.4 Coastal GIS Implementation and Data Bank

#### **Project III – *Methodology Development in Support of ICM***

- III.1 Methodological guide to integrated coastal management
- III.2 Guidelines to key coastal management sectors
- III.3 Guidelines to special coastal management issues
- III.4 Guidelines to special coastal management areas
- III.5 Coastal use structure analysis and mapping
- III.6 Coastal area mapping and zoning techniques

#### **Project IV – *Coastal and Deep-ocean Monitoring Systems***

- IV.1 Deep-ocean resource development
- IV.2 Coastal ecological impact valuation
- IV.3 Coastal organizational impact valuation
- IV.4 Coastal social impact valuation
- IV.5 Coastal management efficiency valuation

#### **Project V – *Training, Education and Mutual Assistance in Marine Science for ICM***

- V.1 Training workshops on ICM

- V.2 National workshops on ICM
- V.3 Training special courses
- V.4 Distance learning courses
- V.5 Manuals on ICM

7. *Oceans 21* will also focus on a special research area, as defined in 1999, in the context of the IOC-SOA International Workshop "*Challenges of Growing Urbanization of the World's Coastal Area*" (Hangzhou, China). In particular three topics will be examined: (i) integrated planning of urban coastal areas; (ii) education, training and public awareness in coastal cities; and (iii) the establishment of a network of large coastal cities.

8. According to its key scope, *Oceans 21* will essentially deal with the local scale, in which coastal managers and planners are involved, and the national scale on which master plans and states' regulations are based. The regional (multinational) scale will only occasionally be taken into account. The approach will be essentially concerned with the natural and human processes which have involved coastal and deep-ocean areas by the mid 20<sup>th</sup> century. Scenarios will be essentially referred to the mid 21<sup>st</sup> century.

### **Outputs and products**

9. The main **outputs** of *Oceans 21* will consist of:

- knowledge systems for decision-makers, managers and planners;
- conceptual, methodological and technical backgrounds on integrated coastal management;
- professional skills for decision-makers, managers and planners.

10. These kinds of **products** are expected:

- scientific events;
- educational and training courses;
- books (manuals and proceedings);
- journals;
- web sites;
- distance learning systems;
- CD-ROMs.

### **III. OCEANS 21 DOSSIERS**

11. In order to implement the preparation of educational and management tools on the subjects included in the *Oceans 21* Programme, it was proposed to extend the *Oceans 21* Programme by designing a series of **Dossiers** with general and special issues on ICAM. The purpose of these Dossiers is to invite scientists worldwide to publish their research, results and points of views within the sub-projects of *Oceans 21*.

12. *Oceans 21 Dossiers* are expected to be implemented through the following products:

**Education**—Manuals and textbooks on fundamentals, sectors and issues and technical tools on integrated coastal management. They will be included in the *Oceans 21 Dossiers Coastal Education series*, and will be circulated by IOC and IGU.

**Management**—Technical papers presenting guidelines and tools for integrated coastal management. These materials will be included in the *Oceans 21 Dossiers Coastal Management series* and will be circulated by IOC and IGU.

**Scientific events**—Conferences, workshops and other scientific events, focusing on the subject areas of Oceans 21. The subsequent reports will be circulated by IOC and IGU in both hard and electronic formats.

**Coastal urbanization**—This subject area will be dealt with according to the Hangzhou *Final Declaration*, namely by dealing with coastal planning, including waterfront revitalisation, implementation of coastal management awareness, and establishing coastal cities networks.

Dossiers' users:

- (i) education and training academic and extra-academic institutions and organizations;
- (ii) managers and planners;
- (iii) governmental agencies and local authorities.

Series Formats - *Dossiers* will be published by IOC/UNESCO and will be presented as a joint IOC-IGU initiative in the framework of the *Oceans 21* Programme. They will be available in:

- hard copy;
- electronic format (CD-ROM);
- <<http://www.nos.noaa-gov/icm>>.

Promotion of the *Dossiers* series will be made through linked web sites.

The Dossier setting - Each *Dossier* will consist of 128 pages and include the following chapters:

- Chapter 1 - The issue (presentation of the subject)
- Chapter 2 - Exploring literature (consideration of the key conceptual and methodological references, and contributions on technical aspects, such as GIS)
- Chapter 3 - Looking at experience (consideration of selected case studies)
- Chapter 4 - Optimising approaches (presentation of guidelines)
- Chapter 5 - Technical Appendices

#### IV. INTERNATIONAL PARTNERSHIP

13. *Oceans 21* benefits from the partnership of:

- International Geographical Union, Commission on Coastal Systems;
- Center for the Study of Marine Policy, Delaware University, Newark, Delaware, USA;
- International Centre for Coastal and Ocean Policy Studies (ICCOPS), Genoa, Italy;
- US/EU Consortium for Transatlantic Cooperation in Marine Policy and Coastal Management Education.

#### The ICCS prospect

14. Following the final declaration adopted by the International Conference “*Education and Training in Integrated Coastal Management*” (Genoa, Italy), the International Centre for Coastal Science (ICCS) was designed as a body able to convene courses addressed to persons from developing countries. The ICCS is expected to be established in Genoa benefiting from local funds,

and to cooperate with the *Oceans 21* implementation. It was designed with the aim of operating in the spirit and according to the scientific plan of *Oceans 21*.

## 5. FUNDING

15. At this stage *Oceans 21* does not receive any core financial allocation from IOC nor from IGU.

16. During the period 1998-2000, IOC through its ICAM programme has financially contributed to the organization of the Sagres Seminar, the 1<sup>st</sup> Steering Committee, and support of interns, up to a total amount of US\$18,000. In addition the *Oceans 21* Secretariat is hosted by IOC, and is therefore benefiting from existing facilities and human resources at Headquarters.

17. The IGU 1998-2000 participation in the *Oceans 21* programme has benefited from Italian resources, which have been used for (i) dealing with the ordinary costs (phone, fax, letterhead, conventional mail, and others), and for (ii) the publication of the *Oceans 21* leaflet. This fund is estimated 5,500 Euros. The 1998 book *Geography, Oceans and Coasts towards Sustainable Development* was published with funds from the IGU General-Secretary.

18. It is expected that pro-active efforts will be made in order to secure funding from external donors.

## VI. OCEANS 21 ORGANIZATION

19. At the IOC-IGU Sagres Seminar in 1998, the 26 participants representing the IOC and IGU research communities (from Spain, Italy, Canada, Philippines, USA, Netherlands, India, Japan, China, Senegal, U.K., France, Germany, Norway, Portugal) appointed the IOC technical secretary for ICAM and Prof. Vallega, IGU Vice-Chair as co-ordinators of the *Oceans 21* project. They also appointed the following steering committee:

### *Oceans 21 steering committee*

#### **For IOC:**

*Prof. Biliana Cicin-Sain, USA*  
*Prof. Ulf Lie, Norway*

#### **For IGU:**

*Prof. Pieter G.E.F. Augustinus, Netherlands*  
*Dr. Hance D. Smith, U.K.*

In January 2000, the following Advisory Committee was established:

### *Oceans 21 Advisory Committee*

#### **For IOC:**

*Geoff Holland, Canada*  
*Maria Snoussi, Morocco*  
*Prakash Sinha, India*  
*Richard Delaney, USA*  
*Yves Henocque, France*  
*Miguel Fortes, Philippines*

#### **For IGU:**

*Rod Gerber, Australia*  
*Michael Hall, New Zealand*  
*Yukio Himiyama, Japan*  
*Vladimir Kolossov, Russian Federation*  
*Jacques Marcadon, France*  
*Alain Miossec, France*

The Advisory Committee will be invited to give opinions on the individual questions that the programme co-ordinators and/or the steering committee could pose. It will serve as technical back stopping for the sub-project implementation.



**APPENDIX**

**Oceans 21 Implementation  
1999 - 2000**

<b>Time</b>	<b>Action/event</b>
1999, February	Appointment of the six IGU members of the Oceans 21 Advisory Commission
1999, May	Paris, First meeting of the Oceans 21 Steering Committee
1999, December	Paris, Meeting of the Oceans 21 co-ordinators. Meeting with Mr Patricio Bernal, Executive Secretary of IOC
1999, December	Appointment of the six IOC members of the Oceans 21 Advisory Committee
2000, Jan.-Feb.	Call for collaboration with Oceans 21, particularly with Dossiers, circulated by IGU
2000, February	Publication of the Oceans 21 leaflet
2000, February	Activation of the IGU-Oceans 21 web site including the key materials of Oceans 21
2000, February	Activation of the Oceans 21 e-mail list
2000, March	Initial positive replies to Dossier call for collaboration
2000, March	The project of the International Centre for Coastal Science (ICCS) was presented to local institutions in Genoa, in order to be funded
<b>Next Steps</b>	
2000, April	London, Greenwich, presentation of Oceans 21 in the international conference "The ocean at the millennium"
2000, June	Paris, UNESCO, Presentation of Oceans 21 in a Conference of French geographers
2000, June	Rome, Presentation of Oceans 21 in the 28 <sup>th</sup> Italian Geographical Congress (attended by members of the IGU Executive Committee)
2000, June	Presentation of Oceans 21 in the IOC Executive Council
2000, June-July	Paris, IOC, Internship of Mr Stefano Belfiore to implement the programme
2000, August	Seoul, Presentation of Oceans 21 in the 29 <sup>th</sup> International Geographical Congress
2000, August	Seoul, Meeting of the IGU members of the Steering and Advisory Committees
2000, September	St. Petersburg, Presentation of the Oceans 21 in the international conference on coastal management. Meeting of the Oceans 21 Steering Committee