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(of UNESCO)

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Items **4.1, 4.2, 6.1** of the Provisional Agenda

DRAFT IOC MEDIUM-TERM STRATEGY FOR 2014–2021

Summary

This document contains the draft IOC Medium-Term Strategy for 2014–2021 as prepared by the Secretariat in consultation with the open-ended Intersessional Financial Advisory Group.

Decision: Following the discussion in the plenary, this document will be examined by the statutory open-ended Financial Committee and the decision reflected in the Resolution that the Financial Committee will submit for adoption by the Assembly in accordance with paragraph 15 of the draft revised guidelines for the preparation and consideration of draft resolutions.

1. INTRODUCTION

1. The last decade demonstrated an increased understanding of the importance of the oceans as a source of life, and the realization that building regional know-how is essential for facilitating solving regional economic and social problems.

2. The IOC has a recognized and unique role in the UN system in relation to ocean science and the science base for ocean management. Its status as a body with functional autonomy within UNESCO has been carefully designed to provide an efficient platform for coordination, information and sharing of knowledge to contribute to sustainable and peaceful development.

3. The current financial situation for UNESCO and IOC/UNESCO is difficult. When designing a medium-term strategy, it is crucially important to have a realistic appreciation of the possibilities and limitations within available budgets. Continued emphasis on coordination, exchange, initiation of activities and strengthening of key functions is required, while implementation to a large degree has to be done in collaboration with other organizations and entities. This is challenging and demanding and will require key inputs from Member States in collaboration with the IOC Secretariat.

4. The strategy will be valid for 8 years to be consistent with the new UNESCO medium term planning context which also includes four-year programme cycles. In line with the IOC mission statement, a vision for the period 2014–2021 is formulated below based on perceived societal needs, emerging issues, and requirements for intergovernmental coordination. The Rio+20 Conference[1] and the Oceans Compact[2] has provided very useful and timely context for the role of IOC as expressed in this strategy and its high-level objectives.

"We recognize that oceans, seas and coastal areas form an integrated and essential component of the Earth's ecosystem and are critical to sustaining it..."

The future we want – Outcome of the UN Conference on Sustainable Development - Rio +20

2. MISSION STATEMENT

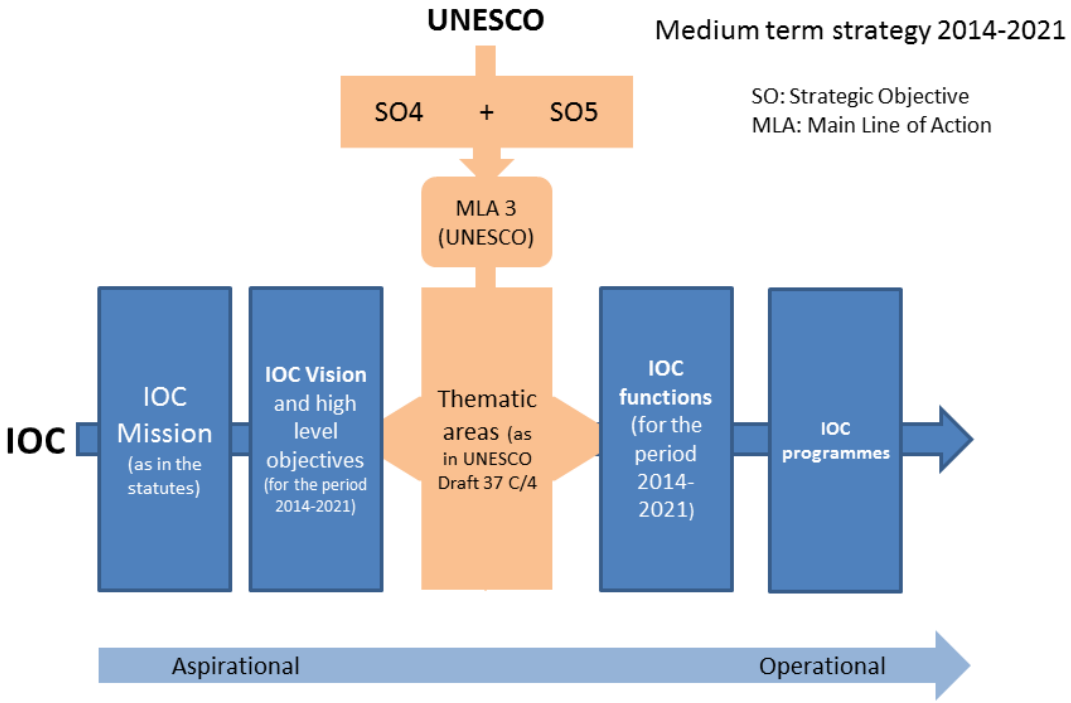
5. The present statutes of the IOC, which came into force through adoption by the General Conference of UNESCO of 30 C/Resolution 22 of 16 November 1999, give the mission of the Commission as follows:

> *Article 2 – Purpose*
>
> *The purpose of the Commission is 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.*
>
> *The Commission will collaborate with international organizations concerned with the work of the Commission, and especially with those organizations of the United Nations system which are willing and prepared to contribute to the purpose and functions of the Commission and/or to seek advice and cooperation in the field of ocean and coastal area scientific research, related services and capacity-building.*

[1] http://sustainabledevelopment.un.org/futurewewant.html
[2] http://www.un.org/Depts/los/ocean_compact/oceans_compact.htm

6. The IOC, established in 1960 as a body with functional autonomy within UNESCO, is the only competent organization for marine science within the UN System. In addition, IOC is recognized through the United Nations Convention on the Law of the Sea (UNCLOS) as the competent international organization in the fields of Marine Scientific Research (Part XIII) and Transfer of Marine Technology (Part XIV).

7. Consistent with the mission statement above, the IOC Medium-Term Strategy (MTS) 2014–2021 is derived from a vision guiding the high-level objectives, programmes, and also actions and activities to be detailed in each subsequent biennial programme and budget. The strategy including its objectives will also fulfill IOC's role as a main line of action (MLA) of UNESCO and respond to the relevant UNESCO Thematic areas of expected results, as given in the UNESCO Medium-Term Strategy (37 C/4[3]) (see figure below):



[3] Draft UNESCO Medium Term Strategy (37 C/4 document) is available at http://unesdoc.unesco.org/images/0022/002200/2200031e.pdf

3. PROPOSED IOC VISION FOR 2014–2021

Vision:

Strong scientific understanding and systematic observations of the changing world climate and ocean ecosystems shall underpin global governance for a healthy ocean, and global, regional and national management of risks and opportunities from the ocean.

8. More specifically, through international cooperation, IOC aspires to help its Member States to collectively achieve the following high-level objectives (HLOs), with particular attention to ensuring that all Member States have the capacity to meet them:

1. Healthy ocean ecosystems and sustained ecosystem services
2. Effective early warning systems and preparedness for tsunamis and other ocean-related hazards
3. Increased resiliency to climate change and variability and enhanced safety, efficiency and effectiveness of all ocean-based activities through scientifically-founded services, adaptation and mitigation strategies
4. Enhanced knowledge of emerging ocean science issues

9. *Objective 1:* Identifying robust indicators of ocean status, and locating their tipping points[4] relative to marine ecosystem functioning, are important in the prediction or early detection of changes in ecosystem states, and in the evaluation of ecosystem resilience. Such knowledge and analytical tools will be very valuable in ocean management in general, and in placing management of single sectors into an ecosystem-based approach. The local and regional capacities, in terms of knowledge and tools, are also central for understanding how much an ecosystem can be stressed before it moves to other states from which recovery may be difficult. Current research on these topics is still piecemeal and needs coordination.

10. *Objective 2:* The ultimate objective of this HLO is to reduce risk, by encouraging communities to implement effective mitigating measures and become aware of the hazards they face. As coastal development continues at a rapid pace, society is becoming increasingly vulnerable to coastal flooding and other extreme sea-level events such as tsunamis. Ensuring that nations have access to the necessary information for coastal adaptation planning is dependent on continued progress in the implementation of tsunami and ocean observing systems, improvements of models of the climate systems and the development of local decision support tools.

11. *Objective 3:* Climate variability and change impact many elements on which human well-being depends, modifying patterns of rainfall and drought, sea-level and coastal erosion, and through temperature changes and ocean acidification, adding stress to ecosystems and impacting on the goods and services they provide. Thus, human development goals including food security, access to water resources, and preparedness and resilience to disasters are threatened. It is known that the ocean plays a key role in climate; IOC will therefore assist its Member States in developing capacity so as to enable them to develop and improve climate impact mitigation and adaptation strategies that are based on growing scientific knowledge.

[4] A tipping point is understood as the point when a system changes from one stable state to another stable state. After a tipping point has been passed, a transition to a new state occurs. The tipping event may be irreversible.

12. *Objective 4:* A broad range of emerging environmental issues such as new contaminants, invasive species, marine renewable energies, the expansion and intensification of uses of marine resources, cumulative effects of human maritime activities, etc., jeopardize the conservation and sustainable use of marine spaces and ecosystems. Our understanding of the opportunities and of the changes that are occurring within the Ocean, including the deep sea, in relation to these new activities is still forming and more scientific research, technical analyses and syntheses of scientific information are needed to effectively address these emerging issues, inform policy, and advance solutions in a timely and transparent manner.

4. RELATION TO UNESCO'S 37 C/4

13. As explained above, the IOC Medium-Term Strategy shall also respond to Strategic Objectives 4 and 5 of UNESCO Major Programme II (Science for peace and sustainable development):

> UNESCO Draft 37 C/4 Strategic Objective 4: Promoting the interface between science, policy and society and ethical and inclusive policies for sustainable development.

as well as

> UNESCO Draft 37 C/4 Strategic Objective 5: Strengthening international science cooperation for peace, sustainability and social inclusion,

and contribute primarily to the following Expected Outcomes:

- UNESCO leadership and contributions in the field of science for sustainability recognized in the post-2015 UN Development Agenda
- Effective partnerships operational for freshwater, terrestrial ecosystems, biodiversity and the ocean to underpin the post-2015 development agenda
- Policy-makers and relevant stakeholders enabled to take policy decisions drawing on interdisciplinary scientific knowledge base for sustainable development
- Ocean science and global, regional and national capacities for the management of ocean-related risks improved
- Disaster risk reduction strategies developed and implemented by Member States in all regions based on scientific and social factors

14. IOC programmes will also contribute to the achievement of UNESCO's Global Priorities: Africa and Gender.

15. **UNESCO Global Priority Africa:** Africa is an overarching priority and IOC will ensure that it is mainstreamed in all its programmes and that it is reflected in the performance indicators. The importance given to Africa is reflected in the recent creation of the IOC Sub-Commission for Africa and Adjacent Island States (IOCAFRICA) and the appointment of a full-time Secretary to the sub-commission. Since its launch in 2012, the sub-commission has held two meetings and developed a strategic plan. IOCAFRICA has received both cash and in-kind support from Member States which will be further mobilised to ensure the success of IOCAFRICA. In addition, programmes will be further decentralised to ensure proximity to Member States.

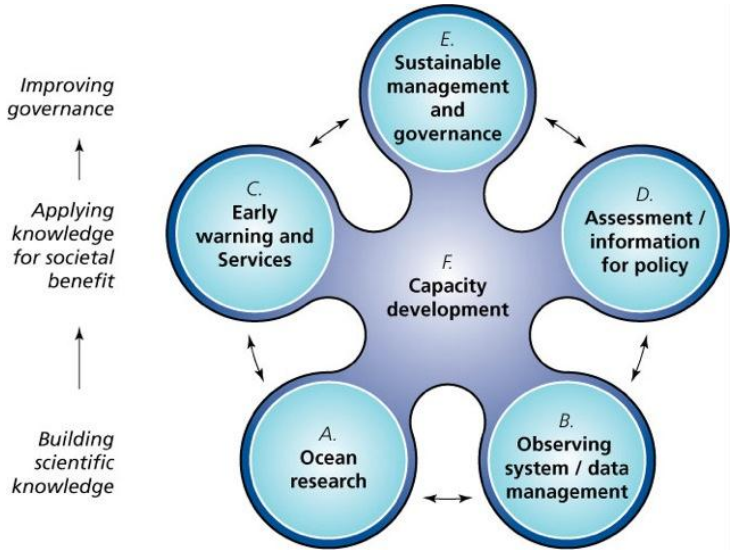
16. **UNESCO Global Priority Gender:** UNESCO's approach for Global Priority Gender Equality is built on two main axes: gender-specific programming, focusing on women's and men's social, political, and economic empowerment, and mainstreaming gender equality considerations in the Organization's policies, programmes, and initiatives. The IOC contribution to Global Priority Gender Equality will focus in particular on one of the foreseen actions, which is to ensure that international science cooperation for peace and sustainability allows for representation and voice for women and men, and that conditions for both women and men to be agents of mitigation,

adaptation, resilience and sustainability are provided. IOC is committed to promoting the equal presence of men and women in the marine sciences community, as well as to encouraging activities to include women in marine sciences through effective measures and policies and promoting role models for young women.

5. THE IOC MEDIUM-TERM STRATEGY

17. When working towards the high-level objectives, IOC will focus on the broad areas of:

- strengthening scientific knowledge of the ocean and human impact on it,
- applying that knowledge for societal benefit, and
- building institutional capacities for sound management and governance



18. The strategy is organized in a conceptual framework of *functions* required to advance towards the IOC Vision:

A. Foster research to strengthen knowledge of ocean and coastal processes and human impacts upon them *[Ocean research]*

B. Maintain, strengthen and integrate global ocean observing, data and information systems *[Observing system / data management]*

C. Develop early warning systems, services, and preparedness to mitigate the risks of tsunamis and ocean-related hazards *[Early warning and services]*

D. Support assessment and information to improve the science-policy interface *[Assessment and Information for policy]*

E. Enhance ocean governance through a shared knowledge base and improved regional cooperation *[Sustainable management and governance]*

F. Develop the institutional capacity in all of the functions above, as a cross-cutting function *[Capacity Development]*

19. These functions correspond broadly to existing and on-going IOC programmes, components of programmes and mechanisms of cooperation, such as the Global Ocean

Observing System (GOOS), the Joint Technical Commission for Oceanography and Marine Meteorology (JCOMM) and the International Oceanographic Data and Information Exchange (IODE), the Ocean Biogeographic Information System (OBIS), the Tsunami Intergovernmental Coordination Groups (ICGs), World Climate Research Programme (WCRP) and the Ocean Sciences programme, Integrated Coastal Area Management (ICAM), Harmful Algal Blooms (HAB), and Capacity Development (CD). Calling out these functions therefore simplifies Member State engagement in the programmes of the Commission, and makes the programme and budget exercise more transparent.

20. All of these *functions* contribute in varying measures to the high-level objectives of the IOC Vision, a relationship that can be described in a matrix showing the contribution of each function to the objectives:

Functions / HLOs	A. Ocean research	B. Observing system / data management	C. Early warning and services	D. Assessment and Information for policy	E. Sustainable management and governance	F. Capacity Development
1. Healthy ocean ecosystems						
2. Early warning for ocean hazards						
3. Resiliency to climate change and variability						
4. Enhanced knowledge of emerging issues						

	contribution
	strong contribution

21. *Functions contributing to objective 1*: In order to generate the knowledge relative to marine ecosystem functioning at the appropriate time scale and resolution, it is essential to build capacity and a globally managed and quality controlled knowledge base. The strategy will therefore include: coordination of essential research on ocean ecosystem health; extension of the Global Ocean Observing System to biology and ecosystem variables; a focus on strengthening the existing IODE global network of data (and information) centres including the Ocean Biogeographic Information System (OBIS), with an emphasis on data/information product/service development contributing to continuous monitoring of the identified indicators; support to the World Ocean Assessment and other related processes; and development of capacity to ensure strong science-policy interfaces in ocean management.

22. *Functions contributing to objective 2*: In terms of early warning systems and preparedness for tsunamis and ocean-related hazards, the strategy will focus on four areas: (i) support for the intergovernmental coordination of regionally harmonized tsunami warning systems; (ii) strengthening the work of regional Tsunami Information Centres that provide a clearinghouse for the development of educational and preparedness materials; (iii) targeted capacity development and technical assistance to enhance Member States own ability to develop preparedness and

awareness in a multi-hazard framework; and (iv) support for enabling research and policy development that lead to improved tsunami and ocean-related warning systems and preparedness.

23. *Functions contributing to objective 3*: IOC will address the objective of increased resiliency to climate change and variability through scientifically-founded services, adaptation and mitigation strategies with an end-to-end effort that:

- begins with an ocean observing system sustainably monitoring the major global scales of climate (both physics and ocean carbon), building readiness and capacity in providing local information required in adaptation at the coast and to address the impact of climate change and ocean acidification on marine and coastal ecosystems, and linked to a data management system built on global standards and best practices,
- coordinates ocean climate research that improves predictability of climate variability and change and builds a knowledge base on linked ocean ecosystem changes and adaptation strategies,
- partners in the Global Framework for Climate Services and informs IOC and other assessment processes, and
- applies the scientific knowledge base to improve regional management and governance of climate adaptation and mitigation strategies, building capacity through demonstration projects and shared tools.

24. *Functions contributing to objective 4*: In order to identify and monitor emerging issues it will be essential to coordinate scientific research and call out these issues in a way that can be communicated to policy.

25. Strengthened and expanded ocean observation and associated global data/information management systems will support the research in emerging issues. Resolving conflicts among the numerous existing and emerging uses of the maritime domain represents a challenge. To properly address these issues and to use the results of the research effectively requires improved international collaboration. It will also be essential for negotiation capacities to be built in Member States so that they are able to bring emerging national and regional issues for consideration in UN and other intergovernmental fora.

6. IOC WITHIN THE UN SYSTEM

26. IOC is part of the UN system and collaborates with other intergovernmental and international entities. While it will lead in the coordination and execution of a number of programmes that contribute to its *functions*, it will also work in existing and new partnerships across the UN system. This will be particularly true where ocean science and services are only one piece of a larger whole.

27. IOC is recognized for its recent major contributions to two fundamental blueprints of the global development agenda: *The Future We Want*, which is the outcome document of the Rio+20 Conference, and the UNSG's *Oceans Compact*. IOC contributes also to the programmes of work of the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD). IOC was instrumental in establishing the United Nations World Ocean Assessment (WOA) (Regular Process for Global Reporting and Assessment of the State of the Marine Environment Including socioeconomic Aspects) through the preliminary Assessment of Assessment phase, and as such was invited by the UNGA to provide scientific and technical support to the WOA (UNGA Resolution A/RES/66/231). It will provide technical assistance on the communication and outreach aspects of the WOA, and will lead on the implementation of regional

capacity development activities in order to engage the scientific community in the preparation of regional assessments.

28. The IOC continues to work in close cooperation with the UN Office of Legal Affairs/Division for Ocean Affairs and the Law of the Sea (UN/OLA/DOALOS) for the development of guidelines for the implementation of Law of the Sea provisions on transfer of marine technology and marine scientific research, and its achievements are regularly acknowledged by the UN General Assembly.

29. The IOC Secretariat has a wide programme network and a Roster of Experts to provide guidance and advice to the IOC Member States that request it, on the development of legislation and practice regarding marine scientific research and transfer of marine technology. Following Articles 239 and 266 of UNCLOS, this action facilitates and promotes the development and conduct of marine scientific research and transfer of marine technology, especially in developing countries, in accordance with UNCLOS.

30. The Global Ocean Observing System (GOOS) is a system for sustained observations of the ocean comprising the oceanographic component of the Global Earth Observing System of Systems (GEOSS). GOOS is designed to: monitor, understand and predict weather and climate; describe and forecast the state of the ocean, including living resources; improve management of marine and coastal ecosystems and resources; mitigate damage from natural hazards and pollution; protect life and property on coasts and at sea; and enable scientific research. GOOS is a platform for international cooperation for sustained observations of the oceans, generation of oceanographic products and services, and interaction between research, operational, and user communities. Because of its broad scope, GOOS serves oceanographic researchers, coastal managers, parties to international conventions, national meteorological and oceanographic agencies, hydrographic offices, marine and coastal industries, policy makers and the interested general public. GOOS is led by IOC and co-sponsored by UNEP, WMO and ICSU, and is implemented by Member States via their government agencies, navies and oceanographic research institutions working together in a wide range of thematic panels and regional alliances. The IOC/WMO JCOMM is a key element in implementation and services. In addition IOC established (in 1961) the International Oceanographic Data and Information Exchange (IODE) programme which, through a global network of 80 National Oceanographic Data Centres (NODCs), facilitates and promotes the management, exchange, archival and usage for coastal and ocean management, of ocean data and information. The Ocean Biogeographic Information System (OBIS), adopted by IOC as part of IODE (IOC Resolution XXV-4) is an important and unique marine biodiversity programme within the UN system. It contributes to at least two of the 20 UN biodiversity targets: a sustainable management of our marine living resources, and the protection of at least 10% of coastal and marine areas by 2020. As called upon by the 193 parties of the Convention on Biological Diversity (COP-X-29), OBIS data is used for the identification of Ecologically or Biological Significant marine Areas and is also used by the UN Food and Agriculture Organization for the identification of Vulnerable Marine Ecosystem. In addition, OBIS provides key information on biological diversity for the World Ocean Assessment.

31. IOC has since 1965 provided intergovernmental coordination for the Pacific Tsunami Warning System. Since 2005 IOC has also provided intergovernmental coordination for the development of Tsunami Warning Systems in the (i) Indian Ocean, (ii) the Caribbean and (iii) the NE Atlantic, Mediterranean and connected seas. The IOC's role in this area has been recognized in several UNGA resolutions.

7. PARTNERSHIPS

32. The Intergovernmental Oceanographic Commission of UNESCO partners with various agencies and participates in joint programmes:

33. **CLIMATE**: IOC participates in the World Climate Research Programme (WCRP) and the International Ocean Carbon Coordination Project (IOCCP) thus contributing to increasing the understanding of the ocean's role in climate change and variability. GCOS (Global Climate Observing System) is a joint undertaking of IOC/UNESCO, the World Meteorological Organization (WMO), the United Nations Environment Programme (UNEP) and the International Council for Science (ICSU). Its goal is to provide comprehensive information on the total climate system, involving a multidisciplinary range of physical, chemical and biological properties, and atmospheric, oceanic, hydrological, cryospheric and terrestrial processes. IOC/UNESCO is a partner with WMO in the Global Framework for Climate Services (GFCS) whose main goal is to enable better management of the risks of climate variability and change and adaptation to climate change, through the development and incorporation of science-based climate information and prediction into planning, policy and practice on the global, regional and national scale. IOC teams up with the Scientific Committee on Oceanic Research (SCOR) in a number of programmes. The Blue Carbon Initiative is the first integrated programme focused on mitigating climate change by conserving and restoring coastal marine ecosystems globally. The initiative is led by Conservation International (CI), the International Union for Conservation of Nature (IUCN) and works with partners from national governments, research institutions, NGOs, coastal communities, intergovernmental and international bodies and other relevant stakeholders. The aim of the initiative is to ramp up and centralize our understanding of the science, economics and required policies needed for countries to properly manage, value and account for the carbon sequestered in their coastal ecosystems, and provide guidance on mechanisms for doing so.

34. **BIODIVERSITY**: IOC/UNESCO is an active participant in matters relating to the Convention on Biodiversity (CBD) and in particular in the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), in which it plays an important role together with UNEP, FAO and UNDP. Through the Ocean Biogeographic Information System (OBIS), IOC/UNESCO is active in the Global Biodiversity Information Facility (GBIF) and in the Group on Earth Observations Biodiversity Observation Network (GEOBON).

35. **ECOSYSTEM HEALTH**: IOC works in close collaboration with the London Convention and the London Protocol (LC/LP) and is a founding member of the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) along with IMO, FAO and presently including IAEA, UN, UNEP, UNIDO and UNDP; it partners with SCOR for the research programme on the Global Ecology and Oceanography of Harmful Algal Blooms (GEOHAB).

36. **DISASTER RISK REDUCTION**: IOC/UNESCO works closely with WMO, the United Nations Office for Disaster Risk Reduction (UNISDR), the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) for access to its global seismograph network, the United Nations Development Programme, the International Maritime Organization, the International Hydrographic Organization and the European Union.

37. **GOVERNANCE**: IOC/UNESCO's partners are the International Council for the Exploration of the Sea (ICES), North Pacific Marine Science Organization (PICES), the Permanent Commission for the South Pacific (CPPS, in Spanish), the various Large Marine Ecosystem programmes, the International Council for Science (ICSU), the Scientific Committee on Oceanic Research (SCOR) and the European Commission.

8. MOBILIZATION OF EXTRABUDGETARY RESOURCES

38. The relevance and effectiveness of the IOC programmes is strongly related to the level of extrabudgetary funding, especially in periods of financial constraints. Existing resource mobilization approaches for Members States, institutional and private sector partners, tightly linked to the priorities approved by IOC Governing Bodies and its capacities to deliver will be intensified, as will be public-private partnerships and information and visibility efforts.

39. To ensure the sustainability of effort, it is essential that all extrabudgetary funds complement regular programme priorities. To the end, Complementary Additional Programme (CAP) proposals will be developed for each biennium.