

Intergovernmental Oceanographic Commission
Reports of Governing and Major Subsidiary Bodies



**Twenty-fifth Session
of the Assembly**

Paris, 16–25 June 2009

UNESCO

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TABLE OF CONTENTS

page

1.	OPENING	1
2.	ORGANIZATION OF THE SESSION	2
2.1	ADOPTION OF THE AGENDA	2
2.2	DESIGNATION OF THE RAPPORTEUR	2
2.3	ESTABLISHMENT OF SESSIONAL COMMITTEES	2
2.4	INTRODUCTION OF DOCUMENTATION AND TIMETABLE.....	4
2.5	ANTON BRUUN AND N.K. PANIKKAR MEMORIAL LECTURES	4
3.	STATUTORY REPORTS	6
3.1	STATEMENT OF THE CHAIRMAN ON THE STATE OF IOC.....	6
3.2	REPORT BY THE EXECUTIVE SECRETARY ON PROGRAMME AND BUDGET IMPLEMENTATION (2008–2009) AND INTRODUCTION TO THE DRAFT PROGRAMME AND BUDGET FOR 2010–2011	7
3.3	REPORT ON THE IOC ACTIVITIES (2007–2008) TO THE THIRTY-FIFTH GENERAL CONFERENCE OF UNESCO	11
4.	PROGRAMME MATTERS REQUIRING DECISIONS BY THE ASSEMBLY	12
4.1	GENERAL POLICY ISSUES, UN CONVENTIONS AND AGREEMENTS	12
4.1.1	Preparation for the Commemoration of the 50th Anniversary of the IOC (1960–2010) and the Ministerial Round Table at the Thirty-fifth General Conference of UNESCO	12
4.1.1.1	<i>Preparation for the Commemoration of the Fiftieth Anniversary of the IOC</i>	<i>12</i>
4.1.1.2	<i>Ministerial Round Table at the Thirty-fifth General Conference of UNESCO</i>	<i>14</i>
4.1.2	Consideration of the Legacy of the International Polar Year (IPY) (2007–2009)	15
4.1.3	Relations with the Convention on Biological Diversity.....	16
4.1.4	Report of the Ninth Session of the IOC Advisory Body of Experts on the Law of the Sea (IOC/ABE–LOS IX).....	17
4.2	MANAGEMENT PROCEDURES & POLICIES FOR THE SUSTAINABILITY OF COASTAL & OCEAN ENVIRONMENT & RESOURCES (HIGH LEVEL OBJECTIVE 4).....	20
4.2.1	Data and Information	21
4.2.1.1	<i>Report of the Twentieth Session of the IOC Committee on International Oceanographic Data and Information Exchange (IODE-XX).....</i>	<i>21</i>
4.2.1.2	<i>IOC Collaboration with the Ocean Biogeographic Information System (OBIS)</i>	<i>24</i>
4.2.2	.. Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socio-economic Aspects.....	26
4.2.3	.. Report of the Tenth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE-X).....	29

4.2.4	Report of the Seventh Session of the IOC Regional Committee for the Western Indian Ocean (IOCWIO-VII)	31
4.2.5	Report on the Follow-up to the Seventh Session of the IOC Sub-Commission for the Western Pacific (26–29 May 2008).....	32
4.3	SAFEGUARDING THE HEALTH OF OCEAN ECOSYSTEMS (HIGH LEVEL OBJECTIVE 3).....	33
4.3.1	Secretariat Report on Ocean Sciences Section: Programme, Structure and Activities	33
4.3.2	IOC Role in Standard Settings and Guidelines	36
4.3.2.1	<i>Adoption of the Equation of State of Sea Water</i>	<i>36</i>
4.3.2.2	<i>The International Nutrients Scale System: a proposal for a joint ICES-IOC Working Group to develop international standards for nutrients</i>	<i>37</i>
4.3.2.3	<i>Nutrient Export from Watersheds – User Scenario Evaluation (NEWS2USE)</i>	<i>38</i>
4.3.3	Report of the Ninth Session of the IOC Intergovernmental Panel on Harmful Algal Blooms (IPHAB-IX) – HAB and GEOHAB Programme.....	38
4.3.4	Secretariat Report on Capacity-development Section: Programme, Structure and Activities	39
4.4	MITIGATION OF THE IMPACTS AND ADAPTATION TO CLIMATE CHANGE AND VARIABILITY (HIGH LEVEL OBJECTIVE 2).....	42
4.4.1	Oceans and Climate	42
4.4.1.1	<i>WMO-IOC-ICSU World Climate Research Programme (WCRP): Report and Review</i>	<i>42</i>
4.4.1.2	<i>Climate Observations – GCOS, UNFCCC and OceanObs'09.....</i>	<i>43</i>
4.4.2	Report of the Ninth Session of the Intergovernmental Committee for the Global Ocean Observing System (I-GOOS)	44
4.4.3	Instructions to the Third Session of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM-III)	46
4.4.4	Report on Ocean Fertilization.....	48
4.5	PREVENTION AND REDUCTION OF THE IMPACTS OF NATURAL HAZARDS (HIGH LEVEL OBJECTIVE 1).....	50
4.5.1	Report of the Second Meeting of the IOC TOWS Working Group: Tsunamis and Other Ocean Hazards Warning and Mitigation Systems (TOWS-WG-II)	50
4.5.2	Reports from the IOC Intergovernmental Coordination Groups	52
4.5.2.1	<i>Sixth Session of the IOC Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS)</i>	<i>53</i>
4.5.2.2	<i>Fifth Session of the IOC Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS)</i>	<i>54</i>
4.5.2.3	<i>Fourth Session of the IOC Intergovernmental Coordination Group for Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)</i>	<i>56</i>

4.5.2.4	<i>Twenty-Third Session of the IOC Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the Pacific (ICG/PTWS)</i>	57
5.	ADMINISTRATION AND MANAGEMENT	59
5.1	REPORT BY THE CHAIRPERSON OF THE FINANCIAL COMMITTEE ON THE IOC DRAFT PROGRAMME AND BUDGET FOR 2010–2011 (DRAFT 35 C/5)	59
5.2	ELECTIONS OF THE OFFICERS OF THE COMMISSION AND MEMBERS OF THE EXECUTIVE COUNCIL	65
5.2.1	Election of the Chairperson of the Commission.....	65
5.2.2	Election of the Vice-Chairpersons of the Commission	65
5.2.3	Election of the Members of the Executive Council.....	66
5.3	DATES AND PLACES OF THE 26 TH ASSEMBLY AND THE 43 RD AND 44 TH SESSIONS OF THE EXECUTIVE COUNCIL.....	66
5.4	THEMES OF THE A. BRUUN AND N.K. PANIKKAR MEMORIAL LECTURES AT THE 26 TH IOC ASSEMBLY	67
6.	SUPPLEMENTARY ITEMS	67
6.1	THE FUTURE OF THE IOC	67
6.2	EXPANSION OF QUOTA OF SEATS FOR GROUP II MEMBER STATES IN THE IOC EXECUTIVE COUNCIL	70
6.3	PROCEDURES IN FUTURE CONSULTATION PROCESS ESTABLISHING A SHORT LIST FOR EXECUTIVE SECRETARY OF IOC	71
7.	ADOPTION OF RESOLUTIONS AND SUMMARY REPORT	73
8.	CLOSURE.....	73

ANNEXES

- I. [AGENDA](#)
- II. [ADOPTED RESOLUTIONS](#)
- III. [ADDRESSES AND STATEMENTS](#)
 - A. [Opening address By Mr Koïchiro Matsuura, Director-General of the United Nations Educational, Scientific and Cultural Organization \(UNESCO\)](#)
 - B. [Chairman's statement by Lic. Javier A. Valladares](#)
 - C. [Tribute to Dr Patricio Bernal, IOC Executive Secretary by Professor David Pugh, Past Chairman of the Intergovernmental Oceanographic Commission of UNESCO](#)
 - D. [GOODS: Argentina's intervention under item 4.1.3](#)
 - E. [Statement of H.E. Prof. Manuel Maria Carrilho, Ambassador, Permanent Delegate of Portugal to UNESCO](#)

- IV. LECTURES
 - A. THE A. BRUUN MEMORIAL LECTURE, 2009
 - Thermodynamics and Equation of State of Seawater by Trevor J. McDougall
 - B. THE N.K. PANIKKAR MEMORIAL LECTURE, 2009
 - Research: an Effective Tool in Capacity-development by Dr Venu Ittekkot
- V. CONTRIBUTIONS OF MEMBER STATES, IOC PROGRAMMES AND PARTNERS TO THE 50TH ANNIVERSARY OF THE INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (IOC)
- VI. RATIONALE FOR ESTABLISHING THE MINISTERIAL ROUND TABLE ON OCEAN GOVERNANCE
- VII. REVISED TERMS OF REFERENCE OF THE IOC INTERSESSIONAL FINANCIAL ADVISORY GROUP
- VIII. REPORT OF THE CHAIRMAN OF THE RESOLUTIONS COMMITTEE
- IX. RESULTS OF ELECTIONS AND LIST OF IOC MEMBER STATES
- X. LIST OF DOCUMENTS
- XI. LIST OF PARTICIPANTS
- XII. LIST OF ACRONYMS

1. OPENING

- 1 The Chairman, Lic. Javier Valladares, opened the 25th Session of the IOC Assembly at 09:40h on Tuesday 16 June 2009.
- 2 The Chairman invited the Director-General of UNESCO to address the Assembly.
- 3 The Director-General recalled that the present Assembly marks the start of the celebration of the Commission's 50th anniversary, in the context of the important question of climate change and the development of tsunami and other ocean hazards warning systems. Many aspects of these subjects will be addressed at the UN Climate Change Conference in Copenhagen in September 2009. However, UNESCO's interest in climate change goes well beyond the ocean aspects, to include the cultural and social dimensions of climate change. It is aiming at bringing warning and mitigation as close as possible to the local level. There is a growing understanding of the ocean's role. The ocean is a memory of past climate, as well as an agent in present climate. It is now storing more heat and CO₂, but with the adverse effects of modifying the marine environment and increasing the ocean's acidity.
- 4 The United Nations has charged IOC and UNEP with a leading responsibility — notably in the Assessment of Assessments as a first step in the development of a Regular Process for a Global Assessment of the Marine Environment. The UN will approve a first global assessment system. The Director-General himself, the Executive Secretary of IOC and the Executive Director of UNEP are in the process of approaching Member States on this matter. For the same reason, among others, the Director-General will organize a Round Table on Ocean Governance (12–13 October 2009) at the 35th Session of the UNESCO General Conference.
- 5 The Director-General welcomed the development of a global ocean warning system based on regional systems. He noted that the Assembly will consider the work of four IOC regional Intergovernmental Co-ordination Groups overseeing such systems, and said that UNESCO is ready to sustain this effort, since it is necessary for the development of Tsunami Warning Systems.
- 6 Recalling that, on 13 May 2009, the UN had decided a programme on defining the outer limits of national continental shelves, the Director-General welcomed the fact that the IOC had particularly helped African Member States in this regard; nine African countries, among others, had directly approached IOC for such help. He particularly thanked Norway for its special help in this field.
- 7 The IOC also has many capacity-building projects in Africa, and the African Member States have shown much initiative, contributing parity support to these projects. UNESCO is also helping IOC in the implementation of GEF projects on adaptation to climate change.
- 8 Long-standing IOC training programmes are being sustained; two good examples are. ODINAfrica and GOOSAfrica; and the UN is working towards better representation of developing Member States in these and other fields. The Director-General noted that the two top posts in the IOC Secretariat, those of the Executive Secretary and of the new Deputy Executive Secretary, were currently occupied by persons from developing countries.
- 9 The Director-General particularly thanked the Chairman and Vice-Chairmen, as well as the past Chairpersons for their fine work. He warmly thanked Patricio Bernal, the incumbent Executive Secretary, for his efforts over the last ten years for the Commission and for striking a firm balance between the IOC's functional autonomy and UNESCO's needs in respect of the IOC.

10 He looked forward to seeing the Summary Report of the present session, noting that it would be the final such report of his mandate. The Director-General's full statement is in Annex III of the present Summary Report.

11 **The Assembly thanked** the Director-General for his steadfast support of the IOC.

12 The Chairman then asked the participants to stand in silence for one minute as a mark of respect to distinguished individuals who have collaborated with the Commission and have passed away during the past year: Warren Wooster (U.S.A., 1921–2008), Professor and Scientist, one of the founders of SCOR and PICES and first Executive Secretary of IOC, from 1960 to 1963; and Dr Maria Elena Ibarra Martín (Director of the Marine Sciences Institute of the Universidad de Habana, Cuba). The List of Participants in the present session is in [Annex XI](#) to the present report.

2. ORGANIZATION OF THE SESSION

2.1 ADOPTION OF THE AGENDA

13 The Executive Secretary introduced this item. He informed the Assembly of three amendments to the draft Provisional Agenda originally sent with the invitation to the Member States. A new Agenda Item 6, Supplementary Items, had been included by the Executive Council at its 42nd Session, acting as the Steering Committee for the present session of the Assembly; with three sub-items: 6.1 The Future of IOC; 6.2 Expansion of Quota of Seats for Group II Member States in the IOC Executive Council; 6.3 Procedures in Future Consultation Process Establishing a Short-List for Executive Secretary of IOC.

14 **The Assembly adopted** the Second Revised Provisional Agenda as the Agenda for its 25th Session. The Agenda is in [Annex I](#) to the present report.

15 The Executive Secretary reminded the Member States' representatives that the formal and final deadline for informing the Executive Secretary of their nominations for the elections of the Officers and members of the Executive Council was Thursday 18 June 2009 at 17.30h, and that the deadline for the submission of Draft Resolutions was Friday 19 June 2009 at 17.30h.

2.2 DESIGNATION OF THE RAPPORTEUR

16 The Chairman invited the Assembly to designate the Rapporteur for the present session to assist the Chairman and the Executive Secretary in the preparation of the Draft Summary Report.

17 Ghana proposed Japan. Japan accepted and nominated Dr Kazuhiro Kitawaza. This nomination was widely supported.

18 **The Assembly declared** Dr Kitazawa the Rapporteur for its 25th Session.

2.3 ESTABLISHMENT OF SESSIONAL COMMITTEES

19 The Chairman invited the Assembly to constitute the following statutory sessional committees and reminded the participating Member States of the open-ended character thereof and of the proposals of the Executive Secretary:

- (i) Nominations Committee: the Chairman invited the Member States to declare their wish to participate in the Nominations Committee (agenda item 5.2). The composition (in informal alphabetical order) of the Nominations Committee was: Brazil, Canada, China, Dominican Republic, Ghana, Greece, Indonesia, Iran (Islamic Republic of), Japan, Peru, Sri Lanka, Tunisia, U.K., Ukraine, and U.S.A. The Chairman then proposed Peru to chair

this Committee. Peru agreed and nominated Dr Alfredo Picasso de Oyagüe from its delegation.

- (ii) Resolutions Committee: the Chairman invited the Member States to declare their wish to participate in the Resolutions Committee (agenda item 7). The composition (in informal alphabetical order) of the Resolutions Committee was: Argentina, Australia, Barbados, Canada, Chile, Côte d'Ivoire, Dominican Republic, France, Germany, India, Japan, Madagascar, Republic of Korea, Russian Federation, U.K., U.S.A. The Chairman then proposed Norway to chair this Committee. Norway agreed and nominated Dr Peter Haugan from its delegation.
- (iii) Financial Committee, under the chairmanship of Neville Smith (Australia), Vice-Chairman responsible for financial matters. The Chairman invited the Member States to declare their wish to participate in the Financial Committee (agenda items 3.2 and 5.1). The composition (in informal alphabetical order) of the Financial Committee was: Argentina, Australia, Belgium, Brazil, Cameroon, Canada, Chile, Côte d'Ivoire, Egypt, Finland, France, Germany, Ghana, India, Ireland, Japan, Kenya, Madagascar, Peru, Portugal, Republic of Korea, Russian Federation, Senegal, Tanzania, U.K., U.S.A.

20 **The Assembly also decided** to constitute the following five sessional Working Groups:

- (i) Working Group on the IOC's 50th Anniversary (item 4.1.1), under the Chairmanship of Prof. David Pugh (Past Chairman). The membership (in informal alphabetical order) was: Argentina, Australia, Belgium, Bulgaria, Canada, Chile, China, Cuba, Ecuador, Egypt, India, Indonesia, Japan, Kuwait, Mexico, Oman, Peru, Portugal, Republic of Korea, Russian Federation, Spain, Sri Lanka, Thailand, U.S.A., Venezuela (Bolivarian Republic of).
- (ii) Working Group on Capacity-Development (item 4.3.4), under the Chairmanship of Dr Julius Mensah (Ghana). The membership (in informal alphabetical order) was: Barbados, Belgium, China, Côte d'Ivoire, Croatia, Cuba, Egypt, Haiti, India, Indonesia, Japan, Kenya, Madagascar, Mauritius, Mexico, Russian Federation, Senegal, Sri Lanka, Syrian Arab Republic, Tanzania, Togo, Tunisia, U.K., U.S.A., Venezuela (Bolivarian Republic of).
- (iii) Working Group on the Regional Subsidiary Bodies, under the Chairmanship of Prof. Mario Ruivo (Portugal). The membership (in informal alphabetical order) was: Australia, Barbados, Brazil, China, Egypt, Japan, Kenya, Oman, Portugal, Senegal, Sri Lanka, Thailand, Togo, Ukraine, U.S.A.
- (iv) Working Group on the Future Status of OBIS in IOC (item 4.2.1.2), under the Chairmanship of Mr Ned Cyr (U.S.A.). The membership (in informal alphabetical order) was: Argentina, Australia, Belgium, Brazil, Canada, China, Egypt, India, Italy, Japan, Kenya, Madagascar, Monaco, Oman, Portugal, Russian Federation, Senegal, Sri Lanka, Thailand, Togo, U.K., U.S.A.
- (v) Working Group on the Expansion of Electoral Group II Representation on the Executive Council (item 6.2), under the Chairmanship of Mr Guillermo García Montero (Cuba). The membership (in informal alphabetical order) was: Argentina, Brazil, Bulgaria, Canada, China, Czech Republic, Finland, France, Ghana, Indonesia, Italy, Japan, Kenya, Madagascar, Monaco, Oman, Portugal, Russian Federation, Senegal, Sri Lanka, Thailand, Togo, U.K., Ukraine, U.S.A.

21 The Executive Secretary stressed the heavy pressure the work of these groups would place on Member States, the meeting facilities and timetable: only morning sessions between 08.30hr and 09.30hr were realistically possible. He urged all Working Groups to complete their

work prior to consideration of their respective topics in plenary. He also urged the Groups to bear in mind the desirability of not proposing the creation of new levels of governance within the IOC structure.

2.4 INTRODUCTION OF DOCUMENTATION AND TIMETABLE

- 22 The Executive Secretary introduced this item. In addition to reviewing briefly the list of working documents, which might still be enlarged, he recommended the use of the 50th Anniversary USB memory cards that contain the documentation of the present session. In any case, some documents were already only in electronic format, and all documents for the present Assembly were on the IOC website. The List of documents for the present session is in [Annex X](#) hereto.

2.5 ANTON BRUUN AND N.K. PANIKKAR MEMORIAL LECTURES

- 23 The Chairman introduced this item. He invited Dr Trevor J. McDougall, Chairman of the SCOR/IAPSO WG-127, to deliver the 2009 Anton Bruun Memorial Lecture on “Thermodynamics and Equation of State of Seawater”. This lecture also served as a precursor to the Assembly's consideration of Agenda Item 4.3.2.1, under which, the Assembly will consider adopting the new TEOS-10 formulation in place of the existing Equation of State of Seawater (EOS-80) UNESCO standard.
- 24 The horizontal variations of density in the ocean are central to estimating the ocean's circulation and hence the role of the ocean in the climate system. Oceanographers measure temperature and the conductivity of seawater and use algorithms derived from the equation of state to calculate seawater density and other thermodynamic properties. The existing UNESCO equation of state (EOS-80) has served the community well for nearly thirty years. It is based on the Practical Salinity Scale of 1980. In 2005, SCOR, IAPSO and IAPWS (International Association for the Properties of Water and Steam) established Working Group 127 on the Thermodynamics and Equation of State of Seawater (henceforth referred to as WG-127). This Working Group has devised a new thermodynamic description of seawater, called TEOS-10 (Thermodynamic Equation of Seawater – 2010), which is based on a Gibbs function from which all the thermodynamic properties of seawater can be calculated.
- 25 A notable difference from present practice that is recommended by WG-127 is the adoption of Absolute Salinity by oceanographers in papers submitted to journals to describe the salinity of seawater and to be used as the salinity argument in algorithms that give the various thermodynamic properties of seawater. This recommendation deviates from the current practice of working with *Practical Salinity* and typically of treating it as the best estimate of *Absolute Salinity*. WG-127 strongly recommends that the salinity that is reported to national oceanographic data centres remain the Practical Salinity as determined on the Practical Salinity Scale of 1978 (suitably updated to ITS-90 temperatures).
- 26 The principal advantages of the new seawater description, TEOS-10, are the availability of internal energy, entropy, enthalpy, potential enthalpy and the chemical potentials of seawater. These quantities were not available from EOS-80, but are central to a proper accounting of the heat that is transferred between the ocean, the ice cover and the atmosphere above. Additionally, for the first time, the influence of the spatially varying composition of seawater can be systematically taken into account through the use of Absolute Salinity. In the open ocean, this has a non-trivial effect on the horizontal density gradient computed from the equation of state (and thereby on the so-called “thermal wind” relation).
- 27 The speaker also described some of the mixing and advection processes that arise because of the nonlinear nature of the equation of state of seawater. One of these nonlinearities is the thermobaric effect, which is due to the fact that the velocity of sound in seawater is a function of water temperature. Because of this thermobaric effect, it is quite difficult to describe

accurately what is meant by a “surface of constant density” in the ocean. This same nonlinearity in the equation of state can cause numerical instabilities in numerical ocean models.

28 In the subsequent discussion, Egypt suggested that some confusion might arise if absolute salinity data were used in publications, and practical salinity, in databases. Dr McDougall agreed that there was potential for confusion, but highlighted the fact that the problem was directly analogous to the current practice in which databases store *in situ* temperature, but researchers publish results using potential temperature.

29 India asked how the magnitude of improvements that might arise from using TEOS-10 could be related to the accuracy of measurements, from Argo floats, for example. Dr McDougall explained that the improvements in salinity estimates using the new equations were about 10 times higher than the accuracy of measurements from Argo floats, and therefore substantially above the noise in our measurements.

30 The Executive Secretary thanked SCOR for partnering with IOC in this work and noted the importance to IOC of this opportunity to re-establish its standard-setting role as the intergovernmental body responsible for the oceans, by endorsing TEOS-10 to replace EOS-80 and thus updating this valuable, but no longer state-of-the-art, 30-year-old UNESCO standard.

31 Following the lecture, the Chairman presented Dr McDougall with the Anton Bruun Medal.

32 The Chairman requested the Secretariat to introduce the speaker, Professor Dr V. Ittekkot, Director of the Leibniz Center for Tropical Marine Ecology, Bremen, Germany. The N.K. Panikkar Memorial Lecture is traditionally focused in the areas of technology transfer or capacity-development. The title of Professor Ittekkot's lecture was “Research: an Effective Tool in Capacity-development”.

33 Highlighting the important role that capacity-development has to play in empowering Member States to participate knowledgeably in the governance of the oceans, the speaker highlighted the major national and international efforts at organizational and programme levels that have been successfully contributing to developing capacity and infrastructure for the study and for the multiple uses of the oceans and coasts. Prof. Ittekkot addressed the role of research in capacity-development based on examples and his experience gained from his participation in partnership projects with universities and research institutions around the world. Success in capacity-development has been through exciting research projects and opportunities, visionary scientists as champions, and stable long-term commitments from governments. Prof. Ittekkot summarized his experience from his many years of developing capacity in developing regions, identifying local needs, casting these as challenging scientific problems, and focusing actions to provide the answers.

34 To a question on establishing links between research and the private sector, the speaker was of the opinion that, for such partnerships to flourish, issues relating to intellectual property rights should be settled before the start of a project. To a question on the retention of trained manpower in developing regions, Prof. Ittekkot mentioned that sustainability is best achieved within the framework of, for example, the science and technology agreements between Germany and its partners concerned; retention of talent in these cases was 80–90 % of the researchers who are still working in the field of the marine science.

35 The Chairman then presented the first-ever N.K. Panikkar Medal to Prof. Ittekkot on this occasion.

3. STATUTORY REPORTS

3.1 STATEMENT OF THE CHAIRMAN ON THE STATE OF IOC

36 In accordance with Rule of Procedure No. 8.1(a), the Chairman delivered his statement on recent developments in the work of the Commission and perspectives for the coming years.

37 He first thanked colleagues from Viet Nam, Republic of Korea, China, Ecuador, Peru, Uruguay, U.S.A. and Indonesia who had received him, some of the Vice-Chairpersons, the Executive Secretary and members of the Secretariat, for the many attentions received during official visits to these Member States.

38 The Chairman then made a general assessment of the situation the Commission is facing. Since the publication of the document "We Have a Problem" (IOC-XXIII/2 Annex 8), it is evident that the problem is not one but several.

39 He noted great disparity in the representation of marine science in the Member States. In considering the future of the IOC, and particularly the recommendations of the IOC Working Group on the Future of IOC, at the 41st Session of the Executive Council, in 2008, it was clear that the Member States did not all have a similar vision of what could be expected from the IOC, although there were some areas of reasonable accord. So it was agreed that the Commission should stay within UNESCO and with the same mandate. Nevertheless, the generic problem generated by the multiple requests for action on the many problems of ocean sciences and services remained, mainly because the requests were unmatched by the corresponding resources required. One of IOC's biggest difficulties in trying to meet any management test efficiently is that the oceanographic community embraced an interdisciplinary vision of developing IOC's mission from the beginning and the need to act interdependently.

40 The IOC still does not have clearly identified focal points in many of the Member States, as its maritime or meteorological counterparts do. The IOC community comprises biologists, physicists, engineers, diplomats, scientists, civilians, and military. Hardly any two of its Member States maintain similar models of internal management structure: oceanography is dispersed among Ministries of Science, Secretariats of Transport, Navies, specialized agencies and interagency commissions. So to combine the governmental with the non-governmental elements to represent all that diversity, at the intergovernmental level, there are only the IOC Member States' representatives. For many Member States, the Commission is the only place that allows them to pursue matters related to the ocean sciences; and they expect from the IOC assistance in gaining access to new technologies and to developing their national capacities.

41 In seeking to have an impact on the evolution of ocean sciences, the Commission tends to be divided between those Member States that tend to lead the debates on strategic trends and those that seek to build their capacity in the ocean sciences so as to be able to participate more effectively in operational oceanography. So one of IOC's current challenges is how to reach an equilibrium between both approaches.

42 The Chairman suggested that the answer could be through concrete applications of operational oceanography or the development of simplified procedures to support Member State participation in operational oceanography and in the sharing of observations. The development of a better institutional environment to conduct these activities, and bring the applications of operational oceanography to the benefit of everybody, is an option to be considered.

43 The study of the future of the Commission also made it clear that the Commission does not want to lose or delegate functions. The IOC has received a strong call to work in an interdisciplinary way, supplementing capacities. The Commission operates in an international society that needs to give more visibility to the oceans and their possibilities, so it should avoid

the trap of easy simplifications that, following a supposed functional pragmatism or economic criteria, dismember developments born of the ocean for the benefit of society. The IOC, together with its non-governmental partners, is the natural focus for consideration of the interaction of the atmosphere, the coasts, the cryosphere and the oceans, with a view to finding their scientific linkages. Therefore, the Member States' efforts must be rationalized in a coordinated way, and tools and accessible products must be generated for the whole of humanity.

44 Institutionally, a major challenge is, without any doubt, to rationalize the Commission's subsidiary bodies. At the moment, there is a wide variety of regional subsidiary bodies with different goals and mandates. It is necessary to break the logic perceived by some that these bodies are just machines for producing meetings, instead of being bodies for coordinating actions by Member States, reaching objectives and achieving more and better products.

45 Turning this image into a more easily comprehensible and practical form should be another of the Commission's objectives to celebrate its 50th anniversary and to optimize its commitment to Africa and the small-island developing States.

46 Lightening the IOC bureaucracy will greatly help to convince Member States of the Commission's efficiency and effectiveness and tempt them to contribute more and better applied extrabudgetary funds.

47 The Chairman's full statement is in [Annex III-B](#) to the present report.

48 In the discussion of the Chairman's report, a number of topics requiring attention emerged.

49 Concerning institutional infrastructural aspects, several Member States stressed the importance of working with other relevant regional bodies, inside and outside the UN system. For example, possibilities for increased co-operation with the European Union are emerging, and the IOC must be ready for it. There is a great need to reduce duplication of effort at the programmatic and the institutional levels. Above all, several Member States stressed the importance of adapting the IOC infrastructure to meet the real needs of its Member States.

50 The more complicated the IOC infrastructure becomes, especially in an already complex UN system, the harder it is for Member States to provide and direct funding. Also, there is often a mismatch between programmatic ambitions and the resources made available for achieving them.

51 The U.K. emphasized that many IOC activities, especially assessing the state of the marine environment, provided a strong justification for sustained observations.

52 One Member State urged an effort to enable IOC to be represented independently at the UN General Assembly.

53 **The Assembly recognized** the importance of taking advantage of the celebration of the Commission's 50th anniversary to prepare it for the forthcoming fifty years.

54 **The Assembly noted**, with appreciation, the statement of the Chairman on the state of the Commission.

3.2 REPORT BY THE EXECUTIVE SECRETARY ON PROGRAMME AND BUDGET IMPLEMENTATION (2008–2009) AND INTRODUCTION TO THE DRAFT PROGRAMME AND BUDGET FOR 2010–2011

55 The Executive Secretary reported on the implementation of the Commission's Programme and Budget (2008–2009) and progress in implementing the IOC Biennial Strategy and Operating Plan 2008–2009 (Annex to Res. XXIV-2). He explained that it was not easy to

increase IOC budget within the framework of UNESCO. Many other UNESCO areas of work are also very strongly supported by Member States. He therefore welcomed the Director-General's effort to provide very early in the biennium the additional US\$ 0.5 M agreed by the 34th General Conference for IOC. He also welcomed the particular effort several Member States were making in their participation in the present session, with the presence of several ministers and ambassadors participating personally, as well as many directors of key national institutions.

- 56 He reminded the Assembly that the IOC Secretariat has also evolved; it now has a Deputy Executive Secretary, a post that was "lost" several General Conferences ago. He noted that a number of subjects would be discussed under other agenda items of the present session. In particular: the 50th anniversary commemoration; the possible incorporation of OBIS into the IOC; the IOC's involvement in the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, and the related Assessment of Assessments; and the adoption of the new Thermodynamic Equation of State of Seawater. The Assembly would therefore have ample opportunity to assess progress in these and other areas.
- 57 The 2nd Symposium on "The Ocean in a High-CO₂ World", held under the patronage of H.S.H. Prince Albert II of Monaco, facilitated a scientific assessment of what is known about ocean acidification. It resulted in a published "Summary for Policymakers – Research Priorities Report", and the "Monaco Declaration". As a consequence of this Symposium, the partner organizations (i.e. IOC, the IPCC and the Royal Society of London) have agreed to make this symposium a regular event to be held every four years.
- 58 In introducing the UN Regular Process, designed to maintain the oceans under permanent review, the Executive Secretary stressed that the ocean's capacity to absorb CO₂ was now making it a victim of climate change. The increasing heat input and the melting of ice caps will impact present patterns of ocean circulation. The Executive Secretary stressed that, at a higher level than the IOC or UNESCO, it was the UN General Assembly that gave IOC a mandate on this exercise. However, a strategic assessment is powerless of itself if the mandate is not to be effectively used.
- 59 According to Article 10 of its statutes, the IOC budget may comprise three elements: the UNESCO regular budget, the contributions of Member States that are not Member States of UNESCO, and other extrabudgetary resources (which make up more than two thirds of the total IOC funding). Presently there is little room for IOC to receive an increased regular budgetary contribution from UNESCO. So any realistic increase must come from "other resources". It is useful to consider the regular budget as "seed money" for leverage of extrabudgetary funding, but the IOC still has a level of engagement that is not well established in most Member States, so leverage is still weak and, consequently, it is very difficult to improve the existing level of engagement without improving the IOC mechanisms of coordination at the national level.
- 60 Commenting on the IOC programmes, the Executive Secretary stressed the success of GOOS, but also noted that it was becoming increasingly difficult for participating governments to finance the basic operations and the additional infrastructure needed. Operational oceanography is not a priority in academic research institutions or even within national hydrographic institutions; this creates an institutional "vacuum". The IOC therefore needs a more profound assessment, if a long-term solution is to be found.
- 61 In ocean sciences, despite good relations with ICSU/SCOR and with the IPCC, the IOC still needs to strengthen its own more direct co-operation with the international scientific community. In relation to developing regions, the Commission must formulate its future activities to better cater to the needs of the developing world. The best way to do this would be to reflect such initiatives in the Commission's Programme and Budget in the future.
- 62 Responding to the Executive Secretary's presentation, the Minister of Fisheries and Marine Transport of Senegal first of all thanked the Director-General of UNESCO for his support

of the IOC, notably to allow it to better serve developing countries. He stated his country's wish to increase its involvement in IOC affairs and, to this end, has created an interministerial unit charged with coordination of activities relative to the oceans and of liaison with the IOC. He welcomed the good progress in such fields as tsunami warning systems, and the IODE and GOOS-Africa programmes, as well as the latter's involvement in the ICAM programme. The Minister expressed his concern over the low level of activity of the IOC Regional Committee for the Central Eastern Atlantic (IOCEA), and believed it needed to be reinvigorated, to which end Senegal is ready to contribute. He also believed that much more needed to be done in capacity-development and its adaptation to developing-country needs, especially through increased staffing for the Capacity-Development Unit. Senegal is also developing marine protected areas as a contribution to the protection of marine and coastal ecosystems, as recommended by the World Summit on Sustainable Development (Johannesburg, 26 August–4 September 2004). Senegal also looks forward to the follow-up of the IOC technical mission to Senegal in March 2009 in this field.

63 Several Member States welcomed the greater transparency and detail in the presentation of the IOC budget; however, specific questions were raised. Japan specifically requested clarification of the budget of the IOC field office relative to that of the UNESCO regional office in SE Asia.

64 Some Member States appreciated the progress made, especially in respect of climate change, biodiversity, global marine assessment and the continued IOC leadership in the Assessment of Assessments.

65 Several Member States stressed the need to make the Commission's subsidiary bodies more active, more effective and more responsive to IOC regional Member States. Portugal recalled previous recommendations to strengthen regional subsidiary bodies of IOC and decentralized offices, regretting that measures to overcome hampering factors had failed to correspond to needs. This should be called to the attention of the Financial Committee. Portugal announced the intention of the Regional Government of Madeira to host a session of IOCEA, which has not met for many years, as a contribution to IOC's 50th anniversary commemoration.

66 A few Member States expressed their concern over the general lack of IOC staff support for activities in West Africa in recent years. They noted that the work of IOC's three regional subsidiary bodies for the whole of Africa and the Indian Ocean (IOCINDIO, IOCEA and IOCWIO) is predicated on a very low budget that barely funds the coordination, and that this situation must be remedied.

67 A few Member States questioned the reduction of the budget assigned to climate change. One Member State called on the Commission to focus on sea-level research and monitoring of sea-level rise in South America, especially since countries were benefiting from implementation of the policy of coastal-zone management.

68 India supported strengthening of the Tsunami Unit at IOC and informed the Assembly that it had started operation of its Indian Ocean Tsunami Warning System in 2007 in India; it expressed its readiness to assume responsibility for the Regional Tsunami Watch Providers (RTWP) for the Indian Ocean region.

69 Some Member States recognized the complex task before the Commission, notably in the development of ocean science, the role of climate change in the context of sustainable development, and the warning of potential disasters and the mitigation of their expected impacts. Operational systems require users who know what they want, and a level of technical development, whereas many Member States still do not have the means/capacities to sustain these systems. It may therefore be necessary to identify only a few flagship programmes, possibly at the cost of comprehensiveness.

- 70 A few Member States agreed that the Commission had made a significant advance, but that it can only go so far with the leverage approach. Although the clarity of IOC's budget had much improved, they were concerned with the need for a good balance between operational and staff/administrative costs. They asked that relevant projections be incorporated into future budgets and work plans.
- 71 Portugal reminded the Assembly that it had, in 1998, proposed to host the IOC Secretariat and continues to do so, with annual extrabudgetary contributions and contributions in kind. This was in recognition of the role played by IOC and the possibility of giving IOC a further impulse to its activities. All these were also in the framework of the commemoration of the Commission's 50th anniversary. The full text of the Portuguese Ambassador's statement to the Assembly is in [Annex III-E](#) to the present report.
- 72 Australia pointed out that, considering the regular budget mainly as the seed funds for leverage, additional resources must have some limit and that a ratio of 1:2 might be difficult to surpass. Australia suggested that it would be more appropriate to consider the regular budget as core funding for IOC's core coordination function and to elaborate a comprehensive set of principles governing the balance between regular budget and extrabudgetary allocations. It expressed its satisfaction with the reporting in document IOC-XXV/2 Annex 2 on 2008–2009 budget implementation, particularly with regard to the inclusion of those contributions that explicitly contribute to the achievement of the expected results of the IOC programme, but do not enter the UNESCO/IOC budgetary flow and are therefore subject to financial management by partner organizations, notably the IOC regional programme offices in Perth and Rio, and the IOC project offices in Copenhagen, Ostend and Vigo.
- 73 It was pointed out that the overall budget implementation rate of 44% at the end of the first year of the biennium could be of some concern, although it appears to be largely linked to the fact that a number of important events were planned for 2009.
- 74 With regard to the Draft IOC Programme and Budget for 2010–2011 presented in document IOC-XXV/2 Annex 3, several Member States expressed their concern over the shift in the programme-to-staff ratio. While the importance of strengthening the IOC Secretariat is recognized by all, this increase in the cost of personnel will have a considerable negative impact on programme implementation, especially under a zero nominal growth budget.
- 75 **The Assembly noted** the report of the Executive Secretary on the implementation of the Commission's Programme and Budget (2008–2009) and his summary of the draft Programme and Budget for 2010–2011. **The Assembly acknowledged** the work done by the Executive Secretary and **congratulated** him on his contribution to the work of the IOC and the success achieved under his direction during these years.
- 76 The Executive Secretary concluded with the remark that he had done his duty with pleasure. In view of the fact that this was the last time that he would report on programmatic and strategic matters to the IOC Assembly in plenary, he asked the permission of the Chairman to summarize his views on the general strategic positioning of IOC during the last ten years, with respect to UNESCO, the UN system and its specialized programmes and agencies, NGOs and the main constituencies participating in the work of IOC.
- 77 The Executive Secretary noted that it would be a failure to not understand the joint responsibilities of the Secretariat and the Member States within, and beyond, the UNESCO regular budget. We cannot ignore the fact that, considering only the UNESCO contribution to the budget of IOC, 60% of the IOC costs, as in many other intergovernmental organizations, go towards staffing and 40% go to the programmes. The Secretariat therefore has a major responsibility to raise extrabudgetary funding. Given this scenario, the Secretariat cannot limit itself to managing just the regular budget. Further, it is also important to balance global and regional needs and activities, and the players to achieve this balance were the Secretariat and

Member States, who must jointly share the responsibility for the work carried out under non-regular budget funding. The Executive Secretary concluded that this is at the same time a challenge and a golden opportunity for the Secretariat and the IOC governing bodies to address the problem by analysing the funding and activities as a whole, as required by the financial regulations of the IOC.

- 78 The Representative of the European Centre for Information on Marine Science and Technology Eur-Oceans expressed his organization's appreciation of the collaboration maintained with the Executive Secretary on behalf of IOC regarding information on activities of mutual interest. He also expressed his willingness to pursue consultations on further developing collaboration on the possible use of Eur-Oceans as a convenient European portal of the Commission.

3.3 REPORT ON THE IOC ACTIVITIES (2007–2008) TO THE THIRTY-FIFTH GENERAL CONFERENCE OF UNESCO

- 79 The Executive Secretary introduced this item. He recalled that the 30th Session of the General Conference of UNESCO, in 1999, approved a modification of the Statutes of the Commission and confirmed the functional autonomy of IOC within UNESCO and the requirement to report directly to the General Conference. Subsequent to the Report of the External Auditor [165 EX/29 Add. Financial report and audited financial statements of UNESCO for the period ended 31 December 2001 and the Report by the External Auditor], the preceding biennial reports have highlighted the achievements of IOC with respect to the main results expected in the UNESCO Medium-term Strategy 2002–2007 (31 C/4), with a short section to report on results obtained by each Main Line of Action (C/5 format).

- 80 The IOC Report to the 35th General Conference will focus on the achievements and results obtained by IOC with respect to the UNESCO Medium-term Strategy 2008–2013 (34 C/4). A short section addresses the implementation of the three IOC Main Lines of Action included under the present Programme and Budget (34 C/5). With this structure, the IOC has started to put its reports fully in phase with the calendar of the General Conference and the implementation of the UNESCO Medium-term Strategy 2008–2013 (34 C/4).

- 81 Tunisia, seconded by Madagascar and Senegal, suggested reflecting in the text of the report the disproportion between the dwindling resources and the increasing responsibilities of IOC. They also suggested that the document report on how the Priority Africa for UNESCO is implemented in IOC, thus giving more visibility to the IOC activities in Africa.

- 82 China thanked the Executive Secretary for preparing the draft report, supported it and indicated that the main activities of IOC are well summarized in it. China suggested that a paragraph be included in the report objectively describing the status of IOC in terms of the adverse impact of shortage of resources and staff, so that the report will highlight how IOC contributes to UNESCO, but will bring the problems to the attention of the General Conference of UNESCO.

- 83 Portugal concurred with China and indicated that the IOC's relation with its parent organization should be based on complementarity, clear and truthful. For Portugal the implementation of functional autonomy still needs to be confirmed in practice. Portugal looks forward to the Ministerial Round Table during the 35th General Conference to consider how to enhance this requirement as a key contribution to future ocean governance.

- 84 The Executive Secretary indicated that the point made by Tunisia, Madagascar and Senegal is well taken and that the activities of IOC in Africa should be well reflected in the report. He therefore proposed to add a summary of activities in Africa, and the general breakdown of the IOC budget by source of funding (UNESCO and other sources), thus conveying a politically strong message. He also welcomed the remarks of China and Portugal

and suggested that China and Portugal propose a paragraph to be added to the report reflecting their concerns. Portugal and China accepted this suggestion and provided a text to be added to the IOC report for the 35th General Conference.

85 Australia, which chairs the Financial Committee, anticipated that the issue of regional activities will be raised; therefore the Financial Committee could provide a text to be included in the Draft Summary Report of the present session, reflecting the Priority Africa.

86 The Chairman encouraged delegates of the Member States to the Assembly to speak on the importance of IOC when they return to their countries, so that the Member States' delegations to the General Conference of UNESCO may note the importance of IOC.

87 **The Assembly agreed** to include the amendments proposed by the Member States here above and **approved** the Report on the IOC activities (2007–2009) to the 35th General Conference of UNESCO (document IOC-XXV/6 Rev.) with said amendments.

4. PROGRAMME MATTERS REQUIRING DECISIONS BY THE ASSEMBLY

4.1 GENERAL POLICY ISSUES, UN CONVENTIONS AND AGREEMENTS

4.1.1 Preparation for the Commemoration of the 50th Anniversary of the IOC (1960–2010) and the Ministerial Round Table at the Thirty-fifth General Conference of UNESCO

88 The Acting Head of the Ocean Sciences Section, Mr Julian Barbière, introduced this item. He recalled IOC's commitment to play an active role in the establishment of the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socio-Economic Aspects (GRAME) and the steps taken by the Commission.

4.1.1.1 Preparation for the Commemoration of the Fiftieth Anniversary of the IOC

89 IOC Consultant, Dr I. Oliounine, introduced this item. Referring to Document IOC/INF-1257 entitled "Progress in the Preparation for the 50th Anniversary of the Intergovernmental Oceanographic Commission of UNESCO", he highlighted achievements and identified problems in the implementation of the IOC Plan of Action for the commemoration of the 50th anniversary adopted by the IOC Executive Council at its 41st Session; he informed the Assembly about new initiatives and presented the obstacles slowing down the implementation.

90 The programme of events is wide, giving an opportunity not only to observe the past in the development of the IOC, but also to look into the future. Although the main objective of the commemorative activities is to raise awareness of the IOC contribution to the response to the challenges facing the world and to promote a better image of the IOC, many of the planned activities will help to raise understanding of the importance of the oceans and their resources, of oceanography and related sciences, not only within the public at large, but also within industry, business and government.

91 The principal forms of celebration are:

- Conferences, training workshops and courses, round tables and briefs planned by the Member States for the years 2009-2011
- Expositions, days and sessions dedicated to the 50th anniversary, usually conjointly with events of global importance, such as the 35th General Conference of UNESCO, in 2009, the Global Oceans Conference, in Paris in 2010; the UN Climate Change Conference, in Copenhagen in 2009; EXPO 2010 in China; and EXPO 2012 in the Republic of Korea

- The production of promotional materials, such as flags, flashdrives, stamps, 2010 calendar, etc., with the 50th anniversary logo
- The development of the 50th anniversary webpage on the IOC website.

92 The prototype version of the webpage was demonstrated and Member States were invited to submit their comments on the format and content of the webpage by the end of September in order to finalize the page and make it widely accessible by the beginning of 2010. The webpage will be regularly updated, based on the inputs of Member States describing their planned commemorative activities.

93 Dr I. Oliounine stated that better progress could be achieved if a budget line had been defined in the 34 C/5, and he encouraged Member States to be more responsive to calls for action.

94 Numerous Member States and Representatives of partner organizations informed the Assembly about the activities they have planned for the anniversary commemoration. The full list of contributions is in [Annex V](#) to the present Summary Report.

95 Prof. David Pugh informed the Assembly on the state of the preparation of the book that will be published on the occasion of the IOC 50th anniversary.

96 Prof. Pugh and Mr Geoffrey Holland, both Past Chairmen of the Commission, are the book's co-editors. On the advice of the Executive Council, an editorial advisory board has been established, its members being chosen for their expertise and the widest possible geographical representation. The board has advised on the topics to be covered in the book and on potential authors. Discussions with the UNESCO Publications Unit, and potential commercial publishers, revealed that a book on the history of the IOC, in a narrow sense, based on previous experiences, would not be saleable. In accordance with the Assembly's intention to use the anniversary to tell a wide audience about ocean issues, the emphasis is now being placed on "Oceans, science and governance", but with contributions by authors familiar with the work of IOC in this context. About two-thirds of the authors have now sent in draft chapters, including several from IOC partners in the UN system (WMO, UNEP, FAO, IMO), as well as SCOR and the IHO. The next stage is to identify a publisher and to undertake the substantial editing that will be necessary to produce a homogeneous final text. More funds are needed for this publication and are being sought from Member States.

97 Prof. Pugh is also holding detailed discussions with two Member States on the attribution of a high-level "Nobel" prize and of prizes for "young professionals" in the oceanographic field.

98 **The Assembly expressed** its gratitude to the Member States that have already contributed, or have already committed contributions, to the development of the promotional activities, notably:

- The United Kingdom, for its contribution to the development of the flags bearing the IOC 50th anniversary logo
- The Government of Flanders (Belgium), for its support for the production of the IOC Book
- China, for providing an annual contribution of US\$ 10,000 for the period 2009–2011
- Canada, for confirming its readiness to contribute US\$ 50,000 in support of the activities identified in the IOC Plan of Action for the anniversary.

99 The Head of the United Kingdom delegation and the Chairman of the IOC gave IOC anniversary flags to the Member States that had informed the Assembly of their plans to

implement commemorative research cruises; these flags will be later given to the captains of the corresponding research vessels to be hoisted on the masts of their respective vessels.

100 **The Assembly noted** that a big majority of the proposed activities are planned by the Member States for 2010; **it reminded** Member States that the dedicated activities may be carried out throughout 2009–2011 and even for a few years later, as follow-up to the commemoration.

101 The Chairman of the sessional Working Group on the 50th Anniversary, Prof. Pugh, reported that it had held two meetings. Information on national activities had been added to the Secretariat inventory. Information for inclusion in the first publication of the website, as well as comments on the format and content, should be with the Secretariat by 30 September. The site will be active from 1 January 2010. Activities to the end of 2011 and beyond, related to the Anniversary, will be included.

102 Concerning the book, translations into Spanish, French, Russian and Chinese may be possible, using national facilities; this will be discussed with potential publishers.

103 While funding for national activities is encouraging, funding for central activities and coordination is less assured. Prof. Pugh indicated the US\$ 500,000 is likely to be required.

104 The sessional Working Group discussed how the Executive Council, at its 43rd Session (Paris, 1–16 June 2010), could celebrate the 50th Anniversary. Tuesday 8 June, which is the UN World Oceans Day, should be dedicated to celebratory activities, which might include a special R. Revelle Lecture, formal statements to the world, video web links to all continents, especially if the involvement of children can be highlighted. There are possibilities of doing this through the global network of aquaria. Detailed planning should be done by the Secretariat, in consultation with the Officers.

105 **The Assembly invited** its Member States and partner organizations to keep the IOC Secretariat (attention Dr I. Oliounine) regularly informed of the plans and progress achieved in the implementation of commemorative activities and events. All the information will be widely used through the website and by other means for the promotion of the anniversary. **The Assembly called** on Member States and other interested parties to provide the Secretariat with copies of all promotional materials developed by them which are of relevance to the 50th anniversary.

106 **The Assembly re-emphasized** the importance of having the 50th anniversary IOC logo displayed at all commemorative activities and events and on all promotional materials and publications.

107 **The Assembly requested** the Executive Secretary to provide support to the 50th Anniversary activities to ensure a successful outcome.

4.1.1.2 Ministerial Round Table at the Thirty-fifth General Conference of UNESCO

108 The IOC Executive Secretary introduced this item. He informed the Assembly of the decision of the Director-General of UNESCO to hold the Ministerial Round Table on “Ocean Governance” in conjunction with the General Conference of UNESCO in 2009. This decision was endorsed by the UNESCO Executive Board in April 2009. The Executive Secretary explained that the preparation for the event has already started and that a letter will be sent to Member States to identify participants of a high decision-making level who will be invited to take part in the Round Table. The Ministerial Round Table will be held on 12 and 13 October 2009 on the subject of “Building Stewardship for the Ocean: the Contribution of UNESCO to Responsible Ocean Governance”, with the following themes:

- Theme 1: The role of science and the United Nations in providing governance for the ocean
- Theme 2: The contribution of UNESCO to monitoring the state of the ocean and its ecological services: the United Nations Regular Process
- Theme 3: Ocean and climate change, the impacts on and from the ocean: adapting coastal cities to sea-level rise.

109 The Round Table is based on the need to rally effective support from Member States for the implementation of a Regular Process under the United Nations for Global Reporting and Assessment of the State of the Marine Environment, including Socio-economic Aspects, pursuant to the Plan of Implementation adopted at the World Summit on Sustainable Development in 2002.

110 The participants in the Round Table will also discuss the special role that the United Nations plays in establishing the legal framework for ocean governance and the role of UNESCO and its IOC in providing the critical contributions of marine sciences to accurate, unbiased assessments of the state of the ocean environment and to the provision of guidance to decision- and policy-makers. The rationale for establishing the Round Table is in [Annex VI](#) to the present report.

111 **The Assembly noted** with interest information provided by the Executive Secretary and supported this important event. **The Assembly called on** its Member States to provide extrabudgetary funding to ensure the success of the Round Table.

112 **The Assembly instructed** the Executive Secretary to report the outcomes of the Round Table to the 43rd Session of the Executive Council.

4.1.2 Consideration of the Legacy of the International Polar Year (IPY) (2007–2009)

113 Dr Michel Béland, Meteorological Service of Canada, Chairman of WMO/CAS, on behalf of David Carlson, Director of the IPY International Project Office, introduced this item.

114 The IOC Executive Council, at its 37th Session (Paris, 23–29 June 2004), by Resolution EC-XXXVII.3, endorsed the IPY. The Assembly, at its 24th Session (Paris, 19–28 June 2007), decided, by Resolution XXIV-7, that GOOS would:

“develop plans and commitments to build and sustain ocean observation networks in the polar regions as a legacy of International Polar Year activities, while taking into account the importance of preservation of these environments.”

115 Numerous IOC Member States have contributed substantially to the immensely successful programme of observations and research carried out during the IPY. One of the most important legacies of the International Polar Year will be its catalytic effect on filling the longstanding polar gaps in the Global Ocean Observing System. Relevant plans outlining how such regional high-latitude systems might be developed include the Sustaining Arctic Observing Networks report (www.arcticobserving.org) and the Southern Ocean Observing System. In addition, IOC is now potentially well placed to join WMO, ICSU and other partner organizations as an active co-sponsor of any post-IPY initiatives that may arise within the scope of the broad interdisciplinary science of IPY.

116 Numerous IOC Member States noted that the successful research programmes of the IPY are ongoing efforts of great impact on climate change science, and a sustained research and operational observation system is a necessary legacy of the IPY. The Russian Federation and Finland supported the ministerial declaration of the Arctic Council (Tromsø, Norway, 29 April 2009), which called for an International Polar Decade, and urged IOC Member States to participate.

- 117 Argentina stated that the IOC initiatives should be developed in consultation with the Consultative Parties to the Antarctic Treaty and in conformity with the Antarctic System.”
- 118 Japan welcomed the adoption of the Washington Ministerial Declaration on the International Polar Year (IPY) and Polar Science at the 32nd Session of the Antarctic Treaty Consultative Meeting (Washington, 6–17 April 2009), and emphasized that oceanographic data taken during the IPY in the oceans of high latitude are an important legacy of the IPY and that they should be widely exchanged and made available through IODE channels to the international community.
- 119 The Chairman of I-GOOS, Mr François Gérard (France), reminded the Assembly that I-GOOS had been mandated by the Assembly at its 24th Session to achieve GOOS development in polar regions by building on the IPY legacy. Therefore I-GOOS, at its 9th Session (Paris, 10–12 June 2009), reviewed progress of two initiatives coming from the scientific community, SAON for the Arctic and SOOS around the Antarctic, and decided to continue the work towards GOOS regional alliances in the polar seas. Achieving the legacy of IPY is on the GOOS agenda for the next two years.
- 120 **The Assembly decided** to: (i) support multilateral ocean-observing systems in the Arctic and Southern Oceans as regional contributions to GOOS, implemented under the guidance of JCOMM, and of IODE for data exchange and long-term stewardship of the data; and (ii) support the Arctic Council's call for a follow-on International Polar Decade.

4.1.3 Relations with the Convention on Biological Diversity

- 121 The Executive Secretary introduced this item. He briefly reviewed the IOC contributions to the achievement of the goals of the Convention on Biological Diversity (CBD) in different fields, but mainly in the definition of scientific criteria for identifying ecologically or biologically significant marine areas in need of protection. Recently, IOC–MAB have published the report *Global Open Oceans and Deep Seabed (GOODS) Biogeographic Classification* (IOC/2009/TS/84), produced with the collaboration of Australia, Canada, Germany, Mexico and IUCN. The Executive Secretary reminded the Assembly that the 9th Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) adopted scientific criteria (decision IX/20, Annex I) for identifying ecologically or biologically significant marine areas beyond national jurisdiction, and also stressed the importance of marine areas in need of protection in the open ocean and deep seas. The Executive Secretary remarked the importance of ocean governance and organization and the importance that this collaboration with the Secretariat of the CBD has for the IOC.
- 122 The Netherlands remarked that, even if the Assembly is going to discuss OBIS later on, the OBIS programme was of major relevance to marine biodiversity and that the OBIS database is essential to the CBD.
- 123 Madagascar reported on a recent meeting of the International Council of Man and the Biosphere (MAB) and that Spain and other countries had decided to create a network of coastal and island reserves that could be part of an interdisciplinary programme between IOC and MAB. Madagascar also reported on the importance of marine protected areas (MPA) as a mitigation tool in climate change.
- 124 Argentina stressed that, even if there is an agreement on the criteria to establish MPAs, there is no resolution of the issue of governance of MPAs beyond national jurisdiction; moreover, in its view, the term “deep seas” does not correspond to any maritime space in UNCLOS.
- 125 Argentina also informed the Assembly of its reservations on document IOC Technical Series 84, *Global Open Oceans and Deep Seabed (GOODS) Biogeographic Classification*

(IOC/2009/TS/84) and requested its position to be included as an Annex ([Annex III-D](#)) to the present report, under the heading "GOODS: Argentina's intervention under item 4.1.3".

126 China encouraged IOC to work on this item as it contributes to the IOC High-Level Objective 3 and increases the visibility of IOC as an international source of expertise in MPAs and as the lead in ocean sciences within the UN system.

127 Canada supported IOC activities in line with the 9th Conference of the Parties (COP) to the Convention on Biological Diversity (Bonn, 19–30 May 2008) and announced that Canada will host a CBD Expert Workshop on Scientific and Technical Guidance on the Use of Biogeographic Classification Systems and Identification of Marine Areas beyond National Jurisdiction in Need of Protection (Ottawa, 29 September–2 October 2009).

128 The Executive Secretary explained that IOC is aware of the MAB activities and also that the World Ocean Conference (Manado, Indonesia, 11–14 May 2009) brought attention to the link between mitigation of the impact of climate change, especially on marine habitats, and marine protected areas. He recognized that a programme could be developed, but that it is premature to talk about an intersectoral programme; however, there is ample room for collaboration.

129 The Executive Secretary fully agreed with Argentina that there is a lack of legal definitions, but that, even so, there are initiatives to create MPAs beyond national jurisdiction, and IOC can legitimately contribute scientific and technical knowledge for the protection of the marine environment and particularly for consideration of marine biodiversity issues. The GOODS report was a good example of a relevant scientific contribution and fed useful information into the CBD process on these issues. IOC should continue to engage with CBD and other processes, including the UNGA Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction.

4.1.4 Report of the Ninth Session of the IOC Advisory Body of Experts on the Law of the Sea (IOC/ABE-LOS IX)

130 The Chairman of the IOC Advisory Body of Experts on the Law of the Sea, Mr Elie Jarmache, introduced this item. He reported on the outcome of the 9th Meeting of IOC/ABE-LOS (Paris, 30 March–3 April 2009) with particular reference to the accomplishment of the tasks entrusted to the Advisory Body by Resolution XXIII-8, which called on IOC/ABE-LOS to propose practical guidelines for: the deployment of floats on the high seas that may drift into EEZs; the deployment of floats and surface drifting buoys in EEZs; and the deployment of XBTs by ships of opportunity in EEZs; and, by Resolution EC-XLI.4, the "Guidelines for the Implementation of Resolution XX-6 of the IOC Assembly Regarding the Deployment of Profiling Floats in the High Seas within the Framework of the Argo Programme."

131 At its 9th Meeting, IOC/ABE-LOS decided that the deployment of XBTs or floats in Exclusive Economic Zones did not require specific guidelines. Present practice, which has given good results, lies in bilateral agreements. It is therefore not useful to create a specific new juridical framework for such activities.

132 Regarding the "Practice of Member States Concerning the Application of Parts XIII and XIV of UNCLOS", the IOC/ABE-LOS at its 9th Meeting reviewed the responses to questionnaire No. 3, and agreed to: offer aid to Member States that so wish; develop cooperation among the Member States in the framework of marine scientific research projects, with particular attention to: capacity-development; sensitizing IOC Focal Points on the importance of their role in the practice of Member States; and the need to continue the work on the practice of Member States. The Advisory Body also requested the Secretariat to issue a Circular Letter inviting Member States to respond to or update their responses to the questionnaire.

- 133 Among the topics relevant to the practice of States, on which further work was suggested should be done, were: the assessment of environmental risk associated with marine scientific research and with ocean-fertilization experiments and operations.
- 134 The Chairman of IOC/ABE-LOS noted that the Advisory Body not only needed the reassurance of the Assembly and the Executive Council, but also a minimum logistical support from an adequate technical secretariat, which in his opinion had not been the case for the Advisory Body's 9th Meeting. The Advisory Body recommended, for the consideration of the Assembly at its 25th Session, several items that could become part of a resolution. These include: (i) The preparation, for the consideration of the IOC Executive Council at its 43rd Session (2010), of two working papers analysing the challenges in the implementation of IOC/ABE-LOS products; (ii) The issuance of four Circular Letters in relation to the "Guidelines for the implementation of Resolution XX-6 of the IOC Assembly (Annex to Resolution EC-XLI.4) and the Argo Programme; (iii) Design of an automatic tool to notify implementers of the possible drifting of their float(s) into the EEZ of a Member State requesting notification under the Guidelines; (iv) Promotion of the Roster of Experts on MSR and TMT; and (v) Working relationships with the UN Division for Ocean Affairs and the Law of the Sea.
- 135 **The Assembly thanked** the Chairman of IOC/ABE-LOS for his informative introduction and **welcomed** the progress achieved by the Advisory Body.
- 136 Several Member States supported the decision taken at IOC/ABE-LOS IX that guidelines for the deployment of floats or drifting buoys in EEZs or for the deployment of expendable bathythermographs (XBTs) by ships of opportunity in EEZs are not needed, because such deployment is a bilateral matter for the float deployer/implementer and the concerned Member State and that current practice is working well. Some Member States reminded the Assembly that, by Resolution EC-XLI.4, the Executive Council requested the Executive Secretary
- "to take necessary action to develop practical, routine procedures with Member States and the relevant bodies, to implement the Guidelines".*
- 137 **The Assembly agreed** that such procedures could include automatic notification from the Argo Information Centre to a float deployer/implementer whose float is nearing waters of a State requesting notification under the Guidelines.
- 138 Regarding IOC/ABE-LOS guidelines on data collection by drifting buoys, Argo floats, gliders etc., Spain stressed the need to develop the means, and the rules, to facilitate collection of ocean data by such means.
- 139 With respect to Questionnaire No. 3, several Member States welcomed the decision of IOC/ABE-LOS to further analyse the data from the completed questionnaires and encouraged Member States that have not yet provided their completed questionnaire to the IOC Secretariat to do so as soon as possible, so that the final analysis could include their perspectives.
- 140 With respect to Secretariat support, numerous Member States recognized the need to ensure adequate support for the Advisory Body, both for its meetings and its intersessional activities; this would avoid, for example, delay in publishing the Summary Report of a session. Peru also suggested that it would be preferable if meetings could be held at headquarters in the future, since participation was reduced when they were held in different parts of the world.
- 141 Some Member States supported the need to assess the environmental risks associated with the conduct of marine scientific research, and noted that OSPAR and the International Research Vessel Operator community have all published non-mandatory guidelines looking at managing environmental risks associated with certain aspects of such research. The United Kingdom wished to see the development by IOC/ABE-LOS of guidance in this specific area, given its unique combination of technical, scientific and legal expertise.

- 142 On the question of ocean fertilization experiments and operations, some Member States noted that the problem is being evaluated in numerous other international fora. They believed that, in the absence of any specifically identified problems, there was no need at this time to task IOC/ABE-LOS with consideration of this matter.
- 143 With respect to new tasks for IOC/ABE-LOS, some Member States favoured tasking the Advisory Body with the consideration of the deployment of ocean gliders in the light of Part XIII of UNCLOS, but recognized that there is no requirement for the Advisory Body to look further into the question of a legal regime for the deployment of gliders. One Member State pointed out that the evaluation, in the context of UNCLOS, of the collection of oceanographic data by gliders is not necessary, since gliders can be steered, so there should be little or no concern over their accidental entry into an EEZ from the high seas.
- 144 Peru proposed the organization of seminars on the emerging juridical issues that IOC/ABE-LOS is called to work on.
- 145 The Russian Federation stressed the view that data collection is not an operational activity, but part of marine scientific research, which would require permits from the coastal States concerned. While welcoming the work on Article 247 of UNCLOS, it believed that IOC/ABE-LOS needed also to work on how other articles are implemented (e.g. relations between countries gathering data and the coastal States concerned). It requested the Executive Secretary to prepare a general document covering issues related to liability in the event of collision between floats and ships, gliders etc., and to seek recommendations from the Advisory Body on this issue. However, some Member States agreed that IOC/ABE-LOS could discuss State practices on this matter to determine whether there are any issues or problems that could benefit from its advice, noting that any mandate to the Advisory Body on this issue needs to include specific terms of reference.
- 146 Turkey stated that it is not a party to the UN Convention on the Law of the Sea (UNCLOS), therefore the overall discussion in this context should not be interpreted as a change in its national position with regard to those instruments.
- 147 On other related matters, Japan requested the Executive Secretary to provide information on the actions taken by the Secretariat in the implementation of IOC/ABE-LOS activities as a whole, and on the present status of the list of Argo National Focal Points. Japan reminded the Assembly that many of IOC's activities have to be consistent with Part XIII of UNCLOS, and therefore IOC/ABE-LOS must provide useful materials for the effective implementation of marine scientific research by Member States under Part XIII of UNCLOS.
- 148 Finland stated its concern regarding climate change in the Arctic region and the North Atlantic. Finland is in the process of joining the Argo programme and will shortly give the Secretariat the name of their National Focal Point for Argo. Finland is also eager to cooperate with other Member States in ocean observation.
- 149 The U.S.A. informed the Assembly that it had prepared a brief report on its experiences with implementing these guidelines and could present it at an appropriate time during the present session. It also suggested that it may not be necessary for IOC/ABE-LOS to meet annually, or at any regular interval, but rather when the IOC determines there is work for it to do.
- 150 Regarding the assessment of the environmental impact of marine scientific research, some Member States believed that it was unclear as to whether there was a problem regarding the environmental impact of marine scientific research, and therefore, whether any advice or work from IOC/ABE-LOS was required on this matter. India agreed with the U.S. position in this regard.

- 151 Portugal expressed its appreciation of the work accomplished by IOC/ABE-LOS under the leadership of its Chairman, and emphasized the special nature of this subsidiary body of the Commission, due to the productive and balanced combination of lawyers and marine experts. Portugal is strongly in favour of a continuation of the work of this expert group, namely, regarding the study of State practice on the application of the adopted Guidelines on marine scientific research (document IOC/INF-1222).
- 152 Argentina stated that Resolution EC-XLI.4 invited Member States to inform the Assembly about the implementation of the Guidelines. In the case of Argentina, the result is positive. However, Argentina is of the opinion that the Resolution is not being fully implemented. The Resolution requests the Executive Secretary to actively promote the Guidelines and divulgate them among the Member States, and to develop practical and routine procedures for the application of the Guidelines. Argentina considers that IOC Circular Letter 2271 in this regard was confusing and ineffective. On the second request, at the 41st Session of the Executive Council, at least three Member States expressed their willingness to collaborate in the development of these procedures, but there has been no action by the Secretariat. The lack of such procedures goes against an effective and efficient implementation of the Guidelines and places an unnecessary burden on deployers/implementers and on receiving coastal States. Argentina shared the IOC/ABE-LOS concern regarding the necessary technical secretariat support needed.
- 153 The Chairman of IOC/ABE-LOS reminded the Assembly that the Advisory Body was not mandated by the Assembly to take any autonomous decisions. Although IOC/ABE-LOS will work on what is requested of it, he thought that this should not rule out looking at certain relevant topics and coming up with recommendations, despite the fact that other bodies might be working on the same problems. He suggested that a resolution on the progress of IOC/ABE-LOS would give a very strong signal.
- 154 **The Assembly created** a sessional Working Group, chaired by the United Kingdom and including Argentina, Brazil, China, Egypt, France, Germany, India, Japan, Portugal, Russian Federation, U.S.A, and the Chairman of IOC/ABE-LOS to prepare a Draft Resolution.
- 155 **The Assembly adopted** [Resolution XXV-1](#).
- 4.2 MANAGEMENT PROCEDURES & POLICIES FOR THE SUSTAINABILITY OF COASTAL & OCEAN ENVIRONMENT & RESOURCES (HIGH LEVEL OBJECTIVE 4)
- 156 The Chairman of the Sessional Working Group on Regional Subsidiary Bodies, Prof. Mario Ruivo (Portugal), noting that the agenda is lacking an item on Regional Subsidiary Bodies (RSBs), and calling for its inclusion in future IOC Governing Body sessions, informed the Assembly that the Working Group had held three meetings. It reiterated its view that the regional scale is particularly appropriate for addressing global issues, including climate impacts on marine ecosystems and assessments of the state of the marine environment, including marine pollution, large marine ecosystems and biodiversity.
- 157 The Sessional Working Group discussed the diversity and great number of IOC regional offices and activities, recognizing differences in viability and functionality of the RSBs and IOC decentralized offices. It was noted that some RSBs and decentralized offices require immediate assistance to build their capacity to meet IOC objectives and provide assistance to IOC Member States. In particular, the Sessional Working Group recommended that the Assembly request the Executive Secretary to re-activate IOCINDIO and IOCEA, giving consideration to the activities of the existing IOC and other relevant regional bodies. Furthermore, the Sessional Working Group recommended that the Assembly establish an open-ended intersessional Working Group to address the urgent need to rationalize and strengthen RSBs and regional activities to adequately respond to IOC Member States' needs and priorities, and to ensure the full regional implementation of the IOC Medium-Term Strategy.

158 **The Assembly adopted [Resolution XXV-2](#).**

4.2.1 Data and Information

4.2.1.1 Report of the Twentieth Session of the IOC Committee on International Oceanographic Data and Information Exchange (IODE-XX)

159 The Co-Chairman of IODE, Mr Greg Reed (Australia), pursuant to Rule of Procedure 48.3, reported on the results of the 20th Session of the IOC Committee on International Oceanographic Data and Information Exchange (Beijing, 4–8 May 2009).

160 Important progress has been achieved with the development of the IODE Ocean Data Portal (IODE ODP). IODE ODP provides access to real-time, delayed-mode and historical data and products managed by IODE NODCs and other contributing programmes. An especially welcome development was the IODE ODP's contribution to the WIGOS Pilot Project for JCOMM; it will also contribute oceanographic data and services to the WMO Information System (WIS). IODE provides a Co-Chairperson to the Joint Steering Group for the IODE Ocean Data Portal and the WIGOS Pilot Project for JCOMM.

161 Training in the establishment of data nodes for the IODE ODP in interested Member States has started: a first course was held in Obninsk, Russian Federation, in March 2009; a second course is planned to take place in August–September 2009, kindly hosted and co-sponsored by the Republic of Korea.

162 Cooperation between IODE and the Data Management Programme Area (DMPA) of JCOMM has increased. The Chairperson of the JCOMM DMPA is now an IODE Officer and an IODE Co-Chairperson is now a member of the JCOMM DMCG. IODE, at its 20th Session, proposed the revision of Terms of Reference of the JCOMM–IODE Expert Team on Data Management Practices (ETDMP) (Recommendation IODE-XX.1). IODE nominated four members of the ETDMP; the remaining four members are to be nominated by JCOMM at its 3rd Session (JCOMM-III).

163 The IODE Co-Chairman reported that IODE and JCOMM also jointly sponsor the Ocean Data Standards Pilot Project. The objectives of this project are to develop: (i) community-wide standards for marine data and information management and exchange; and (ii) a process for accepting submissions of proposed standards and following these through a recommendation.

164 Regarding cooperation with OBIS, IODE-XX discussed the benefits of collaboration with OBIS and considered two possibilities for the future of OBIS: (i) the adoption of OBIS as an IODE programme activity; and (ii) the adoption of OBIS as a new programme of the Commission. IODE considered that funding was a major issue, as was the OBIS business plan, which was not available to IODE-XX. Therefore, IODE-XX was not able to comment in detail on funding issues. The Committee did however recommend the establishment of a new joint IODE–OBIS Expert Group which would facilitate synergy, avoid duplication of effort and enhance the exchange and management of ocean biological data. The IODE Committee also adopted the “IODE Statement on the Future of OBIS”, which concluded with

“The Committee agrees in principle that the OBIS programme could be sensibly accommodated within IODE. However, without a more finalized version of the OBIS business plan, the financial requirements and thus the financial implications for IODE cannot be fully assessed at this point in time. Thus IODE decided that it would be premature to make a recommendation at this stage, whilst welcoming the possibility of OBIS becoming a part of IODE.”

165 Regarding capacity-development, the 4th phase of ODINAFRICA was approved for funding by the Government of Flanders (Belgium). The focus will be on application of data and

information products to the sustainable management of marine and coastal resources, as well as reducing the risks of ocean-related hazards.

- 166 The Chairman invited IOC Vice-Chairman, Prof. Chérif Sammari, to address the Assembly. Prof. Sammari presented the new publication “African Oceans and Coasts” (document IOC/INF-1255), prepared on the occasion of the completion of the 3rd phase of ODINAFRICA. He noted that this publication clearly showed the level of activity that African countries have now reached, not only in oceanographic data and information management, but also in terms of ocean science and observation. It therefore shows not only the strengths of individual IOC Member States in Africa, but also their weaknesses. ODINAFRICA has brought together an active African “team” and promoted synergy. On the basis of the solid foundation laid by ODINAFRICA, Prof. Sammari called on African Member States to jointly set priorities, raise funds and develop the products and services needed for management and decision-making.
- 167 In the WESTPAC region, a work plan has been prepared for ODINWESTPAC that will include several regional activities, training courses, Ocean Data Portal implementation and data product development. Prof. Lin (China) has been selected as Coordinator for the project.
- 168 Regarding ODINCARSA, significant progress has been made with the Caribbean Marine Atlas (CMA). For the Latin America sub-region, the need was identified to organize a regional meeting to enable the participating countries to define new goals and to identify a new regional coordinator, following the resignation of Mr Rodney Martinez, who had coordinated the project since its inception.
- 169 ODINCINDIO is an area of concern: following the resignation of the regional coordinator (Prof. Zaker, Islamic Republic of Iran), there was a need to re-activate the project to provide a forum for collaboration and exchange of data and information in the region.
- 170 A new ODIN has now also been established for small island States in the Pacific: ODINPIMRIS. This network, which will deal with marine information management and exchange, was being developed in close collaboration with PIMRIS (Pacific Islands Marine Resources Information System), a formal cooperative network of libraries and information centres within regional organizations and government agencies concerned with the development of fisheries and marine resources in the Pacific.
- 171 Changes to the ICSU World Data Centre system and the formation of the new World Data System (WDS) is an important issue that will impact on the IODE. The Committee established an intersessional working group to address the issue of Long-term Secure Archival of Data and Information. It will address the following questions: (i) What does IODE need from WDCs or their successor organizations to promote “Long-term Secure Archival of Data and Information”? (ii) What do WDCs or their successor organizations need from IODE to promote “Long-term Secure Archival of Data and Information”?
- 172 Belgium informed the Assembly that the Government of Flanders had decided to continue its support to IOC in 2009–2012 by funding the 4th phase of ODINAFRICA, the OceanTeacher Academy Project and the Caribbean Marine Atlas project (as well as a number of small-scale projects) within the framework of the Flanders–UNESCO Science Trust Fund (FUST), and was considering continued support to the IOC Project Office for IODE in Ostend, Belgium, as well as to other IODE activities.
- 173 Several Member States from the Caribbean and Latin America regions stressed the importance of IODE capacity-development support within the framework of ODINCARSA and its links with other IOC programmes, such as ICAM and HAB. The small islands in the Caribbean have benefitted from the development of the Coastal Marine Atlas pilot project and will now embark on a three-year full-scale Caribbean Marine Atlas project, which has already generated

interest and commitment from many stakeholders in the participating countries. Latin American Member States have benefitted from the network-building activities of ODINCARSA and have also developed widely appreciated information products such as the e-repository OceanDocs. However, several IOC Member States regretted the resignation of Mr Rodney Martinez as ODINCARSA coordinator.

- 174 China welcomed the development of an ODIN for the WESTPAC region (ODINWESTPAC) and, while cautioning that the network was at an early stage of development, stressed its commitment to the project as the new coordinator for ODINWESTPAC.
- 175 The Republic of Korea informed the Assembly that it will be hosting and co-sponsoring the first WESTPAC Training Course for IODE Ocean Data Portal Data Providers, between 31 August and 4 September in Seoul. He further reported that the Republic of Korea will shortly make available its CTD data to IOC Member States.
- 176 Kenya expressed its great satisfaction with progress made by ODINAFRICA-III and welcomed the decision by the Government of Flanders (Belgium) to support ODINAFRICA-IV. However, noting that this will probably be the final phase of the Flanders Government's support, Kenya called for the inclusion of an exit strategy within ODINAFRICA-IV that would enable NODC's of the participating Member States to maintain their enhanced levels of operation after expiry of the project. Kenya also welcomed the start of the OceanTeacher Academy and expressed its interest in participating in this new project.
- 177 Sri Lanka, noting the current low level of activity in the IOCINDIO region in general, and in ODINCINDIO in particular, called for the re-vitalization of ODINCINDIO.
- 178 Several Member States expressed their appreciation of the development of the IODE Ocean Data Portal. Greece and Italy welcomed the planned linking between the IODE ODP and SeaDataNet. Australia informed the Assembly that Australia's national data portal, developed under its Integrated Marine Observing System (IMOS), will contribute to IODE ODP. The Russian Federation, while noting that its NODC had contributed substantially to the technological development of IODE ODP, informed the Assembly that the Russian Federation's national portal system, ESIMO, will also be linked to IODE ODP.
- 179 Several Member States expressed support for the incorporation of OBIS into IODE; and, while expressing caution regarding the financial implications of this undertaking, they recognized that OBIS would represent a substantial contribution to the completion of IODE's data coverage and provide many new opportunities for integrated data products and services for IOC.
- 180 Australia drew attention to the task of monitoring the implementation of the IOC Oceanographic Data Exchange Policy and requested information on this matter.
- 181 I-GOOS welcomed the IODE Secretariat's participation in, and reporting to, the recent I-GOOS-IX Session, and the success of the ODIN networks, as well as the excellent collaboration between IODE, GOOS and JCOMM.
- 182 The JCOMM Co-President, Mr Peter Dexter, stated that JCOMM, and WMO in general, were very appreciative of the cooperation with IODE, from the perspective of the results being achieved, and the spirit in which this cooperation was taking place. Starting from the formation of the joint JCOMM–IODE Expert Team on Data Management Practices some years ago, this cooperation now encompasses significant activities, such as the joint work on standards documentation and development, and the WIGOS Pilot Project for JCOMM, which utilizes the development of the IODE Ocean Data Portal, for which there is now a joint Steering Group. He further noted the importance of the IODE OceanTeacher project, and the work to be undertaken to incorporate elements within it of direct interest to JCOMM and the operational ocean

community. He looked forward to a future data management system for oceanographic and related marine meteorological data which will serve the interests of all user communities for such data, whether in real-time or delayed mode. From a purely WMO perspective, these interests would also include applications of oceanographic data which are of increasing importance to National Meteorological Services, not just for climate monitoring and prediction, but also for more immediate applications, such as Numerical Weather Prediction, using fully coupled ocean–atmosphere models.

183 The IODE Co-Chairman informed the Assembly that, as part of the national report for IODE Committee Sessions, information is requested regarding the application of the IOC Oceanographic Data Exchange Policy at the national level. This input is summarized in a working document for the IODE Committee.

184 **The Assembly instructed** the Executive Secretary to investigate ways and means to organize a regional workshop in order to review the objective of ODINCARSA, to prepare a new work plan and to select a new coordinator.

185 **The Assembly congratulated** Dr Malika Bel-Hassen Abid and Mr Greg Reed on their election as the Co-Chairpersons of IODE.

186 **The Assembly instructed** the IODE Committee to closely monitor implementation of the IOC Oceanographic Data Exchange Policy and to regularly report to it on this matter. **It urged** IOC partner organizations, programmes and projects to plan for, and implement, an active data and information management component in close collaboration with IODE.

187 **The Assembly expressed concern** about the changes taking place in the ICSU system of World Data Centres (WDCs) towards a World Data System and the impact of these changes on the long-term secure archival of data which is assured by the WDCs.

188 **The Assembly adopted** [Resolution XXV-3](#).

4.2.1.2 *IOC Collaboration with the Ocean Biogeographic Information System (OBIS)*

189 IOC Consultant and former Past-Chairman, Mr Geoffrey Holland, introduced this item.

190 Until recently, ocean biodiversity was largely unexplored and undescribed. Now, for nearly a decade, through the Census of Marine Life (CoML) (www.coml.org), scientists have been collaborating to assess the diversity of marine life throughout the world's oceans. The Ocean Biogeographic Information System (OBIS) is the data integration component of the CoML and, being open to contributions from any source, has become the largest marine biodiversity data base in the world. However, the future of OBIS is uncertain, as its funding ends in 2010. Private funds provided the starting point for this venture, but governments and the public will be the eventual beneficiaries and need to ensure that this programme continues. The IOC has recognized the vacuum in dealing with biological ocean data, and IODE has recently initiated several steps to address the issue. The IOC Executive Secretary made an offer to the OBIS Governing Board (at its meeting in Rome, 28–29 April 2008), to explore an institutional intergovernmental framework for the continuation of OBIS. The Board agreed and a proposal was brought before the IOC Executive Council at its 41st Session (24 June–2 July 2008).

191 The IOC Executive Council considered OBIS a highly attractive future component or partner of IODE and agreed to the wish of the OBIS Governing Board to investigate different scenarios for a closer affiliation of IOC and OBIS, including the adoption of OBIS by the Commission. The IOC Executive Council decided to prepare a document for submission to the IOC Assembly that, for different scenarios, should show the consequences for both IOC and OBIS, should identify the budgetary implications, and should involve consultations, as appropriate, with potential donors and/or host organizations.

- 192 With support from the Sloan Foundation and the Government of Flanders (Belgium), a Consultant coordinated the required tasks and assisted with an initial meeting between IODE and OBIS experts (IOC Project Office for IODE, Ostend, 24–26 November 2008). At this meeting, the participants agreed that the Statutes of the IOC (Articles 2.1, 2.2 and 11) clearly encompass the roles and objectives of OBIS. The IOC Oceanographic Data Exchange Policy (Res. XXII-6, IOC-XXII/3, 2006) and the IOC Strategic Plan for Oceanographic Data and Information Management, 2008–2011 (IOC Manuals and Guides, 51 – IOC/2009/MS/51; and Res. XXIV-9, 2007) were also found to be consistent with the policies and objectives of OBIS.
- 193 The IODE–OBIS experts' meeting recognized that the OBIS mission and objectives will complement the High-Level Objectives (HLOs) of the IOC and hence the UNESCO Programme and Budget (C/5). With regard to the latter, the importance of gaining an ocean biodiversity capacity, within the IOC, will complement related programmes within UNESCO and its priority on climate issues. The meeting also concluded that the adoption of OBIS, as a part of IODE or as a separate IOC/OBIS programme, were both valid options, but the preferred option was that OBIS should aim to become an IOC programme, together with the establishment of a joint IODE–OBIS Group of Experts, to ensure close cooperation between an IOC–OBIS programme and the IODE. An individual OBIS programme was considered better able to retain the ability to interact with related international partners on behalf of the IOC and UNESCO and to maintain the impetus and visibility that has been gained in this undeveloped area. Subsequent considerations, however, have shown that these two options are not necessarily exclusive and that the initial adoption of the OBIS as part of the IODE network may facilitate the initial transfer of OBIS into the intergovernmental community without prejudice to its final status as an independent IOC programme.
- 194 Following the IOC Executive Council's request, these recommendations were presented to the OBIS Governing Board (Rutgers University, New Jersey, U.S.A., 20–21 April 2009) for approval and then submitted to the 20th Session of the IOC Committee on IODE (Beijing, 4–8 May 2009) and to the IOC Oceanographic Data and Information Management Advisory Group (by e-mail) for comment. Another critical factor was the discussions with the present host institution (Rutgers University, New Jersey, U.S.A.), with a view to obtaining a formal proposal to host a decentralized IOC/OBIS Office. A draft Business Plan (Document IOC/INF-1258) was prepared for review by the IOC Assembly and which also included a Draft Resolution.
- 195 The OBIS Governing Board agreed, for the same reasons, with the recommendation of the IODE–OBIS experts' meeting. The IODE Committee addressed the issue at its 20th Session (Beijing, China, 4–8 May 2009) and prepared an "IODÉ Statement on the Future of OBIS" (Report IOC/IODÉ-XX/3, Annex VII). In its statement, IODE preferred the option of the adoption of OBIS as an IODE programme activity. OBIS is seen to complement the IOC Strategic Plan for Oceanographic Data and Information Management; it would promote data management in this area and facilitate synergies and efficiencies. However, IODE also called for a better description of the financial implications.
- 196 To facilitate discussion of the issue at its present session, **the Assembly established a Sessional Working Group**, chaired by Dr Ned Cyr (U.S.A.). This Group also revised the Draft Resolution in document IOC/INF-1258.
- 197 Dr Edward Vanden Berghe, the Executive Director of OBIS, thanked IOC for its provisional offer to host OBIS. He stated that collaboration would result in considerable synergies. Operating in an intergovernmental framework will give OBIS the continuity it needs by virtue of the permanent nature of the scientific infrastructure we are building. He expressed the hope that the intergovernmental nature of the new OBIS will result in an increased acceptance as both a source of, and a destination for, biodiversity-related information resulting from government-mandated activities. OBIS is a community of scientists studying marine biodiversity. It is a network of organizations, including 15 Regional OBIS Nodes, 14 Census of Marine Life field projects, and many independent data providers. This network will now become

part of the IOC family. There are already some strong links: some of the Regional OBIS Nodes are operated by the same organizations that operate some IODE NODCs.

198 He stressed that biogeographic data are an essential component of any environmental system. We need it, for example, to study shifts in species distributions in response to global warming; we need it to inform us of the best location of marine protected areas, or to give us timely warning of species' invasions. Many of these functions require a global system, not a national or regional one — species do not respect national borders. OBIS, as a global system, can play an important role in sharing information across the globe. OBIS can assist nations with their reporting obligations to international treaties, such as the Convention on Biological Diversity; large nations can build separate infrastructures to satisfy these requirements, but for small nations, or where expertise is lacking, OBIS can assist and facilitate data repatriation.

199 Dr Vanden Berghe noted that both IOC and OBIS will benefit when OBIS becomes part of the IOC. For one, it would prevent IOC from having to develop a global biogeographic system, and thus result in considerable savings of energy and resources. Also, OBIS is looking forward to playing its role in the larger context of oceanography, and working closely with the present programmes of IOC and its IODE.

200 **The Assembly noted** that creating the relationship with IODE does not preclude the option of establishing OBIS as a separate IOC programme activity in the future, if such realignment is warranted.

201 **The Assembly agreed** that the budget and implementation options presented in the business plan (IOC/INF-1258) provide a scalable and incremental approach to the establishment of OBIS within IODE. **The Assembly also agreed** that, although it is clear that extrabudgetary support will be required and is yet to be explicitly identified, OBIS has significant brand recognition among potential donors, so that it should be possible to raise the necessary support to proceed incrementally.

202 **The Assembly instructed** the IOC Executive Secretary to inform the OBIS Governing Board of IOC's decisions.

203 **The Assembly adopted** [Resolution XXV-4](#).

4.2.2 Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socio-economic Aspects

204 The Executive Secretary introduced this item. Given the alarming signs of degradation in the world's oceans, the international community, at the World Summit on Sustainable Development (WSSD), decided to maintain the Oceans under permanent review by:

“establishing by 2004 a regular process under the United Nations for global reporting and assessment of the state of the marine environment, including socio-economic aspects, both current and foreseeable, building on existing regional assessments” (JPOI, para 36.b.).

The UN General Assembly, through Resolution 60/30, in 2005, requested IOC and UNEP to lead the start-up phase of the *Regular Process* by conducting an Assessment of Assessments (AoA), to be completed within two years.

205 Resolution 60/30 set up: (i) an ad hoc Steering Group (AHSG) with a balanced geographical representation of 17 Member States of the United Nations and appointed by the UNGA President, with the participation of relevant UN agencies, to oversee the execution; and (ii) a group of experts to undertake the actual work of assessing the various global and regional assessments in existence.

206 The main outcome of the Assessment of Assessments is a peer-reviewed report that:

- assembles information on scientific assessments relevant to undertaking a regular global marine assessment (including assessments covering social and economic issues) that have already been carried out by United Nations agencies and global treaty organizations, regional organizations, national governments and, where appropriate, by other organizations
- critically appraises these assessments by, for example, comparing methodologies, data sources and coverage, in order to identify, collate and synthesize best practices and to identify what thematic and other gaps and uncertainties exist in current scientific knowledge and assessment
- assesses how well those assessments have been communicated to policy-makers at the national, regional and global levels, and
- provides options and a framework for the establishment of the Regular Process (including organizational arrangements, financial implications etc.), and proposes the initiation of the first global integrated ocean assessment by 2010, with a view to delivering its results by 2014–2015, when the UN Commission on Sustainable Development will review WSSD targets and commitments related to oceans.

207 In November 2008, through UNGA Resolution 63/111, the UN General Assembly decided to *establish an ad hoc Working Group of the Whole to recommend a course of action to the General Assembly, at its Sixty-Fourth Session, based on the outcomes of the fourth meeting of the Ad Hoc Steering Group...* (UNESCO, Paris, 15–17 April 2009). The meeting of the ad hoc Working Group of the Whole will take place from 31 August to 4 September 2009, at the UN HQ, New York. The membership of the Working Group of the Whole is open-ended, whereas UN agencies will be invited to attend its sessions as observers.

208 Ms Neeyati Patel, on behalf of UNEP, expressed her appreciation of the exemplary “One-UN” spirit of collaboration shared not only with IOC as co-lead agency, but also with FAO, WMO, IMO, the UN Division for Ocean Affairs and the Law of the Sea, and GESAMP. She also noted that the process was made possible by the generous contributions of the governments of Belgium, Canada, The Netherlands, Norway, the Republic of Korea, Sweden, the U.K., and the U.S.A.

209 The AoA report, which represents the findings of the Group of Experts (GoE), was peer-reviewed by other experts, international institutions and governments. The report provides a framework and options for a Regular Process as they relate to three aspects: the assessment products that can be delivered during the first four years; the institutional arrangements for a Regular Process, as well as the means for financing it. For all these aspects, the GoE have provided several options.

210 UNEP had made a substantial investment in the AoA process so far and is fully committed, through its Programme of Work, to contributing in a number of ways to the Regular Process in the future, and had no doubt that IOC, as well as other UN agencies, would also be equally committed to the Regular Process, since keeping the oceans under regular review was a collective responsibility and duty.

211 Ms Patel announced that the published version of the AoA report and the Summary for Decision-makers will be officially launched in New York on 31 August 2009 by UNEP and IOC.

212 The Executive Director of the European Environmental Agency, Prof. Jacquie McGlade, in her capacity as Co-Chairperson of the Group of Experts, presented the main findings and conclusions of the Group.

213 Several Member States expressed their appreciation of the effective and transparent implementation of the AoA.

- 214 Some Member States noted that the initiation of a global integrated assessment of the oceans will require: (i) the development of agreed inter-disciplinary assessment methods that can be used by all Member States; (ii) the investment in capacity-development, specifically in the regions where there are data and information gaps; (iii) a transparent review process open to governments and an expert nomination mechanism; (iv) the integration of existing data and information produced by UN and non-UN regional bodies and conventions, including IOC's own regional bodies; (v) the need to align the scope of existing and future ocean observation systems with the requirements of a future Regular Process.
- 215 Argentina considered that the basic information used in several of the articles was incomplete and stressed the need to consult the competent organisms of the countries in the regions being studied, and that their opinions be taken into account.
- 216 Argentina declared that not all the comments it had made in the process of examination had been incorporated into the report and it expressed its disagreement with some of the terms used. It specifically objected to the references to "governance" and "management" of the marine resources of the oceans and to "regional fishery organizations" which cannot have as their purpose "the governance", but only exclusively the conservation and management of the fishery resources for which they are specifically responsible. Argentina also objected to the term "Southern Ocean"; it also noted the existence of incorrect references relative to the Convention for the Conservation of Antarctic Seals and restated its concern to eliminate the expression "...without direct riparian States" from the document "AoA Region: Southern Ocean" prepared by Hartmut Heinrich (page 7); it expressed its reservation with respect to this particular point. Argentina indicated that the formality of the application of the Editorial Directive ST/SC/SER.A/42 of the United Nations Secretariat had not been observed, which should, in all cases, include a footnote making a reference to the existence of a sovereignty dispute.
- 217 Finally, Argentina suggested waiting for the outcome of the meeting of the *ad hoc* Working Group of the Whole, foreseen by UNGA Resolution 63/111, which will meet in New York from 31 August to 4 September 2009.
- 218 Sweden highlighted the participation of GESAMP in the AoA and informed the Assembly of the possible areas that GESAMP has defined for its eventual contribution to the Regular Process. Finland suggested that there needs to be a permanent mechanism and the role of GESAMP should be continued.
- 219 **The Assembly welcomed** the AoA report and its conclusions and **considered** it a sound basis for the UN General Assembly to take action on the initiation of the Regular Process.
- 220 **The Assembly thanked** all Member States and organizations that had contributed to, and supported the implementation of, the Assessment of Assessments over this three-year period.
- 221 **The Assembly noted** the importance for its Member States to support the establishment of the Regular Process and to participate actively in the discussion of the Ad Hoc Working Group of the Whole in early September 2009, with a view to conducting the first Integrated Assessment of the Ocean, the results of which should be presented to the meeting of the Commission on Sustainable Development (CSD) scheduled for 2014.
- 222 **The Assembly supported** the proposed topics to be discussed at the Ministerial Round Table, and **requested** the Executive Secretary to seek the support of UNEP, FAO, IMO, IAEA and other members of UN-OCEAN to act in a concerted manner in the first Integrated Assessment of the Ocean.

223 **The Assembly expressed** its satisfaction with the way both the IOC and UNEP Secretariats facilitated the Regular Process and **instructed** the IOC Executive Secretary and Officers to ensure that the Commission continues to play a leading role in the Regular Process.

4.2.3 Report of the Tenth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE-X)

224 The Chairman of the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE), Mr Guillermo García Montero (Cuba), introduced this item. He reported on the Sub-Commission's 10th Session (Puerto La Cruz, Venezuela, 22–25 October 2008). He referred specifically to developments in the following IOCARIBE focal programmes: the Global Ocean Observing System (IOCARIBE-GOOS); Integrated Coastal Area Management (ICAM); the Caribbean Large Marine Ecosystem (CLME) project; the Caribbean Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (CARIBE-EWS); Harmful Algal Blooms in the Caribbean and Adjacent Regions (HAB-ANCA); the International Bathymetric Chart of the Caribbean Sea and the Gulf of Mexico (IBCCA); the International Oceanographic Data and Information Exchange (IODE); and Capacity-development.

225 The Caribbean Large Marine Ecosystem (CLME) project was approved by the GEF in April 2008 as a four-year project and started in May 2009, with a total budget of US\$ 56 M, including US\$ 7.2 M GEF support, and in-kind and in-cash co-financing by governments and other multilateral donor agencies to the amount of US\$ 48.8 M.

226 The Proceedings of the HAB-ANCA Regional Science Planning Workshop (San Andrés Island, Colombia, in 2007) were published.

227 Mr García also informed the Assembly that the publication of the International Bathymetric Chart of the Caribbean Sea and the Gulf of Mexico (IBCCA) is coming to an end, with 14 out of 16 sheets already provided. He urged France to provide its contribution for the completion of the two remaining sheets.

228 The IOCARIBE Chairman reported on the IOCARIBE Medium-term Strategic Science Plan that was published in 2006 and is available on-line. The Sub-Commission's "Vision 2020" was agreed and is being finalized for distribution. The updated IOCARIBE Manual was approved and distributed.

229 A significant number of capacity-development activities were held during 2007–2008, among which were: the "Workshop on Team-building" and the "Bid-writing Workshop", (University of San Paulo, 5–8 and 10–13 December 2007, respectively); the "Workshop on Coastal Erosion" (Cartagena, Colombia, November 2008) organized by the Colombian Ocean Commission; and the Austral Summer Institute (ASI) VIII on coastal processes and environmental problems organized by the IOC Chair at the University of Concepción, Chile, in 2007.

230 The Chairman IOCARIBE also referred to a number of other activities: the development of the "Know-why Network" and the Land-based Sources of Marine Pollution (LBS) Protocol of the Cartagena Convention; the signature of the Memorandum of Understanding between IOCARIBE and the Caribbean Regional Fisheries Mechanism (CRFM); and the Interagency Agreement between UNESCO/IOC and UNOPS on the establishment of the Caribbean Large Marine Ecosystem (CLME) project unit at IOCARIBE headquarters in Cartagena, Colombia.

231 The Sub-Commission also adopted four Recommendations, concerning: (i) administrative arrangements for the IOCARIBE Secretariat, including the recent relocation of the IOCARIBE Secretary to the UNESCO Office in Kingston, Jamaica; (ii) participation of the IOCARIBE Sub-Commission in the celebration of the 50th Anniversary of the IOC; (iii) nutrient

and sediment reduction in the Wider Caribbean; and (iv) the IOCARIBE Programme and Budget for 2009–2011.

- 232 Mr Nelson Andrade, the Coordinator of the UNEP Caribbean Regional Coordinating Unit (UNEP CAR/RCU), reported on the joint IOCARIBE–UNEP project “Regional Network in Marine Science and Technology for the Caribbean: the 'Know-why Network' ”, financially supported by the Swedish International Development Cooperation Agency. He recalled the project goals and pointed out one of its major objectives: to develop and strengthen the capacity of selected institutions (these institutions will be the core of a regional network for implementing the Land-Based Sources of Pollution (LBS) Protocol). The major project achievements include: the training in methods for assessing point and non-point pollution loads and for the characterization of municipal and industrial waste; the signing of a Memorandum of Understanding with the International Atomic Energy Agency (IAEA), on 2 April 2007, and the establishment of formal linkages with the UNEP–UNDP Integrating Watershed and Coastal Area Management Project (IWCAM) for Caribbean Small Island Developing States (SIDS), with the support of the Global Environment Facility (GEF).
- 233 The Chairman of IOCARIBE stressed the importance of the Memorandum of Understanding signed in 2007, which is facilitating the acquisition of required laboratory and field equipment for the “Know-why Network” Executing Agencies; namely the LBS Regional Activity Centres; the Centre for Engineering and Environmental Management of Coasts and Bays (CIMAB); the Institute of Marine Affairs (IMA); and the Centro de Investigaciones Marinas de Colombia (INVEMAR).
- 234 The Chairman of the Financial Committee asked for clarification of the proposal to establish a financial mechanism and of its implications for the IOC budget; he stressed that the Financial Committee needed specific guidance on any extrabudgetary funds, and details of how they mapped into the budget framework.
- 235 Several Member States stressed the importance of maintaining the stability of the IOCARIBE Secretariat, which has enabled the Caribbean countries to accomplish many more programmes in the Wider Caribbean Region; in this context, they supported the IOCARIBE Chairman's call, through a Resolution, for assistance from all Member States of the IOC in ensuring that the operations of IOCARIBE can continue.
- 236 Several Member States, on behalf of IOCARIBE, noted the reiterations by the Chairman of the Finance Committee and others concerning the severe budget limitations, but reminded the Assembly that IOCARIBE assists many developing countries, including small-island developing States with limited capacity to support the Sub-Commission, but which benefit greatly from its initiatives. Barbados, in particular, stressed the importance of taking into account the comments of Portugal in relation to IOC Regional Subsidiary Bodies.
- 237 Mr Mario Palacios, the Representative of the Permanent Commission for the South Pacific (CPPS), informed the Assembly of the activities developed during the last two years under the terms of the Memorandum of Cooperation between IOC and CPPS. Among them were: the “Workshop and Training Course on Ocean Numerical Modelling” (Guayaquil, Ecuador, November 2008); and the 2nd Session of the GOOS Regional Alliance for the South-east Pacific – GRASP (Cartagena, Colombia, April 2008), for which, the Strategic Action Plan was approved on December 2008. Since 2007, CPPS is strengthening a Regional Early Tsunami Warning System to respond to near-field tsunamis. A second Workshop on an Early Tsunami Warning System was held in Bogotá, Colombia, in May 2009 and new funding proposals were formulated to be submitted to the Disaster Preparedness Programme of the European Commission's Humanitarian Aid Department (DIPECHO), with the active leadership of the IOC Tsunami Unit.

238 Referring to other actions, Mr Palacios informed the Assembly on the Memorandum of Understanding signed between IOCARIBE-GOOS and GRASP; the Ministerial-level meeting on Climate Change and Its Impact on the Ecosystems of the South-east Pacific (Guayaquil, Ecuador, November 2008), organized with IOC financial support and attended by several ministers and other high-level officials from Chile, Colombia, Ecuador, Panama, Peru, and a selected group of international experts. Also with the support of the IOC, the GOOS Regional Forum IV was held in Guayaquil, Ecuador, November 2008. CPPS has, since 2008, also acted as the Technical Secretariat for the IOC/ICAM SPINCAM Project – Integrated Coastal Area Management for the South-east Pacific.

239 **The Assembly noted** the Executive Summary Report of the 10th Session of IOCARIBE, including the Decisions and Recommendations therein. **It thanked** the Chairman IOCARIBE for his verbal report. **It also thanked** the Government of the Venezuela for having hosted IOCARIBE-X, and the Government of Colombia for its consistency in supporting the IOCARIBE Secretariat over the years.

240 **The Assembly adopted** [Resolution XXV-5](#).

4.2.4 Report of the Seventh Session of the IOC Regional Committee for the Western Indian Ocean (IOCWIO-VII)

241 Acting Head of the IOCWIO Project Office, Nairobi, Mr. Stefano Mazzilli, presented this item on behalf of the Chairman of IOCWIO.

242 The 7th Session of the IOC Regional Committee for the Western Indian Ocean (IOCWIO-VII; Mombasa, Kenya, 18–21 July 2008) reviewed a report on activities implemented since the 6th Session (Maputo, Mozambique, 2–4 November 2005) and adopted a Work Plan for the period 2008–2010. Implementation of the 2006–2008 Work Plan was made possible by the extrabudgetary contributions of the Government of Flanders (Belgium) through FUST for the Ocean Data and Information Network for Africa, and of Sweden and Italy for capacity-development.

243 The activities included: strengthening the National Ocean Data Centres and marine libraries; upgrading and installation of tide gauges; and the development of the African Marine Atlas. Training was provided on a wide range of topics such as: tidal analysis (Mombasa, Kenya, 3–5 April 2008); advanced leadership for heads of marine-related institutions (Maputo, Mozambique, 9–15 April 2008); and numerical modelling (Nairobi, Kenya, 24 November–5 December 2008). These courses were organized in collaboration with the Western Indian Ocean Marine Science Association (WIOMSA).

244 The IOCWIO Work Plan for 2008–2010 is focused on: oceans and climate; linking oceanography to fisheries; strengthening the regional sea-level network; and training in the use of decision-support tools (modelling, GIS and remote sensing).

245 The Regional Committee endorsed a proposal for the next phase of the Ocean Data and Information Network for Africa (2009–2013); it also established a Regional Group of Experts on Ocean Dynamics and Climate.

246 Kenya thanked the Executive Secretary for his attendance at the IOCWIO-VII meeting, and the Secretariat staff in the IOCWIO Project Office for their effective support. Kenya further noted for the consideration of Member States the following concerns:

- (i) A more secure arrangement is required to enable continuity in staffing of the Project Office and the high level of activities undertaken; the post of Head of the Project Office is no longer available, and the funding and term of the officer responsible for capacity-development is ending soon

- (ii) Without financial and secretarial support, and with the changed management structure of ODINAFRICA-IV, it may be necessary for the Project Office to revert to previous arrangements for supporting the Office from within one of the region's institutions, as was previously organized with the Kenya Marine and Fisheries Research Institution, (KMFRI), in Mombassa. Kenya indicated its willingness to host and provide support services to the IOCWIO Offices at KMFRI, should the need arise
- (iii) Funding needs to be sourced for the secretariat and programme activities to enable the delivery of prioritized actions for the IOCWIO region.

247 Tunisia supported Kenya's request to strengthen the regional bodies' capacities, and to prioritize regional fund mobilization.

248 Australia noted that resources identified in the Decision and the Resolution must concur with the commitment of resources agreed upon by the Financial Committee.

249 Japan welcomed the focus of the IOCWIO Work Plan to include climate modelling and prediction in support of national management issues, noting a similar bilateral programme was underway with South Africa totalling US\$ 3,600,000 for the coming three years. Japan urged collaboration with Member States of IOCWIO on this activity, and welcomed the development of future activities in the areas of joint interest; development of regional climate models, and their downscaling to provide information relevant for national decision-making.

250 **The Assembly adopted [Resolution XXV-6](#).**

4.2.5 Report on the Follow-up to the Seventh Session of the IOC Sub-Commission for the Western Pacific (26–29 May 2008)

251 The Chairman of the IOC Sub-Commission for the Western Pacific, Dr Zhanhai Zhang, introduced this item. The Sub-Commission's efforts to contribute to the IOC's High-Level Objectives, since its 7th Session (Kota Kinabalu, Sabah, Malaysia, 26–29 May 2008), have included: development of a WESTPAC Marine Science Plan; the establishment of a WESTPAC Advisory Group; the setting up of the UNESCO/IOC Regional Network of Training & Research Centres on Oceanography; implementation of the Programme (2008–2010); assisting and coordinating the implementation of IOC global programmes in the region; and strengthening cooperation with other regional marine-related organizations/programmes. He informed the Assembly that Mr Wenxi Zhu had been appointed as Head of the WESTPAC Secretariat and Programme Specialist in the UNESCO Regional Office in Bangkok in March of this year.

252 In the intersessional period, till the 8th Session of WESTPAC, in 2010, priority will be given to: activities specified in the WESTPAC Marine Science Plan; preparations for the 8th WESTPAC International Scientific Symposium, in 2011; and the organization/coordination of a series of workshops/project activities, particularly those planned as part of the celebration of the 50th Anniversary of IOC. The main challenges facing WESTPAC are: financial uncertainty; lack of staff with sufficient experience and a regional perspective. He stressed the need for IOC to develop a medium/long-term strategy for strengthening the presence of IOC at the regional level, and encouraged all IOC Member States to second experts to work at the WESTPAC Secretariat and to nominate suitable experts to join in the development of the WESTPAC Marine Science Plan. Dr Zhang expressed his thanks to: the Member States for the support provided; the Sub-Commission's two Vice-Chairmen, Prof. Yasuwo Fukuyo (Japan) and Prof. Nor Aieni Binti Haji Mokhtar (Malaysia), for their dedication and voluntary work for WESTPAC; and Mr Wenxi Zhu for his excellent work in promoting regional cooperation.

253 The subsequent discussion was restricted, owing to time constraints, thus not allowing full comments and commitments by Member States. It was therefore somewhat difficult to

assess whether the current work of WESTPAC is on the right track or needs further improvement.

254 Portugal suggested that the reports of the Regional Subsidiary Bodies be debated as separate agenda items, allowing more time for debate in future IOC meetings, as IOC has always done previously, given the importance of Regional Subsidiary Bodies to the achievement of the objectives of IOC.

255 China, Japan, Malaysia and Thailand expressed their satisfaction with the progress made and reaffirmed their support for WESTPAC activities, while noting with concern the problem of financial uncertainty.

256 Referring to IOC Resolution XXIV-11 on “Enhancing the role of the Commission at the regional level” and Resolution EC-XLI-3 on “The Seventh Session of IOC Sub-Commission for the Western Pacific”, China urged the IOC Executive Secretary to take steps to establish a Regional Trust Fund for WESTPAC, as well as for other Regional Subsidiary Bodies, if appropriate, as a financial mechanism in support of the agreed programmes of work of WESTPAC and the other Regional Subsidiary Bodies.

257 Emphasizing the importance of regionally rooted projects in enhancing the awareness of IOC and its WESTPAC in the Member States, Japan expressed its willingness to develop regional projects with high priorities, with reference to the recent WESTPAC Workshop on Marine Invasive Species in the Western Pacific (Bangkok, Thailand, 4–5 June 2009).

258 Thailand suggested that the IOC Headquarters Secretariat should seek all appropriate ways to help its WESTPAC Secretariat ensure the success of WESTPAC activities, particularly in view of the fact that the spirit of cooperation among the Member States of WESTPAC has been greatly enhanced over recent years. In addition to hosting the WESTPAC Secretariat, Thailand has also been promoting WESTPAC activity on the South East Asian Global Ocean Observing System (SEAGOOS), by providing one regional coordinator.

259 **The Assembly noted** the report of the Chairman of WESTPAC and **requested** the Executive Secretary to pursue all appropriate ways to help ensure the success of the Sub-Commission for WESTPAC.

4.3 SAFEGUARDING THE HEALTH OF OCEAN ECOSYSTEMS (HIGH LEVEL OBJECTIVE 3)

4.3.1 Secretariat Report on Ocean Sciences Section: Programme, Structure and Activities

260 The new Head of the Ocean Sciences Section of IOC, Dr Luis Valdés, introduced this item. He presented the OSS functions and its work plan for the biennia 2010–2011 and 2012–2013. The work plan provides the basis for the development of global, integrated and sustained marine research and contributes to the UNESCO Medium-term Strategy. It also provides the degree of specificity necessary to guide IOC’s Ocean Sciences Programme under the High-Level Objectives of the overarching the Medium-term Strategy.

261 The work plan adopts a systematic approach, responding to the IOC mission, the IOC Medium-term Strategy and the recommendations of the ad hoc Advisory Group for the IOC Ocean Sciences Programme. This understanding depends on advances in science, technology and research; IOC must be a driver for such advances and be perceived as the UN institution capable both of contributing on a long-term basis to the development of that knowledge, based on Ocean Sciences, and applying that knowledge for the use of society.

262 The Ocean Sciences Programme is an added value for IOC and Member States, as it: (i) envisions science now in a more integrative and synthetic way, promoting cross-cutting actions

and multidisciplinary and integrated approaches, bringing new types of knowledge, new paths of understanding and anticipating interactions between the science and management needs; (ii) co-ordinates logistics for facilities, resources and capabilities, to make ambitious research feasible; (iii) facilitates the integration of existing activities within the IOC, and the enhancement of synergies within the UNESCO structure and other UN specialized agencies and programmes concerned exclusively with marine affairs; (iv) raises IOC's visibility in ocean research; (v) provides scientific advice and management tools of the highest possible quality; (vi) seeks to ensure that valuable ecosystem goods and services are sustained in the future; and (vii) promotes international cooperation, favouring dialogue and collaboration between developing and developed countries and providing developing countries with the capacity to implement independent policy responses in a reliable and timely manner.

263 The activities planned for the next two biennia include, for example, nurturing scientific programmes, analysis of trends and emerging issues, synthesis and publication, setting standards and management guidelines, based on scientific knowledge, symposia and scientific conferences, outreach, international cooperation and capacity-development, under the four HLOs.

264 These activities fall into three groups:

- (i) Activities to be initiated: (i) Establishment of a UN–Oceans Task Force on Climate Change; (ii) Promotion of a Worldwide Network of Marine Sampling Sites; (iii) Incorporation of OBIS into IODE; (iv) Establishment of a Working Group on the International Nutrients Scale System; (v) Determination of the potential impacts of micro-plastics in the marine environment.
- (ii) Activities to be reinforced: (i) Reinforcement of the cooperation with other UN agencies and with the Secretariat of the CBD on the sustainability of marine biodiversity and Marine Protected Areas beyond national jurisdiction; (ii) Improvement of the ability to model impacts of nutrient loading on coastal ecosystems, through NEWS2USE; (iii) Agreement on topics of common interest to IOC and WCRP; (iv) Reactivation of the IOC support to GESAMP, by hosting some specific workshops in 2010 and 2012.
- (iii) Activities to be reoriented, reduced or terminated: (i) Establishment of institutional arrangements to support the continuation of the UN's Regular Process for the Global Assessment of the Marine Environment, including Socio-Economic Aspects, following the completion of the Assessment of Assessments; (ii) Dissolution of the IOC–GEF/WB Working Group on Coral Bleaching and Local Ecological Responses; (iii) Redirection of continuing GLOBEC projects and activities within the framework of IMBER.

265 The Head of the Ocean Sciences Section invited the Assembly to: (i) endorse the work plan and priorities of the IOC Ocean Sciences Programme within the IOC and UNESCO Medium-term Strategy and in the light of the recommendations of the Advisory Group for the IOC Ocean Sciences Programme; and (ii) commit additional resources to the IOC Ocean Sciences Section through extrabudgetary contributions and staff secondments, in order to fully implement the IOC and UNESCO Medium-term Strategy and achieve the High-Level Objectives.

266 Numerous Member States supported the work plan and thanked the Head of OSS for his presentation and for the reactivation of the Ocean Sciences Programme of IOC.

267 The Netherlands also welcomed the work plan and stated that it would like to see the European Network of Marine Research Institutes and Stations (MARS) working closely with the IOC Ocean Sciences Programme. The Netherlands also noted that cooperation with the EU

Commission, on research and development, under the EU's 7th Framework Programme should be mentioned, and suggested that the European Community (EC) and the IOC should cooperate in oceanographic research. The Netherlands called on the Assembly to explore the drafting and signing of a memorandum of understanding between the EC and IOC and the feasibility of giving Permanent Observer status to the EC at IOC Governing Body meetings, as well as the establishment of a permanent post of IOC in the European Commission in Brussels. The Netherlands informed the Assembly that the EC will offer support to celebrate the 50th anniversary of IOC by, for example, the organization of an EC–IOC symposium, especially during the second half of next year when Belgium will hold the chairmanship of the EC. Belgium supported the proposed alliance between IOC and the European Community.

268 The Executive Secretary welcomed these statements and recommendations, but he noted that, although the speaker had raised the flag of the Netherlands, he clearly was speaking on behalf of the EC programmes in general. As an international organization, the EC has requested the status of observer at meetings of UNESCO Governing Bodies and has a framework agreement with UNESCO, which includes the IOC. It could be easy to extend this agreement to include explicitly Ocean Sciences and Services. The Executive Secretary said he would very much welcome having an EC representative as a permanent observer at IOC meetings.

269 The Head of the Ocean Sciences Section also welcomed the comments and said that the creation of a Worldwide Network of Marine Sampling Stations and Laboratories was included in the work plan and that, in fact, MARS should play a lead role in this initiative. A roadmap will be prepared and discussed at a workshop organized by MARS and MARBEF and hosted by IOC in Paris before the end of 2009.

270 The Republic of Korea expressed its strong interest in hosting the 2012 symposium on the effects of climate change on the world's oceans mentioned by the Head of OSS as part of the work plan. The Republic of Korea offered the venue in conjunction with the 2012 Yeosu Expo and with financial support of US\$ 80,000 for this event.

271 Several Member States drew attention to some subjects and initiatives that they wished to be pursued by the Commission.

272 Portugal remarked on deep-sea science as a new dimension in the OSS programme of work.

273 China suggested setting up a joint IOC–WCRP Working Group on monsoon climate and the Indo-Pacific Ocean.

274 Canada, Egypt, Japan and the Russian Federation stressed the high priority they give to the study of climate change within IOC and UNESCO, and welcomed the coordination of WCRP Programmes and Projects with those of the IOC Ocean Sciences Programme.

275 The United Kingdom recognized that the programme outlined by the new Head of OSS is exciting, challenging and relevant, but that it will need careful implementation to make best use of the resources available. It also reinforced the point raised by The Netherlands and Belgium to initiate collaboration with the EU in the field of ocean research and services.

276 Australia and Cuba suggested the creation of a standing science advisory body; they reminded the Assembly that the creation of a similar Scientific Council had already been proposed by the Assembly in 1975.

277 Madagascar, Sri Lanka, Iran and Kuwait referred to the importance of enhancing capacity-development and of implementing sea-level models and projections for their countries.

- 278 The U.S.A. suggested that the work plan needs to set priorities and provide a greater degree of specificity and identify the required resources.
- 279 Argentina stated that it agrees, in general, with the proposed work plan, but that the initiative “new activities” contained in the document IOC/INF-1259 (“Ocean Sciences Section Structure and Proposal of a Work Plan with New Activities within the IOC Medium-term Strategy”), page 6, does not apply to any space subject to national jurisdiction, including the continental shelf, within and beyond 200 nautical miles. In this sense, Argentina requested clarifications regarding the term “transboundary marine protected areas”. Argentina endorsed the work plan with exclusion of all maritime spaces subject to national jurisdiction, including its extended continental shelf. This endorsement was made without prejudice to the competence of the International Seabed Authority.
- 280 The Head of OSS explained that the work plan is aimed at the scientific aspects related to Marine Protected Areas in areas beyond national jurisdiction, and not at the regulation of MPAs, which should not create any conflict among Member States
- 281 Mr Pierre Lasserre, the Representative of the European Network of Marine Research Institutes and Stations (MARS), welcomed the mention of MARS in the OSS work plan, stressing the importance of such an initiative for the future of marine sciences.
- 282 **The Assembly welcomed** the OSS work plan and its conclusion. **The Assembly requested** the Executive Secretary to report on progress in the implementation of the work plan at its 26th Session.
- 283 **The Assembly recognized** the importance of reinforcing the IOC Secretariat in ocean sciences, and, in doing so, to prepare IOC to play a lead role in promoting and coordinating marine research in agreement with the actions and interests of Member States.

4.3.2 IOC role in Standard Settings and Guidelines

4.3.2.1 *Adoption of the Equation of State of Sea Water*

- 284 The Head of the IOC Ocean Observation and Services Section, Dr Keith Alverson, introduced this item. He reminded the Assembly that the EOS-80 “Practical Salinity Scale 1978 and the International Equation of State of Seawater 1980” is an existing UNESCO standard published in the UNESCO Technical Papers in Marine Science Series (No. 36) and is currently in wide use. Indeed it is among the most cited and well known publications of UNESCO in the marine sciences. The Assembly now has an opportunity to renew and improve this important scientific standard.
- 285 The Chairman of the SCOR/IAPSO Working Group 127 on the Thermodynamics and Equation of State of Seawater, Dr Trevor McDougal, reminded the Assembly that the IOC Executive Council, at its 41st Session (Paris, 24 June–1 July 2008), reaffirmed IOC’s commitment to the work on the thermodynamics and equation of state of seawater and instructed the Executive Secretary to work with the SCOR/IAPSO Working Group 127, with a view to presenting to the Assembly, at its 25th Session, the new Thermodynamic Equation of State of Seawater and to inviting the Assembly to adopt this new standard. [Instr. EC-XLI, item 4.3.3, para. 249].
- 286 The SCOR/IAPSO WG-127 has recommended replacing the existing UNESCO standard algorithms for the calculation of the Equation of State of Seawater (EOS-80) with a proposed new standard (TEOS-10). The implications of adopting this new standard were considered by IODE-XX (Beijing, 4–8 May 2009) (Recommendation IODE-XX-4). Subsequently, I-GOOS-IX (Paris, 10–12 June 2009) both endorsed the recommendation of IODE and also recommended adoption of TEOS-10 (see Decision 2 in document IOC-WMO-UNEP-ICSU/I-GOOS-IX/3s).

- 287 Dr McDougall reminded the Assembly that a detailed description of many of the reasons for updating this standard was a highlight of his Anton Bruun Memorial Lecture (Paris, 16 June 2009). (Item 2.5.)
- 288 Japan supported the adoption of TEOS-10, but noted that it would be important to have an educational campaign in order to avoid confusion on the part of researchers or data managers regarding the new definition of salinity.
- 289 The United States of America strongly supported adoption of TEOS-10. Recognizing the need for a final meeting of the SCOR/IAPSO Working Group 127, the U.S.A. further expressed its willingness to assist with related costs.
- 290 Finland noted that it is surrounded by “non-standard seawater”. In fact, all water enters the ocean as non-standard seawater. Therefore, the elaboration of the algorithms used in conjunction with TEOS-10 for non-standard seawater is a priority. Since it is obvious that the algorithms used for the calculation of absolute salinity will evolve in time, Finland urged WG-127, at its final meeting, to consider ways to trace the published absolute salinity values to the version of the algorithm that has been used. Finland also drew attention to the suggestion regarding adoption of TEOS-10 by journals to describe the salinity of seawater: while adoption should move as fast as practical, a blanket adoption of the TEOS-10 in scientific journals might cause problems for the discussion of sea areas with non-standard seawater. With these reservations, Finland supported adoption of the new standard.
- 291 Germany agreed with the scientific importance of TEOS-10, but supported Finland’s point regarding the need to ensure applicability of TEOS-10 to non-standard seawater and suggested phasing-in or postponing implementation of the new standard for this reason.
- 292 Canada supported adoption of the new standard, but agreed with Germany that the suggested strategy of implementation might be too rapid. Furthermore, Canada highlighted the need for a shorter, more understandable document than the existing manual, in order to ensure that the new standard will be broadly understood and implemented.
- 293 The United Kingdom supported the endorsement of TEOS-10, as recommended by I-GOOS-IX, as well as the associated Recommendation IODE-XX.4 on continuing to archive practical salinity data in national data centres. Additionally, since the basic TEOS-10 formulation will not change with time, it is now appropriate to publish it in written form and to disseminate it widely. However, from what has been said, the United Kingdom sees that there are details of the algorithms involved that may require minor modification with the passage of time. Presumably, such changes could be made available via tables that could be accessed through a web site. This would keep the cost of updating to a minimum.
- 294 Egypt supported the work of WG-127 and expressed its desire to participate in the planned final meeting of the Working Group.
- 295 **The Assembly decided** that it would sponsor a final meeting of the SCOR/IAPSO WG-127.
- 296 **The Assembly adopted** [Resolution XXV-7](#).
- 4.3.2.2 *The International Nutrients Scale System: a proposal for a joint ICES-IOC Working Group to develop international standards for nutrients*
- 297 Mr Patrick Roose, Royal Belgian Institute for Natural Sciences, introduced this item. Speaking on behalf of the Committee of the International Nutrient Scale System Project and ICES, Mr Roose reviewed the need for improving precision, comparability and traceability of nutrient data and summarized the work already carried out by this Committee, including intercomparison exercises and reviews of certified reference materials.

298 The IOC co-sponsored and hosted the 2009 International Nutrients Scale System Workshop (UNESCO, Paris, 10–12 February 2009). The participants recognized the need for the development of nutrient standards to be carried out in the framework of an international organization, and proposed the creation of a joint ICES–IOC Study Group, with the draft Terms of Reference proposed in document IOC/INF-1260.

299 Several Member States supported this initiative. They expressed an interest in the IOC providing more financial support than that requested, in order to expand the study to include more participants.

300 Japan expressed its appreciation of the support of IOC to the 2009 International Nutrients Scale System Workshop and noted that scientists from Japan played an important role in the establishment of the joint ICES–IOC Study Group on Nutrient Standards, emphasizing the importance of the establishment of comparability and traceability of nutrient data in the world ocean. Japan also encouraged the further activities of this Study Group.

301 **The Assembly adopted [Resolution XXV-8](#).**

4.3.2.3 Nutrient Export from Watersheds – User Scenario Evaluation (NEWS2USE)

302 Dr Lex Bouwman, of the Netherlands Environmental Assessment Agency, introduced the item.

303 The IOC Executive Council, at its 41st Session (24 June–1 July 2008), called on the Secretariat to develop a work plan and funding strategy for an integrated coastal research initiative through a dialogue between the GlobalNEWS Steering Group, the GEOHAB SSC, interested Member States and other agencies. This initiative is a follow-up of the recommendations of the Advisory Group for the Ocean Sciences Section. A draft work plan (Document IOC/INF-1261) for an integrated pilot project related to nutrients will focus on coastal eutrophication and the linking of nutrient sources to coastal ecosystem effects and management. The work plan presented to the Assembly includes the establishment of a steering committee for this pilot project with the name of Global Nutrient Export from Watersheds 2, User Scenario Evaluation (NEWS2USE).

304 **The Assembly responded** favourably to the proposed activity and **requested** the IOC Executive Secretary to give particular attention to: ensuring complementarity with the SCOR–LOICZ Working Group 132; the planned stakeholder workshop on nitrogen inputs to the environment, as a first step; and to work on broadening the involvement of active research groups in the further refinement of the scope and focus of NEWS2USE.

305 The United Kingdom suggested that the second workshop proposed by IPHAB, to develop an integrated programme on nutrients in coastal waters, should take place following the SCOR WG-132 meeting in October 2009 and this should be a broad, cross-cutting group that could identify the key issues and develop a strategy to address them, building upon the current work in progress.

306 **The Assembly adopted [Resolution XXV-9](#).**

4.3.3 Report of the Ninth Session of the IOC Intergovernmental Panel on Harmful Algal Blooms (IPHAB-IX) – HAB and GEOHAB Programme

307 The Chairman of the IOC Intergovernmental Panel on Harmful Algal Blooms (IPHAB), Dr Leonardo Guzman (Chile), introduced this item. He presented the report, work plan, resolutions and recommendations of the 9th Session of the IOC Intergovernmental Panel on Harmful Algal Blooms (Paris, 22–24 April 2009; Executive Summary Report IOC/IPHAB-IX/3s).

308 The IOC Intergovernmental Panel on Harmful Algal Blooms decided to develop a strategy with a view to: strengthening capacity-development; developing an integrated data system on HAB, jointly with IODE; pursuing developments within the GEOHAB research programme, coastal-zone management, and linkages with coastal eutrophication (NEWS2USE). It also decided to strengthen the pivotal role of the IOC regional HAB networks and its working groups. IPHAB welcomed the contribution of donors, Member States and their institutions to the formation of new regional networks or working groups.

309 Being the only intergovernmental panel within the UN system addressing such an important hazard with impact on public health, food security and the economy of coastal States, the Chairman of IPHAB requested the assistance of Member States in ensuring adequate participation in IPHAB and the recognition and identification by national governments of the appropriate national agencies and institutions that should engage in the work of IPHAB.

310 The Republic of Korea informed the Assembly that the 15th International Conference on Harmful Algal Blooms (HABs) will be held in Gyeongnam Province, Korea, in 2012, for which the Korean Government would provide support to ensure its success.

311 The Chairman of IPHAB stressed the fact that the present extrabudgetary support is critically low and that at present only Spain has made a commitment. The IOC Science and Communication Centres on Harmful Algae/Programme Offices have proved an effective mechanism, particularly in the delivery of capacity-development, support for regional activities and for the GEOHAB research programme. He also stressed the fact that the centre and programme office at the University of Copenhagen, Denmark, would be phased out if there were no new commitment of resources from the host country for 2010 and onwards. He urged the IOC Member States to carefully match the HAB Programme Work Plan in the setting of national priorities and potential funding, in order to actively interact with and support its implementation.

312 Spain informed the Assembly that its commitment to fund the Science and Communication Centre in Vigo was now extended beyond the present commitment of 2011.

313 **The Assembly thanked** Spain for this renewed commitment to the Commission's HAB programme and Denmark for its longstanding financial and institutional support.

314 **The Assembly noted** the proposed HAB Work Plan for 2010–2011 and **stressed** the importance of the regional networks and working groups, capacity-development, and the development of the Harmful Algal Information System jointly with IODE.

315 **The Assembly recognized** that the science activities exemplified by IPHAB, NEWS2USE and the development of standards make IOC unique, both globally and within UNESCO.

316 **The Assembly adopted** [Resolution XXV-10](#).

4.3.4 Secretariat Report on Capacity-development Section: Programme, Structure and Activities

317 The IOC Vice-Chairman, Captain Julian Reyna Moreno, introduced this item. He reminded the Assembly of the context provided by the proposed restructuring of the Secretariat, the established UNESCO priorities for Africa, small-island developing States, and gender. He also recalled Resolutions XXIII-10 and XXIII-11, which requested contributions from Member States in support of capacity-development. Sweden and Italy were the main responders: their extrabudgetary contributions and secondment of a professional to the IOC Secretariat allowed programme roll-out in 2006.

- 318 Reporting on programme achievements, the Vice-Chairman noted that implementation targeted over 100 institutes in 30 countries in five regions, and feedback has shown high Member State interest and engagement with the Commission's capacity-development programme. Gauges of such interest are: the more than 30% of African participants who paid their own way to workshops; host countries that often contributed as much as IOC to the workshops; and new funding received for specifically African proposals. These positive responses arise from an engagement with a strong institutional interest in developing capacity to address relevant local/regional marine issues — an "issue-based, institutions-focused" approach to capacity-development. This approach complements the many IOC programmes of training individual scientists to enable their countries' participation in global programmes following a "programme-driven" approach to capacity-development.
- 319 The Vice-Chairman emphasized that both these focuses are important and necessary. Institutional strengthening is a process requiring long-term resource commitments and directly serves national interests, whereas individual training, when harmonized over the different IOC science and services programmes, increases impacts and involvement of developing countries. The Capacity-development Section is being restructured to pursue this two-level approach. It will continue the programme of self-driven capacity-development for institutes and will have the additional responsibility of harmonizing the training efforts of all IOC global programmes.
- 320 The Vice-Chairman invited the Assembly to consider the decisions on the future of capacity-development at IOC, particularly on the continuation of the implementation of the Commission's capacity-building strategy.
- 321 **The Assembly thanked** Captain Reyna for his presentation.
- 322 Tunisia expressed its approval of the use of performance indicators in capacity-development, adding that the end-goal is capabilities to conduct marine science research, and stressed that the need for harmonization of capacity-development across sections should be clearly reflected in IOC activities.
- 323 Cuba commended the progress achieved, underscoring the need for further work to achieve a better integration of country and regional priorities in IOC programmes. It stressed that capacity-development must remain driven by country needs, with a need for a supervisory role for a holistic, fully integrated vision for the IOC capacity-development activities.
- 324 Mauritius recalled that the Statutes of the Commission are clear regarding the Commission's purpose in respect of capacity-development and of special needs and interests of developing countries. It pointed out that, ocean waters being interconnected, the participation of all countries in the preservation of the ocean's health is critical, and that capacity-development is not philanthropy, but in the common interest of all Member States.
- 325 The Russian Federation expressed its interest in cooperating in the training at the three levels described in the presentation. Recalling the already important Russian contribution in this context, it emphasized that even a limited IOC contribution to capacity-development facilitates the raising of large funds from other sources, and recalled that initiatives such as the Training-Through-Research programme were successful and important to maintain.
- 326 Senegal stated that capacity-development is essential for developing countries, but also contributes to the better integration of IOC programmes, encompassing human, infrastructural and institutional levels. It stressed the need to reinforce the progress achieved, including infrastructure, institutional and policy aspects.
- 327 The Philippines recalled that the implementation of the IOC Strategy for Capacity-building was starting well, but was a work in progress. It expressed its concern over the possibility that capacity-development would evolve back towards being based on IOC global

programmes, to the detriment of the issue-based and constituency-driven approach promoted in the IOC Strategy for Capacity-building. The Philippines further stressed that many IOC global programmes are of low relevance to the concerns of coastal communities in developing countries; it stressed the need for the continuation of the country-driven approach, which increases ownership by its constituents, and argued for the development of products of relevance to coastal communities in developing countries, including through the use of socio-ecological models in the context of climate change. The Philippines expressed its support for the Resolution proposed on this item.

328 Venezuela shared its experience in building capacity and offered regional participation in: its new Caribbean Floating University initiative; the development of post-graduate courses; ocean remote sensing; tsunami and other coastal hazards mitigation; and participation in coastal GOOS.

329 India, recalling its contribution to IOC capacity-development activities, including the organization of regional training programmes and the establishment, in Hyderabad, of a permanent regional training centre in operational oceanography and coastal hazard mitigation, offered to explore opportunities for collaboration with IOC in this centre's activities.

330 Australia noted that one common element in capacity-development interventions was the need for additional resources, and recommended the development of partnerships for external resources, including philanthropic NGOs, such as the Gates Foundation. Australia further suggested the possibility of a fellowship exchange programme focused on Africa, and consideration of development of activities in areas where partnership with such sponsors would be promising.

331 South Africa stressed the view that the country's experience in building capacity demonstrated the critical need for institutionally supported, locally developed programmes that also address infrastructure and are aligned with regional activities. It recommended close coordination with Large Marine Ecosystem programmes. It informed the Assembly of relevant IBSA activities on capacity-development and of the establishment of the African Centre for Climate and Earth System Sciences (ACCESS).

332 The Representative of IMAREST proposed the development of external accreditation for training courses held within capacity-development activities at IOC, highlighting the many advantages this would provide, including a structured mechanism for evaluation and improvement of programmes, stressing the cost-effectiveness of this process, and proposing to share IMAREST's experience.

333 The Representative of the IHO underlined the strategic importance of capacity-development at IOC, reminding the Assembly of the excellent relationship between IHO and IOC in this matter, including through the IHO–IOC–WMO–IMO mechanism for coordination of capacity-development activities, and the co-organized activities within the Coast-Map-IO project. The Representative stressed the need for the engagement of governments to sustain the benefit.

334 The Vice-Chairman thanked the Member States for their guidance and said that their suggestions and critiques had been noted.

335 The Executive Secretary, responding to the many requests for enhanced harmonization, appreciated the strong support for capacity-development from Member States, and noted that the collective IOC effort to agree a set of principles for capacity-development was crucial to the recent advances, which demonstrated their validity, and to the raising of new resources. Regarding the future of capacity-development at IOC, he pointed out that capacity-development is a vast subject, and that all IOC activities have a strong capacity-development aspect. At the highest level, it includes assistance to governments in developing marine and coastal policy and

marine science development policies, while at another level it can be assistance in institutional arrangements, and at yet another level focuses on individuals, through education and scientific training. Taking the example of adaptation to climate change, he argued that capacity-development needed to address not only developing countries, as currently very few specialized institutions exist in the world in areas like adaptation to climate change. He stressed that the plans for the future of capacity-development at the Commission are not to decrease efforts, but rather to increase them, as reflected in the appointment of a Deputy Executive Secretary in charge of capacity-development and collaboration with all sections of IOC to achieve more harmonization. The Executive Secretary echoed the Assembly's attention to enhanced coordination between sections of the Secretariat, and agreed that more resources will be needed to adequately address the needs of Member States for capacity-development.

336 **The Assembly agreed** that capacity-development activities at individual, institutional and policy levels should be reinforced. **It requested** the Executive Secretary to explore new options for funding activities, and to harmonize IOC capacity-development activities across the IOC sections, in accordance with the Guiding Principles of Capacity-Building (IOC/INF-1211) and to call on Member States to provide the additional human and financial resources needed to maintain and enhance capacity-development activities.

337 **The Assembly adopted** [Resolution XXV-11](#).

4.4 MITIGATION OF THE IMPACTS AND ADAPTATION TO CLIMATE CHANGE AND VARIABILITY (HIGH LEVEL OBJECTIVE 2)

4.4.1 Oceans and Climate

4.4.1.1 WMO–IOC–ICSU World Climate Research Programme (WCRP): Report and Review

338 Dr Paul Cutler, on behalf of the Executive Director of ICSU, introduced this item. He presented the recommendations of the ICSU–WMO–IOC–IGFA Review of the WCRP. Two IOC Vice-Chairpersons, Neville Smith and Alphonse Dubi, participated in the review in their capacity as individual experts, and Keith Alverson, on behalf of the IOC, was an *ex officio* participant in the process. Member States were invited to comment on the Review in progress via IOC Circular Letter 2278 (October 2008). The review acknowledged WCRP's leading role in coordinating international climate research and its contributions to the IPCC process and outcomes. The review suggested to WCRP that it should set priorities based on societal demands for science supporting climate prediction, adaptation and mitigation, and made suggestions for further improving the effectiveness of the WCRP.

339 The Director of the WCRP, Dr Ghassem Asrar, reported on the WCRP's progress, its contributions to the achievement of the IOC High-Level Objective on the mitigation of the impacts of and adaptation to climate change and variability, and its planned response to the above-mentioned Review. He detailed WCRP contributions to ocean research through its Climate Variability and Predictability (CLIVAR) project, WCRP's co-sponsorship, with GOOS and GCOS, of the Ocean Observations Panel for Climate (OOPC), and its participation in the development of the OceanObs'09 Conference. He emphasized the growing work on climate modelling, including work on climate downscaling focused on regional needs, which would initially focus on Africa and contribute to capacity-development. The WCRP will work to produce regular, policy-relevant statements on the state of knowledge and predictions of sea-level.

340 **The Assembly welcomed** the reports on the review of and progress by the WCRP.

341 A number of Member States highlighted WCRP's importance to the IOC lead within UNESCO on the Inter-sectoral Platform on Climate Change, and UNESCO's joint lead with the

WMO on the science and observations-based "Knowledge Base" within the UN system-wide response on climate change.

342 Canada supported the WCRP's current work plan, as well as its efforts to realign its future priorities according to emerging issues, and welcomed WCRP's decision to be a key player in the implementation of the Sustained Arctic Observing Network, SAON, led by the Arctic Council.

343 Some Member States stated that IOC support to the WCRP–IOC Task Force on Assessment of Sea Level Variability and Change should not jeopardize core support to WCRP, and that the specific IOC role should be clarified.

344 Several Member States welcomed WCRP's growing emphasis on capacity-development and research into regional forecasting and climate information.

345 **The Assembly:** (i) **reaffirmed** IOC's commitment to continue as a sponsor of the WCRP at a level of US\$ 125,000 per annum, ideally through Regular Programme budget; (ii) **instructed** the Executive Secretary to (a) continue providing the WCRP and its projects with guidance on giving appropriate priority to ocean-related climate research and observations, and to developing climate information on regional scales, and (b) work with the WCRP on the establishment of a WCRP–IOC Task Force on Sea Level Variability and Change, to improve the ability to monitor, explain, and predict global and regional sea level, with the continuing sponsorship of IOC, subject to review of progress at the 26th Session of the Assembly.

4.4.1.2 Climate Observations – GCOS, UNFCCC and OceanObs'09

346 The Director of the WMO–IOC–UNEP–ICSU Global Climate Observing System (GCOS), Dr Carolin Richter, introduced this item. The ocean component of GCOS is the global module of GOOS, and the ocean chapter of the GCOS Implementation Plan was adopted by JCOMM as the initial implementation goal for JCOMM's Observations Programme Area.

347 A Progress Report on Implementation, requested by the UN Framework Convention on Climate Change (UNFCCC), was prepared by GCOS in cooperation with GOOS, and was submitted to the UNFCCC Subsidiary Body on Scientific and Technological Advice (SBSTA) in April 2009. Overall, the report noted progress, but also pointed out that GCOS still fell short of meeting the needs of the UNFCCC. Developed countries have improved their climate observation capabilities, but have made limited progress in committing to long-term continuity.

348 Developing countries have only made limited *in situ* progress, with decline in some regions, and capacity-building support remains small in relation to needs. In the oceanic domain, useful progress has been identified in almost every action called for, but many actions remain incomplete. The ice-free upper 1,500 m of the ocean are being observed systematically for temperature and salinity for the first time in history. Most *in situ* observing activities continue to be carried out under research agencies' support and on research programmes' time limits. A particular concern is the fragility of the financial arrangements that support most of the present effort; there has been very limited progress in the establishment of national ocean or climate institutions tasked with sustaining a climate-quality ocean observing system. Important progress in the provision of critical ocean satellite data of sea-surface Essential Climate Variables has been made, but not for all variables, and data access remains to be ensured.

349 GCOS, with the help of GOOS and other partner observing systems, is embarking on a revision of the Implementation Plan, to be delivered to the UNFCCC in 2010. This revised Implementation Plan will take into account new technologies and capabilities, as well as the increasing need for climate information for the understanding and management of climate-change impacts on the human environment, vulnerability and adaptation of human populations to such changes. This revision of the Implementation Plan will draw on the outcomes of the

OceanObs'09 Conference (Venice, Italy, 21–25 September 2009), which the IOC, with several partners, is sponsoring and organizing (www.oceanobs09.net), with a vision of strengthening and enhancing the international framework under GCOS–GOOS–WCRP for sustained world ocean observing and information systems supporting the needs of society in respect of ocean weather, climate, ecosystems, carbon and biogeochemistry.

350 Dr Rocio Lichte, of the UNFCCC Secretariat, informed the Member States of some of the outcomes of the recent session of the SBSTA (Bonn, Germany, 1–12 June 2009). The major global and regional global change research programmes, including WCRP, continued their dialogue on research findings, thus playing a valuable role in providing new scientific information emerging between successive IPCC Assessment Reports. The Progress Report on implementation of GCOS was received with appreciation. SBSTA called upon Parties to address gaps and priorities addressed in the report, including ensuring sustained long-term operation of essential *in situ* networks, especially for the oceanic and terrestrial domains. A decision on this matter is expected to be adopted at COP-15 in Copenhagen in December 2009. A draft negotiation text for a Copenhagen Agreement Outcome was made available recently on the UNFCCC website.

351 Finland informed the Assembly of the decision by the Executive Council of WMO in June 2009 to organize a workshop, with the participation of representatives of the Arctic Council, Antarctic Treaty, International Arctic Scientific Committee, Scientific Committee on Antarctic Research SCAR (ICSU), other international organizations concerned to develop a concept and structure of the Polar Decade. Finland recommended the engagement of the IOC Secretariat in this activity, in order to develop further foresight on the modes of IOC involvement in the climate observations as part of the UNESCO priority on climate change.

352 **The Assembly thanked** Dr Richter for her presentation on GCOS.

353 Some Member States suggested that having climate-change issues high on the political agenda was an opportunity to promote the transition from research-based observations to a long-term sustained operational system, using the framework of national obligations to the UNFCCC. Some Member States emphasized the contribution of JCOMM to climate observations.

354 **The Assembly urged** Member States to: (i) designate a GCOS National Coordinator, representing all national agencies involved in ocean, atmospheric, and terrestrial climate observations; (ii) speed up the implementation of agreed actions that were reported as showing slow progress in the GCOS Progress Report; and (iii) support the OceanObs'09 Conference, through the involvement of national scientific experts and representatives of relevant national agencies. **The Assembly instructed** the Executive Secretary to provide this guidance to GCOS on the further development of its work.

4.4.2 Report of the Ninth Session of the Intergovernmental Committee for the Global Ocean Observing System (I-GOOS)

355 The Chairman of I-GOOS, Mr François Gérard, introduced this item. Referring to the Summary Report of the 9th Session of I-GOOS (Paris, 10–12 June 2009; GOOS Report, 176), he reminded the Assembly about the legal framework for the establishment of GOOS. While there have been encouraging developments, including the full implementation of the Argo and drifting-buoy arrays, and immediate gaps in satellite coverage have been addressed, the overall implementation rate of the GOOS open-ocean module has levelled off at about 60%. About half of the IOC Member States contribute observations to GOOS, through the Global Sea Level Observing System (GLOSS); 23 countries contribute to the Argo programme, and 9, to the repeat hydrography/carbon programme.

- 356 Concerning the coastal module of GOOS, there are now twelve GOOS Regional Alliances. I-GOOS recommended the initiation of the Global Coastal Observing Networks in line with recommendations of the Panel for Integrated Coastal Observation (PICO) and with the Implementation Strategy for the Coastal Module (GOOS Report, 148). This network should be developed as a system of systems and be based on a minimum set of observed variables.
- 357 The Chairman of I-GOOS also highlighted the efforts being made with respect to outreach, including a GOOS display, a GOOS poster and a brochure for policy-makers. He further noted that a consultancy report produced by Dr James Baker for IOC and WMO on the organization of GOOS has been made available by WMO to its Members and WMO has invited its Members to comment on it by the end of June 2009. The report is also available to IOC Member States upon request from the Secretariat, and Member States are invited to comment on it before 1 September 2009, with a view to the consolidation of all comments in advance of JCOMM-III and the preparation of eventual recommendations for the consideration of the IOC Executive Council at its 43rd Session, in 2010. The Chairman of I-GOOS also highlighted how GOOS and other IOC programmes contribute to the implementation of regional tsunami and other sea-level hazard monitoring systems.
- 358 I-GOOS-IX recommended focussing the GOOS Work Programme for 2010–2011 on the following priority areas: (i) Sustaining the climate module of GOOS; (ii) Implementing the coastal module of GOOS; (iii) GOOS outreach; and (iv) Africa.
- 359 **The Assembly thanked** the Chairman of I-GOOS for his report and for his efforts over the past four years.
- 360 Several Member States expressed concern about the levelling-off of the support for and participation in the open-ocean component of the *in situ* observing system element of GOOS and the lack of a long-term plan for maintenance and incorporation of new technologies into an operational system. Some Member States suggested that the Ministerial Round Table on Ocean Governance at the 35th UNESCO General Conference (October 2009) could be used to highlight the need for sustained funding in order to develop operational oceanography.
- 361 The United Kingdom emphasized the need to convey the relevance of global observations to policy-makers with greater clarity and effectiveness than has been achieved to date. It had therefore been pleased to contribute financial support for the development of the Summary for Policy-makers.
- 362 Canada noted that, though GOOS has made significant progress in the implementation of sustained observations, GOOS still faces significant challenges, particularly in the polar regions. Canada urged IOC to take a stronger leadership role in the polar regions, to enhance collaboration with associated organizations, and to report on the outputs and outcomes related to the polar regions at future sessions of the Executive Council and the Assembly.
- 363 Some Member States described and emphasized the role of national GOOS activities and their contribution to the implementation of GOOS.
- 364 Several Member States emphasized the need to increase the national and institutional contributions to the development of the coastal module of GOOS.
- 365 Brazil reported on new activities to improve *in situ* and satellite observations and to continue supporting their participation in the global efforts to sustain ocean-observing networks, especially in less-sampled regions like the Tropical and South Atlantic.

366 Some Member States stressed the need for the provision of data from GOOS for the UN's Global Marine Assessment to work; GMA might be an important user and driver for GOOS.

367 Many Member States emphasized the crucial importance of GOOS Regional Alliances in the development of GOOS in the coastal zone. Some welcomed the establishment of the GOOS Regional Council (GRC) as a coordination mechanism for GRAs, while other Member States stated that the role of the GRC is not sufficiently clear and that the GRC should not work independently of the guidance provided by I-GOOS.

368 Some Member States also highlighted the need for GRAs and IOC regional subsidiary bodies to establish working links in order to collaborate more and better. Member States also emphasized the need for GOOS to link with regional marine research programmes, such as the Large Marine Ecosystem (LME) programmes.

369 Several Member States questioned the present number and organization of the GOOS subsidiary bodies, and recommended that the effectiveness of this organization be independently assessed with a view to simplifying and slimming the structure of GOOS, avoiding unnecessary duplication and clarifying the role of the Assembly in providing governance to this important programme of the Commission.

370 Several Member States were pleased with the priority given to Africa and hoped it would lead to concrete results. Brazil highlighted the fact that financial resources originally allocated to staff costs at the IOC/UNESCO Regional Programme Office for GOOS could now be fully allocated to support regional activities through the Office, which has been very successful in leveraging important resources and essential in-kind contributions from local governments, and from collaborators from outside the region.

371 **The Assembly adopted [Resolution XXV-12](#).**

4.4.3 Instructions to the Third Session of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM-III)

372 The Co-President of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM), Dr Jean-Louis Fellous, introduced this item. In the past year JCOMM has coordinated activities in respect of operational ocean observing systems, data management, and the coordination and standardization of service delivery to a wide range of marine user communities.

373 The Co-President highlighted the following achievements during the intersessional period:

- Continuous improvement and maintenance of the operational ocean-observing systems, and the employment of new ocean-observing technologies, such as animal oceanographic data collection and *in situ* wave measurements
- Development of the data management plan in cooperation with IODE
- Improvements in scientific and technical support for storm surge and other coastal hazard forecasting and warning, through the publication of the JCOMM "Guide to Storm Surge Forecasting" and a number of related initiatives in UNESCO/IOC and WMO and other associated organizations and programmes
- Building a basis for ocean forecasting and climate products, as a follow-up to GODAE.

374 **The Assembly noted with concern** that although continuous progress has been made, the recent growth towards a Global Ocean Observing System has slowed. Also, many of the

Essential Climate Variables defined in the GCOS Implementation Plan, over the ocean, have not been sufficiently addressed so far. **The Assembly encouraged** Member States to continue supporting the sustained ocean-observing networks and to increase their participation in programmes such as global wave measurement as an essential climate variable. **The Assembly also took note** of many new activities to improve *in situ* and satellite observations, in the Member States, including Brazil, Canada, India, Japan, Malaysia, and the U.S.A.

375 **The Assembly was particularly pleased** to note the ongoing collaboration between JCOMM and IODE, and **agreed** that this was an exemplary case of successful implementation that engages multiple programmes. **It recommended** continuation of this JCOMM–IODE co-operation, with a view to acquiring a wider range of observational data to be used for marine services, and to benefit from the technology and infrastructure of the IODE Ocean Data Portal in developing marine services. **The Assembly expressed its appreciation** of the work of the IOC Project Office for IODE and Belgium's financial and in-kind support for capacity-development in this area.

376 **The Assembly noted** and **welcomed** a number of initiatives to improve regional monitoring and forecasting capabilities in respect of storm surges, following the recommendations by the first JCOMM Scientific and Technical Symposium on Storm Surges (Seoul, Republic of Korea, 2–6 October 2007) that were endorsed by the IOC and WMO Executive Councils (in 2008). **The Assembly recommended** that JCOMM should enhance its support for coastal hazard and management issues, through the coordinated efforts of its Programme Areas and other associated organizations/programmes. **The Assembly welcomed** and **thanked** the Republic of Korea for its Fund-In-Trust support to the UNESCO extrabudgetary project on enhancing regional capabilities in coastal hazards forecasting, of which the first expert advisory workshop was planned for July 2009 in Delhi, India, to discuss improvement of regional storm surge modelling in the northern Indian Ocean region.

377 **The Assembly noted** the concerns over insufficient resources and **encouraged** Member States to support important programmes of the Commission, in terms of financial and expert support, in order to meet the requirements and responsibilities of JCOMM.

378 The Representative of the World Meteorological Organization (WMO), Dr Geoffrey Love, pointed out that JCOMM is a unique example of two parts of the UN system working as one, in realizing the “One-UN” initiative. He noted that the overlapping interests of the two organizations in respect of the oceans have been effectively realized by JCOMM by avoiding duplication of effort. Dr Love then emphasized that the operational data collection and data management supported by JCOMM contributed substantially to GOOS and GCOS.

379 Noting budget constraints in both organizations, the Representative of WMO informed the Assembly of the ongoing WMO efforts to find more efficient ways to carry out the business of its technical commissions, including JCOMM, that would affect the preparation of future sessions.

380 **The Assembly thanked** Dr Fellous for his report and **acknowledged** the excellent work of the Co-Presidents of JCOMM in leading the Technical Commission's work to facilitate implementation by the Member States. **The Assembly recognized** the advantage of multi-sponsor arrangements, such as JCOMM and GOOS, and **supported** enhanced inter-agency cooperation with clear lines of responsibility with respect to their mandates and specialities.

381 **The Assembly noted** and **endorsed** the following priorities for the future, to be considered by JCOMM at its 3rd Session (Marrakech, Morocco, 4–11 November 2009):

- Enhanced implementation of the ocean observing system, including close coordination with pilot projects and programmes, such as Argo and OceanSITES, and support for the IPY legacy projects SOOS and SAON

- Development of standards and best practices for operational ocean and marine meteorological data, products and services
- Joint work with IODE on data management standards, the IODE Ocean Data Portal and the WIGOS Pilot Project
- Scientific and technical support for marine hazard forecasting systems, particularly for vulnerable coastal areas
- Further work to standardize, facilitate and apply operational ocean forecasting systems.

382 **The Assembly encouraged** JCOMM, at its 3rd Session, to further streamline its structure, working methods and priorities, both to align it with the strategic priorities and programme structure of IOC and WMO, and to undertake work which is achievable within the available resources.

383 The Republic of Korea announced its offer to host the 4th Session of the JCOMM, in conjunction with the International Exposition Yeosu Korea 2012, with the theme "The Living Ocean and Coast: Diversity of Resources and Sustainable Activities". **The Assembly**, together with the JCOMM Co-Presidents and the Representative of WMO, **acknowledged** and **thanked** the Republic of Korea for its offer.

4.4.4 Report on Ocean Fertilization

384 The IOC Executive Council, at its 41st Session (24 June–1 July 2008), reviewed the Report of the IMO London Convention Scientific Group Meeting on Ocean Fertilization (IOC/INF-1247), including the Statement of the IOC ad hoc Consultative Group on Ocean Fertilization, which provided scientific and technical information about ocean-fertilization experiments, as requested by the London Convention Working Group. The Executive Council recognized the importance of IOC's responsibility in ocean iron-fertilization issues and urged the Executive Secretary to seek additional opportunities to help resolve the scientific uncertainties with respect to this issue. The Executive Council also requested the Executive Secretary to facilitate UN inter-agency coordination on scientific and technical advice, recalling the mandate given by the Commission to the Secretariat to produce, with SCOR, a regular Watching Brief on ocean carbon sequestration.

385 In fulfilment of these instructions, the Executive Secretary initiated a dialogue with the Secretariats of the IMO London Convention and the Convention on Biological Diversity to discuss the establishment of a mechanism to facilitate UN interagency coordination on this issue. It was agreed that the most effective mechanism would be for the Secretariats to coordinate their efforts in the development of scientific and technical information currently used by each agency.

386 As a consequence of this agreement, the London Convention Secretariat invited the IOC to participate in the First Meeting of the Intersessional Technical Working Group on Ocean Fertilization (IMO, London, 9–13 February 2009). The Technical Working Group was established by the London Convention/London Protocol (LC/LP) non-binding Resolution (LC-LP.1 (2008)) on the regulation of ocean fertilization, with the purpose of developing an assessment framework on ocean fertilization (Document LC/SG-CO2 3/5, LC/LP Draft Assessment Framework on Ocean Fertilization) and a document summarizing the state of knowledge on ocean fertilization. Dr Luis Valdés (Head, IOC Ocean Sciences Section), Mr Henrik Enevoldsen (IOC Programme Specialist), Dr Ken Caldeira (Carnegie Institute, U.S.A.), and Dr Doug Wallace (IfM-GEOMAR, Germany) were requested to attend the meeting on behalf of the IOC to provide their scientific and technical expertise. The IOC informed the LC/LP Technical Working Group of its plans to revise the "IOC–SCOR Watching Brief on Ocean Fertilization" to provide a scientific summary for policy-makers on ocean fertilization, in collaboration with the global research programme Surface Ocean–Lower Atmosphere Study

(SOLAS) sponsored by IGBP, WCRP and SCOR. The LC/LP Technical Working Group on Ocean Fertilization welcomed this initiative and agreed that this technical document could also serve the purposes of the current requirement requested by the parties to the LC/LP. The Technical Working Group on Ocean Fertilization recommended that a draft of this document be submitted to the meetings of the LC/LP Governing Bodies in October 2009. The plan is that the summary of scientific and technical information for policy-makers on ocean fertilization will be translated into the four working languages of the Commission.

387 The LC/LP Working Group agreed that there is a need to consider the feasibility of establishing a comprehensive repository of data on all types of ocean-fertilization experiments, to allow easy access to data by the scientific community. The Technical Working Group on Ocean Fertilization acknowledged the work of the SCOR Working Group 131 on the "Legacy of *in situ* Iron Enrichment: Data Compilation and Modelling", which is working to get all data and metadata from iron-enrichment experiments into a single relational database at BCO-DMO in Woods Hole, Massachusetts, U.S.A. The LC/LP Technical Working Group on Ocean Fertilization may, in its further work on this subject, be looking for partners to achieve this and/or complement/expand the work of SCOR WG-131.

388 The IOC, through the IOC–SCOR International Ocean Carbon Coordination Project (IOCCP), also cooperated with the Secretariat of the Convention on Biological Diversity in compiling and synthesizing available scientific information on potential impacts of direct human-induced ocean fertilization on marine biodiversity, in collaboration with UNEP/WCMC and IMO. The IOCCP has also assisted the CBD Secretariat in identifying scientists capable of critically peer-reviewing the scientific synthesis of the impacts of fertilization experiments on marine biodiversity, before they are submitted to the forthcoming 14th meeting of the CBD Subsidiary Body on Scientific, Technical and Technological Advice, scheduled for May 2010.

389 Argentina reminded the Assembly that the Executive Council, at its 41st Session, decided to elaborate a scientific synthesis on the state of knowledge on iron fertilization, through IOC–SCOR. It also recalled that the Executive Secretary had yet to disseminate the results of this scientific synthesis to Member States, under a Circular Letter, as an information document. Furthermore, given the fact that since IOC, among other organizations, is compiling a synthesis on this issue, it would be premature to approve the preparation and publication of a Summary for Policy-makers on Ocean Fertilization.

390 Several Member States informed the Assembly about their direct involvement in the work of LP/LC and the CBD on ocean fertilization

391 **The Assembly welcomed** the actions taken by the Secretariat in response to the relevant decisions of the 41st Session of the Executive Council and **confirmed** its continued strong interest in ocean fertilization.

392 **The Assembly requested** the Executive Secretary to disseminate the results of the scientific synthesis to Member States, under a Circular Letter, as an information document prior to any other actions.

393 **The Assembly confirmed** that the already planned revision of the SCOR–IOC Watching Brief on Ocean Fertilization could serve as the basis for the development of the LC/LP summary of the state of knowledge on ocean fertilization.

394 **The Assembly requested** the Executive Secretary to circulate the draft scientific summary of the state of knowledge on ocean fertilization to Member States for comment prior to its final publication and translation.

395 **The Assembly noted** that the role the IOC is playing in this inter-agency joint effort responds to the part of the mandate of IOC that requires it to make available the best and most

up-to-date scientific knowledge to governments for their decision-making process, a mandate that is only occasionally applied, and **further noted** that, in the current context, this role is being filled concurrently with the provisions of two major UN conventions, the LC/LP and the CBD.

396 **The Assembly decided** to include ocean fertilization as an agenda item for the 43rd Session of the Executive Council, with a view to considering in more depth the future role of IOC in: (i) providing scientific advice and expertise on ocean fertilization; and (ii) the possible involvement of IOC/ABE-LOS in assessing the potential link between UNCLOS and ocean-fertilization issues.

4.5 PREVENTION AND REDUCTION OF THE IMPACTS OF NATURAL HAZARDS (HIGH LEVEL OBJECTIVE 1)

4.5.1 **Report of the Second Meeting of the IOC TOWS Working Group: Tsunamis and Other Ocean Hazards Warning and Mitigation Systems (TOWS-WG-II)**

397 The Co-Chairman of the Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems (TOWS-WG), Dr Neville Smith, introduced this item. He recalled that, by IOC Resolution XXIV-14, the IOC Assembly, at its 25th Session, was expected to review the results, mandate and purpose of the TOWS-WG.

398 Resolution EC-XLI.6 further instructed the TOWS-WG to prepare a detailed report on the implementation of the actions and recommendations specified in the Resolutions, as well as on progress in the harmonization of regional tsunami warning and mitigation systems, for consideration by the Assembly at its 25th Session.

399 The report of the Co-chairman of TOWS-WG focused on:

- (i) Results of the 2nd meeting of the TOWS-WG (TOWS-WG-II/3), also based on the results of the Global Meeting of the Intergovernmental Coordination Groups for Tsunami Warning Systems (Global TWS; Paris, 24–27 March 2009) and their effective inputs into TOWS-WG
- (ii) State of implementation of the tasks assigned to TOWS-WG by the Assembly through IOC Resolution XXIV-14 and Resolution EC-XLI.6, as well as by the TOWS-WG itself (document TOWS-WG-I/3)
- (iii) Recommendations for the possible continuation of the TOWS-WG for the next intersessional period (mandate, purpose, structure).

400 Highlighting the key results of TOWS-WG-II, Dr Neville Smith stressed that there is still a need to work on the development of harmonized subsidiary working group structures across ICGs as a foundation for inter-operability, with a view to preparing recommendations for IOC principles, criteria and procedures for ocean-related hazards warning and mitigation systems. He also mentioned the proposal to establish three inter-ICG Task Teams devoted, respectively, to sea level, preparedness, and tsunami watch operations, with a view to facilitating coordination of activities, development of common requirements and standards, and sharing of best practices, as detailed in the Draft Resolution XXV-(4.5.1). The Assembly was invited also to consider the nature and reporting line of the Task Teams in relation to TOWS-WG. According to the IOC Guidelines for the Structure and Responsibilities of the Subsidiary Bodies of the Commission (IOC/INF-1193), TOWS-WG, a task team itself, cannot establish secondary subsidiary bodies.

401 The Co-Chairman of TOWS-WG stressed the inclusion of requirements on the collection and exchange of sea-level data for tsunami warning purposes in the work programmes of GLOSS and DBCP, as well as the possible review of GLOSS terms of reference to reflect the operational requirements of the tsunami warning centres; and there is also a need for ICGs to

identify high-priority science issues that can benefit from contributions from IOC programmes and scientific and technical subsidiary bodies in the context of the Programme and Budget for 2010–2011.

- 402 He mentioned the recommendation to investigate with the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) Secretariat the conclusion of an agreement on the provision of, for example, seismic data to TWCs and the coordination of related matters, as well as the investigation with other seismic networks, of the possibilities for improved exchange and standardization of real-time seismic data and coordination of training programmes on global seismic monitoring for tsunami warning purposes.
- 403 The facilitation of the exchange, review and adoption of documents and guidelines related to risk assessment methodologies and other standards developed by the ICGs is required to improve collaboration among ICGs.
- 404 The Co-Chairman of TOWS-WG mentioned the need to develop a document with definitions and terminology on hazards, disasters, vulnerability and risks, drawing on existing documents developed by bodies like UN/ISDR, for use by the IOC Secretariat, subsidiary bodies and programmes.
- 405 He also recommended the assessment of the IOC Oceanographic Data Exchange Policy (Resolution XXII-6) as it applies to tsunami warning systems and the monitoring of its implementation to ensure the open, free and unrestricted sharing of tsunami-relevant observational data needed for timely and effective ocean-related hazard detection, analysis and warning for coastal communities, as well as the possible revision of the terms of reference of the GEBCO Guiding Committee to promote and coordinate the development of high-resolution bathymetric data in coastal areas and of digital elevation models.
- 406 Given the different states of development of the respective ICGs in implementing TWSs in their regions and the need for continuing coordination, the Co-Chairman of TOWS-WG recommended the continuation of TOWS-WG for the next intersessional period with the same mandate and membership.
- 407 Japan supported the Draft Resolution, but was concerned about possible ineffectiveness in inter-ICG Task Teams' activities, owing to job concentration on particular nations or organizations. It proposed several ideas to ensure the effectiveness of the Task Teams: adding the IOC Tsunami Unit and ITIC to the Task Teams' membership; giving priority to the Task Teams' terms of reference; and IOC providing necessary costs for the Task Teams' activities. Japan further emphasized the importance of each nation and region taking whatever measures are available to them for tsunami disaster prevention, along with the Task Teams' work.
- 408 The United States of America noted the considerable progress made to advance the Global Ocean-related Hazards Warning and Mitigation System framework over the past year, in response to the TOWS-WG-I report, through the ICGs and the TOWS Working Group 3. It underscored the IOC Secretariat's success in bringing together all of the ICG officers, Working Group Chairpersons and invited experts to discuss issues of common concern. The U.S.A. also noted the Secretariat's efforts to engage the CTBTO, and that CTBTO data, once they are available to Tsunami Warning Centres, will make an important contribution to the global framework. CTBTO data alone are not sufficient, however, for effective tsunami warning, in most cases. The U.S.A. asked the Secretariat to engage the U.S. Geological Survey, for example, in a formal partnership with the IOC to provide data from its over 150-station global seismic network. The U.S.A. also noted that many of the data-buoy systems deployed by IOC Member States to gather and transmit essential real-time oceanographic and meteorological information may be rendered inoperable at any given point in time as a result of deliberate and accidental vandalism. The impact of such vandalism cannot be underestimated. The U.S.A. applauded the work of the Secretariat in responding to a long-standing Member State request

for a centralized source of information about sea-level stations. The work done by the GLOSS Group of Experts, in partnership with VLIZ and IODE, to create the UNESCO/IOC Sea Level Station Monitoring Facility is impressive, and provides an invaluable service by allowing Member States to quickly and easily check the health of any sea-level station in the GLOSS network. The U.S.A. noted that the IOC and NOAA had signed an agreement last week on broad cooperation on ocean-related hazards, and that it intends to sign an implementing agreement that describes how the IOC and NOAA will partner through the International Tsunami Information Centre.

409 France, as a participant in the four ICGs, confirmed its support to the TOWS-WG recommendations. France is developing a national programme involving several national agencies under the aegis of the Ministry in charge of risk prevention and of the Ministry in charge of civil security. France is also favourable to the systematic organization of exercises.

410 Several Member States expressed their appreciation of the Co-Chairman TOWS-WG's report and welcomed the progress achieved.

411 The Republic of Korea specifically supported the cooperation of IOC with other bodies to expand its work to include other ocean-related hazards, and the establishment of a Fund-in-Trust for multi-hazard warning systems.

412 Portugal supported the work of TOWS to streamline and optimize the structure and provide guidance with a view to making the functioning of the ICGs more efficient.

413 The Representative of the UN/ISDR supported the work of TOWS and offered the participation of ISDR in the Task Team proposed by TOWS.

414 The Representative of the IHO, commenting on the TOWS-WG-II report and the related Draft Resolution XXV-(4.5.1), suggested that there was no particular need to make any amendment to the GEBCO Terms of Reference approved last year, but rather request GEBCO to give priority to the development of high-resolution bathymetric data in coastal areas and of digital elevation models, and to report progress to the IOC Executive Council at its 43rd Session. The Representative of IHO also suggested that the Assembly request the IBC projects to contribute to GEBCO in this endeavour.

415 The Co-Chairman clarified the scope of the proposed Terms of Reference of the Task Teams, which is not an expansion of work, but a process of harmonization on the basis of the mature state of the existing Working Groups within the ICGs. With respect to GEBCO, the spirit behind the decision of TOWS comprises specific actions to obtain data that the ICGs require.

416 The Head of the Tsunami Unit, Mr Peter Koltermann, reminded the Assembly of the offer of China to host PTWS-XXIV and welcomed the very rich comments from the Member States. He appreciated the generous and continuous support of Norway, in particular for the Global Meeting of ICGs, and thanked all Member States for the support they have given to the work of the Unit and for their important extrabudgetary contributions.

417 The Chairman thanked all the presenters and Member States and asked the Representative of IHO to provide his comments to Member States to introduce changes as needed in the Draft Resolution.

418 **The Assembly adopted [Resolution XXV-13](#)**, incorporating actions in respect of all four ICGs and of the TOWS-WG.

4.5.2 Reports from the IOC Intergovernmental Coordination Groups

419 The Vice-Chairman in charge of regional affairs, Professor Mário Ruivo, introduced this item.

*4.5.2.1 Sixth Session of the IOC Intergovernmental Coordination Group
for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS)*

- 420 The Chairman of the IOC International Co-ordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS), Dr Jan Sopaheluwakan, introduced this item. By Resolution XXIII-12, the IOC Assembly created an Indian Ocean Tsunami Warning and Mitigation System (IOTWS) and established an Intergovernmental Coordination Group (ICG) for this System. As a primary subsidiary body of the IOC, the ICG is required (pursuant to Rule of Procedure 48.3) to report on its work to a Governing Body.
- 421 Dr Sopaheluwakan summarized the intersessional activities of the ICG/IOTWS, including its Working Group intersessional meetings hosted by the Government of Indonesia in Bali, in November 2008.
- 422 The ICG/IOTWS, at its 6th Session (Hyderabad, India, 7–9 April 2009), decided to: adopt the guidelines on “Tsunami risk assessment and mitigation for the Indian Ocean: knowing your tsunami risk – and what to do about it” (IOC Manuals and Guides, 52 – IOC/2009/MG/52), submitted by Working Group 3; adopt revised Terms of Reference for the ICG/IOTWS Steering Group; establish a Task Team to review the Working Group Structure and Terms of Reference; invite the Working Group Chairpersons and Vice-Chairpersons to remain in place until the review of the Working Group Structure and Terms of Reference is completed; reconstitute the Regional Tsunami Watch Provider (RTWP) Coordination Group as the RTWP Task Team, reporting to Working Group 5.
- 423 The Chairman of the ICG/IOTWS described the significant achievements of the ICG/IOTWS since its establishment in 2005, including the installation of core seismic detection and sea-level monitoring networks. He drew attention to the problems of vandalism, noting that out of 20 deep-ocean tsunameters deployed to date, nine were not operating due to intentional or accidental damage. The ICG's Working Group 3 on risk assessment prepared Risk Assessment Guidelines, with technical and financial support from UNDP, and an Indian Ocean Tsunami Hazard Map, with technical support from Geoscience Australia and financial support from the Australian Agency for International Development.
- 424 Dr Sopaheluwakan provided an update on the progress in the implementation of a network of RTWPs. He listed the activities and initiatives being taken to address mitigation, preparedness and response issues and described the main challenges facing the IOTWS, including the completion of system implementation, data exchange, RTWP interoperability, risk assessment and community resilience, and system sustainability. He also listed the planned activities of the ICG/IOTWS in the next intersessional period.
- 425 Japan appreciated the accomplishments of all the ICGs, especially the ICG/IOTWS's achievements, including the development of Guidelines on Tsunami Risk Assessment. Japan also expressed its high expectations of the RTWPs' Level 2 service. It commented on the necessity for further improvements and accumulation of experience in the RTWPs, as well as developing national warning mechanisms in Member States which receive RTWP information. Japan offered its continuous assistance to the region by providing Interim Tsunami Watch Information and supporting capacity-building activities.
- 426 The U.S.A. commended the work of the ICG/IOTWS-VI and noted the progress in defining the complex issue of Regional Tsunami Watch Provider operations. It also noted the ICG's decision to review its working group structure in the light of the TOWS-WG-I and II recommendations and expressed confidence that the ICG would take steps to align with GOHWMS to the extent possible. The U.S.A. noted the achievement of the ICG/IOTWS Working Group on risk assessment in the publication of risk assessment guidelines for the Indian Ocean and commented that this document would be of benefit to other ICGs.

- 427 Australia noted the many important issues that were discussed and resolved at ICG/IOTWS-VI in Hyderabad and announced that the Joint Australian Tsunami Warning Centre plans to become fully operational as an RTWP by the end of 2009. Australia was pleased to confirm to the Assembly that it will continue to support the IOC Secretariat for the ICG/IOTWS in Perth, Australia, for a further four years from July 2009.
- 428 India noted that its offer to provide RTWP Level 1 services had been accepted at ICG/IOTWS-V in Putrajaya, Malaysia, in April 2008. India confirmed that it is now ready to provide RTWP Level 2 service for the Indian Ocean. In view of these developments and the progress report presented by the Chairman of ICG/IOTWS, India requested IOC to define a time-frame for declaring the IOTWS fully operational and to specify criteria for establishing the IOTWS.
- 429 The Head of the Tsunami Unit, Mr Peter Koltermann, noted India's statement and referred to the timetable and process established by the ICG/IOTWS.
- 430 Indonesia recalled that it had held coordination meetings with all stakeholders in the Indonesian Tsunami Early Warning System to discuss progress of and plan for the future development of the system. The last stage of development is the integration of all monitoring systems into a Decision Support System. Indonesia announced that, by March 2010, it should be able to provide RTWP Level 2 services for the Indian Ocean and Level 3 services for some regions of Indonesia. Indonesia noted that the Indian Ocean Wave Exercise will be held on 14 October 2009 and will be based on the 26 December 2004 scenario. Indonesia noted and supported the comments made by the Chairman ICG/IOTWS on the issue of vandalism.
- 431 Thailand appreciated the progress in the IOTWS. Thailand has received much support from the IOC, both from the headquarters Secretariat and the Programme Office in Perth. One of the outstanding projects supported by IOC is the Adaptive Learning in Disaster Management for Community Awareness and Resilience (ALDCAR). Building on this project, Thailand is planning to expand the coverage of community preparedness. It looks to IOC for further support for community preparedness. Thailand informed the Assembly that it is developing tsunami numerical models with support from IOC.
- 432 Iran stated that it had decided to establish a National Tsunami Warning Centre to cover the Makran source zone.
- 433 **The Assembly accepted** the Executive Summary Report of the ICG/IOTWS-VI and **decided** further action by Resolution XXV-13. (Item 4.5.1).
- 4.5.2.2 *Fifth Session of the IOC Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS)*
- 434 The Chairman of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS), Professor Stefano Tinti, introduced this item.
- 435 He reported on the progress achieved and discussed during the 5th Session of the Intergovernmental Coordination Group (ICG/NEAMTWS-V; Athens, Greece, 3–5 November 2008) which reviewed the progress made during the intersessional period (January–November 2008). The four Working Groups, together with the Task Team on the NEAMTWS architecture, met in the intersessional period and reported to the ICG (ICG/NEAMTWS-V) on their activities.
- 436 ICG/NEAMTWS-V requested Member States to openly share and exchange all tsunami-relevant real-time observational data as appropriate and in accordance with the UNESCO/IOC Oceanographic Data Exchange Policy (Resolution XXII-6). It also requested Member States to

consider extrabudgetary contributions to IOC in support of NEAMTWS and to nominate National Tsunami Warning Focal Points (TWFPs) and Tsunami National Contacts (TNCs), although significant progress has been made since last year.

- 437 The ICG decided to extend the duration and mandate of the Task Team on the NEAMTWS architecture, and agreed on the revised Roles and Requirements for the National Tsunami Watch Centres (NTWCs) and the Regional Tsunami Watch Centres (RTWCs), as detailed in the report of the Second Meeting of the Task Team (ICG/NEAMTWS-TT-II/3). With respect to tsunami alert nomenclature, the ICG decided that the term “warning” will be used only by the NTWCs.
- 438 The ICG decided that sea-level data from the NEAMTWS core network should be freely available to RTWCs and NTWCs, once these are established. As an interim solution, these data can be provided to the IOC Tsunami Sea Level Station Monitoring Facility (<http://www.ioc-sealevelmonitoring.org>).
- 439 Following the announcements made at the 41st Session of the IOC Executive Council (Paris, 24 June–1 July 2008) and at the 5th Session of the ICG/NEAMTWS (Athens, 3–5 November 2008), the IOC Secretariat for ICG/NEAMTWS and Liaison Office with UN/ISDR was established on the Bonn UN Campus in January 2009, with initial financial contributions from Germany and UN/ISDR.
- 440 The Chairman of the ICG informed the Assembly of the future NEAMTWS foci: (i) formalizing the commitment by NTWCs/RTWCs; (ii) facilitating the participation of North African Member States; and (iii) re-vitalizing the IOC policy on data-sharing in respect of tsunami warning purposes.
- 441 Turkey fully supported the ICG/NEAMTWS coordination process and confirmed its willingness to host the next ICG meeting in November 2009 in Istanbul. Turkey reiterated its determination to establish a Regional Tsunami Watch Center (RTWC) covering the Eastern Mediterranean, Aegean Sea, Marmara Sea and the Black Sea.
- 442 France reminded the Assembly that it is ready to host a regional centre for the western Mediterranean. It also noted that the architecture defined by the Task Team on the NEAMTWS Architecture should be endorsed by the next ICG/NEAMTWS meeting, in Istanbul.
- 443 Greece recalled its strong support for the ICG/NEAMTWS by hosting the 5th Session in Athens. It confirmed its willingness to establish an RTWC in the Aegean Sea, but considered that the designation of the area of responsibility is premature and needed written confirmation from Member States.
- 444 Portugal briefly reported on its national activities and confirmed that some progress has been made by the group, but it also stressed that there is a very active effort needed to encourage concrete actions from Member States and scientific and technical groups. It stated that more involvement of the Officers and the Secretariat is needed for further achievements.
- 445 The Representative of UN/ISDR confirmed his organization's support to ICG/NEAMTWS and acknowledged the IOC support to the ISDR-coordinated Consortium Initiative through the ICG/NEAMTWS Secretariat and ISDR Liaison Office in Bonn.
- 446 The Head of the IOC Tsunami Unit, Mr Peter Koltermann, noted the very rich and helpful comments provided by Member States, as well as the overlap in definitions of the regions proposed by Greece and Turkey.
- 447 **The Assembly accepted** the Executive Summary Report of ICG/NEAMTWS-V and **decided** further action by Resolution XXV-13. (Item 4.5.1).

4.5.2.3 Fourth Session of the IOC Intergovernmental Coordination Group for Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)

- 448 The Chairwoman of the Intergovernmental Coordination Group for Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE EWS), Dr Lorna Inniss (Barbados), introduced this item.
- 449 Dr Inniss reported on the results of the Fourth Session of the Intergovernmental Coordination Group (ICG/CARIBE EWS-IV; Fort de France, Martinique, 2–4 June 2009), hosted by France. She also reported on progress on: the CARIBE EWS Implementation Plan and the establishment of a Caribbean Tsunami Information Centre (CTIC), with the support of the Government of Italy and facilitated through the UNDP regional project on Enhancing Resilience in the Caribbean.
- 450 To date, 23 Member States have nominated Tsunami Warning Focal Points (TWFPs) and ICG/CARIBE EWS has developed stronger links with regional disaster-management organizations and several regional partners, such as CDERA, CEPREDENAC, EIRD, SRC, and UNDP.
- 451 Regarding the proposed Caribbean Tsunami Warning Centre (CTWC), to be established by 2010, the ICG/CARIBE EWS-IV approved a technical document prepared by its Working Group 1 on Technical, Logistical, and Administrative Requirements of a Regional Tsunami Warning Centre for the CARIBE EWS (Doc. ICG/CARIBE EWS-IV/13, which will be used as a standard to evaluate offers of Member States to host the CTWC). One Member State indicated that it was initiating in 2009 a three-phase approach to decide on the feasibility of hosting CTWC. Venezuela has also previously mentioned its interest in hosting the CTWC.
- 452 With respect to the CTIC, Dr Inniss recalled that Barbados had previously offered to host the CTIC and that this has now been formally approved by the Government of Barbados. Barbados announced its formal offer to host the CTIC on behalf of the Member States of the ICG, at ICG/CARIBE EWS-IV. The funding for CTIC has been made available through UNDP, from the Government of Italy, for establishing the CTIC in Barbados in 2009.
- 453 The Chairwoman welcomed the tsunami modelling efforts in the Caribbean developed by the University of Puerto Rico (U.S.A.) as well as by the University of Antilles–Guadeloupe (of France) and the Norwegian Geotechnical Institute (NGI).
- 454 The ICG/CARIBE EWS-IV expressed its concern with respect to the mechanisms of communication of warnings. The Honduras earthquake on 28 May 2009 provided an opportunity to test how the different communication mechanisms and systems are working under real conditions. A complete analysis will be performed of that event and afterwards a communications inventory will be developed by Working Group 3 of the ICG/CARIBE EWS.
- 455 The Chairwoman also informed the Assembly of the CDERA Tsunami and Coastal Hazards Warning System Project (TCHWS) which provides support to the ICG/CARIBE EWS, including through a model of tsunami-warning protocols for CARICOM countries; four pilot countries, including Barbados, have been chosen to test these protocols.
- 456 The Chairwoman of ICG/CARIBE EWS also referred to the “Experts Meeting on Preparedness, Readiness and Resilience at the Community Level” (Panama City, 11–13 August 2008), indicating that the ICG had decided to organize, in 2009, a “hands-on” training opportunity in a Member State that has been affected by a tsunami and that has a coastal community preparedness programme in place.

457 The U.S.A. welcomed the achievements of the ICG/CARIBE EWS over the past year, but noted that important gaps remained in the observing system. The U.S.A. encouraged other Member States and other stakeholders to join it in making additional investments in the observing and communications network, in accordance with the CARIBE EWS Implementation Plan.

458 France confirmed that it will contribute to ICG/CARIBE EWS on preparedness and mitigation aspects through its Programme INTERREG III-B and INTERREG IV-B *Espaces Caraïbes* and that France is willing to participate in and contribute to the activities of the CTIC.

459 Venezuela thanked all ICG/CARIBE EWS Member States and the Secretariat for the work done and confirmed the interest of Venezuela in contributing to the establishment of the CARIBE EWS through cooperation with other Member States, independently of who will be hosting CTWC.

460 **The Assembly accepted** the Executive Summary Report of ICG/CARIBE EWS and **decided** further action by Resolution XXV-13. (Item 4.5.1)

4.5.2.4 *Twenty-Third Session of the IOC Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the Pacific (ICG/PTWS)*

461 The re-elected Vice-Chairman of the Intergovernmental Coordination Group of the Pacific Tsunami Warning and Mitigation System (ICG/PTWS), Mr Yohei Hasegawa (Japan), introduced this item. Established as a Subsidiary Body of the Commission by Resolution IV.6, ICG/PTWS reported on its work pursuant to Rule of Procedure 48.3.

462 Mr Hasegawa reported on the main results of the 23rd Session of the Intergovernmental Coordination Group (ICG/PTWS-XXIII; Apia, Samoa, 16–18 February 2009). The ICG adopted the PTWS Medium-term Strategy and a new PTWS Working Group structure and reviewed the progress on the PTWS Implementation Plan. The PTWS Medium-term Strategy is based on three pillars: (i) Risk Assessment and Reduction — that is, hazard and risk identification and risk reduction; (ii) Detection, Warning and Dissemination — rapid detection and warning dissemination down to the last mile, addressing the requirements of local/national, regional and ocean-wide warning systems; and (iii) Awareness and Response — public education, emergency planning and response. These are underpinned by the following basic elements: Interoperability, which means free, open and functional exchange of tsunami information; Research — to improve and enhance understanding and improve technologies and techniques; Capacity-building — including training and technology transfer; and, in particular, Funding and Sustainability — to provide adequate resources to sustain an effective PTWS.

463 The new Working Group structure comprises three Technical Working Groups (WG 1 — Tsunami Risk Assessment and Reduction; WG 2 — Tsunami Detection, Warning and Dissemination; and WG 3 — Tsunami Awareness and Response, and four Regional Working Groups; WG 4 — Central American Pacific Coast; WG 5 — Southeast Pacific Region; WG 6 — Southwest Pacific Region; and WG — South China Sea Region). The ICG also adopted revised Terms of Reference for the PTWS Steering Committee.

464 The Vice-Chairman of the ICG drew particular attention to the problem of seismic data exchange in the southwest Pacific (SWP), which will be addressed in the new Regional Working Group for the South-West Pacific, in cooperation with the incumbent of the IOC post in Apia, Samoa. The ICG decided to form a Task Team to assist SWP countries to achieve Seismic Data Sharing (under the Technical Working Group 2). This Task Team will advocate seismic data-sharing in the region, advise SWP countries on technical issues — data exchange protocol, techniques and technologies — and foster cooperation of SWP countries and with donors. He summarized the challenges the PTWS is facing; namely, that: efforts with respect to

risk assessment and risk reduction are still incomplete in some areas; seismic and sea-level data are not always interoperable or made available in a timely manner to the warning centres; and data exchange is still a challenge. He noted that the PTWS needs to maintain an active programme to acquire the new capabilities, which, since 2004, are being developed in other ocean basins. Therefore, the overall focus should be on establishing 24/7 robust national systems, improving the capabilities of national centres to detect and predict tsunamis and improve current capabilities of national warning centres, particularly in Small Island Developing States, to allow timely dissemination of local warnings and advisories (e.g. the 19 March 2009 event).

- 465 At ICG/PTWS-XXIII, the newly elected Chairman, Lieutenant Giorgio de la Torre (Ecuador), presented a first summary of the Exercise PacificWave'08, which was conducted on 28–30 October 2008 to test the preparedness and performance of the entire PTWS. A third such test is planned for the fourth quarter of 2010, with an assumed source in the central South Pacific.
- 466 Mr Yohei Hasegawa (Japan) thanked the PTWS Secretariat and the IOC Tsunami Unit, including ITIC, for supporting this session; he also thanked the participating nations and organizations for earnest discussions. He concluded by applauding IOC's plan to create a new post stationed in the Pacific area and at IOC in Paris and expressed his appreciation for the increased budget for tsunami-related activities. This will significantly increase the support for tsunami disaster prevention work in the Pacific and other oceans and seas.
- 467 The U.S.A. noted that the PTWS is the oldest and arguably the most complex of the TWSs, and appreciated the fact that the ICG has not only completely revised the PTWS working group structure, but that progress has been made by adopting a new strategy and a new implementation plan in principle. This aligns the PTWS with the Global Ocean-related Hazards Warning and Mitigation System. With the new structure, Member States have taken on important new responsibilities for developing local and regional tsunami warning and mitigation through the regional working groups. This is a vital complement to the distant tsunami warning services the U.S.A. provides through the Pacific Tsunami Warning Centre (PTWC) and the services Japan provides through the Northwest Pacific Tsunami Advisory Centre.
- 468 Australia stated that a successfully working PTWS is important for it, through the provision of additional seismic and sea-level information to assist more rapid determination and warning for tsunami threats by the Australian national system, and improved regional tsunami warnings in the southwest Pacific region provided by the PTWC. Australia is pleased that the recent 23rd Session of the ICG in Samoa, as well as the Pacific Wave '08 exercise, reported on by the ICG Vice-Chairman, were successful in moving the PTWS towards achieving many of its primary objectives. Two current Australian funding projects are both underpinning regional capacity-development in the southwest Pacific, in support of the PTWS.
- 469 China has developed a framework of a tsunami warning system for the South China Sea, which will be proposed to PTWS through the Chairperson of WESTPAC, in accordance with the decision made by the Sub-Commission for WESTPAC at its 7th Session, in May 2008; a set of tsunami forecasting and warning software for the South China Sea is available. China would like to actively promote cooperation and collaboration with countries surrounding the South China Sea, and provide Tsunami Forecasting and Warning Services for the region. China is also interested in hosting the 24th Session of ICG/PTWS, and will consult with the Chairperson of ICG/PTWS in this sense.
- 470 Chile indicated that, together with the PTWS South East Pacific Working Group (SEP), it is engaged in an effort of investment in sea-level and seismic monitoring. However, Chile is concerned about the level of free and unrestricted exchange of data and requested the Member States to increase data exchange for tsunami warning purposes. It also thanked the CPPS and the IOC/TSU for supporting the SEP.

471 The Russian Federation reported that it is developing its own national system, including a network of monitoring through automated stations, staff training, and comprehensive exercises with participation of civil defence agencies.

472 **The Assembly accepted** the Executive Summary Report of ICG/PTWS and **decided** further action by Resolution XXV-13.

5. ADMINISTRATION AND MANAGEMENT

5.1 REPORT BY THE CHAIRPERSON OF THE FINANCIAL COMMITTEE ON THE IOC DRAFT PROGRAMME AND BUDGET FOR 2010–2011 (DRAFT 35 C/5)

473 The Chairman of the Financial Committee, Dr Neville Smith (Australia), presented the conclusions of the Committee and specifically the fulfilment of its mandate to develop the 2010–2011 biennium Programme and Budget.

474 Dr Smith noted that a number of Member States had raised the matter of French-language interpretation at the initial meeting of the Committee, pointing out the importance of ensuring full engagement of representatives of Member States in the discussion, with, to the extent possible, accommodation of other languages. The Committee had agreed to seek interpretation for its sessions where this was practical.

475 He considered this innovation very successful and that it had led to a stronger and more useful exchange on a number of matters of substance in the Financial Committee. To the extent that such engagement also reduces the need for lengthy debate on details at the Assembly plenary sessions, the Chairman of the Financial Committee believed it can be a cost-effective measure. Noting that the Rules of Procedure remain silent on the matter of language interpretation, and that, in a tight financial environment, all expenditure should be examined on the basis of the value returned, he supported exploring this option at future IOC Assemblies.

476 On the basis of the debate at the present session of the Assembly, the Financial Committee concluded that the implementation of the 2008–2009 programme of work was proceeding in accordance with the adopted IOC Programme and Budget 2008–2009 in the Annex to Resolution XXIV-15, and as updated by the Executive Council at its 41st Session (Resolution EC-XLI.5).

477 The four High-Level Objectives of the IOC Medium-term Strategy 2008–2013 (IOC Resolution XXIV-2) are: (HLO 1) Prevention and reduction of the impacts of natural hazards; (HLO 2) Mitigation of the impacts of, and adaptation to, climate change and variability; (HLO 3) Safeguarding the health of ocean ecosystems; and (HLO 4) Management procedures and policies leading to the sustainability of coastal and ocean environment and resources.

478 The Chairman of the Financial Committee recalled the significant work on IOC strategy and plans at the 24th Session of the Assembly, leading to a set of priorities that were truly strategic, focused on an appropriate response to the high-level 2008–2013 Medium-term Strategy and to UNESCO and IOC Member State priorities. He further noted the central importance of an operational plan to translate the budget decisions of the Commission into practical actions of the Secretariat.

479 Expected results, performance indicators, and an effective monitoring and evaluation approach should accompany the strategy. Dr Smith noted that a draft of the biennial strategy had been agreed through Resolution EC-XLI.5, drawing on the information provided in document IOC-XXIV/2 Annex 5.

480 In reviewing Annex 3 of the current Action Paper (IOC-XXV/2) and the IOC contribution to the draft UNESCO 35 C/5 Programme and Budget, the Financial Committee noted some

degree of divergence from the high-level actions agreed at the 41st Session of the Executive Council.

481 The Financial Committee recalled that the 41st Session of the Executive Council had agreed to establish an intersessional Financial Advisory Group enabled, in part, to provide intersessional review and advice on programme and budget matters. It is regrettable that the Advisory Group was not brought into action at the point of framing the input to UNESCO 35 C/5, and on other occasions when decisions were being made that are manifesting major impacts on the budget.

482 The Financial Committee noted the numerous calls from Member States, particularly developing countries, for the continuation of the approach of national and regionally driven capacity-development activities. The Committee therefore recommended that, in addition to the diversified actions on capacity-development included in the programme, this aspect be retained as a focus in the regular programme budget and extrabudgetary funding arrangements of the operational plan.

483 The Financial Committee noted that a number of new functions had been agreed provisionally at the present Assembly, including:

- Ocean biogeographic information, as new action 3d under High-Level Objective (HLO) 3, and supporting HLOs 2 and 4; and
- Standard setting and associated monitoring and stewardship (included under HLO 4).

484 In reviewing the modifications to the strategy agreed by the Executive Council, the Committee formed the conclusion that there was insufficient rationale for a specific change to HLO 2 in the strategy relating to mitigating the impacts of factors associated with climate change in the polar regions, and that, instead, it should be considered as part of the whole IOC action on climate change. In order to retain the attention on this aspect, the Financial Committee tasked interested Member States to prepare appropriate text for the Draft Resolution XXV-(5.1).

485 The Committee also noted that, while the title of HLO 2 mentions adaptation, there were no related actions for this aspect. Recalling the additional and reinforced actions agreed subsequent to the 24th Session of the Assembly and elaborated by the Executive Council at its 41st Session, the Financial Committee agreed to reflect those aspects, and specifically climate change adaptation (new 2d), in the new Programme.

486 The Financial Committee noted the two UNESCO 35 C/5 global priorities giving emphasis to actions in favour of Africa and gender equality and that Major Programme II focuses efforts on least-developed countries and small-island developing States (LDCs and SIDS, respectively). Further, the Committee recalled the many interventions at the present Assembly and at previous IOC Governing Body meetings calling for IOC emphasis on these matters.

487 To respond to these calls, the Financial Committee agreed to add to the draft Biennial Strategy three new elements:

- Global Priority Africa actions for IOC
- Gender equality actions for IOC
- Actions targeting SIDS

488 The Biennial Strategy 2010–2011 has been adapted accordingly and is annexed to Draft Resolution XXV-(5.1) on Programme and Budget. This represents the broad programme

priorities for 2010–2011 and, together with documents IOC-XXV/2 Annex 3 and the draft UNESCO 35 C/5, were used as the starting point for analysis of the Budget.

489 Within the context of the current 34 C/4 Medium-term Strategy 2008–2013, UNESCO's 180th Executive Board identified six key priorities for Major Programme II "Natural Sciences" in the biennium 2010–2011. Two of the six priorities (objectives) are of direct relevance to the IOC:

- Addressing climate change through building the knowledge base and developing effective adaptation and mitigation strategies; and
- Improving the governance, management and protection of ocean and coastal areas.

490 Draft 35 C/5 further articulates a two-fold strategy in the form of two biennial sectoral priorities including "Sustainable management of freshwater, ocean and terrestrial resources as well as disaster preparedness and mitigation" (biennial sectoral priority 2). Main line of action 4 (MLA 4) "Improving governance and fostering intergovernmental cooperation to manage and protect oceans and coastal zones" represents the interests of the IOC.

491 Draft 35 C/5, paragraph 02029, states that:

"The focus of IOC's work during this biennium will be on improving governance and fostering intergovernmental cooperation through ocean sciences and services. It will also provide authoritative scientific and technical information for evidence-based policy recommendations aimed at improving the management and protection of oceans and coastal areas, including through the coordination of regional tsunami early-warning systems. IOC will further enhance its contribution to the scientific knowledge base for understanding global climate change, an area in which it has been assigned a joint lead role with the World Meteorological Organization (WMO) in the context of the United Nations system efforts."

492 The IOC Programme and Budget are developed within this 35 C/5 framework, but with appropriate recognition of the status of IOC. The Financial Committee were advised of discussions at the 181st Executive Board and represented in Decision 57 (on the 35 C/5):

"Decides to add the following paragraph to the draft appropriation resolution for 2010–2011: Authorizes the Director-General to provide support to the UNESCO Intergovernmental Oceanographic Commission (IOC) by granting it a budgetary allocation under Major Programme II for a total amount of, which shall not be decreased by transfers of funds to other parts of the budget."

The Financial Committee sought advice from the UNESCO Deputy Director of the Budget on this matter in the light of concerns raised by the Executive Secretary under agenda item 3.2 of the present session of the Assembly. He advised that the text arose in response to a concern from several Member States that the IOC was not sufficiently highlighted in the 35 C/5. On the understanding that there is no intention to associate the IOC with financial mechanisms for Institutes, the Deputy Director of the Budget assured the Financial Committee that such text was appropriate and reasonable.

493 The Committee noted that draft 35 C/5 actions (paragraphs 02030–02032) do not flow directly from the draft biennial strategy agreed at the 41st Session of the Executive Council and that, accordingly, the actions listed in document IOC-XXV/2 Annex 3 do not similarly correspond to the IOC lines of action agreed by the Executive Council. This was unfortunate and, in the view of the Financial Committee, made the task of following the evolution of the Programme and Budget from the current biennium into the future biennium unnecessarily complex. Indeed, few Member States were able to unravel the logic behind the reductions, re-orientations and additions to the actions elaborated in document IOC-XXV/2 Annex 3.

494 A further matter that complicated the work of the Financial Committee was the lack of required detail on new measures and re-oriented measures. The Financial Committee believed it should be mandatory to include, in the Draft Action Papers of the Assembly, information on: (i) the relevant High-Level Objective; (ii) the proposed action; (iii) expected results for the biennium (what is going to be delivered); (iv) performance measures/indicators for the actions; and (e) activity and staff costs from regular programme or extrabudgetary resources.

495 **The Assembly requested** the Executive Secretary to include such detail in future Action Papers.

496 In the 35 C/5 budget preparations, UNESCO opted to prepare the draft budget in a zero-real-growth scenario. That is, the budget allows for growth in costs relative to the set of actions agreed for the previous biennium, but does not allow for growth in actions, unless savings are identified to offset the costs of these enhanced actions. Within this funding envelope, IOC is allocated US\$ 9,555,600, representing a growth of US\$ 529,400 or approximately 6% with respect to the current biennium.

497 In document IOC-XXV/2 Annex 3, the Secretariat indicated that the number of consultants and temporary posts supported from the budget for programme activities creates ambiguity in the interpretation of the quantum of funds available for non-staff costs. The Financial Committee sought clarification on the actual funds available for activities during the 2008–2009 biennium and the resources devoted to staff, whether they derive from Programme Activity funds or from Regular Programme staff allocations. The analysis revealed expenditure of US\$ 5.8 M on staff and US\$ 3.2 M on activities. The Financial Committee further noted that the proposed expenditure on staff in the 2010–2011 biennium represented a growth less than 6% in such costs.

498 The Executive Secretary had proposed the creation of three professional positions at Headquarters and one National Officer in Fiji to implement approved on-going IOC lines of action. The Secretariat indicated that the approach is in line with reinforced UNESCO directives on long-term consultants and, in their view, obeyed the oft-stated instruction of IOC Governing Bodies to the Executive Secretary to stabilize staffing for implementation of its Medium-term Strategy.

499 The Financial Committee noted this perspective, but recalled the fact that the Financial Committee, at the 24th Session of the Assembly, had concluded that all growth propositions, whether for staff or for programme activities, should be based on specific proposals addressing priorities at the level of the High-Level Objectives and associated actions, and agreed that such proposals should favour extension of activities in the first instance.

500 The Financial Committee recognized that, for a number of reasons, the Executive Secretary may be bound to translate some posts of limited duration into permanent posts. That is a decision for the Executive Secretary, not the Governing Bodies. Nevertheless, the Committee felt compelled to record its concern about the alignment between the proposals in document IOC-XXV/2 Annex 3 and the strategic priorities, and that, in their view, the Programme and Budget for 2010–2011 must be driven by priorities established by the Assembly, and not by matters related to human-resource decisions.

501 The Financial Committee then considered a number of principles that should underpin the development of the Budget, in addition to those covered above:

- Capacity-development is a flagship and core function of the Commission. To contemplate a cut in activities within an otherwise real-growth budget scenario does not respect the priority that is contained in the IOC Medium-term Strategy; the Financial Committee therefore resolved to maintain capacity-building activities at least at the level of the 2008–2009 biennium.

- Recalling that Member States were informed at the 41st Session of the Executive Council that additional allocations provided to IOC in the adopted 34 C/5 (US\$ 500,000) were directed, pursuant to IOC Resolution XXIV-15, to reinforcing activities dealing with climate change and impacts and adaptation strategies for coastal regions, specifically for the benefit of Africa, Small-Island Developing States and Least-Developed Countries, and additional support for the response to the risks posed by tsunamis, among other things. In that light, the Financial Committee agreed that those actions should be retained at least for the coming biennium.

502 The Committee then considered decisions of the Assembly and other factors that might influence the internal balance of the budget. Calls for increased priority in a certain area can be met by shifting resources at the activity level.

503 The Committee noted the many calls for Regular Budget support for specific entities, made by Member States under other items of the Assembly's agenda. The new programme-based approach does not allow a mechanism to directly respond to such calls. The Committee further noted that the projection of the IOC Budget down to the level of the Secretariat (the Operating Plan for the IOC Secretariat) is an important part of the process introduced through IOC Resolution XXIV-2 and that it should be made available for consideration by the Executive Council at its 43rd Session.

504 In the light of all these considerations, the Financial Committee rebuilt the budget guidance in the image of the 2008–2009 biennium budget, but including: (i) additional information on staff and extrabudgetary allocations; (ii) new actions agreed at the present Assembly or flowing from the adoption of the UNESCO 35 C/5 Budget; (iii) the principles referred to in previous paragraphs; (iv) mandatory support for governance and/or subsidiary bodies; and (v) balancing to take account of any additional measures agreed by the Assembly (some remained provisional at the time of the framing of the draft).

505 The Financial Committee recalled advice provided at the 24th Session of the Assembly that suggested a staffing strategy should be developed as part of the Operational Plan for the Secretariat and which recognizes the need to maintain a balance between human resources and resources for activities. This strategy would take account of the possibilities for applying extrabudgetary resources to both staff and activities.

506 Some Member States made specific suggestions on the presentation of the budget. Item 4a "UNCLOS and transfer of marine technology" required clarification as to whether it solely concerned the work of IOC/ABE-LOS or contained broader items, including capacity-development activities. Some Member States expressed their regret over the lack of a reference to financial implications in the Draft Resolution on Regional Subsidiary Bodies.

507 This discussion and the subsequent closer examination of the budget allocated to regional cooperation and regional subsidiary bodies, allowed the Chairman of the Financial Committee to correct a significant error in the budget table presented by the Financial Committee: the titles in this table were those used in Resolution XXIV-15 rather than as in the revised IOC Draft Biennial Strategy for 2010–2011 presented in Annex 1 to Draft Resolution XXV-(5.1) and did not therefore reflect the true content of some programme items.

508 High-Level Objective 4 of the IOC Draft Biennial Strategy refers to *Management procedures and policies leading to the sustainability of coastal and ocean environment and resources*. UNCLOS does not appear in the title of the HLO 4, but does appear in the title of the budget table. The preambular part of HLO 4 states that *"IOC will assist Member States in the management of their marine and coastal environment, focusing on regional needs and development of national capabilities..."* This fully addresses the issue on regional exposure and

there is no direct reference to UNCLOS or IOC/ABE-LOS in this text. The actual title of item 4 is wrongly reflected in the budget table.

509 With regard to the work of IOC/ABE-LOS, which may progress at a slower pace in the next biennium, the Chairman of the Financial Committee noted that the budget allocated to this item will depend on how Resolution XXV-1 will address this issue and may need to be adjusted accordingly. He also explained that the item on "UNCLOS and other UN conventions" needed to be moved to area B "Governance", and the item concerning "Regional cooperation" should be placed under area A "Programmes" in Priority 2 (HLO 4). Moreover, the title of all items under B.II "Coordination" should refer to the office and travel of the "Executive Secretary" rather than of the "ADG."

510 **The Assembly accepted** this solution.

511 **The Assembly strongly supported** the recommendation of the Financial Committee to re-constitute the IOC Intersessional Financial Advisory Group established by the Executive Council at its 41st Session, with the Terms of Reference given in Annex V to the Report of the Executive Council (IOC/EC-XLI/3), but removing clause (b) under "Composition" ([Annex VII](#)).

512 Many Member States stressed that the work of the Intersessional Financial Advisory Group during the intersessional period could be a source of valuable guidance to the Secretariat and would significantly ease the task of the Financial Committee and its Chairman during the sessions of the IOC Governing Bodies.

513 **The Assembly requested** the Executive Secretary to report to the Intersessional Financial Advisory Group on the decisions adopted by the UNESCO Executive Board at its 182nd Session and the 35th General Conference with regard to the programme and budget for the next biennium (2010–2011) and their implications for the IOC.

514 The following Member States indicated their intention to participate in the work of the Intersessional Financial Advisory Group: Argentina, Australia, Brazil, Canada, Cuba, India, Japan, Kenya, South Africa, United Kingdom, U.S.A. As this Group is open-ended, all Member States were invited to participate in it.

515 **The Assembly requested** the Executive Secretary to address a Circular Letter to the IOC Member States on this matter. **It decided** that the Intersessional Financial Advisory Group should work by electronic correspondence.

516 Some Member States pointed out that the increase in staff contained in the proposed IOC budget for 2010–2011, although not as high as originally perceived, is still a concern. They believed that further efforts will need to be made to preserve the ratio between staff and programme, especially for the regional aspects of the IOC activities, and that consultations with the Intersessional Financial Advisory Group could be of considerable value in this regard.

517 **The Assembly welcomed** the report of the Chairman of the Financial Committee and **thanked** him for the considerable amount of work he had put into the re-building and finalization of the budget.

518 **The Assembly requested** the IOC Executive Secretary to determine the need for, or desirability of, simultaneous interpretation in French and English for the Financial Committee at future sessions of the Assembly.

519 **The Assembly also requested** the IOC Executive Secretary to activate the Intersessional Financial Advisory Group in the light of results of the 35th UNESCO General Conference's consideration of the 35 C/5, if those results are not in accord with the decision of the Assembly, and as other matters of substance arise with respect to the IOC Programme and Budget.

520 **The Assembly adopted [Resolution XXV-14](#).**

5.2 ELECTIONS OF THE OFFICERS OF THE COMMISSION AND MEMBERS OF THE EXECUTIVE COUNCIL

521 The Chairman of the Nominations Committee, Dr A. Picasso de Oyagüe (Peru), introduced this item. He informed the Assembly that all the nomination forms the Committee had received were valid and had therefore been forwarded to the Assembly as document IOC-XXV/NOM-WP.3.

522 Subsequently, there were two changes:

- (i) Iran withdrew its candidacy for the Vice Chairpersonship of Electoral Group IV. The delegate of Iran read the following statement to the Assembly and asked that it be recorded in the Summary Report:

"I would like to express the gratitude of the Islamic Republic of Iran to all those countries which expressed their support for Iran's candidature to the Vice-Chairmanship of the Executive Council of the IOC by sending us their verbal notes. Due to the fact that the Islamic Republic of Iran has always endeavoured to strengthen ASPAC solidarity, and recalling that ASPAC has decided to accord priority to Iran's candidature to the IOC Executive Council in 2011, Iran has thus decided to withdraw its candidature to the Vice-Chairmanship and the Executive Council of the IOC, resulting in a clean slate for the ASPAC Group."

- (ii) Nigeria also withdrew its candidacy to the Executive Council and communicated this in a letter to the Chairman of the Nominations Committee.

523 **The Assembly noted** that: (i) no new Member States have joined the IOC since the 24th Session of the Assembly; (ii) the present grouping of IOC Member States for the purpose of election to the Executive Council has remained the same since the 24th Session of the Assembly; and (iii) the number and distribution of seats on the Executive Council were not changed by the Assembly at its 24th Session.

5.2.1 Election of the Chairperson of the Commission

524 **The Assembly noted** that there was only one candidate for the position of Chairperson. Lic. Javier Valladares (Argentina) was therefore **re-elected** by acclamation.

5.2.2 Election of the Vice-Chairpersons of the Commission

525 **The Assembly noted** that there was only one candidate each for Electoral Groups I, II, III and IV for the positions of Vice-Chairperson. The following were therefore **elected** by acclamation:

Dr Savithri Narayanan (Canada)	Group I
Dr Nicolay Mikhailov (Russian Federation)	Group II
Captain Julián Reyna (Colombia)	Group III
Dr Sang-Kyung Byun (Republic of Korea)	Group IV

526 For Group V there were two candidates:

Dr Rabenevanana Man-Wai (Madagascar)
Professor Cherif Sammari (Tunisia)

527 The Chairman of the Nominations Committee invited Mr Faneva Randrianandriana (Permanent Delegate of Madagascar to UNESCO) to introduce Dr Rabenevanana Man-Wai,

and Mr Aka Marcel Kouassi (Deputy Director of the National Centre for Oceanography, Côte d'Ivoire) to introduce Professor Cherif Sammari.

528 Subsequently an election was held and Professor Cherif Sammari (Tunisia) was elected as Vice-Chairman for Group V.

5.2.3 Election of the Members of the Executive Council

529 **The Assembly noted** that there were 10 candidates for the remaining Member State seats on the Executive Council for Electoral Group I, and that the number of those remaining seats was 10 (Rule of Procedure 18.2). The candidate Member States were therefore declared elected.

530 **The Assembly noted** that there was one candidate for the remaining Member State seat on the Executive Council for Electoral Group II whereas the maximum number of those seats was one. The candidate Member State was therefore declared elected.

531 **The Assembly noted** that there were seven candidates for the remaining Member State seats on the Executive Council for Electoral Group III, which was the maximum number of those seats. The candidate Member States were therefore declared elected.

532 **The Assembly noted** that there were eight candidates for the remaining Member State seats on the Executive Council for Electoral Group IV, which was the maximum number of those seats. The candidate Member States were therefore declared elected.

533 **The Assembly noted** that there were ten candidates for the remaining Member State seats on the Executive Council for Electoral Group V, whereas the number of those remaining seats was eight. A vote had therefore to take place to elect the Member State from Electoral Group V to the Executive Council.

534 After a ballot to elect the Member State representatives to the Executive Council from Electoral Group V, the Côte d'Ivoire, Egypt, Ghana, Kenya, Madagascar, Mauritius, Senegal, South Africa were elected to the Executive Council.

535 The list of Member States of the Commission and the composition of the Executive Council are given in [Annex IX](#) to the present report.

5.3 DATES AND PLACES OF THE 26TH ASSEMBLY AND THE 43RD AND 44TH SESSIONS OF THE EXECUTIVE COUNCIL

536 The Chairman introduced this item. He invited the Executive Secretary to inform the Assembly of the proposals of the Executive Council at its 42nd Session (Paris, 15 and 20 June 2009).

537 The Executive Secretary informed the Assembly briefly that the original idea of the Executive Council to hold its 43rd Session in New York was not feasible, owing to extensive rebuilding work on the UN headquarters in 2010. He therefore reserved meeting and Secretariat rooms in UNESCO for the Executive Council's 43rd Session from 1 to 16 June 2010. In 2011, the Executive Council, at its 44th Session, will act as the Steering Committee of the 26th Session of the Assembly and will meet on the day preceding the opening of the Assembly session, which is presently scheduled for the period Wednesday 15 June to Wednesday 29 June 2011.

538 Australia pointed out that the IOC has an enviable record of documenting the state of the oceans over the last 50 years, providing the basis for half a century of progress in marine science.

539 In its next 50 years, the IOC should not only continue to document the state of the oceans, but should develop programmes to contribute to their recovery from the consequences of CO₂ absorption. The key to this is affordable, technically feasible and environmentally friendly "green energy", which would not only enable equitable and comfortable standards of living across the globe, but could eventually obviate the global issues that derive from CO₂ production by human activities. Many of the most promising energy alternatives have a marine basis. Many Member States are working on marine-based solutions such as H₂ production from, for example, electrolysis of sea water (powered by wind), from sulphur-utilizing marine bacteria, from various artificial photosynthesis approaches. Energy from the thermal differential of sea water bodies is also at a demonstration stage. Other approaches, such as the capture of tidal energy, are well documented. At the start of its second half century of leadership in ocean science, the IOC has an opportunity to demonstrate leadership in an area which is a natural direction to include in its portfolio, and which could bring a profound benefit to humanity.

540 Australia suggested that the IOC consider including this area for discussion in the agenda of its next Assembly.

5.4 THEMES OF THE A. BRUUN AND N.K. PANIKKAR MEMORIAL LECTURES AT THE 26TH IOC ASSEMBLY

541 The Chairman introduced this item. He invited proposals for these Memorial Lectures from the Member States.

542 Canada proposed a presentation on the "Status, operations and challenges of ocean observatories integrated through seafloor cables and the Internet" by two distinguished Canadian scientists, Drs Chris Barnes and Verena Tunicliff, of the University of Victoria, British Columbia, for the Assembly's consideration for the next Bruun Memorial Lecture. These two scientists are key leaders of the international effort commonly known as VENUS/NEPTUNE, which is contributing to the development of new technologies for global observations. Canada will be happy to provide details on the speakers as well as an abstract, if required.

543 Venezuela reminded the Assembly that it had already proposed at the 23rd Session of the Assembly a Memorial Lecture on the CARIACO Project, on "Carbon Retention in a Coloured Ocean", which is being carried out along the Caribbean coast of Venezuela for more than 20 years. Moreover, Venezuela had restated its proposal at the 24th Session of the Assembly.

544 Portugal drew the Assembly's attention to the longstanding and general neglect of the Commission with respect to the institutional aspects of the governance of the oceans. Portugal therefore proposed as a subject for a Memorial Lecture "The Sustainable Development of the Oceans: Institutions and Governance."

545 The Chairman welcomed these proposals and invited other Member States to submit others to the Executive Secretary for consideration, with the Officers of the Commission, for the A. Bruun and the N.K. Panikkar Memorial Lectures at the 26th Session of the Assembly.

6. SUPPLEMENTARY ITEMS

6.1 THE FUTURE OF THE IOC

546 The Chairman introduced this item. He asked Member States to refer to the actions in Resolution EC-XLI.1 related to the intersessional Working Group on the Future of the IOC.

547 On the coordination with other UN agencies, the Executive Secretary indicated that IOC is working very closely with UNEP on the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socio-economic Aspects. IOC is also cooperating with all the UN agencies members of UN-Oceans and has been co-chairing

UN-Oceans for the last ten years. In his view there is no need to strengthen this coordination at this time.

548 With respect to revisiting the ICSPRO Agreement, he recalled that the UN system has decided to organize cooperation through the UN networks and only two very high-level coordination bodies exist (i.e. High Level Committee on Programme and High Level Committee on Management).

549 With respect to the increase in the level of resources available to the IOC, he noted that, during the discussions within the Working Group on the Future of IOC, there was a suggestion to explore — as a mechanism to increase resources — the establishment of Category 1 institutes. While the suggestion is interesting, there has been no interest in moving ahead on this matter within the IOC Governing Bodies. An alternative that has not been discussed is to create or establish Category 2 institutes; however, this option does not attract fresh resources but in-kind contributions that could increase the reach and the regional implementation of the programmes.

550 To explore the willingness of Member States to host the IOC Secretariat in total or in part through a significant contribution of new resources, and in agreement with the Director-General, the Executive Secretary had consulted with two Member States and the reaction was initially positive. Being aware of these consultations, Portugal recalled its offer made to IOC in Lisbon, and restated its willingness to contribute to the future of IOC through such an offer. On that basis, the Executive Secretary recommended to the Assembly that the IOC Governing Bodies initiate an internal debate about the implications of, and the criteria required for, a process leading to a decision to accept the offer of a Member State to host, partly or in full, the IOC Secretariat.

551 The Executive Secretary added that it will be difficult to increase the current ratio between the Regular Programme budget and the extrabudgetary funding; other options have been suggested, over several years, of using Article 10 of the Statutes in innovative ways, but Member States have not been able to exploit this Article fully.

552 Madagascar thanked the Executive Secretary for his presentation, but believed that the future of IOC will very much depend on the next Executive Secretary. It asked whether the Members of the Executive Council will receive the CVs of the additional applicants added by the Officers so that Madagascar could vote on Friday 19 June.

553 The Chairman informed the Assembly that the Officers had arrived at a final list of 16 applicants and all the Member States of the Executive Council will receive the new list and the CVs of the four additional applicants before the close of business. He restated that the Executive Council will resume its 42nd Session in camera at 11:30 on Friday 19 June 2009.

554 India suggested that the proposal to host the IOC Secretariat or some programme activities is a matter that needs detailed reflection and should be presented with appropriate documentation detailing the implications, including administrative and financial. The information in this regard should be shared with all the Member States.

555 France agreed that the future of IOC will depend heavily on the individuals that are taking the responsibility for the Secretariat. It noted that this agenda item was included only at the last minute by the Executive Council and needed better preparation. This matter should therefore be taken at the 26th Session of the Assembly, in 2011.

556 Portugal indicated that this important matter should be treated in the most transparent and open way, and by its nature calls for a consensus. Portugal added that IOC, as a body with functional autonomy within UNESCO, and as the "competent organization in the field of marine scientific research" within the United Nations system, should reinforce its image as a specialized

forum with credibility due to its work and to the spirit of cooperation among Member States. Portugal therefore suggested the creation of an intersessional working group to explore IOC's role as a "joint specialized mechanism" of the UN agencies cooperating with the Commission. Regarding the complementarity of UNESCO and IOC in the domains of marine science and ocean services, Portugal expressed its satisfaction with the opportunity offered by the planned Ministerial Round Table at the 35th General Conference of UNESCO to enhance such cooperation to the benefit of both organizations. In this context, and taking into account the process of designation by the DG of UNESCO of the next Executive Secretary of IOC, Portugal requested once more that special attention should be given to the clarification of the status of the IOC Executive Secretary, at the administrative rank of ADG, so as to avoid potential misunderstandings, vis-à-vis the Executive Secretary's function and relationships, with UNESCO and other agencies.

557 The United Kingdom expressed its surprise that the Provisional Agenda had not included this item. It agreed with France that the Assembly should not make any decisions now, but noted that a hiatus between the outgoing and the incoming Executive Secretary should be avoided, bearing in mind the considerable effort made by the Member States before and during the 41st Session of the Executive Council, not least by Vice-Chairwoman Dr Savithri Narayanan, which should not be lost. Referring to the actions proposed at the 42nd Session of the Executive Council, and noting the revitalization of WESTPAC, the United Kingdom believed that it is possible to make progress on difficult resource issues. It indicated that it would be better to have reports on progress on the actions decided by the Executive Council and the Assembly well before they meet, as this would lead to more informed debate, improved efficiency and credibility of the IOC.

558 Canada expressed the view that any intention to delocalize the IOC needs to be very transparent to give all Member States the opportunity to express themselves on these matters.

559 China indicated that, since the work of the intersessional Working Group on the Future of IOC has now been concluded and its responsibilities are now being continued by the Officers of the IOC, pursuant to Resolution EC-XLI.1, the communication between the Secretariat and the Member States on this issue should be even further strengthened, because, without the participation and the contribution of the Member States, it will be not easy to find a proper approach to solve the financial and administrative problems now faced by IOC. Furthermore, without the universal interest and support of the Member States, especially the political support from their governments, the programmes of IOC will not be successfully implemented globally or regionally. The Ministerial Round Table during the 35th General Conference of UNESCO will be a very good opportunity to raise the awareness and interest of high-level officials from relevant countries on the IOC's programmes and activities. China encouraged the Secretariat to continue using such occasions to promote the IOC's visibility and popularity.

560 China indicated that a sustainable and steady financial mechanism with adequate resources will be crucial to the healthy development of IOC. As mentioned by the Executive Secretary, more than two thirds of IOC's budget comes from extrabudgetary funds. However, these resources always come with a specific programme of activity, which could not therefore compose a stable financial foundation for the IOC. China repeated the idea that the establishment of a specific legal document with a fixed financial arrangement for IOC should be retained as a possible solution to be investigated and discussed in the future. On the efforts of the Executive Secretary to seek the interest of the Member States in hosting part of the IOC Secretariat, China believed that this could be a solution to reduce the financial pressure on the IOC Secretariat and would like to see the consultation with Member States on this issue more widely and openly conducted, as, for example, by requesting the support of the Member States through formal Circular Letters, which might help to obtain more positive responses from Member States, including China. China suggested that, considering the importance of the work of looking for the approaches to promote the development of IOC, the Secretariat should continue to allocate enough resources to this issue and to continue this work even after the new

Executive Secretary is appointed. China requested the current Executive Secretary to provide a detailed and comprehensive presentation of this specific work to the new Executive Secretary.

561 The Executive Secretary agreed that seeking the assistance of the Member States to host part of IOC's Secretariat should be through a transparent process with full consultation. He noted that the process he initiated was only to explore opportunities. The current Director-General and Executive Secretary will surely not take actions on these matters, but will put forward options that the next Director-General and Executive Secretary may continue. The point finally at stake is why, with all the visibility IOC has, it has not been able, for example, to establish a Category 1 Institute, along the lines of the UNESCO-IHE Institute for Water Education in Delft (The Netherlands). And there is no clear response to that question. Therefore, the conclusion is that there are open avenues to be explored in the future for hosting IOC, but that there is no expression of interest in providing even very informal regular contributions to IOC. On the question raised by Portugal, he indicated that, as the Executive Secretary and Assistant Director-General, he needs to make the programme of IOC an integral part of the programme of UNESCO.

562 The Chairman commented that many of the Member States referred to IOC as a body with functional autonomy, whereas all recognize that the programme of IOC is a programme of UNESCO. He valued the suggestion of the United Kingdom on the preparation of a document describing the different activities of the Secretariat as a follow-up of the decisions on the Future of the IOC taken by the Executive Council at its 42nd Session.

6.2 EXPANSION OF QUOTA OF SEATS FOR GROUP II MEMBER STATES IN THE IOC EXECUTIVE COUNCIL

563 Mr García Montero (Cuba) introduced this item.

564 This item was proposed by the Member States of IOC Electoral Group II (Albania, Azerbaijan, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Poland, Romania, Russian Federation, Serbia, Slovenia, Ukraine) in accordance with Rules of Procedure 8, 9, and 11.2 and was documented by a paper entitled "Proposal for the Distribution of Seats on the Executive Council Bearing in Mind a Fair Geographical Distribution."

565 Under Agenda Item 2.3, the Assembly established an open-ended sessional Working Group, chaired by Mr García Montero, to study the matter and report back to the Assembly.

566 Mr García Montero noted that the Working Group was convened to consider this issue in the knowledge that an agreement had been reached between Group I and Group II whereby Group I had manifested its willingness to meet the wishes of Group II, so that a fair geographical distribution could be maintained in the membership of the Executive Council.

567 Although the sessional Working Group recognized with appreciation the willingness of Group I to address Group II's request, it believed such an initiative should be considered as a very special case, and that future adjustments, if any, would have to be considered under very strict and general considerations of the whole subject of geographical distribution of seats on the Executive Council. Nevertheless, bearing this in mind, the sessional Working Group recommended that one seat from Group I (presently comprising 11 seats on the EC) be transferred to Group II (presently comprising 2 seats). Such a change requires an amendment to the Rule of Procedure 18.2 through a decision of the Assembly (Rule of Procedure 55). The sessional Working Group prepared a Draft Resolution in this sense for the consideration of the Assembly.

568 The Assembly adopted [Resolution XXV-15](#).

6.3 PROCEDURES IN FUTURE CONSULTATION PROCESS ESTABLISHING A SHORT LIST FOR EXECUTIVE SECRETARY OF IOC

- 569 The Executive Secretary introduced this item. He reminded the Assembly that this point had been added to the Agenda of the present session of the Assembly at the request of India on behalf of the Group of 77 + China, and that the Executive Council had extensively discussed this subject at its 41st Session (Paris, 24 June–1 July 2008) and again at its 42nd Session (Paris, 15 June 2009). Those discussions are duly reflected in the corresponding reports (documents IOC/EC-XLI/3 and IOC/EC-XLII/3). The process of pre-selection should attempt to respect the principle of geographic distribution while giving paramount consideration in recruitment to the highest standards of competence, integrity and efficiency.
- 570 India informed the 42nd Session of the Executive Council of the letter, signed by the Bureau of the Group of 77 + China, with the exception of Brazil, as Chairman of GRULAC, that it had addressed to the Director-General expressing its concerns about the outcome of the present procedure. The Chairman on that occasion invited the Executive Council to open a discussion on the substantive issues contained in the Group of 77 + China letter. After a prolonged and rich debate, a consensual agreement on the application of the procedure was obtained. Then, using the procedures used in 1997, in accordance with the decision adopted at its 39th Session, the Executive Council proceeded to select *in camera* a list of six applicants out of a list of sixteen pre-selected applicants, thus completing in this way the consultation on the appointment of the next Executive Secretary.
- 571 The Assembly also considered the issue (also raised in the letter of the G77 + China to the DG) of whether the actual appointment should be made as early as possible, by the present Director-General of UNESCO, so as to avoid any significant hiatus between the incumbent Executive Secretary and his successor, or whether the Assembly should specifically adopt a decision requesting the Director-General, through the Chairman of IOC, to consult with his successor before making the appointment.
- 572 The latter view was opposed by Saint Lucia and other Member States which saw in this request an interference by Member States with the exclusive responsibility and authority of the Director-General of UNESCO to select and appoint international civil servants to the Secretariat, especially members of the senior management of the organization.
- 573 In the ensuing debate, many Member States recalled the decision of the 41st Session of the Executive Council that
“paramount consideration should be given to securing the highest standards of integrity, efficiency and technical competence.”
- Other Member States recalled that, in the same 41st Session,
“the Executive Council expressed its regret that the appointment of the new Executive Secretary may be delayed, owing to internal decisions in UNESCO, leading to a potential hiatus in the occupancy of the post just at the commencement of the Commission’s 50th anniversary celebrations.”
- 574 India stated that the Director-General has expressed his intention to have ADGs serve concurrently with the DG’s term of office. The Executive Secretary clarified that this is a welcomed best-practice approach and that the Director-General has been totally transparent in informing all current ADGs of his intentions; however, according to his knowledge, it does not correspond to the application of a rule or other administrative decision. Moreover, the rules of employment for international civil servants, including those at the senior level, allow incumbents, under all normal circumstances, to remain in their posts till the age of 62. The Executive Secretary informed the Executive Council that the nature of this issue was explicitly confirmed by a statement made by the Director-General during the private session of the 181st Executive Board of UNESCO, when describing situations created when he took office in 1999.

- 575 The Executive Council had recognized that the appointment of a new Executive Secretary is not, at present, incumbent on the Assembly, but only on the Director-General, though in prior consultation with the Executive Council of IOC.
- 576 Regarding the level of the post of Executive Secretary, the Executive Council had also accepted that Article 8.2 of the IOC Statutes recognizes the status of Assistant Director-General. However, some Member States expressed concern about the need to ensure the independence and functional autonomy of the Commission within the UN and UNESCO structure. As such, the post of Executive Secretary should be at the rank of ADG, but not be a regular ADG of UNESCO. The Chairman also stressed the fact that the post was not an elected post and the appointment is ultimately the responsibility of the UNESCO Director-General.
- 577 The Executive Secretary also recalled the External Audit of the Science Sector (165 EX/29 Add., considered at the 22nd Session of the IOC Assembly, Paris, 24 June–4 July 2003) focusing on the governance of the International Hydrological Programme (IHP) and the IOC. He further recalled that there had been no reaction from the Assembly to the suggestion contained in the Auditor's report that the post of IOC Executive Secretary could be an elected post with a predefined term of office. He finally informed the Assembly that, at that time, consultations conducted by the Executive Secretary to understand this paradoxical reaction of the Assembly had revealed that several Member States had expressed serious concerns about the consequences of electing the Executive Secretary, in terms of politicizing the technical work of the Commission.
- 578 After a prolonged debate **the Assembly expressed** its concern to achieve a consensual position on this matter in order not to diminish the confidence of the Member States, partner organizations and the UN system in general in the Commission and its role in the UN system.
- 579 The Chairman proposed that, while presenting the short-list drawn up during the *in camera* session, during the 42nd Session of the Executive Council, to the Director-General, he will inform the Director-General of the extensive discussion there had been on this point in the Assembly and inform him of the divergence of views that had emerged in the Assembly, including on the timing of the appointment. **The Assembly accepted** this proposal, following the spirit of consensus.
- 580 The Chairman stressed that, following the consultation procedure, he would personally meet the Director-General and be accompanied by the five IOC Vice-Chairpersons, including an observer from Group IV (as the present Vice-Chairperson of Group IV would not be able to attend this meeting), and — if needed — that the Vice-Chairpersons would be free to provide additional testimony and reflect further on opinions of their concern. Furthermore, the Chairman stressed that nothing prevents individual Member States from informing the Director-General of their views on this matter.
- 581 **The Assembly also welcomed** a suggestion for improving the future process for the selection and appointment of the IOC Executive Secretary to be kept under study. Suggested issues to be considered in the study are: the establishment of an intensive search mechanism, with involvement of IOC National Committees and UNESCO National Commissions, as well as greater publicity in the advertisement of the post; and the creation of a roster of potential applicants.
- 582 The Chairman reported back to the Assembly the fact that, during the afternoon of Tuesday 23 June, the Director-General of UNESCO had received an IOC delegation composed of the newly elected Officers and the Ambassador of Indonesia, representing electoral group IV, the delegate of Togo, who replaced IOC Vice-Chairman Cherif Sammari (Tunisia), representing electoral group V, and the delegate of Brazil, as Chairman of GRULAC, representing electoral group III. The Chairman informed the Director-General of the result of the consultation to short-list the candidates for the post of Executive Secretary of the Commission, as well as the

substance of the discussion that took place in the Assembly on this matter. After exchanging views with all the members of the delegation, the Director-General thanked the Officers and the Chairman for this information and congratulated them on the balanced and careful treatment of the delicate issues raised in the discussion.

7. ADOPTION OF RESOLUTIONS AND SUMMARY REPORT

583 The Chairman of the Resolutions Committee, Dr Peter M. Haugan (Norway), presented a report to the Assembly on the work of the Committee during the present session. His full report is presented in [Annex VIII](#) to this report.

584 The document IOC/INF-734 rev. entitled "Draft Resolutions Submitted to Sessions of the Assembly or Executive Council", constituting Section 9.1 in the IOC Manual (IOC/INF-785), and the document IOC/EC-XLI/2 Annex 11 entitled "Second Draft Revised Guidelines for the Preparation and Consideration of Draft Resolutions" were brought to the attention of the Resolutions Committee. In contrast to the Rules of Procedure, which are binding, the two latter documents have been considered by the Resolutions Committee not as binding, but in an experimental fashion awaiting a consolidated set of guidelines for future use.

585 Several Member States stressed the need to finalize the revision of the IOC Rule of Procedure 42, dealing with Draft Resolutions.

586 **The Assembly instructed** the IOC Executive Secretary to initiate the revision of the existing guidelines with a view to presenting these and consolidating inputs from Member States at the Executive Council at its 43rd Session, in 2010.

587 Based on this revised document, the Assembly, at its 26th Session, will be requested to adopt a revised Rule of Procedure 42 pertaining to Draft Resolutions.

588 **The Assembly adopted** the Summary Report, including the Resolutions, of its 25th Session.

8. CLOSURE

589 The Chairman invited two of the Commission's former Past Chairpersons, Mr Geoff Holland (Canada) and Prof. David Pugh (United Kingdom) to express the Commission's appreciation of the work of the outgoing Executive Secretary, Dr Patricio Bernal.

590 Mr Geoff Holland noted the importance of the Executive Secretary to the work of the IOC and how fortunate the Commission had been to have had a succession of highly competent and talented persons to lead it over the past fifty years. Dr Bernal had increased the visibility and credibility of the Commission within UNESCO and the UN itself, with his knowledge, leadership and eloquence. In his dealings with delegates and Member States he had shown patience and friendship. Mr Holland said he was particularly grateful for his friendship and wished him luck in his new life, expressing the hope that he would remain associated closely with the Commission and its work.

591 Prof. David Pugh then spoke, at greater length, on the tributes paid by the Member States and by the Director-General on earlier occasions to the outgoing Executive Secretary, on the latter's devotion to the Commission and his considerable influence on the work of the UN system. He then called for Mrs Bernal to come to the podium and expressed the Commission's thanks for her support for her husband's work, as well as her husband's support in the pursuit of her doctoral thesis. Prof. Pugh's address is in [Annex III-C](#) to the present Summary Report.

- 592 The Chairman invited the Rapporteur, Dr Kazu Kazahara (Japan), to analyse his experience at the present session. Dr Kazahara believed that it would be an improvement if a member of the Secretariat were designated as being solely responsible for the contributions of the participants to the Draft Summary Report and if the person so designated had a unique dedicated e-mail address for electronic contributions (and for any subsequent modifications, if any). This designation would avoid an otherwise inevitable dispersion of texts, both electronic and handwritten. This would be particularly important for formal statements by Member States. Dr Kazahara also believed that a better, more legible projection system for texts and images would be a great help to the participants.
- 593 Brazil expressed the Assembly's praise of the Chairman and the Executive Secretary for their good work throughout the present session. Turkey, likewise, commended the work of the Executive Secretary.
- 594 The Chairman praised the interpreters and both he and the Executive Secretary responded to the good wishes of the Assembly.
- 595 The Chairman closed the 25th Session of the IOC Assembly at 17:25 on 25 June 2009.

ANNEX I

AGENDA

1. OPENING

2. ORGANIZATION OF THE SESSION

- 2.1 ADOPTION OF THE AGENDA
- 2.2 DESIGNATION OF THE RAPPORTEUR
- 2.3 ESTABLISHMENT OF SESSIONAL COMMITTEES
- 2.4 INTRODUCTION OF DOCUMENTATION AND TIMETABLE
- 2.5 A. BRUUN AND N.K. PANIKKAR MEMORIAL LECTURES

3. STATUTORY REPORTS

- 3.1 STATEMENT OF THE CHAIRMAN ON THE STATE OF IOC
[Rule of Procedure 8.1(A)]
- 3.2 REPORT BY THE EXECUTIVE SECRETARY ON PROGRAMME AND BUDGET IMPLEMENTATION (2008–2009) AND INTRODUCTION TO THE DRAFT PROGRAMME AND BUDGET FOR 2010–2011
[Rule of Procedure 8.1(b) and (c); Rule of Procedure 49.1; Res. XXIV-15; Res. EC-XLI.5]
- 3.3 REPORT ON THE IOC ACTIVITIES (2007–2008) TO THE THIRTY-FIFTH GENERAL CONFERENCE OF UNESCO
[Statutes Art. 3.2; Rule of Procedure 49.2]

4. PROGRAMME MATTERS REQUIRING DECISIONS BY THE ASSEMBLY

- 4.1 GENERAL POLICY ISSUES, UN CONVENTIONS AND AGREEMENTS
 - 4.1.1 Preparation for the Commemoration of the 50th Anniversary of the IOC (1960–2010) and the Ministerial Round Table at the Thirty-fifth General Conference of UNESCO
[Res. XXIV-4; Res. EC-XLI.2; Res. EC-XLI.1]
 - 4.1.1.1 Preparation for the Commemoration of the 50th Anniversary of the IOC
 - 4.1.1.2 Ministerial Round Table at the 35th General Conference of UNESCO
 - 4.1.2 Consideration of the Legacy of the International Polar Year (IPY) (2007–2009)
[Decision of EC-XLI Item 4.3.1 Para. 209]
 - 4.1.3 Relations with the Convention on Biological Diversity
[Rule of Procedure 8.1(g)]

- 4.1.4 Report of the Ninth Session of the IOC Advisory Body of Experts on the Law of the Sea (IOC/ABE–LOS IX)
[Rule of Procedure No. 48.3]
- 4.2 MANAGEMENT PROCEDURES & POLICIES FOR THE SUSTAINABILITY OF COASTAL & OCEAN ENVIRONMENT & RESOURCES (High Level Objective 4)
 - 4.2.1 Data and Information
 - 4.2.1.1 *Report of the Twentieth Session of the IOC Committee on International Oceanographic Data and Information Exchange (IODE-XX)*
[Rule of Procedure 48.3]
 - 4.2.1.2 *IOC Collaboration with the Ocean Biogeographic Information System (OBIS)*
[Rule of Procedure 8.1 (b); Instruction EC-XLI, Item 4.4.2 Para. 286]
 - 4.2.2 Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socio-economic Aspects
[Rule of Procedure 8.1(g)]
 - 4.2.3 Report of the Tenth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE-X)
[Rule of Procedure 48.3]
 - 4.2.4 Report of the Seventh Session of the IOC Regional Committee for the Western Indian Ocean (IOCWIO-VII)
[Rule of Procedure 48.3]
 - 4.2.5 Report on the Follow-up to the Seventh Session of the IOC Sub-Commission for the Western Pacific (26–29 May 2008)
[Rule of Procedure 8.1(j)]
- 4.3 SAFEGUARDING THE HEALTH OF OCEAN ECOSYSTEMS (High Level Objective 3)
 - 4.3.1 Secretariat Report on Ocean Sciences Section: Programme, Structure and Activities
[Rule of Procedure 8.1(g)]
 - 4.3.2 IOC Role in Standard Settings and Guidelines
 - 4.3.2.1 *Adoption of the Equation of State of Sea Water*
[Instruction of EC-XLI Item 4.3.3 Para. 249]
 - 4.3.2.2 *The International Nutrients Scale System: a proposal for a joint ICES-IOC Working Group to develop international standards for nutrients*
[Rule of Procedure 8.1(g)]
 - 4.3.2.3 *Nutrient Export from Watersheds – User Scenario Evaluation (NEWS2USE)*
[Instruction of EC-XLI Item 4.4.3 Para. 291]
 - 4.3.3 Report of the Ninth Session of the IOC Intergovernmental Panel on Harmful Algal Blooms (IPHAB-IX) – HAB and GEOHAB Programme
[Rule of Procedure 48.3]
 - 4.3.4 Secretariat Report on Capacity-Development Section: Programme, Structure and Activities
[Rule of Procedure 8.1(g)]

4.4 MITIGATION OF THE IMPACTS AND ADAPTATION TO CLIMATE CHANGE
AND VARIABILITY (High Level Objective 2)

4.4.1 Oceans and Climate

4.4.1.1 *WMO-IOC-ICSU World Climate Research Programme (WCRP):
Report and Review*

[Instruction EC-XXXIX, Item 4.2.3, para. 117; Instruction of EC-XLI
Item 4.3.4 Para. 255]

4.4.1.2 *Climate Observations – GCOS, UNFCCC and OceanObs'09*

[Rule of Procedure 8.1(b)]

4.4.2 Report of the Ninth Session of the Intergovernmental Committee for the
Global Ocean Observing System (I-GOOS)

[Rule of Procedure 48.3]

4.4.3 Instructions to the Third Session of the Joint WMO-IOC Technical
Commission for Oceanography and Marine Meteorology (JCOMM-III)

[Rule of Procedure 8.1(b)]

4.4.4 Report on Ocean Fertilization

[Instruction of EC-XLI Item 4.3.5 Para. 273]

4.5 PREVENTION AND REDUCTION OF THE IMPACTS OF NATURAL HAZARDS
(High Level Objective 1)

4.5.1 Report of the Second Meeting of the IOC TOWS Working Group: Tsunamis
and Other Ocean Hazards Warning and Mitigation Systems (TOWS-WG-II)

[Res. XXIII-15; Rule of Procedure No. 21.2(a); Res. EC-XLI.6]

4.5.2 Reports from the IOC Intergovernmental Coordination Groups

4.5.2.1 *Sixth Session of the IOC Intergovernmental Coordination Group for
the Indian Ocean Tsunami Warning and Mitigation System
(ICG/IOTWS)*

[Rule of Procedure No. 48.3]

4.5.2.2 *Fifth Session of the IOC Intergovernmental Coordination Group for
the Tsunami Early Warning and Mitigation System in the North-
eastern Atlantic, the Mediterranean and Connected Seas
(ICG/NEAMTWS)*

[Rule of Procedure No. 48.3]

4.5.2.3 *Fourth Session of the IOC Intergovernmental Coordination Group
for Tsunami and Other Coastal Hazards Warning System for the
Caribbean and Adjacent Regions (ICG/CARIBE-EWS)*

[Rule of Procedure No. 48.3]

4.5.2.4 *Twenty-Third Session of the IOC Intergovernmental Coordination
Group for the Tsunami Early Warning and Mitigation System in the
Pacific (ICG/PTWS)*

[Rule of Procedure No. 48.3]

5. ADMINISTRATION AND MANAGEMENT

5.1 REPORT BY THE CHAIRPERSON OF THE FINANCIAL COMMITTEE ON THE
IOC DRAFT PROGRAMME AND BUDGET FOR 2010–2011 (DRAFT 35 C/5)

[Statutes Art. 1.2; Rule of Procedure 8.1c; Res. EC-XLI.5]

- 5.2 ELECTIONS OF THE OFFICERS OF THE COMMISSION AND MEMBERS OF THE EXECUTIVE COUNCIL
[Statutes Art. 6.B.5 and 7; Annex I to the Rules of Procedure]
 - 5.2.1 Election of the Chairperson of the Commission
 - 5.2.2 Election of the Vice-Chairpersons of the Commission
 - 5.2.3 Election of the Members of the Executive Council
- 5.3 DATES AND PLACES OF THE 26TH ASSEMBLY AND THE 43RD AND 44TH SESSIONS OF THE EXECUTIVE COUNCIL
[Rules of Procedure 4 and 19.2]
- 5.4 THEMES OF THE A. BRUUN AND N.K. PANIKKAR MEMORIAL LECTURES AT THE 26TH IOC ASSEMBLY

6. SUPPLEMENTARY ITEMS

- 6.1 THE FUTURE OF THE IOC
[Res. XXIV-1; Res. EC-XLI.1; Rules of Procedure 8.1(f)]
- 6.2 EXPANSION OF QUOTA OF SEATS FOR GROUP II MEMBER STATES IN THE IOC EXECUTIVE COUNCIL
[Rule of Procedure 9]
- 6.3 PROCEDURES IN FUTURE CONSULTATION PROCESS ESTABLISHING A SHORT LIST FOR EXECUTIVE SECRETARY OF IOC
[Rules of Procedure 8.1(f)]

7. ADOPTION OF RESOLUTIONS AND SUMMARY REPORT

8. CLOSURE

ANNEX II

ADOPTED RESOLUTIONS

No.	Agenda Item	Title	Page
1	4.1.4	Ninth Meeting of the IOC Advisory Body of Experts on the Law of the Sea (IOC/ABE-LOS IX)	2
2	4.2	IOC Regional Subsidiary Bodies	4
3	4.2.1.1	International Oceanographic Data and Information Exchange (IODE)	6
4	4.2.1.2	The Ocean Biogeographic Information System (OBIS)	8
5	4.2.3	Tenth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE)	10
6	4.2.4	Seventh Session of the IOC Regional Committee for the Western Indian Ocean (IOCWIO-VII)	11
7	4.3.2.1	International Thermodynamic Equation of Seawater (TEOS-10)	12
8	4.3.2.2	IOC–ICES Study Group on Nutrients Standards (SGONS)	13
9	4.3.2.3	Integrated Coastal Research Nutrient Export from Watersheds – User Scenario Evaluation (NEWS2USE)	15
10	4.3.3	Ninth Session of the IOC Intergovernmental Panel on Harmful Algal Blooms (IPHAB)	16
11	4.3.4	Enhancing IOC Capacity-Development	17
12	4.4.2	Programme of Action for GOOS 2010–2011	18
13	4.5.1	Global Coordination of Early Warning and Mitigation Systems for Tsunamis and Other Sea-Level-Related Hazards	21
14	5.1	IOC Programme and Budget for 2010–2011	26
15	6.2	Expansion of Quota of Seats of Group II on the IOC Executive Council	38

Resolution XXV-1

**NINTH MEETING OF THE IOC ADVISORY BODY OF EXPERTS
ON THE LAW OF THE SEA (IOC/ABE-LOS IX)**

The Intergovernmental Oceanographic Commission,

Acknowledging the value of the role of the IOC Advisory Body of Experts on the Law of the Sea (IOC/ABE-LOS) and the progress made by IOC/ABE-LOS at its 9th Session (UNESCO Headquarters, Paris, 30 March–3 April 2009),

Recalling the United Nations General Assembly Resolutions A/RES/61/222, paragraph 110, A/RES/62/215, paragraph 123, A/RES/63/111, paragraph 144, which acknowledge the work done by IOC through its IOC/ABE-LOS,

Recalling further IOC Resolutions XXII-12, XXIII-8 and XXIII-9, and XXIV-12, EC-XXXVII.8 and EC-XXXIX.7, which specified the mandate of IOC/ABE-LOS with respect to its work on:

- (i) the practice of Member States with respect to Parts XIII and XIV of the United Nations Convention on the Law of the Sea (UNCLOS)
- (ii) the dissemination and implementation of the “Criteria and Guidelines on the Transfer of Marine Technology”
- (iii) the procedure for the application of Article 247 of UNCLOS by IOC
- (iv) the IOC legal framework that is applicable to the collection of oceanographic data within the context of UNCLOS,

Recalling also IOC Resolution EC-XLI.4 on the “Guidelines for the implementation of Resolution XX-6 of the IOC Assembly regarding the deployment of profiling floats in the high seas within the framework of the Argo Programme”,

Notes the IOC/ABE-LOS IX Report, and its Recommendations in the Annex to this Resolution;

Instructs IOC/ABE-LOS to pursue its work on the practice of Member States related to Marine Scientific Research (MSR) and Transfer of Marine Technology (TMT) within the framework of UNCLOS in close cooperation with the United Nations Division for Oceans Affairs and Law of the Sea (UN/DOALOS);

Requests the Executive Secretary to:

- (i) seek IOC Member States’ views, in the light of the present practice, on whether any additional work is necessary to follow up “Marine Scientific Research: A Guide for the Implementation of Relevant Provisions of UNCLOS” and to report to the 43rd Session of the Executive Council
- (ii) provide the necessary secretariat assistance to IOC/ABE-LOS
- (iii) organize, in conjunction with the Officers, a review of IOC/ABE-LOS, taking account of its achievements and opportunities for future activities;

Invites the Executive Council, at its 43rd Session, to discuss the review of IOC/ABE-LOS and to agree on its future mandate and means of operation;

Encourages Member States to provide extra financial support for the future activities of IOC/ABE-LOS.

Annex to Resolution XXV-1

Recommendations

The Advisory Body of Experts on the Law of the Sea at its 9th Session (IOC/ABE-LOS IX) recommended:

- (i) That the IOC Executive Secretary prepare, for the consideration of the IOC Executive Council at its 43rd Session (2010), two separate discussion documents addressing comprehensively the status of implementation of the “Criteria and Guidelines for the Transfer of Marine Technology” (IOC/INF-1203) and the “Procedure for the Application of Article 247 of UNCLOS by the IOC” (IOC/INF-1222). Such documents should, in particular, contain specific proposals to effectively promote and implement the IOC/ABE-LOS products referred to here, as well as identify challenges to such implementation.
- (ii) That the IOC Executive Secretary issue a Circular Letter calling appropriate attention of the Member States to the “Guidelines for the implementation of Resolution XX-6 of the IOC Assembly regarding the deployment of profiling floats in the high seas within the framework of the Argo Programme” (Annex to Resolution EC-XLI.4), preferably by reproducing these Guidelines in full in the Circular Letter.
- (iii) That the IOC Executive Secretary issue a Circular Letter covering updated information on the countries that have requested to be notified under Resolution EC-XL1.4.
- (iv) That the IOC Executive Secretary, in carrying out action to develop practical, routine procedures with Member States and the relevant bodies to implement the Guidelines in EC-XLI.4, consider the possibility of developing an automatic mechanism to notify implementers of the possible drifting of their float(s) into the EEZ of a Member State requesting notification under the Guidelines, to aid implementers in notifying Member States requesting notification, in full conformity with the procedures in the Guidelines.
- (v) That the IOC Executive Secretary issue a Circular Letter covering updated information on the National Focal Points for the Argo Programme.
- (vi) That the IOC Executive Secretary issue a new Circular Letter inviting IOC Member States to reply or update responses, as appropriate, to Questionnaire No. 3 on the practice of States in the fields of marine scientific research and transfer of marine technology, in order to enable the IOC/ABE-LOS Sub-Group on the Practice of Member States in the Application of Parts XIII and XIV of UNCLOS to prepare an updated version of Document IOC/ABE-LOS VIII/8, to be included in a written publication on the occasion of the 50th anniversary of the IOC and to be widely promoted on the IOC website; and to submit a report on such an updated version to IOC/ABE-LOS for consideration at its 10th Session.
- (vii) That the IOC/ABE-LOS Sub-Group on the Practice of Member States in the Application of Parts XIII and XIV of UNCLOS continue to work by correspondence, in coordination with UN/DOALOS, to develop conclusions from the data and information included in Document IOC/ABE-LOS VIII/8, and to submit a report to IOC/ABE-LOS for consideration at its 10th Session.

- (viii) That the IOC Executive Secretary, taking particularly into account the relevant conclusions of Document IOC/ABE-LOS VIII/8, actively promote the functioning of the Roster of Experts established by the Assembly at its 23rd Session, in order to respond rapidly to requests by Member States for advice or guidance on the development of legislation and practice regarding marine scientific research and transfer of marine technology.
- (ix) That the IOC Executive Secretary invite the representative of the UN Division for Ocean Affairs and the Law of the Sea to continue to report on the Division's activities at the 10th Session of IOC/ABE-LOS and on the updating, under the coordination of the Division, of the publication entitled *Marine Scientific Research: a Guide to the Implementation of the Relevant Provisions of the United Nations Convention on the Law of the Sea*.
- (x) That appropriate logistical support, including permanent secretariat staff support, be provided to ensure the adequate functioning of IOC/ABE-LOS, in particular at its future meetings.

Resolution XXV-2

IOC REGIONAL SUBSIDIARY BODIES

The Intergovernmental Oceanographic Commission,

Recalling IOC Resolution XXIII-6 on Regional Cooperation in Marine Science and Technology and the Role of the IOC Regional Subsidiary Bodies (RSBs), IOC Resolution XXIV-11 on Enhancing the Role of the Commission at the Regional Level, and IOC/INF-1193, *Guidelines for the Structure of the Subsidiary Bodies of the Commission, and for the Establishment of Decentralized Offices*, in which it is emphasized that:

- (i) the regional scale is particularly appropriate for addressing global issues, including climate impacts on marine ecosystems, assessment of the state of the marine environment, namely marine pollution, large marine ecosystems and biodiversity
- (ii) strengthening regional mechanisms is fundamental to responding better to the requirements of IOC Member States in their efforts to implement and support IOC objective
- (iii) the IOC has a long tradition in implementing regional programmes and the regional components of its global programmes through RSBs and IOC decentralized offices,

Further recalling the Report by the IOC Executive Secretary on the Status of IOC Subsidiary Bodies, in IOC/EC-XLI/2 Annex 5, which recommends strengthening RSBs and IOC decentralized offices to ensure the full regional implementation of the IOC Medium-term Strategy 2008–2013,

Appreciating the steps taken to enhance and strengthen capabilities of RSBs and IOC decentralized offices when implementing the Medium-term Strategy 2008–2013 and the Programme and Budget 2008–2009,

Noting the diversity and great number of IOC regional offices and activities,

Welcoming the progress achieved in some regions to strengthen the capacity of Member States and their participation in IOC global programmes,

Recognizing:

- (i) the differences in the viability and functionality of RSBs and the regionally unbalanced and sometimes minimal progress in achieving their objectives
- (ii) with concern that some RSBs and IOC decentralized offices require immediate assistance to build their capacity to meet IOC objectives and provide assistance to IOC Member States
- (iii) the urgent need to rationalize and strengthen RSBs and regional activities to adequately respond to IOC Member States needs and priorities, and to ensure the full regional implementation of the IOC Medium-term Strategy,

Agrees to include in the 2010–2011 Programme and Budget a balanced and transparent allocation of funds among global and regional components of the IOC programme of work to improve and give continuity to what has been achieved in the IOC regions, and to meet critical needs;

Decides to establish an open-ended intersessional Working Group chaired by an IOC Vice-Chairperson. A core Membership of the Working Group will be formed by inviting Member States to nominate experts, including some with expertise in governance. The Working Group should include representatives from RSBs and decentralized offices. The purpose of this Working Group is to conduct an objective and comprehensive assessment of the IOC's regional activities and prepare a report for consideration by the Assembly at its 26th Session. This report should:

- (i) be based on a review of present and potential capacities of existing RSBs, Sub-Commissions, Committees, Coordination Groups, and decentralized offices, Programme Offices, Project Offices, and other regional activities to evaluate their fundamental objectives, priorities and institutional and administrative arrangements
- (ii) include a regional strategy for organizational improvements, efficiencies through better integration, potential consolidation of regional resources, streamlined operations, enhanced cooperation with the UN and with other appropriate regional organizations on issues of common interest and other elements to promote implementation of the IOC Medium-term Strategy at the regional level
- (iii) make recommendations for implementing the new strategy;

Requests the IOC Executive Secretary, without prejudice to the consideration of the report and its recommendation by the Assembly, to:

- (i) ensure that a meeting on IOC RSBs and other regional activities be held in conjunction with the IOC Assembly sessions; and
- (ii) re-activate IOCINDIO and IOCEA, giving consideration to the activities of the existing IOC and other relevant regional bodies;

Urges IOC Member States to actively participate in and financially support these activities.

Resolution XXV-3

**INTERNATIONAL OCEANOGRAPHIC DATA AND
INFORMATION EXCHANGE (IODE)**

The Intergovernmental Oceanographic Commission,

Having considered the Executive Summary and Report of the 20th Session of the IOC Committee on International Oceanographic Data and Information Exchange (IODE-XX; Beijing, China, 4–8 May 2009), and the Recommendations contained therein,

Recalling its decision to revise the objectives of the IODE through Resolution XXIII-4, thereby including “*to support international scientific and operational marine programmes of IOC and WMO and their sponsor organizations with advice and data management services*”,

Recalling further its adoption of the *IOC Strategic Plan for Oceanographic Data and Information Management* through Resolution XXIV-9 and the important role of IODE therein,

Recognizing:

- (i) the role of IODE as a programme that underpins all IOC activities and as a global system that facilitates and promotes the exchange of all marine data and information
- (ii) the continued importance of comprehensive, real-time, near-real-time, and delayed-mode, long-term and high-quality data sets for the investigation of global change issues
- (iii) the need for all IOC Member States to have national capacity in oceanographic data and information management, as well as equitable access to oceanographic data and information, and
- (iv) the potential role of the IODE programme, its network of National Oceanographic Data Centres (NODCs) and its emerging Ocean Data Portal project as an IOC contribution to the Group on Earth Observations (GEO)/Global Earth Observing System of Systems (GEOSS),

Acknowledging:

- (i) the considerable efforts made by the IODE Committee to review and adjust its programme to face new challenges and improve national as well as international arrangements for oceanographic data and information management and exchange, with special attention to operational oceanography
- (ii) the active and expanding role of IODE in the Joint WMO–IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) Data Management Programme Area
- (iii) the close cooperation between IOC/IODE and WMO through the Joint Steering Group for the IODE Ocean Data Portal and the WIGOS Pilot Project for JCOMM
- (iv) the leading role of IODE in capacity-building, in particular through its Ocean Data and Information Networks (ODINs), the OceanTeacher (and OceanTeacher Academy project), and the extensive training programme organized at the IOC Project Office for IODE in Ostend, Belgium,
- (v) **Expresses its appreciation** to the Government of Flanders (Belgium), the Flanders Marine Institute and the city of Ostend for their continuing support of the IOC Project

Office for IODE, to the Government of China for its hosting and support of the 20th Session of the IODE Committee, to the United States of America and to the Republic of Korea for their financial support to the IODE programme in 2008–2009;

Endorses the Report of the 20th Session of the IOC Committee on International Oceanographic Data and Information Exchange (IODE-XX) and the Recommendations therein, and **decides** to take the following actions:

- (i) revise the Terms of Reference of the JCOMM–IODE Expert Team on Data Management Practices (ETDMP), including its membership (Recommendation IODE-XX.1), subject to approval by JCOMM/WMO
- (ii) continue and strengthen the Oceanographic Data and Information Network (ODIN) projects, as cross-cutting and integrated capacity-building, observation and product development platforms, in all regions
- (iii) continue and strengthen the IODE Ocean Data Portal Pilot Project as a mechanism to integrate marine data from a number of distributed sources both in the network of NODCs and from other participating systems
- (iv) continue and strengthen the Ocean Data Standards Pilot Project with the aim of consolidating a set of standards that will provide interoperability among Member States of IODE, JCOMM and the broader oceanographic data community
- (v) continue the OceanTeacher Academy project as a comprehensive knowledge base and training tool related to oceanographic data and information management, serving the needs of IOC programmes and JCOMM, and
- (vi) continue the activities of the IOC Project Office for IODE, with special attention to its leading role in IOC capacity-building through training;

Encourages all IOC Member States, Programmes and relevant organizations to collaborate with the Ocean Data Standards Pilot Project, by submitting standards for consideration by, and contributing to, the evaluation process, and to apply adopted standards at the earliest opportunity;

Urges IOC Member States to increase their participation in international oceanographic data and information exchange through the establishment and/or strengthening of national oceanographic data centres (NODCs) and marine information management (Marine Libraries) infrastructures;

Further urges all IOC Member States, Programmes and relevant organizations to collaborate with the IODE Ocean Data Portal by establishing data provider nodes that contribute relevant data to the distributed system in accordance with Recommendation IODE-XX.3;

Requests all IOC Programmes to actively collaborate with, and make use of, the Ocean Data and Information Networks (ODINs) as a common platform for capacity-development in developing regions, as well as with the OceanTeacher Academy project which aims at providing a comprehensive curriculum of training courses related to ocean data and information management for all IOC Member States;

Invites WMO to continue and increase its support to JCOMM in general, and to the JCOMM Data Management Programme Area (DMPA) in particular, and to actively collaborate with

the OceanTeacher Academy project as well as with other IODE activities, as relevant to JCOMM;

Invites IOC Member States to assist in the implementation of the IODE Work Plan 2009–2011, through the provision of extrabudgetary funds and/or secondment of experts to the IOC Project Office for IODE.

Resolution XXV-4

THE OCEAN BIOGEOGRAPHIC INFORMATION SYSTEM (OBIS)

The Intergovernmental Oceanographic Commission,

Noting the great progress that has been made under the Global Census of Marine Life (CoML) programme and that this ten-year initiative, to assess and explain the diversity, distribution and abundance of marine life in the oceans, will conclude at the end of 2010,

Gratefully acknowledging the foresight shown and the support given to CoML by the Sloan Foundation,

Recalling the expression of support at the start of the CoML and its associated Ocean Biogeographic Information System (OBIS) by the Executive Council at its 33rd Session and the Executive Secretary's instruction to the IOC Secretariat to develop an appropriate mechanism for IOC involvement in the Census,

Further recalling that subsequent sessions of the IOC Executive Council and the Assembly have welcomed the progress achieved and called for continued interaction with this activity, in particular IOC Resolution XXIII-3, which encouraged the integration of OBIS into IODE, and the 39th Session of the IOC Executive Council, which called for continued development of the interaction between the Commission and CoML,

Appreciating the Resolution of the UN General Assembly A/RES/63/111, which, *inter alia*, reiterated “... its serious concern over the current and projected adverse effects of climate change on the marine environment and marine biodiversity, and emphasizing the urgency of addressing this issue”, and “encourages States, individually or in collaboration with relevant international organizations and bodies, to enhance their scientific activity to better understand the effects of climate change on the marine environment and marine biodiversity and develop ways and means of adaptation”,

Recognizing that an OBIS Programme within the IOC will create a valuable source of information for, *inter alia*, DIVERSITAS, UNESCO/MAB Programme and UNESCO's Strategy for Action on Climate Change, as well as a wide range of other users within and outside the United Nations,

Recognizing also that OBIS has an important role to play in contributing to intergovernmental and international organizations dealing with global fisheries, environmental and biodiversity issues, including, but not restricted to, the Food and Agriculture Organization of the United Nations, the Group on Earth Observations – Biodiversity Observations Network, the Global Biodiversity Information Facility, and the Convention on Biological Diversity, and that this role should be continued and expanded in the future,

Recalling the request from the OBIS Governing Board and the decision of the IOC Executive Council, at its 41st Session, to consider possible scenarios for a future home for OBIS within

the IOC, including the creation of an IOC/OBIS Programme and an IOC/OBIS Programme Office,

Acknowledging that CoML, and the research, information and data it has generated, provides an important tool for the international community to use in the development of policies for ocean and coastal management and to address the critical issues related to climate change,

Acknowledging also that the commitment of IOC and UNEP, pursuant to the UN General Assembly Resolution A/RES/60/30 calling for an Assessment of Assessments, leading to a regular review of the state of the ocean environment, would not be feasible without access to the science, information and data on marine biodiversity, such as that accumulated under OBIS,

Noting with appreciation the agreement of the OBIS Governing Board, in April 2009, to the adoption of OBIS by IOC,

Decides:

- (i) to accept OBIS within the IODE Programme and start its integration on a schedule that will ensure a smooth transition of OBIS into IOC as its responsibilities and funding under the CoML are completed
- (ii) to request the OBIS Governing Board to continue oversight of OBIS until the completion of the CoML 2010 Synthesis, in an advisory capacity, in consultation with the IODE Officers
- (iii) to maintain the identity and visibility of OBIS within IOC, taking into account the interest and commitment built up within the ocean biodiversity research community over the last decade, including the ability to interact with other relevant intergovernmental and international bodies;

Requests the IOC Executive Secretary:

- (i) to make the administrative arrangements necessary for OBIS activities to continue under the auspices of IOC and its IODE Programme
- (ii) to set up a multi-source fund within the IOC Trust Fund for the support of OBIS and to keep the IOC Member States fully informed of the commitments made and the adequacy of the resources available
- (iii) to investigate and establish cooperation with, and support from, relevant research organizations, marine research stations, networks and other stakeholders
- (iv) to take the necessary actions for the creation of an extrabudgetary OBIS Programme Officer position, and the preparation of documentation for the Director-General and the UNESCO Executive Board, requesting a regular programme post for the OBIS Programme at the earliest opportunity
- (v) to explore a formal agreement for the hosting of an IOC Programme Office for OBIS with the current host institution of the OBIS Secretariat at Rutgers University, N.J., U.S.A.
- (vi) to draft, in close consultation with the OBIS Governing Board, the Regional OBIS Node Management Group and IODE Officers, terms of reference for an OBIS Group of Experts, to be established under IODE

- (vii) to draft, in close consultation with the IODE Officers, revised terms of reference for the IODE Committee, taking into account the extended mandate of the Committee as a result of the adoption of OBIS
- (viii) to report on progress and submit the necessary items for the consideration and decision of the IOC Executive Council at its 43rd Session, in 2010;

Urges Member States:

- (i) to contribute to the OBIS multi-source fund within the IOC Trust Fund
- (ii) to consider other financial and/or in-kind support for OBIS to assist with its technical and research activities
- (iii) to facilitate the collaboration of Regional OBIS Nodes and other OBIS data providers in the intergovernmental framework of IOC and its IODE Programme.

Resolution XXV-5

**TENTH SESSION OF IOC SUB-COMMISSION FOR THE CARIBBEAN
AND ADJACENT REGIONS (IOCARIBE)**

The Intergovernmental Oceanographic Commission,

Acknowledging the positive advances achieved in the development of IOC Programmes in the IOCARIBE Region during the IOCARIBE intersessional period 2007–2009, including the successful entry into full implementation of the Caribbean Large Marine Ecosystem (CLME) project which is supported by the Global Environment Facility (GEF), IOC Member States and IOCARIBE partners,

Noting the increasing level of cooperation among IOCARIBE Member States, the UN and governmental and non-governmental organizations in the implementation of activities in the Region,

Restating its gratitude to the Government of Colombia for hosting the IOCARIBE Sub-Commission Secretariat, and its continuous support for IOCARIBE, since the establishment of the Secretariat in Cartagena in 1986,

Expressing its concern regarding the relocation to Jamaica of the IOCARIBE Secretary, who has now also assumed the responsibilities of Regional Science Programme Officer for UNESCO's Caribbean Cluster,

Expresses its appreciation to the Government of the Bolivarian Republic of Venezuela for hosting the 10th Session of IOCARIBE, in Puerto La Cruz, 21–24 October 2008;

Endorses the Executive Summary of the 10th Session of IOCARIBE and the four Recommendations therein;

Urges Member States and donor agencies:

- (i) to continue participating actively in the implementation of the IOCARIBE programmes and projects, through provision of extrabudgetary funds and/or expertise
- (ii) to provide additional resources and technical staff to the IOCARIBE Secretariat in order to strengthen its operations

- (iii) to further develop and strengthen capacity-building initiatives in the Region, following the priorities identified by the Sub-Commission;

Requests the IOC Executive Secretary to take appropriate action with UNESCO in order to create a post of IOCARIBE Secretary, bearing in mind the current level of project activities both in terms of objectives and results, and also in terms of level of funding;

Invites international, regional organizations and programmes to continue their collaboration and support in the implementation of IOCARIBE programmes and projects.

Resolution XXV-6

SEVENTH SESSION OF THE IOC REGIONAL COMMITTEE FOR THE WESTERN INDIAN OCEAN (IOCWIO-VII)

The Intergovernmental Oceanographic Commission,

Taking into account the considerable progress made in the implementation of the programme of work for 2006–2008, adopted by the IOCWIO at its 6th Session (IOCWIO-VI; Maputo, Mozambique, 2–4 November 2005),

Having considered the Executive Summary Report of the 7th Session of IOCWIO (Mombasa, Kenya, 18–21 July 2008),

Acknowledging the support provided by IOC Member States, donors and other organizations during the intersessional period and especially by the Governments of Flanders (Belgium) and Sweden for the ODINAFRICA and the Capacity-Development projects, respectively,

Recognizing the increasing investment in marine research by Member States from the IOCWIO region,

Welcomes the decision of the Government of Flanders (Belgium) to provide funding for the fourth phase of ODINAFRICA;

Expresses its appreciation to the Government of Kenya for having hosted the 7th Session of the Regional Committee for the Western Indian Ocean (Mombasa, 18–21 July 2008);

Endorses the Report of the 7th Session of the Regional Committee for the Western Indian Ocean, and the four Recommendations therein;

Decides to take the following actions:

- (i) Develop and implement the fourth phase of the ODINAFRICA project, which will focus on application of data, information and products to integrated coastal management, and the second phase of the Capacity-Development project
- (ii) Support the collection of core data, on bathymetry, coastal topography, and socio-economic parameters, required for the development of models
- (iii) Support the establishment of a UNESCO Chair in Marine Technology at the University of Dar-es-Salaam, Tanzania

- (iv) Organize activities to celebrate the 50th anniversary of IOC in the region, in conjunction with the 8th Session of the Regional Committee for the Western Indian Ocean;

Calls upon international agencies co-operating with the Commission to participate actively in the implementation of the IOCWIO-VII Work Plan through the provision of extrabudgetary funds and/or expertise.

Resolution XXV-7

INTERNATIONAL THERMODYNAMIC EQUATION OF SEAWATER (TEOS-10)

The Intergovernmental Oceanographic Commission,

Recalling that the Executive Council, at its 41st Session (Paris, 24 June–1 July 2008, reaffirmed IOC's commitment to the work on thermodynamics and the equation of state of seawater, instructed the IOC Executive Secretary to work with the SCOR/IAPSO Scientific Working Group 127 with a view to presenting to the IOC Assembly, at its 25th Session, the new Equation of State of Seawater, and invited the IOC Assembly to adopt a Resolution formally adopting this new standard,

Recalling further:

- (i) Recommendation IODE-XX.4 (Beijing, 4–8 May 2009) noting the scientific importance of defining additional thermodynamic properties of seawater, and recommending, *inter alia*, that data centres continue to archive practical salinity, not absolute or reference salinity
- (ii) The decision of I-GOOS-IX (Paris, 10–12 June 2009) to recommend adoption of the new formulation for the thermodynamics and equation of state of seawater TEOS-10 and to endorse the related Recommendation IODE-XX.4,

Noting:

- (i) that the existing EOS-80 “Practical Salinity Scale 1978 and International Equation of State of Seawater 1980” is an existing UNESCO standard published in the Technical Papers in Marine Science Series (No. 36) and is currently in wide use and among the most cited and well known publications of UNESCO in marine sciences
- (ii) that TEOS-10 was adopted at the International Conference on the Properties of Water and Steam (ICPWS-15, Berlin, 7–11 September, 2008) as an industrial standard by the International Association for the Properties of Water and Steam,

Considering:

- (i) that expressing the thermodynamic properties of seawater as a function of Absolute Salinity provides a consistent framework for future improvements in accuracy as more data on the geographically varying composition of seawater become available
- (ii) the importance of an accurate formulation of the thermodynamics and equation of state of seawater as a fundamental component of ocean models, in particular for climate purposes
- (iii) that the TEOS-10 allows calculation of more thermodynamic properties than does EOS-80

- (iv) that TEOS-10, unlike EOS-80, allows for mutually consistent treatment of the thermodynamics of ice and seawater,

Having considered the presentation of the Chairperson of the SCOR/IAPSO WG-127 to the 25th Session of the Assembly,

Decides to adopt the International Thermodynamic Equation of Seawater (TEOS-10) formulation that has been developed and recommended by the SCOR/IAPSO WG-127 to replace the existing EOS-80, as presented in the TEOS-10 Manual (IOC/INF-*tbd*);

Requests the IOC Executive Secretary to:

- (i) publish a suitably shortened and simplified version of the TEOS-10 manual in the IOC Manuals and Guides series
- (ii) continue to work closely with the SCOR/IAPSO WG-127 to ensure wide dissemination of TEOS-10 to government agencies, the scientific community, and industry
- (iii) ensure that the shortened and simplified manual contains a detailed, scheduled implementation plan allowing a traceable, stepwise implementation of the new standard;

Urges Member States to use and disseminate TEOS-10.

Resolution XXV-8

IOC–ICES STUDY GROUP ON NUTRIENT STANDARDS (SGONS)

The Intergovernmental Oceanographic Commission,

Recognizing that the comparability and traceability of data on nutrient concentrations in seawater are fundamental issues in marine science, and particularly for studies of global change,

Stressing the fact that the oceanography community has been continuing to improve comparability of data on nutrient concentrations in seawater in many ways, including international intercomparison exercises and development of nutrient reference materials,

Noting previous efforts by various groups, including the formation of a collaborative programme, the International Nutrients Scale System (INSS), in 2007, with the aim of establishing global comparability and traceability of nutrient data,

Noting with concern, however, that, despite these past and existing efforts, adequate comparability and traceability have not yet been achieved (4th IPCC Assessment Report, 2007),

Welcoming the invitation from the International Council for the Exploration of the Sea (ICES) to join forces in the development of nutrients reference materials and intercomparison exercises,

Decides to establish a joint IOC–ICES Study Group on Nutrient Standards to develop international standards for nutrients to establish comparability and traceability of nutrient data in the world's oceans, with the Terms of Reference in the Annex to this Resolution;

Decides that the sponsorship by the Commission of the IOC–ICES Study Group will apply until the end of the 2010–2011 biennium;

Requests the Study Group to report to the 43rd Session of the Executive Council, in 2010, and to the 26th Session of the Assembly, in 2011.

Annex to Resolution XXV-8

**Terms of Reference of the Joint IOC–ICES Study Group on
Nutrient Standards (SGONS)**

General Description of Activities

The Study Group on Nutrient Standards (SGONS) will undertake specific tasks (listed in the Specific Terms of Reference, below) to develop reference materials for nutrients in seawater (RMNS) and measurement protocols to improve the comparability and traceability of nutrient data in the world's oceans.

Specific Terms of Reference

- (i) ICES and IOC will provide stewardship for the Study Group on Nutrient Standards (SGONS) for a period of two (2) years (2010–2011).
- (ii) Develop and establish reference materials for nutrients in seawater (RMNS), collaborating with producers of currently available RMNS. Primary determinands are nitrate, nitrite, phosphate and silicate.
- (ii) Collaborate with and encourage the National Metrology Institute of Japan to complete certification of RMNS for nitrate, nitrite, phosphate and silicate.
- (iii) Develop new sampling and measurement protocols using the RMNS.
- (iv) Carry out an international collaboration exercise to verify the stability of the reference materials and test the proficiency of the new protocols.
- (v) Complete and publish a revised nutrients analysis manual.
- (vi) Distribute 10,000 bottles of RMNS to laboratories measuring nutrients as part of the CLIVAR Repeat Hydrography Programme to construct a global nutrient dataset referenced to the new RMNS.
- (vii) Promote the use of RMNS to aim for global acceptance in order to enable reliable comparability between global nutrient datasets, and to investigate the feasibility of expanding RMNS to include ammonium and dissolved organic matter.
- (x) Encourage collaboration between communities dealing with chemical reference materials for ocean sciences, as, for example, carbonate system reference material for dissolved inorganic carbon, total alkalinity and pH, and also for dissolved oxygen in seawater.

Resolution XXV-9

**INTEGRATED COASTAL RESEARCH: NUTRIENT EXPORT FROM WATERSHEDS –
USER SCENARIO EVALUATION (NEWS2USE)**

The Intergovernmental Oceanographic Commission,

Recalling the decision of the IOC Executive Council, at its 41st Session, to further develop a work plan and funding strategy for integrated coastal research as a follow-up to the recommendations of the Advisory Group for the Ocean Sciences Section,

Having considered the Draft Plan for the intersection of UNESCO–IOC Programmes Related to Nutrients, Coastal Eutrophication: Linking Nutrient Sources to Coastal Ecosystem Effects and Management: Global Nutrient Export from Watersheds 2, User Scenario Evaluation NEWS2USE (IOC/INF-1261),

Further recalling the Intergovernmental Panel on Harmful Algal Blooms, at its 9th Session (Paris, 22–24 April 2009), which recommended broader Member State engagement and more inclusive participation of research programmes and approaches,

Notes that Phase I of the Work Plan can be implemented as a pilot project and used as preparatory work with limited resources;

Endorses the proposed activity as an integrating activity of the IOC Ocean Sciences programmes;

Notes the finalization of the Work Plan, including a stakeholder engagement phase to evaluate options for integrated coastal research related to nutrient pollution, within the limits of the available resources in the IOC Regular Programme and of the extrabudgetary resources identified for this purpose;

Requests the IOC Executive Secretary to pay particular attention to:

- (i) ensuring complementarity with the SCOR–LOICZ Working Group 132 on Land-based Nutrient Pollution and the Relationship to Harmful Algal Blooms in Coastal Marine Systems
- (ii) the planned stakeholder workshop as a first next step, and
- (iii) broadening the evaluation of scientific tools required to meet the global, regional and local challenges of nutrient pollution in coastal and marine environments;

Decides to establish a Steering Committee on Integrated Research Related to Nutrient Pollution, for an initial period through to the end of the 2010–2011 biennium, with the Terms of Reference annexed to this Resolution;

Further decides to review progress at the 26th Session of the IOC Assembly and in four years, with a view to deciding on the continued development of the programme and on the revision of the Terms of Reference, if necessary;

Encourages IOC Member States to assist in the identification of funding that will ensure the implementation of the Work Plan.

Annex to Resolution XXV-9

**Terms of Reference of the NEWS2USE
Steering Committee on Integrated Research Related to Nutrient Pollution**

- (i) Act as the intersection of and collaborate with IOC of UNESCO Programmes and activities related to nutrients (GEOHAB, ICAM, GOOS, LME).
- (ii) Develop the NEWS2USE Science and Implementation Plans.
- (iii) Coordinate and implement research in accordance with the NEWS2USE Science and Implementation Plans.
- (iv) Foster framework activities to facilitate implementation of NEWS2USE, including dissemination and information tools for research and management.
- (v) Establish appropriate data management procedures, in close cooperation with IODE, to ensure access to, sharing of, and preservation of NEWS2USE data, taking into account the IOC Oceanographic Data Exchange Policy and the IOC Strategic Plan for Ocean Data and Information Management.
- (vi) Collaborate, as appropriate, with the concerned intergovernmental and non-governmental organizations (e.g., UNEP, SCOR), and their subgroups and related research projects (e.g., LOICZ, IMBER).
- (vii) Review NEWS2USE research progress over time and report regularly to the IOC and the global marine science research community on the state of planning and accomplishments of NEWS2USE, through annual reports, the NEWS2USE web site, an electronic NEWS2USE Newsletter, special sessions at scientific meetings, and other venues.
- (viii) Interact with agency sponsors to stimulate the support of NEWS2USE implementation through various mechanisms (e.g., direct support of NEWS2USE initiatives and integration of the NEWS2USE approach in national programmes).

Resolution XXV-10

**NINTH SESSION OF THE IOC INTERGOVERNMENTAL PANEL
ON HARMFUL ALGAL BLOOMS (IPHAB)**

The Intergovernmental Oceanographic Commission,

Having considered the Executive Summary Report of the 9th Session of the IOC Intergovernmental Panel on Harmful Algal Blooms (IPHAB) and the Work Plan for 2010–2011 adopted at the Session (IOC/IPHAB-IX/3),

Endorses the Executive Summary Report of IPHAB-IX and the three Recommendations therein, including the proposed HAB Work Plan 2010–2011, within the limits of the available resources in the Regular Programme and of the extrabudgetary resources identified for this purpose;

Decides to take action on the following IPHAB Recommendations:

Recommendation IPHAB-IX.2: HAB Work Plan 2010–2011

Recommendation IPHAB-IX.3: Operation of the IOC Intergovernmental Panel on Harmful Algal Blooms

Encourages IOC Member States to assist in the mobilization of funding that will ensure the continuation of the programme staff as well as the implementation of the Work Plan;

Requests the IOC Executive Secretary to convene the 10th Session of the Panel prior to the 26th Session of the Assembly.

Resolution XXV-11

ENHANCING IOC CAPACITY-DEVELOPMENT

The Intergovernmental Oceanographic Commission,

Recalling IOC Resolutions XXIII-10 and XXIII-11, and IOC Principles and Strategy for Capacity Development (IOC/INF-1211),

Reaffirming the capacity-development mission and principles of IOC, as expressed in IOC/INF-1211:

- (i) to help Member States, through international cooperative mechanisms, identify and address capacity-development needs to contribute to improved management and decision-making, sustainable development, and protection of the ocean and coasts
- (ii) that IOC capacity-development interventions need to be embedded in ongoing national and regional projects that contribute directly to the fulfilment of the larger IOC mandate, and
- (iii) that IOC capacity-development programmes should be structured so that groups of regional scientists define and determine their own capacity-building programmes,

Appreciating the value of the experience acquired by the IOC through the diversity of capacity-development activities across its programmes,

Taking note of the success of the implementation of this strategy, particularly in the western Indian Ocean region,

Taking note also of the increasingly strict requirements by many sponsors of capacity-development that activities be part of the United Nations country planning, in order for them to grant support,

Acknowledging that the level of participation of developing countries in IOC global programmes is affected by the differences in the required marine scientific capabilities, including infrastructure among IOC Member States,

Expressing concern that extrabudgetary resources for the next biennium may show a significant decrease in support for capacity-development,

Requests the IOC Executive Secretary to take adequate measures to enhance the implementation of the IOC capacity-development strategy by:

- (i) identifying new sources of financial support, including the additional financial arrangements referred to in Article 10 of the Statutes, to enhance the current level of

capacity-development activities in developing Member States, in particular in Africa, SIDS and LDCs

- (ii) enhancing harmonization of capacity-development activities across programmes and sections, through allocation of specific resources for this purpose and encouraging increased involvement of Member States
- (iii) ensuring national and regional priorities drive the Capacity-development programme
- (iv) engaging experts in in-country training in developing countries that seek capacity-development addressing national priorities;

Requests the IOC Executive Secretary also to address the cross-cutting activities in capacity-development through a specific elaboration of these activities in the Operational Plan, to ensure there is a transparent account of a coherent treatment of associated activities;

Urges IOC Member States to contribute resources for, and increase their involvement in, the implementation of the IOC Capacity-development Strategy.

Resolution XXV-12

PROGRAMME OF ACTIONS FOR GOOS 2010–2011

The Intergovernmental Oceanographic Commission,

Recalling:

- (i) IOC Resolution XVI-8 establishing the Global Ocean Observing System (GOOS)
- (ii) IOC Resolution XXIII-1 recognizing GOOS as the ocean component of the Global Earth Observing System of Systems (GEOSS)
- (iii) IOC Resolution XXIV-3, “The Past, Present and Future of Africa within the IOC Programmes”
- (iv) IOC Resolution XXIV-7, describing the programme of action for GOOS 2008–2009,

Noting:

- (i) the progress in the implementation of the GOOS Climate Module, as presented in the “Progress Report on the Implementation of the Global Observing System for Climate in Support of the UNFCCC 2004–2008” (Bonn, June 2009, GOOS Report No.173)
- (ii) the establishment of the GOOS Regional Council by the Fourth GOOS Regional Forum (Guayaquil, Ecuador, November 2008)
- (iii) paragraph 36 of the Johannesburg Plan of Implementation (World Summit on Sustainable Development, 2002) which called for expanded observation of the global ocean and coastal seas,

Considering:

- (i) that the Global Ocean Observing System (GOOS) is a priority for the IOC

- (ii) that progress in the implementation of the GOOS Climate Module has, in the last few years, plateaued at around 60% of its design goal
- (iii) that observations of the oceans are critical to understanding and forecasting of the global climate system and climate change, and also of the local coastal impacts of climate change, with different regional impacts
- (iv) that, while climate monitoring and forecasts remain the main drivers for GOOS development, the system will be developed to address other applications and societal needs, especially in the coastal areas
- (v) the need to increase the number of IOC Member States active in GOOS implementation
- (vi) that the written priority in the IOC Strategy given to developing regions in general, and Africa in particular, has not substantially emerged in terms of concrete results
- (vii) that the transition of observing activities from research to sustained operational system elements requires specific capacities within IOC Member States
- (viii) the proposal of I-GOOS IX to develop a stepwise implementation strategy relying on the coordinated integrated development of the GOOS coastal network and of the global GOOS module,

Anticipating:

- (i) the importance of sustained oceanographic observations to the planned future improved delivery of climate services as one outcome of the World Climate Conference 3 (31 August–3 September 2009, Geneva)
- (ii) the future continued importance of the United Nations Framework Convention on Climate Change (UNFCCC) as a platform for enhancing GOOS visibility and ensuring participation of IOC Member States in sustaining the GOOS
- (iii) the need for existing and future ocean observation systems to support the requirements of the UN Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socio-Economic Aspects,

Having considered the Summary Report of I-GOOS-IX and the presentation to the 25th Session of the Assembly by the Chairperson of I-GOOS,

Endorses the Summary Report of I-GOOS-IX;

Decides to focus the GOOS programme of work for the 2010–2011 biennium on (i) sustaining the Climate Module of GOOS, (ii) implementation of GOOS in coastal areas through GOOS national programmes and Regional Alliances, (iii) GOOS outreach and (iv) Africa, as follows:

1. Sustaining the climate module of GOOS

Requests the IOC Executive Secretary to ensure: (i) strong participation of GOOS in the follow-up to the World Climate Conference 3 (WCC-3, 31 August–3 September 2009, Geneva), in particular in the area of delivering climate services; (ii) continued visibility of GOOS in the United Nations Framework Convention on Climate Change Conference of Parties (COP) and its Subsidiary Body for Scientific and Technical Advice (SBSTA), in close cooperation with GCOS;

2. Implementing the coastal module of GOOS

Urges IOC Member States to commit themselves to stepwise global implementation of a reduced, priority set of coastal ocean variables, following the recommendations of the GOOS Scientific Steering Committee (GSSC) and its subsidiary Panel on Integrated Coastal Observations (PICO);

Urges regional groups and IOC Member States, with the support of the Executive Secretary, to establish regional operational oceanographic centres in developing regions;

Requests the IOC Executive Secretary to continue support to regional activities through IOC decentralized offices that have been efficient in raising resources locally and implementing GOOS regionally;

Urges IOC Member States to designate GOOS national contact points, (as called for in IOC Circular Letter 2199), and to reinforce national inter-agency cooperation required for full implementation of national ocean observing systems;

3. GOOS outreach

Encourages the cosponsoring agencies of GOOS to draft an interagency declaration on the critical needs for enhanced and sustained oceans observing systems;

Requests the IOC Executive Secretary to produce and widely disseminate information materials to increase public awareness of the importance of sustained and enhanced coastal and open-ocean observations;

Further requests the IOC Executive Secretary to make presentations on GOOS, especially as it relates to understanding climate processes and climate change, at relevant major international conferences, including UNFCCC, regional fora and in developing countries;

Urges Member States to participate actively in these same events, and make the case for sustained ocean observations as a crucial component of climate monitoring, research and prediction;

4. Africa as a priority for GOOS

Requests the IOC Executive Secretary to take adequate measures for the implementation of the past Resolutions regarding the Priority Africa and the reinforcement of GOOS-AFRICA.

Resolution XXV-13

**GLOBAL COORDINATION OF EARLY WARNING AND MITIGATION SYSTEMS FOR
TSUNAMIS AND OTHER SEA-LEVEL RELATED HAZARDS**

The Intergovernmental Oceanographic Commission,

A

Recalling:

- (i) IOC Resolution XXIV-14, establishing the Working Group on Tsunamis and Other Ocean Hazards Warning and Mitigation Systems (TOWS-WG)
- (ii) IOC Resolution EC-XLI.6 on IOC Intergovernmental Coordination Groups (ICG) for Tsunami Warning and Mitigation Systems for the Pacific Ocean (PTWS), the Indian Ocean (IOTWS), the North-eastern Atlantic, Mediterranean and Connected Seas (NEAMTWS), and the Caribbean and Adjacent Regions (CARIBE-EWS),

Reaffirming:

- (i) the role of the coordinated networks of national systems and capacities of IOTWS, CARIBE-EWS, NEAMTWS and PTWS in the development and functioning of a global early warning system for ocean-related hazards
- (ii) that each ICG Member State has responsibility for issuing warnings within its respective territories
- (iii) its commitment to the free and unrestricted exchange of tsunami-relevant real-time observational data in accordance with the IOC Oceanographic Data Exchange Policy and without prejudice to national sovereignty,

Having considered:

- (i) the Executive Summary Report of the 6th Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (Hyderabad, India, 7–9 April 2009)
- (ii) the Executive Summary Report of the 4th Session of the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (Fort-de-France, Martinique, France, 2–4 June 2009)
- (iii) the Executive Summary Report of the 5th Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-eastern Atlantic, the Mediterranean and Connected Seas (Athens, Greece, 3–5 November 2008)
- (iv) the Executive Summary Report of the 23rd Session of the Intergovernmental Coordination Group for the Pacific Ocean Tsunami Warning and Mitigation System (Apia, Samoa, 16–18 February 2009),

Endorses the above-mentioned Executive Summary reports;

Requests the IOC Executive Secretary to support the implementation of the actions specified therein, as appropriate;

Recognizes with great concern the problem of vandalism of tsunameters and other tsunami detection equipment, which seriously undermines efforts to establish national and regional tsunami warning and mitigation systems, as well as the Global Ocean-related Hazards Warning and Mitigation System (GOHWMS);

Calls on Member States to make a concerted effort to eradicate vandalism;

Encourages Member States bordering ocean and seas not covered by existing Tsunami Warning Systems, as appropriate, to actively promote the development, establishment and sustained operation of national and sub-regional Tsunami Warning and Mitigation Systems within a global framework to address tsunamis and other sea-level-related hazards;

Urges IOC Member States that have not yet done so to nominate a 24/7 Tsunami Warning Focal Point (TWFP).

B

Having noted the Summary Report of the 2nd Session of the TOWS-WG (Paris, 27 March 2009) and the Initial Draft Strategy and Plan 2009–2010 for a GOHWMS Framework and implementation of TOWS-WG recommendations,

Endorses the above mentioned report;

Requests the IOC Executive Secretary to support the implementation of the actions therein, as appropriate, and as described below.

C

Reaffirming the global coordinating role of TOWS-WG to develop strategies and follow-up activities to address sea-level-related hazards in collaboration with relevant bodies,

Recalling the need to support the implementation of the GOHWMS through a strategy and plan,

Emphasizing the priority attached to the collection and exchange of sea-level data for tsunami warning purposes,

Underlining the need for high-resolution bathymetric data in coastal areas and for digital elevation models for tsunami warning and forecast operations,

Confirming the need for common requirements for Regional Tsunami Watch Providers of the Tsunami Warning and Mitigation Systems, while recognizing that their unique regional conditions may require tailored approaches,

Recognizing the expected benefits deriving from the exchange of knowledge and information, including new research and technological developments, among the ICGs and coordination among their working groups,

Decides to:

- (i) extend the TOWS-WG for a further intersessional period, with the same mandate and membership
- (ii) establish an Inter-ICG Task Team on Sea Level for Tsunami Purposes, the Terms of Reference for which are in Annex A to this Resolution

- (iii) establish an Inter-ICG Task Team on Disaster Management and Preparedness, the Terms of Reference for which are in Annex B to this Resolution
- (iv) establish an Inter-ICG Task Team on Tsunami Watch Operations, the Terms of Reference for which are shown in Annex C to this Resolution;

Requests the IOC Executive Secretary to:

- (i) propose to GLOSS and DBCP, in consultation with JCOMM, that requirements for the collection and exchange of sea-level data for operational tsunami warning purposes be included in their terms of reference and work programmes
- (ii) raise the issue of vandalism of tsunameters and other ocean observing platforms with the UN General Assembly and request the Secretary-General to include vandalism as an agenda item for discussion of ocean issues within an appropriate mechanism or body
- (iii) consult the ICG Chairpersons on high-priority science issues in the development of early warning and mitigation systems for tsunamis and other sea-level-related hazards and define contributions from IOC programmes and scientific and technical subsidiary bodies in the context of the Programme and Budget for 2010–2011
- (iv) consult with the relevant seismic networks with a view to providing seismic data to Regional Tsunami Watch Providers and National Tsunami Warning Centres and for the coordination of related matters
- (v) consult with the operators of relevant seismic networks on options for promoting improved exchange and standardization of real-time seismic data and coordination of training programmes for global seismic monitoring
- (vi) facilitate the exchange and review of documents and guidelines related to risk assessment methodologies developed by the ICGs
- (vii) urgently develop a website that, at a minimum, provides Member States with:
 - access to contact information for Tsunami National Contacts and Tsunami Warning Focal Points, as appropriate, and respecting the restrictive nature of such information
 - a mechanism to publish and access documents and information of relevance to the international tsunami community, including official ICG documents, such as meeting reports and technical memoranda;

Requests the TOWS-WG to:

- (i) develop a document with definitions and terminology on hazards, disasters, vulnerability and risks, drawing on existing documents developed by bodies like UN/ISDR, for consideration by the IOC Executive Council at its 43rd Session, in 2010
- (ii) prepare with the ICG Chairpersons a report on whether adjustments to the IOC Oceanographic Data Exchange Policy (adopted by IOC Resolution XXII-6) are needed or not, given the unique requirements of tsunami warning systems, and suggest the effective implementation of the IOC Oceanographic Data Exchange Policy, to ensure the open and free sharing of tsunami-relevant observational data needed for timely and effective ocean-related hazard detection, analysis and warning

for coastal communities, for consideration by the IOC Assembly at its 26th Session, in 2011;

Instructs the International Tsunameter Partnership and the DBCP, in coordination with JCOMM, to prepare a report for the TOWS-WG and I-GOOS, at their next meetings, on ocean observing platform vandalism, including:

- (i) an inventory and assessment of the problem of ocean observing platform vandalism globally
- (ii) an assessment of the impacts of such vandalism, including on the functionality of tsunami warning systems
- (iii) the annual cost of ocean observing platform vandalism to Member States
- (iv) recommendations for IOC and Member State action;

Requests GEBCO to give priority to the development of high-resolution bathymetric data in coastal areas and of digital elevation models and to report progress to the IOC Executive Council at its 43rd Session;

Further requests the IOC Regional Ocean Mapping projects to contribute to GEBCO to achieve these developments.

Annex A to Resolution XXV-13

Terms of Reference of the Inter-ICG Task Team on Sea Level for Tsunami Purposes

The Inter-ICG Task Team on Sea Level for Tsunami Purposes, based on the relevant working groups within the ICGs, and in coordination with the GLOSS Group of Experts, shall:

- (i) develop requirements for tsunami warning system sea-level data, and all characteristics of the data stream, including networks and network design, for the information of relevant implementation groups, such as GLOSS, the ICG working groups and national sea-level authorities
- (ii) review the provision and availability of sea-level data as they pertain to tsunami warning systems and provide advice, as appropriate, to GLOSS and the ICGs
- (iii) provide a focus for sea-level issues amongst ICGs
- (iv) provide a report to TOWS-WG in advance of its 3rd Meeting, in 2010.

The representatives to the Inter-ICG Task Team on Sea Level for Tsunami Purposes shall be nominated by their respective ICG Chairpersons in consultation with the Chairperson of the GLOSS-GE, who will also appoint the Chairperson of the Task Team.

Annex B to Resolution XXV-13

**Terms of Reference of the Inter-ICG Task Team
on Disaster Management and Preparedness**

The Inter-ICG Task Team on Disaster Management and Preparedness, based on the relevant working groups within the ICGs, shall:

- (i) facilitate, in collaboration with relevant organizations, such as UN/ISDR, the exchange of experience and information on preparedness actions, education/awareness-raising campaigns and other matters related to disaster management and preparedness
- (ii) elaborate proposals for a global or regional tsunami awareness day, possibly connected with the International Day for Disaster Reduction (8 October)
- (iii) promote preparedness in coastal communities through education and awareness-raising products and campaigns
- (iv) replicate preparedness programmes and assessment tools that have been successful in one regional Tsunami Warning and Mitigation System in the others, as appropriate
- (v) provide a report to TOWS-WG in advance of its 3rd Meeting, in 2010.

The representatives to the Inter-ICG Task Team on Disaster Management and Preparedness shall be nominated by their respective ICG Chairpersons and appointed by the IOC Chairperson, who will also appoint the Chairperson of the Task Team.

Annex C to Resolution XXV-13

Terms of Reference of the Inter-ICG Task Team on Tsunami Watch Operations

The Inter-ICG Task Team on Tsunami Watch Operations shall:

- (i) provide a mechanism to the ICGs for coordination of tsunami watch operations among the Tsunami Warning Systems
- (ii) document current and proposed products and their dissemination methods, working through existing ICG working groups or their equivalents
- (iii) review terminology and recommend harmonized terminology
- (iv) document areas of responsibility, geographical coverage, system architectures and other relevant characteristics
- (v) develop consensus on uniform standards, procedures and guidelines for tsunami watch operations, including a process for verifying the operational status of Regional Tsunami Watch Providers
- (vi) develop guidelines for the review of tsunami watch operations
- (vii) provide a report to TOWS-WG in advance of its 3rd Meeting, in 2010.

The representatives to the Inter-ICG Task Team on Tsunami Watch Operations shall be nominated by their respective ICG Chairpersons and appointed by the IOC Chairperson, who will also appoint the Chairperson of the Task Team.

Resolution XXV-14

IOC PROGRAMME AND BUDGET FOR 2010–2011

The Intergovernmental Oceanographic Commission,

Recalling Article 1.2 and Article 10.1 of the IOC Statutes,

Noting the report of the IOC Executive Secretary on Programme Implementation for the 2008–2009 biennium, contained in Document IOC-XXV/2 Annex 2,

Further noting the presentation of the IOC Draft Programme and Budget 2010–2011, contained in Document IOC-XXV/2 Annex 3,

Emphasizing the unique role of the IOC as the competent intergovernmental body dealing with ocean science and ocean services within the United Nations system, particularly as the ocean arm of UNESCO, operating through the concerted action of IOC Member States,

Also noting:

- (i) the Programme-based approach emphasized in the 34 C/4 Medium-term Strategy 2008–2013 and the use of biennial sectoral priorities within the draft 35 C/5 Programme and Budget 2010–2011 and resulting orientation of that approach around a single Main Line of Action for IOC activities
- (ii) the increased responsibilities of IOC for the 2008–2009 biennium, including (a) climate change and impacts and adaptation strategies for coastal regions, specifically for the benefit of Africa, Small Island Developing States and Least-Developed Countries, (b) risks posed by tsunamis, (c) the prevention and mitigation of natural hazards, and (d) the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socio-Economics Aspects
- (iii) the role IOC plays in the technical coordination with other UN Specialized Agencies and Organizations, particularly in the area of climate change,

Having considered the proposals regarding the structure, formulation and budgetary framework for the 2010–2011 biennium contained in the UNESCO Draft 35 C/5 Programme and Budget and the proposal for zero real growth,

Recognizing the important role polar ocean processes play in the global climate system, as described in the Intergovernmental Panel for Climate Change Fourth Assessment Report,

Noting the ministerial declaration on the International Polar Year (IPY) and Polar Science adopted by the Antarctic Treaty – Arctic Council joint meeting (Washington, April 2009), which called for a number of actions in support of the IPY legacy, including strengthening international collaboration at all levels in polar regions,

Further noting the Tromsø Declaration of the Arctic Council on 29 April 2009 which welcomed commitments to deliver a lasting legacy from the IPY, and decided to consider the proposal to organize an International Polar Decade,

Emphasizing that any reduction of the regular budget allocations from UNESCO to IOC in real terms, and considered in the light of proposed requirements and expected results, which are growing in those same terms, would lead to corresponding reductions in the current programmes and activities of the Commission, especially the extension of regional programmes,

Recalling the need to give priority to Africa, Small Island Developing States and gender equality,

Stressing the importance of:

- (i) the regular funds provided by UNESCO, and support from Member States, notably through contributions to the IOC Special Account, and secondment of personnel
- (ii) the continuing and growing support by Member States in addressing the plans and work of IOC, through voluntary extrabudgetary and in-kind contributions,

Decides that the IOC Programme and Budget 2010–2011 shall be aligned with the High-Level Objectives of the Biennial Strategy and the actions detailed within that Strategy, as annexed to this Resolution;

Requests the IOC Executive Secretary to strengthen the collaboration of IOC with polar organizations under the climate change priority and provide a report to the Executive Council at its 43rd Session, for further consideration within the biennial strategy;

Adopts the Draft IOC Programme and Budget 2010–2011 in the Annex to this Resolution;

Recognizes the need to maintain, as a principle, and as introduced into the UNESCO Draft Resolution on Programme and Budget 2010–2011, that the IOC budget should not be decreased by transfers of funds to other parts of the UNESCO budget;

Requests the IOC Executive Secretary:

- (i) to bring this need to the attention of the UNESCO Director-General in the preparation of the 35th General Conference of UNESCO
- (ii) to communicate the UNESCO Programme and Budget (2010–2011), as approved by the UNESCO's General Conference, to IOC Member States, together with an analysis of implications for the IOC Programmes
- (iii) to reflect the priority to Africa, Small Island Developing States and gender equality by allocating sufficient resources in the operational plans of the Secretariat for 2010–2011, and report to the 43rd Session of the Executive Council;

Urges Member States:

- (i) to support the IOC programme proposals when the Draft 35 C/5 is being considered by the UNESCO Executive Board and the General Conference
- (ii) to continue and increase their support to the IOC through direct and in-kind contributions;

Authorizes the Executive Council, at its 43rd Session:

- (i) to produce a draft Biennial Strategy for the 2012–2013 biennium and to review the approved budget under 35 C/5 and the operational plans of the Secretariat for 2010–2011
- (ii) to consider adjustments to the Medium-term Strategy and possible budgetary implications and to review the Programme and Budget adopted in this Resolution.

Annex 1 to Resolution 14

IOC DRAFT Biennial Strategy 2010–2011

THE ALIGNMENT OF IOC WITH UNESCO GLOBAL PRIORITIES

Global Priority Africa

UNESCO has defined its priorities based on common challenges collectively faced by the international community and has therefore placed priority status on Africa in order for African nations to effectively and efficiently contribute in meeting these global challenges.

The current Medium-term Strategy (34 C/4) extends and reinforces the existing priority afforded to Africa in UNESCO governing policy and was reiterated by Member States during previous UNESCO General Conferences and IOC Assembly and Executive Council sessions supported by African-focused Resolutions.

The reinforcement of African priority within IOC is still pertinent given the fact that the execution of IOC programmes in Africa has shown insufficient results and impacts.

It is therefore crucial that adequate resources be allocated with sufficient and increasing budget and personnel across all IOC programmes, in order to achieve their successful implementation based on a result-management approach with clearly defined unambiguous performance indicators.

Particular attention should be given to institutional empowerment (existing relevant institutions, policies, curriculum development), scientific, technological and research infrastructure reinforcement, use and reinforcements of local and regional competences, fund-raising for joint research and development programmes based on grass-roots, ownership and leadership of local institutions.

Gender Equality

UNESCO has also identified a global priority for gender equality and specifically advocates actions that promote the design, implementation and evaluation of gender responsive science and technology policies. Expected results include capacities built for mitigation of natural disasters, with particular attention to gender parity and youth, through networking, partnerships and policy support.

Small Island Developing States

UNESCO has agreed to focus efforts on Least-Developed Countries and Small Island Developing States (LDCs and SIDS, respectively), with specific reference to the framework of the implementation of the Barbados+10 Action Plan and the Mauritius Strategy.

Through IOC's decentralized resources, including for the SIDS of the Indian-Australian-SE Asian and SW Pacific oceanic regions, expected results include input for downscaled understanding and predictive tools that address coastal areas of local interest to SIDS, capacity-building through the development and delivery of ocean and climate curricula, and

training workshops to build capacity in climate change phenomena, impacts and adaptation strategies.

HIGH-LEVEL OBJECTIVES

Responding to its mission in this context and guided by the strategic thrusts, described above, of the IOC Medium-term Strategy, and noting the role of IOC as the competent body and focal point for ocean matters in the UN system, responding concretely in its mandated areas of activity to the Johannesburg Plan of Implementation, the UN Millennium Development Goals, and acting in conformity with international law, including relevant UN Conventions, and with UN General Assembly Resolutions, the IOC, through its Medium-term Strategy 2008–2013 and Biennial Strategy for 2010–2011, will address the following High-level Objectives:

High-level objective 1 – Prevention and reduction of the impacts of natural hazards

Recognizing the IOC's role, for over four decades, of coordinating the Pacific Tsunami Warning System, the United Nations has mandated the IOC as the lead agency for coordinating the planning and implementation of tsunami early warning and mitigation systems. Following the rapid progress in installing the Indian Ocean Tsunami Early Warning and Mitigation System, the IOC has expanded its action to other regions (North-eastern Atlantic and Mediterranean; Caribbean) and is contributing with other UN agencies to the development of a global system for addressing multiple marine hazards, thus supporting the overall objective of contributing to disaster preparedness, mitigation and recovery. Particular attention is being focused on coastal erosion and inundation in the wake of the 2008 Myanmar storm-surge tragedy.

Actions	Expected results	Performance indicators
1a. Promote integrated and sustained monitoring and warning systems for coastal and oceanic natural hazards, in close coordination with other relevant intergovernmental organizations, where appropriate, using enhanced coastal and ocean networks, including education and training activities.	Risks from tsunami and other ocean and coastal-related hazards reduced.	<ul style="list-style-type: none"> - Intergovernmental coordination improved - Regional broadband seismic monitoring and sea-level stations consolidated. - Number of National Warning Centres identified or implemented under national laws.
1b. Educate communities at risk with respect to natural hazards impact prevention, preparedness and mitigation measures.	Enhanced awareness and capacities to plan coastal activities against hazards, including coastal erosion.	<ul style="list-style-type: none"> - Plans developed for risk assessment and hazard mitigation integrated into coastal planning and management at the national level.

High-level objective 2 – Mitigation of the impacts of and adaptation to climate change and variability

IOC will continue its role as an intergovernmental advocate, coordinator, and partner in international scientific research to improve the understanding of the Earth System, by contributing to the improvement of prediction of climate and its effects on marine ecosystems and resources through sustained ocean observation and process studies at regional and global scales and by contributing to the development of science applications to mitigate the effects of climate change, including sea-level rise.

Actions	Expected results	Performance indicators
2a. Increase the understanding of the ocean's role in climate variability and climate change.	<p>Participation of the ocean research community promoted and catalysed, and their cutting-edge results integrated into international climate and polar research.</p> <p>Increased involvement in polar climate programmes.</p>	<ul style="list-style-type: none"> – Degree of engagement and contribution of the oceanographic scientific community in activities of the WCRP and other international programmes. – Knowledge gaps about sea-level change better addressed through targeted observations and research. – Improvement of El Niño predictions and mitigation of its impacts at regional and global levels. – Number of IOC co-sponsored programmes.
2b. Contribute to the better prediction of climate through ocean observations and process studies, at regional and global scales.	<p>Ocean observing systems and data exchange standards enhanced.</p> <p>Improved ocean-related climate modelling capability.</p>	<ul style="list-style-type: none"> - Degree of implementation of the Global Ocean Observing System. - Global participation of oceanographic data and information centres in the web-based Ocean Data Portal and OceanDocs data and knowledge systems. - Initiatives taken to enhance polar observations. - Successful 3rd session of JCOMM. - Number of coupled climate models in IPCC AR5 that are verified with Argo information.
2c. Increase the understanding of the impacts of climate change and variability on marine ecosystems and their living resources.	<p>The impacts of climate change on marine ecosystems and their living marine resources at the global and regional level is addressed.</p> <p>Increased collaboration between IOC and polar organizations.</p>	<ul style="list-style-type: none"> - International cooperation to improve understanding of ocean acidification and its impacts on marine ecosystems sustained and enhanced. - Regular global assessment of the status of coral reefs of the world (every two years), including climate impacts as well as human impacts. - Number of collaborative agreements in place.

Actions	Expected results	Performance indicators
2d. Climate change adaptation for Africa and SIDS.	Enhanced capacity in observing climate change phenomena, assess impacts and implement adaptation strategies.	- Publicly accessible knowledge base and clearing house on climate change established.

IOC High-level objective 3 – Safeguarding the health of ocean ecosystems

IOC will leverage the science and capacity to monitor and safeguard the health of ocean ecosystems and services, by addressing the conservation and sustainable management of coastal resources and marine biodiversity. In this regard, IOC will continue harmonizing its capacity-development activities according to long-term capacity-development principles that improve the ability of Member States to apply sound scientific methods to the sustainable management of their resources.

Actions	Expected results	Performance indicators
3a. Actively contribute to the “Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socio-economic Aspects”.	First Global Assessment initiated under the Regular Process on the Global Reporting on the State of the Marine Environment.	- UNGA Resolution defining mandate and method of work of First Global Marine Assessment.
3b. Further develop the research and monitoring required for the prevention of marine environment degradation, and the maintenance of biodiversity and the sustainable use of marine habitats.	Enhanced coordination of research on ocean ecosystems, marine habitats and biodiversity and best practices promoted in the management of marine and coastal ecosystems and related strengthening of the regional programmes and subsidiary bodies.	- Improved tools and enhanced capacity to predict and mitigate global environmental risks, such as anthropogenic nutrient loading and harmful algae, for marine biodiversity and ecosystem health. - Coastal research, monitoring and related management enhanced through a network of coastal sites. - Research results and guidelines applied in policies and management of coastal and marine ecosystems at national or regional level.

Actions	Expected results	Performance indicators
3c. Identify and develop the capacity-development necessary for maintenance of healthy ocean ecosystems, focusing on the regional needs.	Enhanced capacity related to the maintenance of ecosystems and related strengthening of the regional programme and subsidiary bodies.	<ul style="list-style-type: none"> - Status of existing integrated cooperative regional frameworks focusing on regional capacity-development and regional collaboration. - New regional frameworks focusing on regional capacity-development and regional collaboration developed. - Status of marine scientific research conducted by consolidated institutional capacities in eastern, western and central Africa and Latin America. - Pilot projects promoted by UNESCO Chairs on educational aspects in developing regions.
3d. Maintain an ocean biogeographic information system in support of marine assessments and ecosystem research.	OBIS established within IOC.	<ul style="list-style-type: none"> - Administrative arrangements for IOC/OBIS in place. - Draft agreement for IOC Project Office for OBIS in place. - Terms of Reference for associated Groups of Experts established.

IOC High-level objective 4 – Management procedures and policies leading to the sustainability of coastal and ocean environment and resources

IOC will assist Member States, at their request, in the management of their marine and coastal environment, focusing on regional needs and developing national capabilities, by translating research results into management approaches and wise practices, through spatial and other planning approaches demonstrated through pilot projects in target regions, by providing the necessary training and assistance to implement them and by strengthening IOC Regional Subsidiary Bodies to fully ensure the regional implementation of the IOC Medium-term Strategy 2008–2013. A number of specific actions arising from the consideration of the Future of IOC and the celebration of the 50th anniversary of IOC will be undertaken to strengthen the operation of the IOC and its governance and to raise awareness of, and involvement in, IOC's programme of action.

Actions	Expected results	Performance indicators
4a. Enhance regional cooperation and involvement of the Member States through capacity-building and transfer of technology and measures to strengthen the capabilities of the IOC Regional Subsidiary Bodies and IOC decentralized offices.	Member State requests for policy and capacity-development responded to by integrating knowledge and experience available from all relevant IOC programmes.	<ul style="list-style-type: none"> - Programme and capacity-development implementation coordinated. - Regional and national activities better coordinated. - Intergovernmental actions enhanced.
4b. Facilitate science related to ocean and coastal resource management.	Science-based applications and policies to adapt to climate and coastal change developed.	<ul style="list-style-type: none"> - Number of adaptation measures (policy and technical) implemented in identified pilot areas. - Approaches to link freshwater management with coastal management developed. - Number of integrated river basins and coastal groundwater management strategies developed at country level.
4c. Enhance development and implementation of decision-support tools that improve integrated ocean and coastal management.	<p>ICAM indicators framework in selected regions applied through pilot projects.</p> <p>Marine and coastal spatial planning methodologies developed.</p>	<ul style="list-style-type: none"> - Number of countries having completed indicator-based “state of coastal resources” reports. - Number of coastal areas where pilot projects for marine zoning plans have been developed. - Adaptation strategies to manage coastal changes in West Africa provided.
4d. Facilitate the development and adoption of standards.	The TEOS-10 formulation of the Thermodynamics and Equation of State of Seawater is adopted.	<ul style="list-style-type: none"> - Effective publication and dissemination of the TEOS-10 standard, in all four working languages of the Commission. - An implementation plan to allow a traceable, stepwise implementation of the new TEOS-10 standard.

Annex 2 to Resolution 14

Draft IOC Programme and Budget 2010–2011

(see next page)

Draft IOC Programme and Budget 2010–2011			Proposed RP budget 2010-11 (Draft 35 C/5)		Difference compared to 2008-09	2010-11 EXB*
PART	Activities	Staff	Total			
		\$	\$	\$		\$
PRIORITY 1						
2. Mitigation of and adaptation to climate change & variability						
2.a Increase the understanding of the ocean's role in climate change & variability	239 770	94 880	334 650	4 650		
2.b Climate prediction through observations and process studies, at regional and global scales	598 300	1 802 860	2 401 160	-127 030	2 350 000	
2.c Increase the understanding of the impacts of climate change & variability on marine ecosystems & their living resources	55 210	142 300	197 510	-35 080	191 535	
2.d Climate change adaptation for Africa and SIDS	110 000	57 600	167 600	167 600		
TOTAL PRIORITY 1	1 003 280	2 097 640	3 100 920	10 140	2 541 535	
PRIORITY 2						
A. PROGRAMMES						
1. Prevention & reduction of the impacts of natural hazards						
1.a Promote integrated and sustained monitoring and warning systems	269 380	294 880	564 260	257 860	1 500 000	
1.b Educating communities at risk with respect to natural hazards impact prevention, preparedness & mitigation measures	75 650		75 650	35 650		
Total 1	345 030	294 880	639 910	293 510	1 500 000	
3. Safeguarding the health of ocean ecosystems						
3.a Regular Process for Global Reporting and Assessment of the State of the Marine Environment	148 000	111 370	259 370	82 490	50 000	
3.b Research & monitoring for the prevention of marine environmental degradation	66 870	181 000	247 870	61 130	100 000	
3.c Capacity-development necessary for maintenance of healthy ocean ecosystems focusing on the regional needs	425 270	1 004 920	1 430 190	20 230	3 151 065	
3.d Ocean biogeographic information system in support of marine assessment and ecosystem research	10 000	98 650	108 650	108 650		
Total 3	650 140	1 395 940	2 046 080	272 500	3 301 065	
4. Management procedures and policies leading to the sustainability of coastal & ocean environment & resources						
4.a Regional cooperation through capacity-building and transfer of technology & measures to strengthen IOC RSBs	178 370	468 510	646 880	189 350	150 000	
4.b Science for ocean and coastal resource management	117 560	186 680	304 240	-3 410	50 000	
4.c Decision-support tools for improved integrated ocean and coastal management	139 750	264 420	404 170	-31 130	941 000	
4.d Facilitate the development and adoption of standards	10 000	16 830	26 830	26 830		
Total 4	445 680	936 440	1 382 120	181 640	1 141 000	
Sub-total Priority 2 A	1 440 850	2 627 260	4 068 110	747 650	5 942 065	
B. GOVERNANCE						
I. Governing bodies						
1. Assembly	191 100		191 100	-8 900		
2. Executive Council	106 700		106 700	-58 300		
Total B.I	297 800		297 800	-67 200		
II. Coordination and consultations						
Participation in UN consultations and cooperation with UN agencies						
1. UNCLOS and other UN conventions	23 880	82 740	106 620	-13 380	100 000	
Coordination						
2. Executive Secretary's travel	23 900		23 900	-26 100		
3. Office of the Executive Secretary	37 450	1 246 160	1 283 610	-95 250	100 000	
4. External relations and cooperation	23 880		23 880	-16 120		
.....5. Publications (& related costs)	28 660		28 660	-2 940		
Total B.II	137 770	1 328 900	1 466 670	-153 790	200 000	
Sub-total Priority 2 B	435 570	1 328 900	1 764 470	-220 990	200 000	
TOTAL PRIORITY 2	1 876 420	3 956 160	5 832 580	526 660	6 142 065	
TOTAL PRIORITIES 1 AND 2	2 879 700	6 053 800	8 933 500	536 800	8 683 600	
IOC share of MPII common projects & costs	622 100			-7 400		
GRAND TOTAL	3 501 800	6 053 800	9 555 600	529 400	8 683 600	

*Funds already received or firmly committed

Resolution XXV-15

**EXPANSION OF QUOTA OF SEATS OF GROUP II
ON THE IOC EXECUTIVE COUNCIL**

The Intergovernmental Oceanographic Commission,

Taking into account the IOC Rules of Procedure 18.2, 18.3 and 18.4, as well as Appendix II to these Rules,

Noting that the number of Group II IOC Member States has increased since the last redistribution of IOC Executive Council seats,

Recalling the direct request to the IOC Executive Council, at its 41st Session, by the Russian Federation and Ukraine to review the existing distribution of seats on the Executive Council to meet Group II Member States' aspirations,

Considering that an increased representation of Group II Member States on the Executive Council would contribute to the effectiveness of IOC,

Appreciating the willingness of Group I to transfer one seat in favour of Group II and **welcoming** this as a manifestation of the UNESCO inherent spirit of understanding and cooperation,

Approves the allocation of seats for Groups I and II in the IOC Executive Council as follows:

- (i) Group I – 10 seats
- (ii) Group II – 3 seats;

Decides accordingly to amend IOC Rule of Procedure 18.2, to take effect at the 26th Session of the IOC Assembly;

Requests the IOC Executive Secretary to inform the UNESCO Director-General and IOC Member States of the relevant changes to the Rules of Procedure in time for the elections at the 26th Session of the Assembly.

ANNEX III

ADDRESSES AND STATEMENTS

A. Opening address

by Mr Koïchiro Matsuura
Director-General of the United Nations Educational, Scientific and Cultural
Organization (UNESCO)

19 June 2007

Mr President,
Ladies and Gentlemen,

It is my great honour to open this 25th Session of the IOC Assembly. As the flags decorating the room remind us, this year IOC begins its 50th anniversary celebrations. This is without doubt a major milestone in the history of the Commission. It is an opportunity for us to look back together at IOC's many accomplishments, but also to look forward to the challenges ahead.

Central among these challenges is addressing global climate change, and I would like to begin my opening remarks by focusing on the IOC's contribution to the overall UN system-wide response.

It is a mark of the IOC's recognized leadership in ocean climate science that the Commission has been asked to coordinate, together with the World Meteorological Organization (WMO), UN efforts in the area of science, assessment, monitoring and early warning, as part of the UNFCCC process leading up to the UN climate summit in Copenhagen in December.

Within this framework, IOC will be contributing its expertise to the session on the climate of oceans and coasts at the forthcoming World Climate Conference 3 (WCC 3), organized by WMO in August–September 2009.

I should underline, however, that UNESCO's role in climate change extends well beyond the ocean sciences, incorporating education, the social and human sciences communication and culture. At the WWC3, we will also therefore be hosting panels on Gender and Climate and on Social Risk and Vulnerabilities. The aim is to draw attention to the human dimensions of climate change and the need to involve society as a whole in the response.

The WWC3 will centre the discussions of policy-makers on the provision and establishment of "Climate Services" capable of forecasting future climate change and projecting its impacts at local level. This is a completely new concept, which will require robust and open-ended systems of observations.

IOC can contribute in other innovative ways to tackling global climate change. One example would be the early design of a global programme to protect small island developing states and coastal cities from sea-level change. IOC could certainly take the lead in such a programme, which is being urgently requested by Member States.

As our understanding of the climate system improves, we realize the complex yet essential role the ocean plays in its regulation. Because of its capacity to store heat, the ocean is not only the engine of weather, but also the memory of climate. Absorbing roughly one third of total annual emissions – about 2,300 million metric tons of CO₂ – the ocean has already spared us from catastrophic climate change. But in doing so, its own intrinsic balances are

being altered: it is becoming more acidic and has taken the largest fraction of the additional heat generated by climate change, something that might eventually alter the normal patterns of ocean circulation.

Faced with these alarming trends, the World Summit on Sustainable Development in 2002 decided to keep the ocean under permanent review via conducting regular global and integrated assessments.

In 2005, the UN General Assembly requested IOC and the United Nations Environment Programme (UNEP) to take the lead in getting this process started. This involves UNESCO in the most comprehensive initiative undertaken by the UN system yet to improve ocean governance.

The first report, reflecting three years of work by a group of independent experts, is now ready and presents a realistic plan for ocean governance. Later this year, at UN Headquarters in New York, all members of the UN system will consider this report and propose a course of action. A positive endorsement would open the way for the first Global Integrated Assessment of the Ocean to be conducted by the whole UN system for 2014–2015.

The series of global assessments that will be part of the Regular Process cannot be conducted by IOC or UNEP alone, nor even together. They need to engage the whole UN system. With the Executive Secretary of IOC, I myself and the Executive Director of UNEP are contacting governments to obtain their support. You will also be discussing how to support this process during this Assembly, and I will look at your recommendations very carefully.

Recognizing the international importance of UNESCO's ocean programme, I have decided to convene a high-level Ministerial Round Table on Oceans during the 35th session of UNESCO's General Conference. The event, to be held on Monday 12 and Tuesday 13 October, will take as its theme "Building stewardship for the oceans: the contribution of UNESCO to responsible ocean governance". It should provide a unique opportunity both to take stock of what UNESCO and IOC have achieved over the past 50 years in improving ocean management and to chart our future engagements.

Based on the next steps in the Regular Process to be decided at the 64th session of the UN General Assembly starting in September 2009, the Round Table will also have further discussion on the UN ocean governance initiative.

Mr President,
Ladies and Gentlemen,

Let me now turn to another important aspect of IOC's work over the past ten years: tsunami warning systems.

UNESCO is finally developing a system to provide global protection against tsunami hazards, as we promised the world after the Indian Ocean catastrophe. 29 countries from the Indian Ocean, 37 from the Pacific basin, 28 from the Caribbean region and 18 from the Euro-Mediterranean regions are actively pursuing this common goal.

This Assembly will examine the reports of four Intergovernmental Coordination Groups, where Member States come together to operate tsunami warning systems in each region.

Four and a half years after the devastating Indian Ocean tsunami, this is a major accomplishment which deserves the full recognition of the international community. But the real challenge lies ahead. The big question is whether we are ready and able to maintain these efforts in the long-term, as the nature of the tsunami threat demands.

IOC is already helping countries put national tsunami systems in place and this action must be reinforced. Member States need to develop their own national detection networks, conduct their own risk-assessment studies, and have national tsunami centres capable of receiving warnings around the clock and disseminating such life-saving information to the relevant authorities and the general public.

I am convinced that your deliberations this week will provide further indications on how to ensure the availability and adequacy of the tsunami warning systems you have asked the IOC to establish and coordinate.

Mr President,
Ladies and Gentlemen,

Let me now turn to a matter where the IOC has been very active in helping Member States over this past year. As you know, 13 May 2009 was the deadline for many countries to inform the United Nations on their interest in delineating the outer limits of their continental shelf under UNCLOS. I am very pleased to report that, notwithstanding limited resources, UNESCO intensified its support to Member States through collaboration with UNEP's GRID-Arendal Shelf Programme in Norway, and Geozentrum Hannover's Federal Institute for Geosciences and Natural Resources (BGR).

IOC provided particular support to its networks in Africa, helping to link coastal states to these specialist organizations so that they could gain access to technical assistance. We also carried out various awareness-raising and information-sharing activities, providing guidance on the process to be followed and assisting Member States in identifying consultants to conduct the necessary studies.

Nine African countries directly approached IOC for assistance. Comoros, the Democratic Republic of Congo, Gabon and Togo interacted with experts at IOC, linked through video-conference with experts in UNEP/GRID-Arendal. Detailed technical assistance was provided to the commissions of these countries. Ghana and Nigeria provided IOC with expert comments, whilst Cameroon, Guinea, and Senegal consulted experts at IOC on the process to be followed. We are very grateful to the Government of Norway for their leadership and support in this important matter.

I would like to take this opportunity to focus on IOC's important work in Africa, a priority area for UNESCO as a whole.

IOC has many capacity-development projects in the region. Its self-driven capacity-development programme has, over the past 3 years, conducted 13 workshops, providing support to African marine science institutes at 3 levels – advanced leadership for directors; fund-raising training for project leaders; and team-building and training for project scientists. We have built a network in 17 countries with about 50 directors who actively participated in 1 or more of the leadership workshops.

We are very proud of the results achieved. East Africa has shown extraordinary leadership and a strong self-driven approach, mobilizing 4 times more project funds, following our workshops, than the contributions we put in.

The high proportion of participating institutions that paid to attend workshops (overall about 30 percent in the case of Africa) is a good indicator of the traction the programme has gained with users. Another good indicator of self-reliance is the number of countries that co-funded workshops and independently undertook follow-up training.

While least responsible, Africa is most vulnerable to the impact of global warming. A major thrust of IOC's work is to help African countries adapt to this challenge. Let me mention in

particular our work in implementing a GEF-funded project on Adaptation to Climate Change in the Coasts. I would also like to signal that IOC will be preparing a science report for the African Union Commission team that will represent Africa at the Copenhagen Summit, following the recent signature of an MoU between UNESCO and the AU Commission.

In addition, IOC runs long-standing training programmes for individual scientists in the Ocean Data and Information Network in Africa (ODIN-AFRICA) spread over 40 institutes in 25 countries. Its next stage is ODIN-AFRICA IV, due to start shortly, and once again generously supported by the Government of Flanders. The Global Ocean Observing System in Africa (GOOS-Africa) operates with African Climate Centres and with Remote Sensing Centres in the analysis of Synthetic Aperture Radar data.

Given the strong work being done by IOC in Africa, I agree that it is important for the IOC Secretariat to have African staff members. This point is regularly stressed by African Member States at the Executive Board. African applicants have been pre-selected on many occasions for IOC posts but were finally not retained. We will keep working to enlarge the geographical coverage of IOC Staff, in Africa and the rest of the developing world.

In this context, I note with pleasure that Mr Erlich Desa from India has now assumed the post of new Deputy Executive Secretary of IOC. With Patricio Bernal from Chile as Executive Secretary of IOC, this now means that the top two IOC posts are held by professionals from the developing world, both with extensive experience in building ocean science institutions in their own countries.

I understand that the selection of the next Executive Secretary of IOC, which has been a thorough and lengthy process, was discussed by the IOC Executive Council yesterday and that they have come up with a compromise solution which takes into account the importance of ensuring equitable geographical balance among the candidates while respecting IOC's procedures. I look forward to receiving the Council's proposal.

I feel confident that a strong Executive Secretary will be selected, one who will find the IOC also in a very strong position. Indeed, despite UNESCO's tight budgetary situation, I implemented very early in the biennium the decision of the 34th General Conference to allocate additional funds to the IOC regular budget. This reinforcement of 500,000 US dollars was used to increase IOC's work in the field and to strengthen staff.

The new draft Biennial Programme and Budget (35 C/5), although not final, seeks to preserve and build on these achievements by increasing IOC's budget. Under very stringent financial conditions, IOC is one of the key programme areas that is to be reinforced.

Ladies and Gentlemen,

I would like to take this opportunity to thank the current Chairman of the IOC, Captain Javier Valladares and his team of five Vice-Chairpersons, as well as all past Chairpersons, for their collective leadership of the Commission.

I would also like to publicly thank Patricio Bernal, IOC's Executive Secretary since April 1st 1998, who will retire at the end of this year, for his leadership of this vital aspect of UNESCO's work. Over the past ten years, he has endeavored to maintain a delicate balance between the natural tendency of a body like IOC to assert its functional autonomy and independence, with the fundamental need to make the programme of IOC fully part of UNESCO. I am very grateful to him for his loyal contribution to the Organization.

Mr President,
Ladies and Gentlemen,

To conclude, I would like to say that it has been a pleasure for me to work with the IOC over the past ten years. IOC has been a flagship programme of the Organization during my tenure at UNESCO, and we have accomplished much together. I look forward to hearing about your discussions and to receiving the recommendations of this 25th IOC Assembly, the final one of my mandate.

Thank you very much.

B. Chairman's Statement

By Lic. Javier A. Valladares
Chairman of the Intergovernmental Oceanographic Commission of UNESCO
on the occasion of the 25th Session of the IOC Assembly

16 June 2009

Ladies and Gentlemen,

Distinguished delegates, representatives of organizations, members of our secretariat, representatives of UNESCO, dear colleagues, ladies, gentlemen, friends.

We still have one more year in front of us to our fiftieth anniversary.

I could focus my intervention to this Assembly on the events in which the IOC and myself as your representative have participated, or follow on the actions arising from the 41st Executive Council, but you can read that in the report or follow the pages of our website.

But not making a descriptive intervention does not preclude me from showing thanks for the many attentions received and the time shared with colleagues from Vietnam, Korea, China, Ecuador, Peru, Uruguay, USA, and Indonesia who received me, some of our Vice-Chairs, the Executive Secretary and members of the Secretariat.

Allow me to give a general assessment of the situation we are facing. Allow me to share with you some ideas just like some years ago when I said "We have a problem" and when you entrusted me with the responsibility of identifying it and, if possible, of solving it.

Already for some years now we have realized that the problem was not one but several.

We faced with great energy our projection towards the future, and it was clear that not all of us had a similar vision of what we expected from the IOC. However, there were also areas of a reasonable accord and we united to stay within UNESCO and continue being the governmental forum for the debate of sea sciences.

Inside that generic problem there was the management dilemma generated by multiple requests and mandates delegated to us or assumed without the corresponding budgetary resources.

It is in this point where, I believe, lies one of our biggest difficulties to efficiently answer any management test. We oceanographers constitute a community born embracing an interdisciplinary vision for developing our mission from its origin and grew interdependent by necessity.

We do not have clearly identified focal points, as do our maritime or meteorological counterparts. Let us look around and we will see biologists, physicists, engineers, diplomats, scientists, civilians, military. Ladies and gentlemen, we hardly have two countries maintaining similar models of internal management structures. Oceanography strolls among Ministries of Science, Secretariats of Transport, Navies, specialized agencies, interagency commissions, and obviously mingling the governmental with the non governmental... and to represent all that diversity there is us, the IOC Member States' representatives.

For many Member States we are the only place allowing them to pursue matters related to ocean sciences and they expect from us assistance to have access to new technologies and develop capacities.

But for others – and this is not a criticism, but just reflecting a fact – we are the privileged channel to transmit and impact in the system conformed by the ocean sciences. Those are the ones used to lead the debates on strategic trends.

How to reach equilibrium between both approaches? Perhaps through concrete applications, or simplified procedures to support the operational oceanography, or shared and comprehensible observations. This is one of our current challenges.

To develop a better institutional environment to conduct these activities, and bring the applications of operational oceanography to everybody, is an option to meditate, maybe a Category 1 Institute of UNESCO specialized in services and operational topics of the sea and a political commitment of all Member States to improve operational oceanography management tools, could be two possible mechanisms and first steps to allow all our Member States to perceive the social benefit and access to new development forms and capacities

Our analysis of our "desired future" also made it clear that we do not want to lose or delegate functions. We have, as we mentioned before, a strong call to work in an interdisciplinary way, supplementing capacities, and we live in an international society that needs to give more visibility to the oceans and their possibilities. We should not fall into the trap of easy simplifications that, following a supposed functional pragmatism or economic criteria, dismember developments born from the ocean and going towards society. The IOC together with its nongovernmental partners is the natural stage for the atmosphere, the coasts, the cryosphere and the oceans to find their scientific linkage and, in a coordinated way, efforts must be rationalized and tools and accessible products must be generated for the whole of humanity.

In this sense, a challenge we have before us is without any doubt to rationalize our subsidiary bodies. We need to break the logic perceived by some that these bodies are just meeting production machines, instead of being bodies useful to coordinate actions, reach objectives and achieve more and better products. We have at the moment a wide variety of regional subsidiary bodies with different goals and mandates.

Turning this image into a more friendly, comprehensible and practical form should be another of our objectives to celebrate our 50th anniversary and to optimize our commitment to Africa and the small island developing states.

I am convinced that by lightening the bureaucracy of our vessel we will be able to convince Member States of our efficiency and effectiveness and tempt them to further contribute with more and better applied extra-budgetary funds.

And this should be done amid changes in the crew. The process of the selection of our new Executive Secretary opens the opportunity for some of our Member States to add or modify some of the established selection criteria, which will be another topic to debate during this Assembly.

We have almost two weeks of work and dialogue ahead of us; let us approach it optimistically and enjoy it and let us leave results in our trail. Many look at us in surprise when realizing that even from the limitations and complexities imposed on us by diversity, we can still propose: “one planet, one ocean” as the best way of understanding that integrated science and its applications should be one for the benefit of the whole humanity.

Thank you very much.

C. Tribute to Dr Patricio Bernal, IOC Executive Secretary

**By Professor David Pugh
Past Chairman of the Intergovernmental Oceanographic Commission of UNESCO**

25 June 2009

Thank you Mr Chairman

First let me congratulate you on your almost certain re-election as our Chair for the next two years. This is good for you, good for us, but especially good for me, as it means I will continue as the immediate Past-Chair, also for the next two years.

Some of you may recall that when I stepped down as Chair, two years ago, I said that I was going to the best job in the IOC...free of daily details, but still closely involved in the work of the Commission.

I have no doubt what is the most difficult job in the IOC. No, not yours Mr Chairman, though you may disagree right now. It is of course that of Executive Secretary: all the day-to-day worries and details, all the lobbying of Member States and other interests, and of course always the knowledge that the resources are far short of what is needed to deliver all that we ask of you.

This week from the comfort of the Assembly floor, I listened to many delegations pay you deserved tribute on Tuesday, and to your characteristic response: I have done my duty. I have never regretted taking this job.

What, never? Come on, give me a break. There must have been times...

I also heard the Director-General of UNESCO pay tribute.

I would also like to publicly thank Patricio Bernal, IOC's Executive Secretary since April 1st 1998, for his leadership of this vital aspect of UNESCO's work. Over the past ten years, he has endeavored to maintain a delicate balance between the natural tendency of a body like IOC to assert its functional autonomy and independence, and the fundamental need to make the programme of IOC fully part of UNESCO. I am very grateful to him for his loyal contribution to the Organization.

Some of us might exchange the imperatives, but the message is clear. Patricio has achieved a balance among strong competing pressures within the house.

But to my direct knowledge, his influence has extended way beyond Paris and UNESCO. We have worked together in New York and in the UN System, where his calm, incisive and analytical approach has helped promote the oceans in many wider fora, including the Informal Consultative Process and the launching of the Assessment of Assessments. His long-term chairmanship of UN-Oceans is a tribute to the regard with which he and the IOC are held.

Fortunately, one of the chapters in the book that Geoff and I are editing on your behalf will be written by Patricio, on the issue of ocean science in the UN.

Mr Chairman

Araceli, it is a pleasure to have you with us today. It is sometimes said that behind every great man there is a woman who supports him. This has been better put: in front of every great woman there is a place for a fortunate man to stand. Araceli, we know that that is you.

Please accept our good wishes for the submission of your doctoral thesis which I believe is imminent. Patricio recently said to me that for the past four years he has been living with a student. Araceli, we hope that that is also you.

When, six years ago, you were kind enough to elect me as your Chairman (some would say foolish), I decided to find out what was expected of a Chairman. So I consulted with an acquaintance who was Chairman of a large commercial company in London. He said that a Chairman has two jobs.

Firstly, he must ensure that there are no unexpected surprises which hit the organization. None of us could have foreseen the 2004 Indian Ocean tsunami. I believe the IOC response to that disaster, under your leadership, was one of the highlights of your time as Executive Secretary.

My Chairman colleague went on to say that the second job of a Chairman is to fire the chief executive. Even if that were possible, we would never have wanted to do that.

But I do here want to make an apology to you. I will say this only once. Over the years we have often asked you to do things, build structures which are way beyond the resources which we make available. We ask you to make bricks without straw; and build buildings without bricks. For this I apologize.

But we still dream the dream of what IOC can become.

Patricio, for more than 11 years you have been the pilot of the IOC ship. Thank you for taking us so much farther on the voyage. We are not dropping the pilot; please stay on board; but you will not now be needed to be always on the bridge in the storms.

Personally, it has been an honour to work with you over the past eleven years. It is again a pleasure to acknowledge you as a colleague and, if you will allow, as a good friend.

Patricio, we salute you.

D. GOODS: Argentina's intervention

(item 4.1.3)

En relación con el documento "Global Open Oceans and Deep Seabed (Goods).Biogeographic Classification" (IOC Technical Series N° 84), el Gobierno argentino protesta y rechaza dicha publicación por cuanto contiene cartografía en la que se presenta a la zona económica exclusiva alrededor de las Islas Malvinas como una parte diferenciada del resto de la zona económica exclusiva de la República Argentina, de la que forma parte por ser dicho archipiélago parte integrante del territorio nacional argentino. A través de dicha incorrecta representación cartográfica se pretende atribuir a dicho archipiélago una pretendida e ilegítima soberanía distinta de la soberanía argentina que le corresponde por derecho. Al respecto, el Gobierno argentino recuerda que las Islas Malvinas, Georgias del

Sur y Sandwich del Sur y los espacios marítimos circundantes forman parte integrante del territorio nacional de la República Argentina y que, hallándose ilegítimamente ocupadas por el Reino Unido de Gran Bretaña e Irlanda del Norte, son objeto de una disputa de soberanía entre ambos países, reconocida por la Organización de las Naciones Unidas, entre otras organizaciones internacionales, regionales e interregionales.

En este sentido, se recuerda que la Asamblea General de las Naciones Unidas ha adoptado las resoluciones 2065 (XX), 3160 (XXVIII), 31/49, 37/9, 38/12, 39/6, 40/21, 41/40, 42/19 y 43/25, en las que reconoce la existencia de la disputa de soberanía referida a la "Cuestión de las Islas Malvinas" e insta a los Gobiernos de la República Argentina y del Reino Unido de Gran Bretaña e Irlanda del Norte a que reanuden las negociaciones a fin de encontrar a la mayor brevedad posible una solución pacífica y definitiva de la controversia. Por otra parte, el Comité Especial de Descolonización de las Naciones Unidas también se ha pronunciado reiteradamente en igual sentido, más recientemente a través de la resolución adoptada el 18 de junio de 2009. Asimismo, la Organización de los Estados Americanos ha declarado a la referida disputa de soberanía como una cuestión de interés hemisférico permanente y ha adoptado sucesivas declaraciones sobre la cuestión en igual sentido, más recientemente el 4 de junio de 2009.

Adicionalmente, el Gobierno argentino objeta que en la citada publicación de la COI se incluyan referencias a los citados territorios argentinos, sujetos a la disputa de soberanía referida a la Cuestión de las Islas Malvinas, utilizando únicamente la nomenclatura empleada por la ilegítima potencia ocupante y sin hacer referencia alguna a la existencia de dicha controversia de soberanía (Cf. "Global Open...", pág. 36, donde dice: "Falkland Escarpment").

Por todo lo expuesto, el Gobierno argentino solicita a la COI tener a bien disponer la rectificación correspondiente de la cartografía contenida en el referido documento, la que de hecho supone un prejuizgamiento respecto de la soberanía sobre las Islas Malvinas en detrimento de los legítimos derechos argentinos sobre dicho archipiélago y espacios marítimos circundantes, y que tenga a bien ajustar las referencias a las Islas Malvinas a las disposiciones en materia de doble nomenclatura contenidas en la Directiva Editorial ST/CS/SER.A/42 del 3 de agosto de 1999 de la Secretaría de las Naciones Unidas, incluyendo la nota a pie de página en ella prevista que hace referencia a la existencia de la disputa de soberanía.

Asimismo, el Gobierno argentino expresa su rechazo en lo que respecta a la pretensión de aplicar al contexto del Atlántico Sudoccidental las numerosas referencias contenidas en el citado documento a la existencia de zonas económicas exclusivas nacionales, al establecimiento de medidas de gobernanza y administración de los recursos oceánicos y a la creación de organizaciones regionales de ordenamiento pesquero.

Al respecto, el Gobierno argentino considera ilegal y rechaza toda actividad pesquera y relacionada llevada a cabo en los espacios marítimos y lecho marino circundantes a las Islas Malvinas, Georgias del Sur y Sandwich del Sur bajo pretendidas licencias emitidas por el ilegítimo Gobierno británico en dichos archipiélagos, actividades que, por otra parte, por su naturaleza ilegal y contraria al derecho internacional, contribuyen a la depredación de los recursos marinos en dichos espacios marítimos argentinos.

Igualmente, el Gobierno argentino reitera que, en razón de la ilegítima ocupación británica de los referidos archipiélagos y espacios marítimos circundantes y la renuencia del británico a reanudar las negociaciones a fin de encontrar una solución pacífica y definitiva de la disputa de soberanía conforme lo dispuesto por las resoluciones pertinentes de las Naciones Unidas, la República Argentina no cooperará con el Reino Unido en materia de administración de los recursos del Atlántico Sudoccidental y continuará rechazando todo pretendido acto de jurisdicción británico en el área de la disputa de soberanía.

E. Déclaration de l'Ambassadeur, délégué permanent du Portugal auprès de l'UNESCO
Son Excellence Professeur Manuel Maria Carrilho

(item 3.2)

Le Portugal suit avec beaucoup d'attention les questions océanographiques et a été à l'origine de la désignation par les Nations unies de l'Année internationale de l'océan en 1998. La contribution du Portugal aux activités de la Commission océanographique intergouvernementale de l'UNESCO a pris bien des formes depuis sa création.

Il y a environ dix ans alors que le Portugal accueillait l'Exposition universelle (EXPO'98) placée sous le thème des océans, mon pays avait offert d'accueillir le secrétariat de la COI à Lisbonne en témoignage de son soutien à la Commission. A l'époque le Directeur général de l'UNESCO avait publiquement accepté cette offre sans que le projet ne soit jamais réalisé pour des motifs divers. Néanmoins l'idée était lancée.

Plus récemment nous avons appris de manière informelle que le Secrétariat de la COI avait entrepris une consultation avec certains Etats membres, dont le Portugal ne faisait pas partie, en vue d'une possible délocalisation du Secrétariat de la Commission dans ces pays.

Eu égard à l'intérêt manifesté par mon pays par le passé, et après avoir demandé des informations au Secrétariat et consulté différents partenaires au niveau national depuis le début de l'année, je suis en mesure d'exprimer officiellement ici, au nom de mon gouvernement, l'intérêt du Portugal d'accueillir le Secrétariat de la COI. Cette offre s'accompagne d'une contribution extrabudgétaire annuelle substantielle pour le renforcement du programme, venant s'ajouter à une contribution en nature. Cette proposition s'inscrit par ailleurs comme une contribution nationale du Portugal au 50^e anniversaire de la COI.

Le Gouvernement portugais témoigne par cette proposition de sa reconnaissance du rôle crucial joué par la COI et de son désir de lui apporter son soutien. Cette proposition peut donner à la COI une impulsion forte au moment où celle-ci réfléchit à son futur et à une affirmation renforcé de sa place sur la scène mondiale. Enfin, cette proposition s'inscrit parfaitement dans le processus de décentralisation mis en route par le Directeur général actuel, M. Matsuura.

Je tiens toutefois à rappeler les propos exprimés par le Chef de la délégation du Portugal hier lors de la réunion du Conseil exécutif en faveur d'un débat ouvert, participatif et équitable sur cette question. Nous considérons que le consensus doit prévaloir dans l'intérêt de la communauté mondiale.

ANNEX IV

LECTURES

A. THE A. BRUUN MEMORIAL LECTURE, 2009

Thermodynamics and Equation of State of Seawater
(16 June 2009)

Trevor J. McDougall

CSIRO Fellow, CSIRO Marine and Atmospheric Research, Hobart, Australia

Trevor J McDougall is a CSIRO Fellow in the Marine and Atmospheric Research division of CSIRO (the Commonwealth Scientific and Industrial Research Organization of Australia). He studied mechanical engineering at the University of Adelaide, followed by a Ph.D. at the University of Cambridge, UK.

Dr McDougall's research is concentrated on fundamental issues in the field of ocean thermodynamics and ocean mixing and particularly how the known conservation equations should be properly averaged and included in ocean models. As other aspects of ocean models have improved over the past twenty years, mixing and its representation has become more important for modelling the ocean's role in climate change. His recent work has been concerned with the accurate description of the "heat content" and other thermodynamic properties of seawater so that the ocean's role in climate can be more accurately described in coupled climate models.

Abstract

The horizontal variations of density in the ocean are central to estimating the ocean's circulation and hence the role of the ocean in climate. Oceanographers measure temperature and the conductivity of seawater and use algorithms derived from the equation of state to calculate density and other thermodynamic properties. The existing UNESCO equation of state (EOS-80) has served the community well for thirty years. This equation of state is based on the Practical Salinity Scale of 1980. In 2005 SCOR and IAPSO established Working Group 127 on the "Thermodynamics and Equation of State of Seawater" (henceforth referred to as WG127). This Working Group has devised a new thermodynamic description of seawater, called TEOS-10 (Thermodynamic Equation of Seawater – 2010) which is based on a Gibbs function from which all the thermodynamic properties of seawater can be calculated.

A notable difference from present practice that is being recommended by WG127 is the adoption of Absolute Salinity to be used in journals to describe the salinity of seawater and to be used as the salinity argument to algorithms that give the various thermodynamic properties of seawater. This recommendation deviates from the current practice of working with Practical Salinity and typically treating it as the best estimate of Absolute Salinity. Note however that WG127 strongly recommends that the salinity that is reported to national oceanographic data centres remain Practical Salinity as determined on the Practical Salinity Scale of 1978 (suitably updated to ITS-90 temperatures).

The prominent advantages of the new seawater description TEOS-10 are:

- The availability of internal energy, entropy, enthalpy, potential enthalpy and the chemical potentials of seawater. These quantities were not available from EOS-80 but

are central to a proper accounting in the ocean of the heat that is transferred between the ocean, the ice cover and the atmosphere above.

- For the first time the influence of the spatially varying composition of seawater can systematically be taken into account through the use of Absolute Salinity. In the open ocean, this has a non-trivial effect on the horizontal density gradient computed from the equation of state (and thereby on the so-called “thermal wind” relation).

This lecture will also describe some mixing and advection processes that arise because of the nonlinear nature of the equation of state of seawater. One of these nonlinearities is called the thermobaric effect which is due to the sound speed being a function of temperature. Because of this thermobaric effect it is quite difficult to describe accurately what we mean by a “surface of constant density” in the ocean. This same nonlinearity in the equation of state can cause numerical instabilities in numerical ocean models.

B. THE N.K. PANIKKAR MEMORIAL LECTURE, 2009

Research: an Effective Tool in Capacity-development
(18 June 2009)

Dr Venu Ittekkot

Director at the Leibniz Centre for Tropical Marine Ecology, Bremen, Germany

Venu Ittekkot is Director at the Leibniz Centre for Tropical Marine Ecology, Bremen, Germany, which conducts bilateral marine research and capacity-building programmes with countries in tropical South America, southwestern Africa and Southeast Asia. He holds a Ph.D. in Geochemistry from Hamburg University and a D.Sc. in Biogeochemistry. Between 1992 and 2000 he was Professor of Biogeochemistry and the head of the Institute of Biogeochemistry & Marine Chemistry at Hamburg University. Ittekkot's research has focused on the coastal and oceanic fluxes and cycling of organic matter and nutrients. He has participated in and/or led several bilateral and multilateral research expeditions to various marine regions in Europe, South America and Asia. Ittekkot has contributed to the work of international organizations and scientific committees, including ICSU/SCOPE, IPCC (Second and Third Assessment Reports), as well as to the capacity-building activities of UNESCO/IOC and ICSU/SCOR.

Abstract

Several major national and international efforts at organizational and programme levels have been successfully contributing to building capacity and infrastructure for the study and for the multiple uses of the oceans and coasts. Foci of these efforts vary according to the requirements of the sponsoring organizations and programmes. This presentation will address the role of research in capacity-building based on examples and experiences gained in partnership projects with universities and research institutions around the world and in projects sponsored by regional and international organizations. The successful efforts in capacity-building have been characterized by exciting research projects and opportunities, visionary scientists championing, lobbying for such projects and taking advantage of the opportunities offered by them as well as by strong long-term commitments from governments. The experience gained from these projects will be discussed within the context of the increasing awareness of the oceans and of forming new partnerships and alliances to further capacity-building for oceans as more and more nations initiate new efforts to study and sustainably use the oceans.

ANNEX V

CONTRIBUTIONS OF MEMBER STATES, IOC PROGRAMMES AND PARTNERS TO THE 50TH ANNIVERSARY OF THE INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (IOC)

MEMBER STATES

ARGENTINA: In April 2010, a regional event will be organized to commemorate the nation's bicentennial and the 50th anniversary of the IOC. In the Agenda of the event, a scientific workshop will be held on ocean issues jointly with the IEEE's Ocean Engineering Charter, OCEANTLAN and ISABP, as well as other partners interested in ocean science and marine technology. During 2009–2011, research cruises will be organized under the flag of the 50th IOC anniversary.

AUSTRALIA: An oceanographic conference took place in Sydney, 24–27 May 2009. The emphasis is to involve more children in coastal area protection and raise their interest in marine-related issues.

BELGIUM: During the Belgium EU Presidency, a scientific conference will be organized dedicated to the 50th IOC anniversary. There will be a special module on IOC developed in the web-based interactive education training tool "Planet Sea" and a series of articles will be published on the IOC and the IOC Project Office for IODE in the UNESCO-INFO journal. Training activities will be organized dedicated to the 50th anniversary, and the research vessels "Belgica" and "Zeeleeuw" will implement cruises under the 50th anniversary flag.

BRAZIL: An itinerant exhibition is planned to be organized on board the training ship "Brazil", during port calls around the world. In May 2010, a special session on IOC programmes will be organized in conjunction with the Brazilian Oceanographic Congress to be held in Rio Grande. At least one research cruise in the South Atlantic under the anniversary flag will be organized to raise awareness of the IOC and its activities.

BULGARIA: In November 2009, a conference on marine education, training and science will be organized in Varna under the auspices of the National Institute of Oceanology. The following promotional efforts are planned to be organized in 2010–2011: a special issue of the bulletin of the National Oceanographic Commission dedicated to the 50th anniversary (March 2010); a catalogue of the projects implemented in the Black Sea with the financial support of the European Commission; poster exhibitions dedicated to the IOC in the Bulgarian Academy of Sciences and the Ministry of Foreign Affairs. In 2010 a research cruise will be implemented on board RV "Akademik" dedicated to the 50th anniversary. A commemorative stamp dedicated to the anniversary will be issued in 2010.

CANADA: In 2010 the Annual Congress of the Canadian Meteorological and Oceanographic Society will organize a special session on the history of marine science and the role of the IOC. One scientific cruise in each of the three Canadian ocean areas will be designated as IOC 50th anniversary cruises. 50,000 USD will be provided to the IOC Headquarters to implement activities relevant to the 50th anniversary.

CHILE: plans exist to publish numerous promotional materials which will contain information about the IOC and its activities, and to distribute them widely within the country. A research cruise will be implemented to study El Niño phenomena, with the participation of scientists from the south-eastern Pacific region. The cruise will be used to promote IOC activities in the region.

CHINA: An international high-level forum on ocean issues will be organized in 2010, as well as 1–2 international training courses on ocean dynamics and climate. The courses will be hosted by the First Institute of Oceanography of the SOA. As part of the WESTPAC programme “Responses of Marine Hazards to Climate Change in the Western Pacific”, a regional cruise will be organized on board a Chinese research vessel under the flag of the 50th anniversary. An annual contribution of 10,000 USD will be made to the IOC Headquarters in support of the anniversary activities during the period 2009–2011.

COLOMBIA: Planning to have an international maritime fair in Cartagena during May 2010, where the IOC is welcomed to have its own exposition. The IOC lecturers will be invited to give presentations at the scientific conference which will be held co-jointly with the fair. To promote the IOC, the next research cruise to study El Niño in the CPPS region will be implemented under the flag of the 50th anniversary. Member States of CPPS are invited to join the cruise and host the IOC flag on their vessels.

CÔTE D’IVOIRE: Open-door days are planned in the oceanographic centre at which poster sessions will be organized and presentations given to emphasize that oceans are part and parcel of the country's life. A training course on mathematical modelling of oceanographic processes will be implemented for African countries, in which 16 countries plan to participate.

CUBA: The organization of the 13th Latin American Congress on Marine Sciences and the 8th Cuban Congress on Marine Sciences, to be held in the International Conference Centre in Havana, 26–30 October 2009. A special session dedicated to the 50th anniversary of the IOC will be held in conjunction with these events. It is planned to have associated poster expositions on 50 years of marine sciences in Cuba and on the 50th anniversary of the IOC. A Children's Fair on Marine Sciences will be organized in April 2010, with a special programme dedicated to the IOC.

ECUADOR: Jointly with CPPS, an international seminar on the study of climate change will be implemented in 26–28 August 2009, at which the contribution of the IOC to the climate studies will be presented. In July 2010 in Guayaquil, a workshop on oceanographic research will be organized with the presentation of posters describing IOC activities. In August 2009, a national seminar will be organized to develop a national plan for oceanographic research for the years to come, in which a national contribution to the anniversary will be further explored. In September 2009, the country will implement an oceanographic cruise under the IOC anniversary flag along the section Guayaquil–Galapagos. It is envisaged that all oceanographic cruises in March–April 2010 and in September 2010 will bear the anniversary flag. INOCAR will publish short information briefs on the IOC and its activities which will be distributed among the students and the visitors to the Institute and Planetarium. There is a plan to have a special issue on the Oceans for Ocean Day, 8 June 2010, in which IOC activities will be highlighted.

EGYPT: A workshop on the role of the IOC in the development of oceanography and marine ecology in Egypt and the Arab world will be held in Alexandria 17–20 November 2009 in conjunction with the NIOF international conference.

FRANCE: An award for young scientists has been created in memory of Christian Le Provost, a world known oceanographer who contributed to the knowledge of tides, sea-level change and ocean dynamics.

GERMANY: An exhibition “Future Ocean” is planned for 2010 by the Ocean Future Cluster of Excellence (the Cluster comprises a number of high-level ocean research centres). The exhibition will start in April 2010 in the Deutsches Museum's Masterpieces of Science and Technology, in Munich. During the exhibition, one day (preferably 8 June 2010) will be dedicated to the 50th anniversary of the IOC.

GREECE: Expression of a strong interest in participating in the commemorative events through the organization of summer schools on climate variability, exhibitions on marine science and technology, and scientific meetings at which special lectures will be dedicated to the IOC and its activities. Exchange visits of students to research centres, marine protection centres and aquariums will be organized with the objective to promote widely the role of the IOC in marine research, monitoring and protection.

HAITI: Several conferences and workshops are planned to be organized, with the support of the IOC, dedicated to the 50th anniversary of the IOC. Establishment of a national hydrographic centre is being considered.

INDIA: Cruises on board the ORV *Sagar Kanya* and the Technology Demonstration Vessel *Sagar Nidhi* implemented within the Continental Convergence Zone (CTCZ) programme, dedicated to the IOC 50th anniversary. They will be implemented from 14 July 2009 to 18 August 2009. Also as a contribution to the anniversary, a marine natural hazards dedicated regional centre will be established in the country.

INDONESIA: During 2009–2011, it is planned to organize a wide campaign on the role and place of the IOC in ocean studies, monitoring and protection in the universities and research institutes. The campaign will include a wide involvement of mass media by introducing media briefs and publishing articles. In November 2009, in conjunction with the annual meeting of the Indonesian Association of Oceanographers, there will be a special meeting organized by the National Oceanographic Committee to promote the 50th anniversary of the IOC. The 8th session of the IOC Sub-Commission for the Western Pacific will be hosted in 2010 in Bali where the contribution of the region to the 50th anniversary will be reviewed. There are plans to conduct, in 2010–2011, other international and national workshops to promote the implementation of the Manado Declaration. For 2010, research cruises are planned under the IOC 50th anniversary flag.

IRAN (Islamic Republic of): On 10 August 2009, there will be an official celebration of the 50th anniversary of the IOC organized by the National Committee for Oceanography. A research cruise will be organized in the Persian Gulf under the IOC flag.

ITALY: A Conference on the Role of Oceans will be organized in Rome in late spring of 2010 by the Italian Oceanographic Commission. A poster, bearing the 50th anniversary logo, on the activities of the Italian Oceanographic Commission will be developed and displayed at OceanObs '09. There is a plan to dedicate the 2nd Meeting of the Italian Working Group on Operational Oceanography to the anniversary of the IOC (date and place to be identified).

JAPAN: International symposium to celebrate IOC achievements in the area of marine science and services under the title “IOC Programmes: Past, Present and Future” will be held in Yasuda Auditorium, University of Tokyo, 29–30 October 2010. An International Symposium on the “Role of the Indian and Pacific Oceans in Climate Change and Variability” will be organized in the United Nations University, Tokyo, 29–30 October 2010. During the period spring–fall 2010, a series of international training workshops will be organized for participants from the WESTPAC region. From January to December 2010, research cruises will be implemented under the IOC anniversary flag.

KUWAIT: With the help of the national commissions relevant to the anniversary, UNESCO associated schools and public society, the country plans to increase awareness of the importance of the marine-related issues, as well as of the role and place of the IOC. Efforts will be made to attract private sector, e.g. oil companies working at the sea, in the promotion and reinforcement of IOC activities.

MADAGASCAR: The focus of the country's contribution to the anniversary will be on awareness-raising among people, teachers, students, and particularly the government and

decision-makers, on the important role of the ocean for the human life and on the place and role of the IOC. There will be “porte ouverte” days at the Marine Science and Halieutic Institute of the University of Toliara, and exhibitions, as well as seminars, conferences and workshops will be organized. It is expected that the National Centre for Oceanographic Research will become operational again.

MAURITIUS: The National Institute of Oceanography celebrated World Ocean Day on 8 June 2009 by organizing a national Ocean Science Forum, and all the major weeklies carried the advert with the IOC 50th anniversary logo on the banner. There is a plan to have, as from January 2010, a permanent exhibition set up at the national Rajiv Gandhi Science Centre. In addition to local and regional issues, the display will clearly demonstrate the contribution of the IOC of UNESCO in the coordination of oceanographic matters. The exhibition will be accompanied by presentations made by scientists for the benefit of secondary school students.

MEXICO: All national institutions involved in marine research, monitoring and capacity-development will be invited to organize activities dedicated to the 50th anniversary. An annual National Congress on Marine Science and Technology and other relevant national meetings will be organized and dedicated to the anniversary. There will be lectures delivered on the history of the Commission and its activities, emphasizing the important role the IOC plays in ocean research. Special activities, including contents for schoolchildren, are planned in relevant educational institutions to present UNESCO and, particularly, IOC activities in the area of education and training in marine sciences. It is planned to publish brochures about IOC activities that will be widely distributed among governmental and non-governmental institutions in the country dealing with marine related issues. The posters on the IOC activities with the anniversary logo presented during the 25th Session of the Assembly will be translated into Spanish and demonstrated at the institutions dealing with marine issues. An exhibition will be organized in Mexico City and other cities in the country on the health and sustainability of the ocean, as well as on other critical issues, with emphasis on the problems of Mexico's coastal seas. All research and training cruises planned for the anniversary years will be implemented under the IOC anniversary flag. A web page dedicated to the 50th anniversary will be developed. The celebration of the 50th anniversary of the IOC will, in 2010, coincide with the 100th anniversary of the Mexican Revolution and the 200th anniversary of the independence of Mexico.

REPUBLIC OF KOREA: EXPO 2012 is being organized under the theme “The Living Ocean and Coast”. It was announced that, if the 2011 Global Oceans Forum is organized in the country, the government will be ready to support the event by providing 40,000 USD. Two international meetings are being planned to be implemented in conjunction with EXPO: the 2nd International Symposium on the “Effects of Climate Change on the World's Oceans” and the JCOMM-IV meeting. Organizers of the EXPO are ready to provide space for the IOC Pavilion to be operational during the entire period of the exhibition.

RUSSIAN FEDERATION: An international conference on “50 Years of Education and Awareness-Raising for Shaping the Future of the Oceans and Coasts” will be held in the Russian Hydrometeorological University, St.Petersburg 27–30 April 2010.

SPAIN: To commemorate the 50th anniversary of the IOC and the 200th anniversary of the first Spanish oceanographic expedition, the project Malaspina will be implemented on board RV “Hesperides” to explore the conditions of all oceans. The expedition will start in March or June 2010 and will provide an opportunity to promote IOC activities on a global scale. There will be also a transatlantic cruise (Canaries-Florida, along latitude 24°N) on board the research vessel “Sarmiento de Gamboa”, 5 December 2010–22 January 2011, under the anniversary flag. There is a proposal to include a presentation on the history of the IOC in the agenda of the European Maritime Day to be held in Gijón, Spain, 20 May 2010.

SRI LANKA: A ministerial committee has been set up for the celebration of the anniversary. Much attention will be given to having schoolchildren involved in the process, including a wide use of electronic media.

SWEDEN: An IOC anniversary flag will be hosted on RV “Argos” which implements monthly cruises in the Baltic, Kattegat and Skagerrak to monitor marine environment. The observations are being performed by the Swedish Meteorological and Hydrological Institute.

THAILAND: Plans to hold a National Marine Science Conference in 2010 have been developed. The conference will include scientific oral and poster presentations. National and international experts will be invited to give talks on ocean science, management, and ocean governance and marine policy. A scientific exhibition will be developed with the participation of the university, oil companies, research institutes, private sector and NGOs. One of the objectives of these events will be to promote the IOC activities and make UNESCO/IOC more visible to scientific community and public at large in the country. In April 2010 an oceanographic cruise will be implemented in the Andaman Sea with the support of the Thai and Chinese governments as a part of the IOC/WESTPAC project “Monsoon onset monitoring”. The cruise will be under the IOC anniversary flag.

TOGO: The government is interested in supporting research and technology development targeted on research and exploitation of the ocean and coastal areas. It is planned to modify, and make more effective, teaching methods in secondary schools and colleges, as well as increase knowledge in marine issues of school teachers who lack necessary knowledge, experience and methodological materials. The Ministry of High Education and Research, jointly with the Working Committee on Hydrography, Oceanography and Security of Navigation at Sea, will organize under the auspices of the Centre on Integrated Management of the Coastal Zone and Environment, of the University of Lome, and the Togo National Oceanographic Data Centre, a high-level national interactive panel on science and technology supported by a poster session presenting regional and international programmes of interest to the country, the activities of hydrographic and oceanographic services, and the results of scientific research. The above-mentioned initiatives will be widely covered by mass media in order to make the public aware of, and have the Government engaged in implementing, the following actions: (i) creation of the national committee of the sea; (ii) reinforcement of capacities and facilities dealing with operational oceanography; (iii) reinforcement of data and information management services; (iv) institutionalization of maritime development.

TURKEY: In May 2009, the Office of Navigation, Hydrography and Oceanography celebrated its 100th anniversary. Among the related events, a symposium under the title “History, Current Status and Future of the Turkish Marine Cartography and Marine Research Activities” was organized in 11–12 May 2009, followed by an exhibition on the history of marine cartography and marine research activities, in Istanbul at the Turkish Naval Museum 13 May–13 June. More than 10,000 visitors attended the exhibition. There was a special stamp issued to commemorate this event, as well as various souvenirs with the 100th anniversary logo. In commemorating the 50th anniversary of the IOC, the country will follow the experience gained.

UKRAINE: An international conference is planned for the third quarter of 2010 on “Functioning and Evolution of Ecological Systems of the Azov-Black Sea Basin in the Time of Global Climate Change and Regional Anthropogenic Influences”. In the second quarter of 2010 in Kiev, there will be a special session of the Presidium of the National Academy of Sciences dedicated to the 50th anniversary of the IOC and the history of oceanographic research in the Ukraine. A research expedition on board the RV “Professor Vodjanitski” to implement an integrated study of the resources capacity of the Black Sea basin, state and quality of the Black Sea waters will be carried out in 2010 under the IOC anniversary flag. Promotional efforts will be focused on the publication in the second quarter of 2010 of a popular brochure dedicated to the IOC and to the participation of Ukrainian scientists in the

IOC programmes, as well as on the organization of a series of mass-media interventions under the theme “Integration of ocean sciences – experience and future of international cooperation”, in the second–fourth quarters of 2010.

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND: Two types of flag bearing the 50th anniversary logo have been provided to the IOC Secretariat as a contribution to the anniversary: table flags, one for each Member State, and some large flags for use on ships conducting approved 50th anniversary research cruises. The UK is itself planning to carry out a commemorative cruise during June 2010. Help with the preparation of the IOC History Book has been given by providing one of the co-editors and some archive photographs. Consideration is being given to identifying several marine science meetings organized in the country as contributions to the anniversary, including the 14th Biennial Challenger Conference for Marine Science, 6–9 September, and the 3rd International Ocean Stewardship Forum in June.

UNITED STATES OF AMERICA: The Anniversary’s fundamental purpose should be public awareness of the role of the oceans in society and its role in the regulation of planetary processes. The IOC’s efforts to celebrate the first 50 years should: target in particular both policy and business leaders; increased participation in and support by Member States of the IOC programmes; new partnerships with the public and private sector to enhance delivery of products and services; and enhanced IOC visibility in the UN system, and in particular at UNESCO. The National Committee for the IOC has proposed a special session to the American Association for the Advancement of Science (AAAS) on “Government, Science and Society: 50 Years of Progress through UNESCO and IOC”, to be held in San Diego, Calif., at the AAAS’ annual meeting. The National Committee is also exploring resources for sponsorship of a special issue of *Oceanography* magazine – the publication of the Oceanography Society – dedicated to the IOC. This publication will be widely circulated at meetings of professional societies throughout the year. Support is being explored for a contribution to the IOC Young Professional Travelling Fellowship as well as to other events. It is also proposed to include in the suite of activities in support of the IOC anniversary, a special GEOSS in the American session focused on the GEO Coastal Zone Community of Practice. The session will be held in Washington DC in November 2009 as part of the series of meetings and events coordinated with the GEO VI Plenary. This event will be an excellent opportunity for the IOC and GOOS to build visibility within the GEO community.

VENEZUELA (Bolivarian Republic of): As a part of the IOCARIBE programme activities and in agreement with CPPS, a 20-day research cruise under the IOC anniversary flag will be organized in the eastern Caribbean, with the participation of experts from four countries of the region. The results of the expedition will be published in scientific magazines and well covered by mass-media including television.

VIET NAM: A brochure will be prepared presenting the history of cooperation between the country and IOC, which will help to increase awareness among decision-makers and the general public of the IOC and its activities. The brochure will include three parts: (i) IOC activities in Vietnam during 50 years; (ii) role of the IOC in the development of the country; (iii) perspectives for the future: development of regional and international cooperation through IOC and Vietnam. The brochure is planned to be published in Vietnamese and English by June 2010.

CONTRIBUTIONS FROM THE IOC PROGRAMMES AND PARTNERS

IODE: An international conference to commemorate 50 years of the establishment of the IOC/IODE Programme, 2011.

UNEP and the **Ocean Forum** Secretariat: Fifth Global Conference on Oceans, Coasts and Islands. Advancing Integrated Ocean Governance at National, Regional and Global Levels, 3–7 May 2010,

UNESCO, Paris, with the support of the Ocean Science Section of the IOC and the contribution of the U.S. Government in the planning of the Conference.

PICES (jointly with the Ocean Science Section of the IOC): International conference on “Climate Effects on Fish and Fisheries: Forecasting Impacts, Assessing Ecosystem Responses, and Evaluating Management Strategies”, 26–29 April 2010, Sendai, Japan

WESTPAC: In order to better coordinate and further enhance the visibility of the IOC and celebration activities for 2010–2011, the WESTPAC Secretariat is taking appropriate steps to widely disseminate the information and facilitate the implementation of those activities. The template for the activities in the WESTPAC region in commemoration of the 50th anniversary of the IOC was developed and distributed to the Member States of the region.

EUROGOOS: It is planned to dedicate part of the EUROGOOS Conference planned for 2010 to the IOC jubilee with the aim of discussing the increasing needs for future operational oceanographic observations and services as a prerequisite to sustainable maritime development.

IMarEST: Development of a commemorative issue of the *Marine Scientist* magazine and liaison with Reed Exhibitions to badge Oceanology International 2010 with the 50th anniversary logo. The Organization will consider the possibility of promoting one of the annual IMarEST awards or scholarships as an award to celebrate the IOC 50th anniversary.

ANNEX VI

RATIONALE FOR ESTABLISHING THE MINISTERIAL ROUND TABLE ON OCEAN GOVERNANCE

(Abstract from Document 181 EX/32, Part II Add.)

Building stewardship for the ocean: the contribution of UNESCO to responsible ocean governance

Rationale

The ocean is the ultimate global commons. The ocean, and in particular the high seas, is a unique international space where the International Community and the United Nations bear special responsibilities under the authority of the General Assembly and in particular within the framework of the United Nations Convention on the Law of the Sea (UNCLOS).

There are alarming signs for the ocean. Fishing is in a critical condition in many regions of the world, special natural habitats are being altered in an irreversible way, the current rate of biodiversity loss is not being abated, and piracy and other types of organized crime, like the illegal shipping of drugs, arms and people, are increasing.

Despite the fact that UNCLOS provides a wide and integrated legal framework on which to operate and build sound and effective regulations to the different uses of the ocean, severe limitations do exist, especially in the monitoring and enforcement of those regulations. Regardless of 20 years of efforts to improve ocean governance, too many users, industries and governments, are silently comfortable with the status quo. The final political accountability of authorities existing on land, where citizens live and where their everyday life will eventually be directly affected by failing regulations, does not exist in the oceans. The big expanses of the ocean are difficult to survey, monitor and to enforce existing law and regulations. Big efforts through the concerted action of several nations are needed, as in the current piracy threat off the Horn of Africa.

These limitations have to be seen in the context of a fundamental weakness of national and international institutions, still too compartmentalized on a sector by sector division of duties and responsibilities, leaving little room for integrated policy-making addressing cross-cutting issues, or simply too weak or non-existing in some developing and least developed countries.

UNESCO, through its IOC and formerly through its Division of Marine Sciences, has been at the centre of all the efforts to build stewardship through science and provide governance for oceans during the last 50 years. In 1960 following a recommendation of the First Intergovernmental Conference on Oceanographic Research, the UNESCO General Conference created the Intergovernmental Oceanographic Commission, IOC, as a body with functional autonomy within the Organization. It is fair to say that today the IOC with its 137 member states and its own Assembly, is the only United Nations body that through science holds a wide enough mandate to be an effective promoter within the United Nations system of a cross-cutting approach to the main issues affecting oceans.

Conscious of these developments and in an effort to improve the overall governance of the Ocean, in 2002 the Summit on Sustainable Development in Johannesburg agreed to “establish by 2004 a regular process under the United Nations for global reporting and assessment of the state of the marine environment, including socio-economic aspects, both current and foreseeable, building on existing regional assessments (Johannesburg Plan of Implementation)”.

Despite the fact that the deadline of 2004 has long passed, the initiative to establish under the United Nations General Assembly a process to conduct regularly Integrated Assessments for the Ocean, is a major commitment that the world community must undertake. Keeping the marine environment under permanent review and drawing upon the best scientific evidence available, the Regular Process will contribute to the sustainability of the oceans seas: integrated assessments, by looking at the interaction of different sectors under a common conceptual framework including socio-economic factors, will generate policy advice of a higher level, filling information and knowledge gaps required for the sustainable use of the ultimate Global Commons: the Ocean.

This Ministerial Round Table attempts to focus the attention on this new effort by the United Nations towards responsible ocean governance and to rally the support of UNESCO's Member States, many of them with a high level of engagement in UNESCO's programmes related to oceans.

ANNEX VII

REVISED¹ TERMS OF REFERENCE OF IOC INTERSESSIONAL FINANCIAL ADVISORY GROUP

Purpose

To provide advice from IOC Member States to the Chairperson of IOC and to the Assembly and the Executive Council in a transparent and objective fashion on:

- (a) The affordability, sustainability and implementation of the results-based management;
- (b) Financial matters of the Commission;

Term

The Financial Advisory Group will be constituted at each Session of the IOC Governing Body and operate for the following intersessional period.

Functions

- (a) To advise on the adequacy of the linkage between the results-based management and the IOC Biennial Strategy;
- (b) To advise on preliminary proposals from the Director-General of UNESCO for strategy and draft budgets provided by UNESCO;
- (c) To advise on the adequacy of regular and extrabudgetary resource allocations against expected results; and
- (d) To advise on the overall IOC budget level, taking into account issues of affordability and sustainability.

Composition

- (a) An Officer of the Commission serves as chairperson;
- (b) Open to all IOC Member States; however, the Executive Council and Assembly, as appropriate, may request the participation of Member States as part of the core membership.

Working arrangements

- (a) The Financial Advisory Group will conduct the majority of its business by electronic means;
- (b) If appropriate, the Chairperson may convene a meeting in time, and for a long enough period, to prepare a report prior to the commencement of a session of the Assembly or the Executive Council;
- (c) The Financial Advisory Group will provide a report on all its activities to subsequent sessions of the Assembly and Executive Council, as appropriate;

¹ Supersedes the Terms of Reference adopted by the Executive Council at its 41st Session in accordance with paragraph 510 of this report.

- (d) Relevant documents should be made available before the Financial Advisory Group meeting, in due time; and

The Financial Advisory Group should follow procedures for IOC Subsidiary Bodies, seeking to formulate its conclusions and recommendations through consensus.

ANNEX VIII

REPORT OF THE CHAIRMAN OF THE RESOLUTIONS COMMITTEE

Peter M. Haugan (Norway)

The Resolutions Committee met several times during the Assembly to review Draft Resolutions (DRs). The time schedule of the Assembly is challenging and commands flexibility, in particular for the work of the Resolutions Committee. I would like to thank the many delegates who contributed their time to the work of the committee. Their expertise, skills and dedication is much appreciated. I would also like to thank Mr Julian Barbière and other members of the IOC Secretariat for assisting with amendments, providing documentation and final preparation of the DRs for translation.

The IOC Rules of Procedure IOC/INF-1166 Rule 42 dealing with draft resolutions is under revision. The document IOC/INF-734 rev. entitled Draft Resolutions Submitted to Session of the Assembly or Executive Council, constituting Section 9.1 in the IOC Manual, IOC/INF-785, and the document IOC/EC-XLI/2 Annex 11 entitled Second Draft Revised Guidelines for the Preparation and Consideration of Draft Resolutions were brought to the attention of the Resolutions Committee. In contrast to the Rules of Procedure which are binding, the two latter documents have been considered by the Resolutions Committee not as binding, but in an experimental fashion awaiting a consolidated set of guidelines for future use.

In this connection I would like to mention as an example the section in the draft guidelines which specifies that resolutions should be submitted either by at least five IOC Member States representing at least three electoral groups, by the Executive Secretary, or by the Chairperson of the Commission. For the resolution relating to agenda item 6.2 Expansion of Quota of Seats of Group II on the IOC Executive Council, which was submitted jointly by the affected Electoral Groups I and II, as well as for other resolutions affecting primarily only one or two electoral groups, and possibly in general, it seems appropriate to relax the condition in the draft guidelines of the need to have at least three electoral groups represented among the submitting Member States.

Another issue to consider is how to best involve expertise in the secretariat and elsewhere as required in the preparatory process of DRs. More efficient sessions of the governing body might be achieved when DRs are made available before the start of the session of the IOC Governing Body, e.g. in the action paper. It is recognized that in some cases, expected and formulated DRs will be withdrawn following the discussion in plenary. For DRs which originate from Member States during the session of the IOC Governing Body, it is helpful with secretariat assistance in an early stage of the drafting process including help with language for Member States which do not fully master the working language. If format and structure of DRs close to established conventions can be achieved already at the time of submission, the Resolutions Committee can concentrate more on proper wording and clarity in the text of each resolution.

It is recommended that the IOC Secretariat initiate a revision of the guidelines for experimental application in the next Executive Council. Experience from the work of the Resolutions Committee in recent sessions may be useful and should be made available in this revision. With input from Member States at the next Executive Council, a revision of rule 42 can thereafter be done by appropriate decision in the next Assembly.

I would like to thank all Member States which have taken part in preparing and submitting DRs for their hard and good work. We have had great benefit from the presence of drafters of each DR in our meetings to ensure that suggested editorial changes do not alter substantive content.

Finally, Mr Chair, during the adoption of DRs I would be pleased to answer any question that may arise concerning the processing and changes proposed by the Resolutions Committee.

ANNEX IX

RESULTS OF ELECTIONS AND LIST OF IOC MEMBER STATES

I. Officers

Position	Name	Electoral Group
Chairperson	Lic. Javier A. Valladares (Argentina)	III
Vice-chairpersons	Dr Savithri Narayanan (Canada)	I
	Dr Nicolay N. Mikhailov (Russian Federation)	II
	Captain Julián Reyna (Colombia)	III
	Dr Sang-Kyung Byun (Republic of Korea)	IV
	Professor Cherif Sammari (Tunisia)	V

II. Other seats on the Executive Council**Electoral group I**

Belgium	France	Germany
Greece	Portugal	Spain
Sweden	Turkey	United Kingdom
United States of America		

Electoral group II

Ukraine

Electoral group III

Brazil	Chile	Cuba
Ecuador	Mexico	Peru
Venezuela (Bolivarian Republic of)		

Electoral group IV

Australia	China	India
Indonesia	Japan	Malaysia
Sri Lanka	Thailand	

Electoral group V

Côte d'Ivoire	Egypt	Ghana
Kenya	Madagascar	Mauritius
Senegal	South Africa	

III. Member States of the Commission (136) (as of 23 June 2009)

AFGHANISTAN	(11 March 1991)	LEBANON	(Oct. 1962/Jun. 1964)
ALBANIA	(26 January 1993)	LIBYAN ARAB JAMAHIRIYA	(11 March 1974)
ALGERIA	(Jul. 1964/Nov. 1965)	* MADAGASCAR	(Dec. 1965/Oct. 1967)
ANGOLA	(26 October 1982)	* MALAYSIA	(Jul. 1964/Nov. 1965)
* ARGENTINA	(Before November 1961)	MALDIVES	(20 May 1987)
* AUSTRALIA	(Before November 1961)	MALTA	(Oct. 1969/Nov. 1971)
AUSTRIA	(Oct. 1962/Jun. 1964)	MAURITANIA	(Before November 1961)
AZERBAIJAN	(27 January 1998)	* MAURITIUS	(Oct. 1969/Nov. 1971)
BAHAMAS	(29 January 1979)	* MEXICO	(Before November 1961)
BANGLADESH	(29 October 1982)	MONACO	(Before November 1961)
BARBADOS	(18 December 1985)	MOROCCO	(Before November 1961)
* BELGIUM	(Before November 1961)	MOZAMBIQUE	(08 April 1981)
BELIZE	(22 September 1995)	MYANMAR	(07 June 1988)
BENIN	(23 October 1986)	NAMIBIA	(25 April 2001)
* BRAZIL	(Before November 1961)	NETHERLANDS	(Before November 1961)
BULGARIA	(Oct. 1967/Dec. 1969)	NEW ZEALAND	(Nov. 1961/Sep. 1962)
CAMEROON	(Nov. 1971/Nov. 1973)	NICARAGUA	(17 November 1977)
* CANADA	(Before November 1961)	NIGERIA	(Nov. 1971/Nov. 1973)
CAPE VERDE	(20 August 1984)	NORWAY	(Before November 1961)
* CHILE	(Before November 1961)	OMAN	(16 November 1982)
* CHINA	(Before November 1961)	PAKISTAN	(Before November 1961)
* COLOMBIA	(Oct. 1967/Dec. 1969)	PANAMA	(Oct. 1967/Sep. 1969)
COMOROS	(08 February 2000)	PAPUA NEW GUINEA	(10 April 2006)
CONGO	(Nov. 1961/Sep. 1962)	* PERU	(Dec. 1965/Oct. 1967)
COOK ISLANDS	(25 Jan. 2006)	PHILIPPINES	(Oct. 62/Jun. 1964)
COSTA RICA	(28 February 1975)	POLAND	(Before November 1961)
* COTE D'IVOIRE	(Before November 1961)	* PORTUGAL	(Oct. 1969/Nov. 1971)
CROATIA	(24 December 1992)	QATAR	(20 July 1976)
* CUBA	(Before November 1961)	* REPUBLIC OF KOREA	(Before November 1961)
CYPRUS	(05 December 1977)	ROMANIA	(Before November 1961)
CZECH REPUBLIC	(20 June 2005)	* RUSSIAN FEDERATION	(Before Nov. 1961)
DEMOCRATIC PEOPLE'S		SAINT LUCIA	(14 September 1992)
REPUBLIC OF KOREA	(31 October 1978)	SAMOA	(10 April 1978)
DENMARK	(Before November 1961)	SAUDI ARABIA	(14 June 1978)
DJIBOUTI	(6 January 2006)	* SENEGAL	(Oct. 1967/Sep. 1969)
DOMINICA	(21 September 1999)	SERBIA	(23 May 2005)
DOMINICAN REPUBLIC	(Before November 1961)	SEYCHELLES	(27 February 1979)
* ECUADOR	(Before November 1961)	SIERRA LEONE	(19 April 1974)
* EGYPT	(Oct. 1969/Nov. 1971)	SINGAPORE	(Dec. 1965/Oct. 1967)
EL SALVADOR	(16 February 1993)	SLOVENIA	(16 June 1994)
ERITREA	(12 November 1993)	SOLOMON ISLANDS	(11 May 1982)
ESTONIA	(10 March 1992)	SOMALIA	(10 July 1974)
ETHIOPIA	(05 March 1976)	* SOUTH AFRICA	(Oct. 1967/Sep. 1969)
FIJI	(09 July 1974)	* SPAIN	(Before Nov. 1961)
FINLAND	(Before November 1961)	* SRI LANKA	(Jun. 76/Jan. 1977)
* FRANCE	(Before November 1961)	SUDAN	(26 August 1974)
GABON	(26 October 1977)	SURINAM	(21 January 1977)
GAMBIA	(30 August 1985)	* SWEDEN	(Jul. 1964/Nov. 1965)
GEORGIA	(09 July 1993)	SWITZERLAND	(Before Nov. 1961)
* GERMANY	(Before November 1961)	SYRIAN ARAB REPUBLIC	(Oct. 1969/Nov. 1971)
* GHANA	(Before November 1961)	* THAILAND	(Before Nov. 1961)
* GREECE	(Oct. 1962/Jun. 1964)	TIMOR-LESTE	(19 October 2005)
GUATEMALA	(Dec. 1965/Oct. 1967)	TOGO	(22 October 1975)
GUINEA	(01 May 1982)	TONGA	(03 January 1974)
GUINEA-BISSAU	(26 January 1984)	TRINIDAD & TOBAGO	(Oct. 1967/Sep. 1969)
GUYANA	(20 July 1977)	* TUNISIA	(Before Nov. 1961)
HAITI	(23 March 1976)	* TURKEY	(Nov. 1961/Sep. 1962)
ICELAND	(Oct. 1962/Jun. 1964)	* UKRAINE	(Nov. 1961/Sep. 1962)
* INDIA	(Before November 1961)	UNITED ARAB EMIRATES	(02 June 1976)
* INDONESIA	(Oct. 1962/Jun. 1964)	* UNITED KINGDOM OF	
IRAN, Islamic Republic of	(03 June 1975)	GREAT BRITAIN &	
IRAQ	(Oct. 1969/Nov. 1971)	NORTHERN IRELAND	(Before Nov. 1961)
IRELAND	(07 November 1978)	UNITED REPUBLIC OF	
ISRAEL	(Before November 1961)	TANZANIA	(Oct. 1967/Sep. 1969)
ITALY	(Before November 1961)	* UNITED STATES OF	
JAMAICA	(Oct. 1967/Dec. 1969)	AMERICA	(Before Nov. 1961)
* JAPAN	(Before November 1961)	URUGUAY	(Before Nov. 1961)
JORDAN	(06 April 1975)	* VENEZUELA,	
KAZAKHSTAN	(24 March 2005)	Bolivarian Republic of	(Oct. 1962/Jun. 1964)
* KENYA	(Nov. 1971/Nov. 1973)	VIET NAM	(Before Nov. 1961)
KUWAIT	(13 November 1974)	YEMEN	(22 May 1960)

* Members of the Executive Council are indicated with an asterisk

ANNEX X

LIST OF DOCUMENTS

Document Code	Title	Agenda Items	Languages available
WORKING DOCUMENTS			
IOC-XXV/1 Prov. Rev.2	Second Revised Provisional Agenda	2.1	E F R S
IOC-XXV/1 Add. Prov. Rev.3	Third Revised Provisional Timetable	2.4	E only
IOC-XXV/2 Rev.	Revised Action Paper	All	E F R S
IOC-XXV/2 Annex 1	Report by the IOC Executive Secretary on Programme Implementation	3.2	E F R S
IOC-XXV/2 Annex 1 Add.1	SISTER Follow-up Qualitative Report for the IOC	3.2	E only
IOC-XXV/2 Annex 1 Add.2	Implementation of IOC Governing Bodies' Resolutions	3.2	E only
IOC-XXV/2 Annex 2	Progress Report on Budget Execution (2008) and Anticipated Funding for 2009	3.2	E F R S
IOC-XXV/2 Annex 3	Draft IOC Programme and Budget 2010–2011	3.2	E F R S
IOC-XXV/2 Annex 4	Summary of the Proposed Cooperation between the IOC and OBIS	4.2.1.2	E F R S
IOC-XXV/2 Annex 5	Considerations regarding the possible adoption of a new formulation of the Equation of State for Seawater	4.3.2.1	E F R S
IOC-XXV/4 Prov. Rev.	Revised Provisional List of Documents	2.4	E F R S
IOC-XXV/5 Prov.	Provisional List of Participants	--	E/F/R/S
IOC-XXV/6 Rev.	Revised Draft Report of the Intergovernmental Oceanographic Commission on its activities (2007–2009)	3.3	E F R S
REPORTS OF IOC AND COOPERATIVE BODIES REQUIRING ACTION			
IOC/EC-XLII/3	Summary Report of the Forty-second Session of the IOC Executive Council, Paris, 15 June 2009	2.1, 2.3. 5.3	E F R S
IOC Annual Report no.15	IOC Annual Report 2008	3.2	E only
IOC/ABE-LOS IX/3	Report of the Ninth Session of the IOC Advisory Body of Experts on the Law of the Sea, UNESCO, Paris, 30 March–3 April 2009	4.1.4	E F [Ex. Sum. in R, S]
IOC/IODE-XX/3s	Executive Summary of the Twentieth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Beijing, China, 4–8 May 2009	4.2.1.1	E F R S
IOC/SC-IOCARIBE-X/3s	Executive Summary Report of the Tenth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE), Puerto La Cruz, Venezuela, 22–25 Oct. 2008	4.2.3	E F R S

Document Code	Title	Agenda Items	Languages available
IOCWIO-VII/3s	Executive Summary Report of the Seventh Session of the IOC Regional Committee for the Western Indian Ocean, Mombasa, Kenya, 18–21 July 2008	4.2.4	E F R S
IOC/IPHAB-IX/3s	Executive Summary Report of the Ninth Session of the IOC Intergovernmental Panel on Harmful Algal Blooms Paris, 22–24 April 2009	4.3.3	E F R S
IOC-WMO-UNEP/I-GOOS-IX/3s	Summary Report of the Ninth Session of the Intergovernmental Committee for the Global Ocean Observing System (I-GOOS), Paris, 10–12 June 2009	4.4.2	E F R S
IOC/TOWS-WG-II/3	Report of the Second Meeting of the Working Group on Tsunamis and Other Ocean Hazards Related to Sea Level Warning and Mitigation Systems (TOWS-WG); UNESCO, Paris, 27 March 2009	4.5.1	E [Ex. Sum. in F, R, S]
ICG/IOTWS-VI/3s	Executive Summary of the Sixth Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System, Hyderabad, India, 7–9 April 2009	4.5.2.1	E F R S
ICG/NEAMTWS-V/3s	Executive Summary of the Fifth Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North Eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS-IV), Athens, Greece, 3–5 November 2008	4.5.2.2	E F R S
ICG/CARIBE-EWS-IV/3s	Executive Summary of the Fourth Session of the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE EWS-IV), Fort de France, Martinique, France, 2–4 June 2009	4.5.2.3	E F R S
ICG/PTWS-XXIII/3s	Executive Summary of Report of the Twenty-third Session of the Intergovernmental Coordination Group of the Pacific Tsunami Warning and Mitigation System (ICG/PTWS-XXIII), Apia, Samoa, 16–18 February 2009	4.5.2.4	E F R S

INFORMATION DOCUMENTS

IOC/EC-XLI/3	Report of the Forty-first Session of the IOC Executive Council, Paris, 24 June–1 July 2008	2.1	E F R S
IOC-XXIV/3	Report of the Twenty-fourth Session of the IOC Assembly, Paris, 19–28 June 2007	2.1	E F R S
IOC-XXV/Inf.1	<i>Cancelled</i>	2.4	E only
IOC-XXV/Inf.2	Presentation and Abstracts of the A. Bruun Memorial Lectures, 2009	2.5	E only
IOC-XXV/Inf.3	Presentation and Abstracts of the N:K: Panikkar Memorial Lectures, 2009	2.5	E only

Document Code	Title	Agenda Items	Languages available
IOC/INF-1257	Progress in the Preparation for the 50 th Anniversary of the Intergovernmental Oceanographic Commission of UNESCO	4.1.1	E only
WMO–ICSU special report	The State of Polar Research http://www.ipy.org/index.php?/ipy/detail/state_of_polar_research/	4.1.2	E only
<i>Observing the Arctic–Dec. 2008</i>	Report of the Sustaining Arctic Observing Networks (SAON) Initiating Group (www.arcticobserving.org)	4.1.2	E only
GOOS Report 166	Southern Ocean Observing System (SOOS) Final Report	4.1.2	E only
IOC Technical Series, 84	Global Open Oceans and Deep Seabed (GOODS) - Biogeographic Classification	4.1.3	E only
COP decision IX/20	Marine and Coastal Biodiversity (http://www.cbd.int/decision/cop/?id=11663)	4.1.3	E F R S
IOC/IODE-XX/3	Summary Report of the Twentieth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Beijing, China, 4–8 May 2009	4.2.1.1 4.3.2.1	E only
IOC Workshop Reports, 209	Collaboration between the IOC and OBIS toward the Long-Term Management, Archival and Accessibility of Ocean Biogeographic Data. (Ostend, Belgium, 24–26 November 2008)	4.2.1.2	E only
IOC/INF-1258	OBIS Programme Proposal – Business Plan	4.2.1.2	E only
IOC Manuals and Guides, 51	IOC Strategic Plan for Oceanographic Data and Information Management (2008–2011)	4.2.1.2	E only
IOC/INF-1256	Assessment of Assessments – Summary for Decision Makers	4.2.2	E F R S Ar Ch
GRAME/AHSG/4/2 (prepared jointly by UNEP and IOC)	Fourth meeting of the Ad Hoc Steering Group for the “Assessment of Assessments” of the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socio-economic Aspects (Paris, France, 15–17 April 2009)	4.2.2	E only
A/64/.... (pending ref. from UN/DOALOS)	Letter of the lead Agencies of the Assessment of Assessments to the United Nations General Assembly	4.2.2	E only
IOC/SC-IOCARIBE-X/3	Summary Report of the Tenth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE), Puerto La Cruz, Venezuela, 22–25 October 2008	4.2.3	E S
IOC/SC-IOCARIBE/PIMS 2193	Sustainable Management of the Shared Living Marine Resources of the Caribbean Large Marine Ecosystem (CLME) and Adjacent Regions	4.2.3	E
IOCWIO-VII/3	Summary Report of the Seventh Session of the IOC Regional Committee for the Western Indian Ocean, Mombasa, Kenya, 18–21 July 2008	4.2.4	E only
IOC/INF-1265	Progress Report on WESTPAC Activities since	4.2.5	E only

Document Code	Title	Agenda Items	Languages available
	its Seventh Session (May 2008–May 2009)		
IOC/INF-1259	Ocean Sciences Section Structure and Proposal of a Work Plan with New Activities within the IOC Medium-Term Strategy	4.3.1	E only
--	Calculation of the thermodynamic properties of sea water, McDougall et al., 8 Feb 2009	4.3.2.1	E only
IOC/INF-1260	A Joint ICES-IOC Study Group on Nutrient Standards (SGONS)	4.3.2.2	E only
IOC/INF-1261	Coastal Eutrophication: Linking Nutrient Sources to Coastal Ecosystem Effects and Management: NEWS2USE (Draft Plan for the Intersection of UNESCO/IOC Programmes Related to Nutrients)	4.3.2.3	E only
ICSU document	ICSU–WMO–IOC–IGFA Review of the WCRP	4.4.1.1	E only
IOC/INF-1266	WMO-IOC-ICSU World Climate Research Programme (WCRP): Report and Review	4.4.1.1	E only
GCOS-126 (WMO/TD No. 1464)	GCOS Annual Report 2007–2008	4.4.1.2	E only
GOOS Report 173	Progress Report on the Implementation of the Global Observing System for Climate in Support of the UNFCCC 2004–2008 (<i>available for open review during the period 8 April–20 June 2009</i>)	4.4.1.2	E only
WMO-IOC J-MR-No.62	Summary Report of the Seventh Session of the Management Committee of the Joint IOC–WMO Technical Commission for Oceanography and Marine Meteorology (Melbourne, December 2008)	4.4.3	E only
LC/SG-CO2 3/5 (IMO document)	Report of the First Meeting of the Intersessional Technical Working Group on Ocean Fertilization, London, United Kingdom, 9–13 February 2009	4.4.4	E only
<i>Nature Geoscience</i> , vol. 2, March 2009	The Law of the Sea (Editorial)	4.4.4	E only
IOC/INF-1264	Summary Report of the Global Meeting of the Intergovernmental Coordination Groups for Tsunami Warning Systems (Global TWS) (Paris, 24–27 March 2009)	4.5.1	E only
IOC/INF-1263	Draft Strategy and Plan 2009–2010 for the Regional TEWS's within the Framework for a Global Ocean-related Hazards Warning and Mitigation System Framework (GOHWMS) and Implementation of TOWS-WG Recommendations	4.5.1	E only
IOC Manuals and Guides, 50 (ICAM Dossier 5)	Hazards Awareness and Mitigation in Integrated Coastal Area Management	4.5.1	E only
IOC Manuals and Guides. 52	“Tsunami risk assessment and mitigation for the Indian Ocean: knowing your tsunami risk – and what to do about it” (ICG/IOTWS Working Group 3 Guidelines)	4.5.2.1	E only
IOC Technical Series, 71	Indian Ocean Tsunami Warning and Mitigation	4.5.2.1	E only

Document Code	Title	Agenda Items	Languages available
(updated online)	System, IOTWS. Implementation Plan, March 2009		
IOC Technical Series 73 (updated online)	Technical Implementation Plan for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas (NEAMTWS), 2007–2011	4.5.2.2	E only
ICG/NEAMTWS-V/3	Report of the Fifth Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North Eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS-IV), Athens, Greece, 3–5 November 2008	4.5.2.2	E only
IOC-ICG/CARIBE EWS-III/13	CARIBE EWS Implementation Plan	4.5.2.3	E only
ICG/PTWS-XXIII/3	Report of the 23 rd Session of the Inter-governmental Coordination Group of the Pacific Tsunami Warning and Mitigation System (ICG/PTWS-XXIII), Apia, Samoa, 16–18 February 2009	4.5.2.4	E only
IOC Technical Series, 87	Operational Users Guide for the Pacific Tsunami Warning and Mitigation System	4.5.2.4	E only
Draft 35 C/5	Draft UNESCO Programme and Budget, 2010–2011	5.1	E F R S
IOC-XXV/Inf. 4	Compilation of IOC-related texts from the 35th Draft Programme and Budget, 2010-2011 (Draft 35 C/5)	5.1	E only
IOC-XXIV/Inf. 4 (2007)	IOC Financial Regulations [157 EX/Decision 3.3.1; 1999]	5.1	E only
IOC-XXV/NOM/Inf.1	Updated listing of the IOC electoral groups and listing of the distribution of seats on the Executive Council among the electoral groups	5.2	E only
IOC-XXV/NOM-WP 1 Prov.3	List of candidates for Election	5.2	E only
IOC-XXV/NOM/WP 4	Elections Results	5.2	E only

REFERENCE DOCUMENTS

IOC/EC-XLI/2 Annex 4	Draft IOC Operating Plan for 2008–2009	3.2	E F R S
--	Monaco Declaration—2nd International Symposium on the Ocean in a high-Co2 World, Monaco, 6–9 October 2008	3.2	E only
IOC Resolution XXII-6	Oceanographic Data Exchange Policy (See Report IOC-XXII/3)		E F R S
A/RES/60/30	UNGA Resolution on Oceans and the Law of the Sea	4.2.2	E F R S
A/RES/63/111	UNGA Resolution on Oceans and the Law of the Sea	4.2.2	E F R S
IOC/SC-WESTPAC-VII/3	Summary of the Seventh Session of the IOC Sub-Commission for the Western Pacific (WESTPAC-VII), Sabah, Malaysia, 26–29 May 2008	4.2.5	E [Ex. Summary in E, F, R, S]
UNESCO Technical Papers in	The practical salinity scale 1978 and the international equation of state of seawater. 1980	4.3.2.1	E only

Document Code	Title	Agenda Items	Languages available
Marine Science 36			
UNESCO Technical Papers in Marine Science 44	Algorithms for computation of fundamental properties of seawater	4.3.2.1	E only
IOC Circular Letter 2278	Review of the World Climate Change Research Programme (WCRP)	4.4.1	E only
GCOS-92, 2004	GCOS Implementation Plan	4.4.1.2	E only
34 C/5	UNESCO Programme and Budget 2008–2009, para. 02020	4.4.3	E F R S
IOC Resolution EC-XXXIX.1 (in Rep. IOC/EC-XXXIX/3)	IOC Medium-term Strategy (2008–2013)	4.4.3	E F R S

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ANNEX XII

ACRONYMS

ABE-LOS	Advisory Body of Experts on the Law of the Sea (IOC)
ACCESS	African Centre for Climate and Earth Systems Science
ADG	Assistant Director-General
AHSG	Ad Hoc Steering Group
ALDCAR	Adaptive Learning in Disaster Management for Community Awareness and Resilience (Thailand)
AoA	Assessment of Assessments
ASI	Austral Summer Institute
BCO–DMO	Biological and Chemical Oceanographic Data Management Office (Woods Hole Oceanographic Institute)
CAR/RCU	Caribbean Regional Co-ordinating Unit (UNEP)
CARIACO	Carbon Retention in a Coloured Ocean (Venezuela)
CARIBE-EWS	Tsunami and Other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions (IOC)
CARICOM	Caribbean Community
CAS	Committee for Atmospheric Science (WMO)
CBD	Convention on Biological Diversity
CCO	Colombian Commission for the Ocean (Colombia)
CDERA	Caribbean Disaster Emergency Response Agency (Now Caribbean Disaster Emergency Management Agency)
CEPREDENAC	Centro de Coordinación para la Prevención de los Desastres Naturales en América Central (Coordination Centre for the Prevention of Natural Disasters in Central America)
CIMAB	Centre for Engineering and Environmental Management of Coasts and Bays
CIMAB	Centre for Engineering and Environmental Management of Coasts and Bays
CLIVAR	Climate Variability and Prediction (WCRP)
CLME	Caribbean Large Marine Ecosystem
CMA	Caribbean Marine Atlas (IOCARIBE)
CoML	Census of Marine Life
COP	Conference of the Parties
CPPS	Comisión Permanente del Pacífico Sur
CRFM	Caribbean Regional Fisheries Mechanism
CSD	Commission on Sustainable Development (UN)
CTBTO	Commission to the Nuclear Test Ban Treaty Organization
CTD	Chlorinity–temperature–depth (Sensor)
CTIC	Caribbean Tsunami Information Centre (IOC)
CTWC	Caribbean Tsunami Warning Centre (IOC)
DBCP	Drifting Buoy Cooperation Panel (IOC–WMO)
DG	Director-General
DIPECHO	Disaster Preparedness Programme of the European Commission's Humanitarian Aid Department (EC)
DMCG	Data Management Coordination Group (JCOMM)
DMPA	Data Management Programme Area (JCOMM)
DR	Draft Resolution (IOC)
EC	Executive Council (IOC)
EEZ	Exclusive Economic Zone
EIRD	Estrategia Internacional para la Reducción de Desastres (International Strategy for Disaster Reduction, UN)

EOS	International Equation of State of Seawater 1980
ESIMO	Russian Federation Ocean Data Portal
ETDMP	Expert Team on Data Management Practices (JCOMM–IODE)
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FUST	Flanders–UNESCO Trust Fund for Science
GCOS	Global Climate Observing System (WMO–ICSU–IOC–UNEP)
GEBCO	General Bathymetric Chart of the Oceans (IOC–IHO)
GEF	Global Environment Facility (UNDP)
GEOHAB	Global Ecology and Oceanography of Harmful Algal Blooms (SCOR–IOC)
GESAMP	Group of Experts on Scientific Aspects of Marine Environmental Protection (IMO–FAO–UNESCO/IOC–WMO–WHO–IAEA–UN–UNEP)
GIS	Geographic Information System
GLOBEC	Global Ocean Ecosystem Dynamics (SCOR–ICSU/IGBP)
GLOSS	Global Sea Level Observing System (IOC)
GMA	Global Marine Assessment (UN)
GODAE	Global Ocean Data Assimilation Experiment (IODE)
GOHWMS	Global Tsunami and Other Ocean-Related Hazards Early Warning System (IOC)
GOODS	Global Open Oceans and Deep Seabed (UNESCO/MAB)
GOOS	Global Ocean Observing System (IOC–WMO)
GRA	GOOS Regional Alliance (GOOS)
GRAM	Global Reporting and Assessment of the State of the Marine Environment (UN)
GRASP	GOOS Regional Alliance for the Southeast Pacific (GOOS)
GRC	GOOS Regional Council (GOOS)
GRULAC	Grupo para Latinoamerica y el Caribe (Latin-American and Caribbean Group) (UN)
HAB	Harmful Algal Blooms (IOC)
HAB-ANCA	Harmful Algal Blooms –America del Norte y el Caribe (North America and the Caribbean) (HAB)
HLO	High-level Objective (UNESCO/IOC)
IAEA	International Atomic Energy Agency (UN)
IAPSO	International Association for the Physical Sciences of the Ocean
IAPWS	International Association for the Physics of Water and Steam
IBCCA	International Bathymetric Chart of the Caribbean (GEBCO)
IBCCA	International Bathymetric Chart of the Caribbean (GEBCO)
IBSA	India, Brazil, South Africa (Cooperation agreement)
ICAM	Integrated Coastal Area Management (IOC)
ICES	International Council for the Exploration of the Sea
ICG	Intergovernmental Co-ordination Group (IOC)
ICSU	International Council for Science
IGFA	International Group of Funding Agencies for Global Change
I-GOOS	Intergovernmental Committee for GOOS (IOC–WMO–UNEP)
IHE	Institute for Water Education (UNESCO)
IHO	International Hydrological Organization
IHP	International Hydrological Programme (UNESCO)
IMA	Institute of Marine Affairs (Brazil)
IMAREST	Integrated Marine Biogeochemistry and Ecosystem Research
IMBER	Integrated Marine Biogeochemistry and Ecosystem Research
IMO	International Maritime Organization (UN)
IMOS	Integrated Marine Observing System (Australia)
INVEMAR	Investigaciones Marinas (Marine Research; Centro de Investigaciones Marinas de Colombia)
IOC	Intergovernmental Oceanographic Commission (UNESCO)

IOCARIBE	IOC Sub-Commission for the Caribbean and Adjacent Regions (IOC)
IOCCP	International Ocean Carbon Coordination Project (IOC–SCOR)
IOCEA	IOC Regional Committee for the Central Eastern Atlantic (IOC)
IOCINDIO	IOC Regional Committee for the Central Indian Ocean (IOC)
IOCWIO	IOC Regional Committee for the Western Indian Ocean (IOC)
IODE	International Oceanographic Data and Information Exchange (IOC)
IOTWS	Indian Ocean Tsunami Warning and Mitigation System
IPCC	Intergovernmental Panel on Climate Change (UNEP)
IPHAB	Intergovernmental Panel on Harmful Algal Blooms (IOC)
IPY	International Polar Year
ISDR	International Strategy for Disaster Reduction (UN)
IUCN	World Conservation Union
IWAM	Integrating Watershed and Coastal Area Management (project) (UNEP–UNDP)
JCOMM	Joint Commission on Oceanography and Marine Meteorology (WMO–IOC)
KMFRI	Kenya Marine Fisheries Research Institute
LBS	Land-based sources
LDC	Least-developed country
LME	Large marine ecosystem
LOICZ	Land–Ocean Interaction in the Coastal Zone (ICSU)
MAB	Man and the Biosphere programme (UNESCO)
MARBEF	Marine Biodiversity and Ecosystem Functioning (EU)
MARS	European Network of Marine Research Institutes and Stations (EU)
MLA	Main Line of Action (UNESCO/IOC)
MPA	Marine protected area
MSR	Marine scientific research
NA-DM	North America Drought Monitor (USA)
NCL	National Chemical Laboratory (India)
NEAMTWS	Tsunami Early Warning System in the Northeastern Atlantic and the Mediterranean and Connected Seas (IOC)
NEWS2USE	Nutrient Export from Watersheds – User Scenario Evaluation (IOC)
NGI	Norwegian Geotechnical Institute (Norway)
NGO	Non-governmental organization
NOAA	National Oceanic and Atmospheric Administration (USA)
NODC	National Oceanographic Data Centre (IODE)
NTWC	National Tsunami Watch Centre (IOC)
OBIS	Ocean Biogeographic Information System (Census of Marine Life)
ODIN-AFRICA	Oceanographic Data and Information Network for Africa (IODE)
ODIN-CARSA	Oceanographic Data and Information Network for the Caribbean and South America Regions (IODE)
ODIN-CINDIO	Oceanographic Data and Information Network for the IOCINDIO Region (IODE)
ODIN-PIMRIS	Oceanographic Data and Information Network for the Pacific Islands Research and Information System (IODE)
ODIN-WESTPAC	Oceanographic Data and Information Network for the Western Pacific (IODE)
ODP	Ocean Data Portal (IODE)
OOPC	Ocean Observations Panel for Climate (GCOS)
OSS	Ocean Science Section (IOC)
PICES	North Pacific Marine Sciences Organization
PICO	Panel on Integrated Coastal Observation (GCOS)
PTWC	Pacific Tsunami Warning Center (USA)
PTWS	Pacific Ocean Tsunami Warning and Mitigation System (IOC)
RTWC	Regional Tsunami Watch Centre (IOC)
RTWP	Regional Tsunami Watch Provider (IOC)
SAON	Sustained Arctic Observing Network

SBSTA	Subsidiary Body on Scientific and Technological Advice (UNFCCC)
SCAR	Scientific Committee on Antarctic Research (ICSU)
SCOR	Scientific Committee on Oceanic Research (ICSU)
SEAGOOS	South-East Asian Global Ocean Observing System (IOC)
SEP	South-eastern Pacific
SIDS	Small Island Developing States
SOLAS	Surface Ocean–Lower Atmosphere Study
SOOS	Southern Ocean Observing System
SPINCAM	South-east Pacific Integrated Coastal Area Management (project)
SRC	Coastal Radio Station
SSC	Scientific Steering Committee (IOC)
SWP	South-western Pacific
TCHWS	Tsunami and Coastal Hazards Warning System (CDERA)
TEOS	Thermodynamic Equation of State of Seawater
TMT	Transfer of Marine Technology (IOC)
TNC	Tsunami National Contact (IOC)
TOWS	Tsunami and Other Hazards Related to Sea Level Warning and Mitigation System (IOC)
TSU	Tsunami Unit (IOC)
TWFP	Tsunami Warning Focal Point (IOC)
TWS	Tsunami Early Warning System (IOC)
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea (UN)
UNDP	United Nations Development Programme (UN)
UNEP	United Nations Environment Programme (UN)
UNESCO	United Nations Educational Scientific and Cultural Organization (UN)
UNFCCC	United Nations Framework Convention on Climate Change (UN)
UNGA	United Nations General Assembly (UN)
UNOPS	United Nations Office for Project Services
VLIZ	Vlaams Instituut voor de Zee (Flemish Marine Institute)
WB	World Bank
WCMC	World Conservation Monitoring Centre (UNEP)
WCRP	World Climate Research Programme (WMO–IOC–ICSU)
WDC	World Data Centre (ICSU)
WDS	World Data System (ICSU)
WG	Working Group
WIGOS	WMO Integrated Global Observing System (WMO)
WIOMSA	Western Indian Ocean Marine Science Association
WIS	WMO Information System
WMO	World Meteorological Organization (UN)
WSSD	World Summit on Sustainable Development
XBT	Expendable bathythermograph

In this Series	Languages
Reports of Governing and Major Subsidiary Bodies , which was initiated at the beginning of 1984, the reports of the following meetings have already been issued:	
1. Eleventh Session of the Working Committee on international Oceanographic Data Exchange	E, F, S, R
2. Seventeenth Session of the Executive Council	E, F, S, R, Ar
3. Fourth Session of the Working Committee for Training, Education and Mutual Assistance	E, F, S, R
4. Fifth Session of the Working Committee for the Global Investigation of Pollution in the Marine Environment	E, F, S, R
5. First Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions	E, F, S
6. Third Session of the <i>ad hoc</i> Task team to Study the Implications, for the Commission, of the UN Convention on the Law of the Sea and the New Ocean Regime	E, F, S, R
7. First Session of the Programme Group on Ocean Processes and Climate	E, F, S, R
8. Eighteenth Session of the Executive Council	E, F, S, R, Ar
9. Thirteenth Session of the Assembly	E, F, S, R, Ar
10. Tenth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific	
11. Nineteenth Session of the Executive Council, Paris, 1986	E, F, S, R, Ar
12. Sixth Session of the IOC Scientific Committee for the Global Investigation of Pollution in the Marine Environment	E, F, S
13. Twelfth Session of the IOC Working Committee on International Oceanographic Data Exchange	E, F, S, R
14. Second Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions, Havana, 1986	E, F, S
15. First Session of the IOC Regional Committee for the Central Eastern Atlantic, Praia, 1987	E, F, S
16. Second Session of the IOC Programme Group on Ocean Processes and Climate	E, F, S
17. Twentieth Session of the Executive Council, Paris, 1987	E, F, S, R, Ar
18. Fourteenth Session of the Assembly, Paris, 1987	E, F, S, R, Ar
19. Fifth Session of the IOC Regional Committee for the Southern Ocean	E, F, S, R
20. Eleventh Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Beijing, 1987	E, F, S, R
21. Second Session of the IOC Regional Committee for the Co-operative Investigation in the North and Central Western Indian Ocean, Arusha, 1987	E, F
22. Fourth Session of the IOC Regional Committee for the Western Pacific, Bangkok, 1987	E only
23. Twenty-first Session of the Executive Council, Paris, 1988	E, F, S, R
24. Twenty-second Session of the Executive Council, Paris, 1989	E, F, S, R
25. Fifteenth Session of the Assembly, Paris, 1989	E, F, S, R
26. Third Session of the IOC Committee on Ocean Processes and Climate, Paris, 1989	E, F, S, R
27. Twelfth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Novosibirski, 1989	E, F, S, R
28. Third Session of the Sub-Commission for the Caribbean and Adjacent Regions, Caracas, 1989	E, S
29. First Session of the IOC Sub-Commission for the Western Pacific, Hangzhou, 1990	E only
30. Fifth Session of the IOC Regional Committee for the Western Pacific, Hangzhou, 1990	E only
31. Twenty-third Session of the Executive Council, Paris, 1990	E, F, S, R
32. Thirteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange, New York, 1990	E only
33. Seventh Session of the IOC Committee for the Global Investigation of Pollution in the Marine Environment, Paris, 1991	E, F, S, R
34. Fifth Session of the IOC Committee for Training, Education and Mutual Assistance in Marine Sciences, Paris, 1991	E, F, S, R
35. Fourth Session of the IOC Committee on Ocean Processes and Climate, Paris, 1991	E, F, S, R
36. Twenty-fourth Session of the Executive Council, Paris, 1991	E, F, S, R
37. Sixteenth Session of the Assembly, Paris, 1991	E, F, S, R, Ar
38. Thirteenth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Baja California, 1991	E, F, S, R
39. Second Session of the IOC-WMO Intergovernmental WOCE Panel, Paris, 1992	E only
40. Twenty-fifth Session of the Executive Council, Paris, 1992	E, F, S, R
41. Fifth Session of the IOC Committee on Ocean Processes and Climate, Paris, 1992	E, F, S, R
42. Second Session of the IOC Regional Committee for the Central Eastern Atlantic, Lagos, 1990	E, F
43. First Session of the Joint IOC-UNEP Intergovernmental Panel for the Global Investigation of Pollution in the Marine Environment, Paris, 1992	E, F, S, R
44. First Session of the IOC-FAO Intergovernmental Panel on Harmful Algal Blooms, Paris, 1992	E, F, S
45. Fourteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Paris, 1992	E, F, S, R
46. Third Session of the IOC Regional Committee for the Co-operative Investigation in the North and Central Western Indian Ocean, Vascoas, 1992	E, F
47. Second Session of the IOC Sub-Commission for the Western Pacific, Bangkok, 1993	E only
48. Fourth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions, Veracruz, 1992	E, S
49. Third Session of the IOC Regional Committee for the Central Eastern Atlantic, Dakar, 1993	E, F
50. First Session of the IOC Committee for the Global Ocean Observing System, Paris, 1993	E, F, S, R
51. Twenty-sixth Session of the Executive Council, Paris, 1993	E, F, S, R
52. Seventeenth Session of the Assembly, Paris, 1993	E, F, S, R
53. Fourteenth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Tokyo, 1993	E, F, S, R
54. Second Session of the IOC-FAO Intergovernmental Panel on Harmful Algal Blooms, Paris, 1993	E, F, S
55. Twenty-seventh Session of the Executive Council, Paris, 1994	E, F, S, R
56. First Planning Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Melbourne, 1994	E, F, S, R
57. Eighth Session of the IOC-UNEP-IMO Committee for the Global Investigation of Pollution in the Marine Environment, San José, Costa Rica, 1994	E, F, S
58. Twenty-eighth Session of the Executive Council, Paris, 1995	E, F, S, R
59. Eighteenth Session of the Assembly, Paris, 1995	E, F, S, R
60. Second Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 1995	E, F, S, R

61.	Third Session of the IOC-WMO Intergovernmental WOCE Panel, Paris, 1995	E only
62.	Fifteenth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Papete, 1995	E, F, S, R
63.	Third Session of the IOC-FAO Intergovernmental Panel on Harmful Algal Blooms, Paris, 1995	E, F, S
64.	Fifteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange	E, F, S, R
65.	Second Planning Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 1995	E only
66.	Third Session of the IOC Sub-Commission for the Western Pacific, Tokyo, 1996	E only
67.	Fifth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions, Christ Church, 1995	E, S
68.	Intergovernmental Meeting on the IOC Black Sea Regional Programme in Marine Sciences and Services	E, R
69.	Fourth Session of the IOC Regional Committee for the Central Eastern Atlantic, Las Palmas, 1995	E, F, S
70.	Twenty-ninth Session of the Executive Council, Paris, 1996	E, F, S, R
71.	Sixth Session for the IOC Regional Committee for the Southern Ocean and the First Southern Ocean Forum, Bremerhaven, 1996	E, F, S,
72.	IOC Black Sea Regional Committee, First Session, Varna, 1996	E, R
73.	IOC Regional Committee for the Co-operative Investigation in the North and Central Western Indian Ocean, Fourth Session, Mombasa, 1997	E, F
74.	Nineteenth Session of the Assembly, Paris, 1997	E, F, S, R
75.	Third Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 1997	E, F, S, R
76.	Thirtieth Session of the Executive Council, Paris, 1997	E, F, S, R
77.	Second Session of the IOC Regional Committee for the Central Indian Ocean, Goa, 1996	E only
78.	Sixteenth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Lima, 1997	E, F, S, R
79.	Thirty-first Session of the Executive Council, Paris, 1998	E, F, S, R
80.	Thirty-second Session of the Executive Council, Paris, 1999	E, F, S, R
81.	Second Session of the IOC Black Sea Regional Committee, Istanbul, 1999	E only
82.	Twentieth Session of the Assembly, Paris, 1999	E, F, S, R
83.	Fourth Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 1999	E, F, S, R
84.	Seventeenth Session of the International Coordination Group for the Tsunami Warning System in the Pacific, Seoul, 1999	E, F, S, R
85.	Fourth Session of the IOC Sub-Commission for the Western Pacific, Seoul, 1999	E only
86.	Thirty-third Session of the Executive Council, Paris, 2000	E, F, S, R
87.	Thirty-fourth Session of the Executive Council, Paris, 2001	E, F, S, R
88.	Extraordinary Session of the Executive Council, Paris, 2001	E, F, S, R
89.	Sixth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions, San José, 1999	E only
90.	Twenty-first Session of the Assembly, Paris, 2001	E, F, S, R
91.	Thirty-fifth Session of the Executive Council, Paris, 2002	E, F, S, R
92.	Sixteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Lisbon, 2000	E, F, S, R
93.	Eighteenth Session of the International Coordination Group for the Tsunami Warning System in the Pacific, Cartagena, 2001	E, F, S, R
94.	Fifth Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 2001	E, F, S, R
95.	Seventh Session of the IOC Sub-commission for the Caribbean and Adjacent Regions (IOCARIBE), Mexico, 2002	E, S
96.	Fifth Session of the IOC Sub-Commission for the Western Pacific, Australia, 2002	E only
97.	Thirty-sixth Session of the Executive Council, Paris, 2003	E, F, S, R
98.	Twenty-second Session of the Assembly, Paris, 2003	E, F, S, R
99.	Fifth Session of the IOC Regional Committee for the Co-operative Investigation in the North and Central Western Indian Ocean, Kenya, 2002 (* Executive Summary available separately in E, F, S & R)	E*
100.	Sixth Session of the IOC Intergovernmental Panel on Harmful Algal Blooms, St. Petersburg (USA), 2002 (* Executive Summary available separately in E, F, S & R)	E*
101.	Seventeenth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Paris, 2003 (* Executive Summary available separately in E, F, S & R)	E*
102.	Sixth Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 2003 (* Executive Summary available separately in E, F, S & R)	E*
103.	Nineteenth Session of the International Coordination Group for the Tsunami Warning System in the Pacific, Wellington, New Zealand, 2003 (* Executive Summary available separately in E, F, S & R)	E*
104.	Third Session of the IOC Regional Committee for the Central Indian Ocean, Tehran, Islamic Republic of Iran, 21-23 February 2000	E only
105.	Thirty-seventh Session of the Executive Council, Paris, 2004	E, F, S, R
106.	Seventh Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 2005 (* Executive Summary available separately in E, F, S & R); and Extraordinary Session, Paris, 20 June 2005	E*
107.	First Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS), Perth, Australia, 3-5 August 2005	E only
108.	Twentieth Session of the Intergovernmental Coordination Group for the Tsunami Warning System in the Pacific, Viña del Mar, Chile, 3-7 October 2005 (* Executive Summary available separately in E, F, S & R)	E*
109.	Twenty-Third Session of the Assembly, Paris, 21-30 June 2005	E, F, S, R
110.	First Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North Eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS), Rome, Italy, 21-22 November 2005	E only
111.	Eighth Session of the IOC Sub-commission for the Caribbean and Adjacent Regions (IOCARIBE), Recife, Brazil, 14-17 April 2004 (* Executive Summary available separately in E, F, S & R)	E*
112.	First Session of the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions (ICG/CARIBE-EWS), Bridgetown, Barbados, 10-12 January 2006	E only
113.	Ninth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE), Cartagena de Indias, Colombia, 19-22 April 2006 (* Executive Summary available separately in E, F, S & R)	E S*

114.	Second Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS), Hyderabad, India, 14–16 December 2005	E only
115.	Second Session of the WMO-IOC Joint Technical Commission for Oceanography and Marine Meteorology, Halifax, Canada, 19–27 September 2005 (Abridged final report with resolutions and recommendations)	E, F, R, S
116.	Sixth Session of the IOC Regional Committee for the Western Indian Ocean (IOCWIO), Maputo, Mozambique, 2–4 November 2005 (* Executive Summary available separately in E, F, S & R)	E*
117.	Fourth Session of the IOC Regional Committee for the Central Indian Ocean, Colombo, Sri Lanka 8–10 December 2005 (* Executive Summary available separately in E, F, S & R)	E*
118.	Thirty-eighth Session of the Executive Council, Paris, 20 June 2005 (Electronic copy only)	E, F, R, S
119.	Thirty-ninth Session of the Executive Council, Paris, 21–28 June 2006	E, F, R, S
120.	Third Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS), Bali, Indonesia, 31 July–2 August 2006 (*Executive Summary available separately in E,F,S & R)	E*
121.	Second Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North Eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS), Nice, France, 22–24 May 2006	E only
122.	Seventh Session of the IOC Intergovernmental Panel on Harmful Algal Blooms, Paris, France, 16–18 March 2005 (* Executive Summary available separately in E, F, S & R)	E*
123.	Fourth Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS-IV), Mombasa, Kenya, 30 February-2 March 2007 (* Executive Summary available separately in E, F, S & R)	E*
124.	Nineteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Trieste, Italy, 12–16 March 2007 (* Executive Summary available separately in E, F, S & R)	E*
125.	Third Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North Eastern Atlantic, the Mediterranean and Connected Seas, Bonn, Germany, 7–9 February 2007 (* Executive Summary available separately in E, F, S & R)	E*
126.	Second Session of the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions, Cumaná, Venezuela, 15–19 January 2007 (* Executive Summary available separately in E, F, S & R)	E*
127.	Twenty-first Session of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System, Melbourne, Australia, 3–5 May 2006 (* Executive Summary available separately in E, F, S & R)	E*
128.	Twenty-fourth Session of the Assembly, Paris, 19–28 June 2007	E, F, S, R
129.	Fourth Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North Eastern Atlantic, the Mediterranean and Connected Seas, Lisbon, Portugal, 21–23 November 2007 (* Executive Summary available separately in E, F, S & R)	E*
130.	Twenty-second Session of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System, Guayaquil, Ecuador, 17–21 September 2007 (* Executive Summary available in E, F, S & R included)	E*
131.	Forty-first Session of the Executive Council, Paris, 24 June–1 July 2008	E, F, R, S
132.	Third Session of the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions, Panama City, Panama, 12–14 March 2008 (* Executive Summary available separately in E, F, S & R)	E*
133.	Eighth Session of the IOC Intergovernmental Panel on Harmful Algal Blooms, Paris, France, 17–20 April 2007 (* Executive Summary available separately in E, F, S & R)	E*
134.	Twenty-third Session of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System, Apia, Samoa, 16–18 February 2009 (*Executive Summary available separately in E, F, S & R)	E*
135.	Twentieth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Beijing, China, 4–8 May 2009 (*Executive Summary available separately in E, F, S & R)	E*
136.	Tenth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE), Puerto La Cruz, Bolivarian Republic of Venezuela, 22–25 October 2008 (*Executive Summary available separately in E, F, S & R)	E, S*
137.	Seventh Session of the IOC Sub-Commission for the Western Pacific (WESTPAC-VII), Sabah, Malaysia, 26–29 May 2008 (*Executive Summary available separately in E, F, S & R)	E*
138.	Ninth Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, France, 10–12 June 2009 (* Executive Summary available separately in E, F, S & R);	E*
139.	Fifth Session of the Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North Eastern Atlantic, the Mediterranean and Connected Seas, Athens, Greece, 3–5 November 2008 (* Executive Summary available separately in E, F, S & R)	E*
140.	Fourth Session of the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions, Fort-de-France, Martinique, France, 2–4 June 2009 (* Executive Summary available separately in E, F, S & R)	E*
141.	Twenty-fifth Session of the Assembly, Paris, 16–25 June 2009	E, F, R, S