

Intergovernmental Oceanographic Commission
Reports of Governing and Major Subsidiary Bodies



**Twenty-fourth Session
of the Assembly**

Paris, 19–28 June 2007

UNESCO

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UNESCO 2007

IOC-XXIV/3
Paris, 25 July 2007
Original: English

(SC-2008/WS/9)

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1. OPENING

- 1 The Chairman, David Pugh, opened the 24th Session of the IOC Assembly at 09.30 a.m. on Tuesday 19 June 2007.
- 2 The Director-General of UNESCO addressed the Assembly. He noted that the last two years had been very challenging ones for the Commission, especially in the development of an Indian Ocean Tsunami Warning System (IOTWS). He particularly thanked those IOC Member States that had supported this development through UN mechanisms, and informed the Assembly that this system was now operational. Under the impulse from the IOC, 28 national tsunami warning systems had also been created. Nevertheless, more still needs to be done to develop an integrated early warning and emergency system. There are still many countries unable to ensure appropriate warning of exposed populations at the national level. The Director-General welcomed the fact that the north-east Atlantic Ocean, including the Mediterranean, and the Caribbean region were now being covered by multi-hazard warning systems.
- 3 The Director-General recalled the fact that the IOC is the only body in the UN system that is developing a global ocean observing warning system fully open to all Member States. He was also satisfied that IOC, through the GOOS surface drifters and Argo floats programmes, was making a major contribution to the management of the impact of climate change.
- 4 The Director-General stressed the importance of developing science to meet the needs of human society, particularly with respect to restoring degraded coastal zone and the associated ecosystems, and to protect public health. He stressed the need for global systems; partial or incomplete systems or numerous though independent local systems are not able to provide a viable solution. He emphasized the fact that most of the world's megacities are or soon will be in the coastal zone, hence susceptible to marine hazards.
- 5 The Director-General considered it particularly important that GEO/GEOSS recognize GOOS as a fundamental element in any global ocean warning system. He welcomed a number of related initiatives, notably: the jointly UNEP–IOC led Global Assessment of the Marine Environment; the Assessment of Assessments, a report on which will be submitted to the UN General Assembly in 2009.
- 6 Referring to the UNESCO Review of its Major Programmes, the Director-General expressed his pleasure that the IOC had received a very positive review and was already starting to implement some of the Review's Recommendations. The Review has also helped to orient UNESCO's Medium-Term Strategy (34 C/4), as well as IOC's programmes on the marine environment and natural-resource management. Regarding the future budget of the IOC, he informed the Assembly that the Draft UNESCO Programme and Budget (34 C/5) was still being elaborated.
- 7 Regarding the outcome of the present initiative on the future of the Commission, UNESCO will take into consideration the proposals eventually adopted by the Commission. However, he reminded the Assembly that greater autonomy also calls for greater obligations of the Member States. Comparing the IOC to the World Heritage Centre, which also has a similar status of autonomy within UNESCO, acting as the secretariat of the Convention concerning the protection of the World Cultural and Natural Heritage, he pointed out that the latter had a ratio of extra-budgetary to regular-programme funding of 6:1, against only 2:1 for IOC. He encouraged the IOC Member States to raise this ratio. This said, IOC helps to enhance the visibility of UNESCO itself to the general public.
- 8 The Director-General thanked the outgoing Officers of the Commission and expressed his hope for a very successful 24th Session of the Assembly.

9 The Chairman expressed the Assembly's appreciation of the Director-General's encouragement in the pursuit of a new and more effective IOC.

10 The Director-General's full statement appears in Annex III-A hereto.

11 The Chairman 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 intersessional period: Agustín Ayala Castañares (Mexico, former Chairman of the IOC), Patrick Obasi (former Secretary-General of WMO), Marco Polo Bernal (Mexico), Ümit Ünlüata (Turkey), Head of the Ocean Sciences Section of IOC, John Portmann (UK), formerly a prominent member of GESAMP and, more recently, member of the UK Delegation to the IOC.

2. ORGANIZATION OF THE SESSION

2.1 ADOPTION OF THE AGENDA

12 The Chairman introduced this item. He reminded the Assembly that the Executive Council, at its 40th Session (Paris, 18 June 2007), acting as the Steering Committee for the Assembly [Rule of Procedure 19.2], had considered the Second Revised Provisional Agenda for the Assembly (IOC-XXIV/1 Prov. Rev.2). He informed the Assembly that three proposals for supplementary items had been received (one by Italy, one by Sri Lanka, and one by Sudan). Nevertheless, the Executive Council had decided not to include the proposals in the Assembly's Revised Provisional Agenda; it proposed that the Executive Secretary, in consultation with the Member States concerned, promote informal initial discussion on the actions sought in the three proposals, in parallel to the present session of the Assembly.

13 **The Assembly adopted** the Second Revised Provisional Agenda, without amendment; it is in Annex I of the present Summary Report.

2.2 DESIGNATION OF THE RAPPORTEUR

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

15 Argentina proposed the Republic of Korea and the latter agreed to this proposal.

16 **The Assembly welcomed** Mr Sang-kyung Byun as the Rapporteur for the present session.

2.3 ESTABLISHMENT OF INTRASESSIONAL COMMITTEES

17 The Chairman invited the Assembly to constitute statutory sessional committees, pursuant to the recommendations of the 40th Session of the IOC Executive Council (Paris, 18 June 2007), acting as the Steering Committee for the Assembly under Rule of Procedure 19.2, to work on specific questions that will require decisions by the Assembly (Rule of Procedure 12.2), as follows:

- (i) Nominations Committee (item 5.2). The Chairman reminded the Assembly that this and the other sessional committees were open-ended; he first read out the names of those Member States that had already notified the Executive Council of their wish to participate in the Nominations Committee, then invited other Member States to manifest their interest. The composition therefore became: Brazil, Canada, Chile, China, Dominican Republic, Ecuador, France, Japan, Peru, Republic of Korea, Russian Federation, Spain, Sri Lanka, Tunisia, United Kingdom, United States of America, and Venezuela.

- 18 The Chairman proposed Mr Alfredo Picasso de Oyagüe of Peru to chair this Committee, and Peru kindly agreed to do so.
- (ii) Resolutions Committee (item 6). The Chairman read out the names of those Member States that had already notified the Executive Council of their wish to participate in the Resolutions Committee, then invited other Member States to manifest their interest. The current composition therefore became: Argentina, Australia, Canada, Cuba, China, France, Japan, Republic of Korea, Russian Federation, The United States of America and Venezuela.
- 19 The Chairman proposed Canada to chair this Committee; Canada kindly agreed to do so and nominated Geoffrey Holland.
- (iii) Financial Committee, under the Chairmanship of Neville Smith (Australia), Vice-Chairman responsible for financial matters (items 3.2, 4.1.2, and 5.1). The Chairman read out the names of those Member States that had already notified the Executive Council of their wish to participate in the Financial Committee, then invited other Member States to manifest their interest. The composition therefore became: Argentina, Australia, Belgium, Brazil, Canada, China, Finland, France, Germany, Ghana, India, Japan, Kenya, Kuwait, Nigeria, Portugal, the Russian Federation, Tanzania, the United Kingdom, the United States of America, and Venezuela.
- 20 The Chairman stressed the importance of the detailed paper, titled "The Future of IOC: a Proposal by the Officers to the Member States, June 2007" (IOC-XXIV/2 Annex 2), and the need for its careful consideration by the Assembly.
- 21 In the light of this major issue, **the Assembly decided** to constitute an ad hoc open-ended sessional Working Group on the Future of IOC, to discuss the proposal made by the Officers (item 3.1 of the Assembly Agenda).
- 22 The Chairman invited Member States to declare their interest in participating in the work of this Group; as a result, its initial composition was: Argentina, Australia, Belgium, Brazil, Cameroon, Canada, China, Colombia, Congo, Cuba, France, Germany, Greece, India, Iran, Norway, Portugal, Republic of Korea, Russian Federation, Senegal, Spain, The Netherlands, Togo, Tunisia, United Kingdom, United States of America, and Venezuela.
- 23 The Chairman proposed that Captain Javier Valladares (Argentina) be the Chairman of this Working Group, in view of his considerable past involvement in the question of IOC's future.
- 24 **The Assembly accepted** this proposal.
- 25 The Chairman reminded the Assembly of the outcome of the Overall Review of Major UNESCO Programmes II (Natural Sciences) and III (Social and Human Sciences); the UNESCO Deputy Director-General and Chairman of the Review Panel had invited the Commission to respond to the Executive Board of UNESCO regarding the Review's Recommendations concerning IOC by 31 July 2007 (176 EX/Dec.7). The Director-General had also invited the Commission to prepare a response that he would submit to the 34th Session of the General Conference of UNESCO.
- 26 The Chairman suggested that the Financial Committee should consider the Medium-Term Strategy 2008–2013 and elements for an eventual IOC response to the UNESCO Review's Recommendations.
- 27 Regarding the creation of sessional Working Groups on the IOC Ocean Sciences Programme (item 4.2.1 of the Assembly Agenda) and on the IOC Data Management Strategy (item 4.3.6 of the Assembly Agenda), the Chairman proposed that this decision be delayed till

the respective agenda items came up for discussion in plenary, when the real need for them would become clearer; they should, in any case, be expected only to hold short meetings.

2.4 INTRODUCTION OF DOCUMENTATION AND TIMETABLE

28 The Executive Secretary introduced this item. In addition to reviewing briefly the list of Working Documents, he drew the attention of the Assembly particularly to the Action Paper, including the Annexes thereto, as the principal guide to the debate of the Assembly and as an aid in the preparation of the Draft Summary Report, and to the various reports for the information of participants.

29 The Chairman invited the Technical Secretary responsible for this Agenda Item to briefly describe the third Revised Provisional Timetable which had been reviewed and accepted by the Executive Council taking into account: (i) the time likely to be required by the sessional committees and working groups to report to the plenary; (ii) the timely preparation of the Draft Summary Report in all the Commission's working languages; and (iii) the need to benefit from the interpretation service available. The Chairman reminded participants that: the deadline for nominations for the election of the Officers of the Commission and of members of the Executive Council was Wednesday 20 June 2007 at 5.30 p.m.; the deadline for Draft Resolutions was Saturday 23 June 2007 at 5.00 p.m.; and the plenary will be in session for the whole day on Saturday 23 June.

2.5 ANTON BRUUN AND N.K. PANIKKAR MEMORIAL LECTURES

30 Professor Leonid A. Timokhov, Director of the German–Russian Laboratory for Polar and Marine Research at the Arctic and Antarctic Research Institute (AARI), St Petersburg, Russian Federation, delivered the IOC Bruun Memorial Lecture 2007 on “The Arctic and Southern Oceans: Origin, Physical and Chemical Properties, Circulation and Variability, and its Role in the World Ocean and the Global Climate System”. On this occasion, the Chairman presented Professor Timokhov with the IOC Anton Bruun Medal.

31 An abstract of the Bruun Memorial Lecture 2007 is in Annex IV to the present report and the full Lecture will be published in the IOC Technical Series.

32 Dr R.A. Mashelkar, FRS, President, Global Research Alliance, National Chemical Laboratory (NCL), Pune, India, delivered the IOC N.K. Panikkar Memorial Lecture 2007 on “Information Exchange and Development: the Challenges Ahead for the Intellectual Property Regime.”

33 Dr Mashelkar introduced the complex problem of balancing intellectual property rights and development. These issues have large economic implications; for example, there is a difficult balance between ensuring public health and stimulating innovation in the field of pharmaceuticals. Dr Mashelkar presented various models that justly recognize the rights of communities to the ownership of their traditional knowledge, while allowing the sharing of this knowledge for the benefit of all humanity.

34 Dr Mashelkar then gave an overview of these issues in the context of marine resources. The wealth of marine organisms in terms of bioactive compounds makes them extremely promising for pharmaceutical applications; however there are many technical challenges in the utilization of these compounds in medical applications on a large scale. He illustrated these issues with examples from research in India.

35 In answer to questions, Dr Mashelkar further elaborated on the ways in which the lessons learned from the debate on intellectual property in terms of terrestrial issues could be applied to marine resources. When the UN Convention on the Law of the Sea was drafted and adopted, benefits from the world ocean were primarily seen as coming from the exploitation of

seabed minerals. Dr Mashelkar agreed that, like the mineral resources, the genetic material derived from the world ocean will likely remain in the public domain, and the technological processes developed for the medical applications of this genetic material will probably be subject to patents.

36 Côte d'Ivoire emphasized the importance of collaboration between scientists and the owners of traditional knowledge.

3. STATUTORY REPORTS

3.1 STATEMENT OF THE CHAIRMAN ON THE STATE OF IOC

37 In accordance with Rule of Procedure 8.1.a, the Chairman delivered his statement on recent developments in the work of the Commission and perspectives for the coming years. He informed the Assembly that, during the intersessional period, on behalf of IOC, he attended meetings in Belgium, Fiji, Finland, New Zealand and the Solomon Islands (SOPAC meeting). Following the 23rd Session of the Assembly, the IOC Officers met four times, including, more recently, in St. Petersburg (Russian Federation), and by videoconference on 26–27 March 2007. The IOC Officers also met jointly with the Board of the World Meteorological Organization (WMO) in Moscow (Russian Federation), on 26 January 2007.

38 The Chairman stressed the increased awareness of governments of the need for a holistic approach to oceans and coastal zones, and noted the encouraging responses IOC is providing Member States in the development of national capabilities in ocean sciences and services. He felt that the IOC, through its programmes, must provide the necessary data, information and knowledge to contribute to services needed to address ocean issues effectively. However, and despite many important achievements, the “state of IOC” is a state of crisis, in which the budget and staff resources are not adequate to allow the IOC effectively to address its overall responsibilities. While intergovernmental ocean activities, including ocean monitoring and assessments, will continue to increase; the question is the extent to which the IOC can contribute to and lead those activities, for which purpose the IOC was established by Member States nearly fifty years ago.

39 The Chairman assured the Assembly that, regarding the future of the oceans and for the future of IOC, he remains a determined optimist. The full text of the Chairman's statement is in Annex III-C of the present report (document IOC-XXIV/2 Annex 1).

40 He then referred to the document “The Future of IOC: a Proposal by the Officers to the Member States, June 2007” (document IOC-XXIV/2 Annex 2) and invited preliminary comments from the floor.

41 The IOC Vice-Chairman, Captain Javier Valladares (Argentina), noted that the Chairman's statement reminded the Assembly that there are many ideas and proposals to solve the crisis, but the challenge is to make a clear contribution to the definition of the future institutional status of IOC.

42 Several Member States intervened to thank the Chairman for the clarity of his statement on the state of IOC, and the IOC Officers for preparing “The Future of IOC” document, which identifies the problems IOC faces and the different options to be explored.

43 A general consensus emerged that there is a real need to explore the options for the future of IOC. All the speakers expressed their availability to contribute to the discussions in the intrasessional Working Group on the future institutional status of IOC.

44 China, France and the United States of America indicated their availability for an Extraordinary Session of the Assembly in 2008 to elaborate on the options available. France,

however, warned the Assembly of the possibility that the preparation of such a session might take more than one year; and the United States of America asked for a clarification of the budgetary implications of an Extraordinary Session.

45 Several Member States, notably Germany and the United States of America, expressed the view that IOC resources and activities should be focused on agreed priorities. They stressed the view that active search for extrabudgetary contributions, with full transparency of the resource allocation, as well as use of performance metrics, should also be part of the future IOC.

46 Australia, France, Japan, Norway and the United Kingdom expressed the view that, among the available options, the creation of a new specialized agency for the oceans, separate from UNESCO, would probably not, by itself, solve the key issues raised in the paper. They urged the improvement of existing structures rather than the creation of new ones, as well as raising the level of political engagement and support.

47 Brazil expressed the view that the discussion raised should focus on reinforcing IOC's role and the capabilities within UNESCO, stressing that IOC benefits from the synergies created by UNESCO's programme and activities.

48 The Russian Federation expressed the view that some form of legal instrument could be explored with a view to improving IOC's status and autonomy within UNESCO, possibly through a treaty. The Russian Federation stressed the uniqueness of IOC, as the only organization in the UN dealing exclusively with ocean sciences and services. With respect to financial aspects, the Russian Federation suggested that IOC should be assigned a fixed percentage of UNESCO's Regular Budget.

49 Canada indicated that the study that Member States will undertake to define the future of IOC will have to seek a more stable financial status for the IOC.

50 Portugal indicated that international cooperation on ocean affairs requires increased priority for ocean issues at the national policy-making level, as progress at the international level calls also for progress at the national level. Portugal is prepared to consider appropriate instruments, not excluding that of an autonomous organization.

51 Brazil, Norway, and the United Kingdom emphasized the view that there is room for improving the status of IOC within UNESCO, but that this would require active work with the national governments and with the national representatives to the governing bodies of UNESCO.

52 Cuba, referring to the functional autonomy of IOC within UNESCO, stressed the fact that, in practice, IOC does not have the autonomy to decide fully its programme and budget.

53 The Executive Secretary indicated that 36 independent UN specialized agencies are established under autonomous conventions or treaties, but that there is no single planning process and budgetary planning coordination among them and with the central UN system. Furthermore, Member States do not speak with the same voice at the governing bodies of the various bodies dealing with these conventions and other instruments dealing with ocean affairs; nor is there specific budget for the coordination of these bodies.

54 The Chairman of the intrasessional Working Group on the Future of the IOC, Captain Javier Valladares (Argentina), reported to the Assembly on the results of the Working Group's discussions. The Working Group proposed Terms of Reference for an intersessional Working Group on the Future of IOC, which should report its conclusions to the Executive Council at its 41st Session; it also proposed a statement for adoption by the Assembly at the present session.

55 **The Assembly adopted [Resolution XXIV-1](#).**

3.2 REPORT BY THE EXECUTIVE SECRETARY ON PROGRAMME AND BUDGET IMPLEMENTATION (2006–2007)

- 56 The Executive Secretary introduced this item. In accordance with Rule of Procedure 8.1.b, the Executive Secretary reports to the Assembly on programme implementation; and in accordance with Rule of Procedure 49.1, submits to each session of the Assembly a report on the work accomplished since the previous session.
- 57 The Executive Secretary provided an overview of programme and budget implementation during 2006–2007, focusing on implications for policy-makers. He reminded the Assembly of the role of the Commission in raising awareness of climate change and the need to develop ocean research in order to better understand climate change. IOC also contributed to the first global carbon inventory under the UNFCCC. Regarding the current reform of the United Nations system, the Executive Secretary noted the recommendations of the High-Level Panel, established by the Secretary-General of the UN, embodied in the report “Delivering as One”, published in November 2006. In particular, the report addresses three areas of UN action: development; humanitarian aid; and environment and stresses joint UN work at the country level. Concerning the environment, the report contained a strong plea to strengthen the role of UNEP, and a very critical assessment of the state of environmental governance. In the field of ocean affairs alone, there are over 525 international agreements, making implementation and governance very difficult for Member States. The “One UN” process advocates one programme, one budget at country level: seven developing countries have been selected for piloting this approach in 2007. These developments are particularly relevant and challenging for a specialized body like the IOC, as they entail mainstreaming ocean and coastal issues into a development agenda in which priorities are set by national governments.
- 58 The Executive Secretary then described the good progress achieved so far, in spite of limited means, in the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socio-economic Aspects (GRAME), whose first phase, the Assessment of the Assessments, is jointly led by IOC and UNEP. This point is addressed in detail under agenda item 4.1.1.
- 59 Another area in which IOC has been active in 2006–2007 is the conservation and management of biodiversity in areas beyond national jurisdiction. Jointly with IUCN, Australia, Canada, and Mexico, IOC established in 2007 a Group of Experts on Biogeographic Classification Systems in Open Ocean and Deep Seabed Areas, which will provide direct scientific inputs to the United Nations “Working Group on Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity beyond Areas of National Jurisdiction.”
- 60 The Executive Secretary recalled that the IOC Assembly had given a mandate to its Advisory Body of Experts on the Law of the Sea (IOC/ABE-LOS) to develop guidelines on the implementation of Article 247 of the United Nations Convention on the Law of the Sea, concerning a potential simplified procedure to grant permission to conduct research in the Exclusive Economic Zone (EEZ). After the approval of these guidelines, their publication is expected later this year.
- 61 The Overall Review of Major UNESCO Programme II (Natural Sciences) and III (Social and Human Sciences), whose recommendations were elaborated by a Group of Experts appointed by the Director-General, pointed to a strong interdisciplinary and intersectoral approach within UNESCO.
- 62 The Executive Secretary recalled the components of the functional autonomy granted to IOC by the General Conference of UNESCO through Resolution 24 C/10.4, expressed in the Commission's Statutes and the Financial Rules, including the prerogative of the IOC Assembly to approve the Commission's biennial Programme and Budget. The approach taken in the Draft Programme and Budget 2008–2009 (IOC-XXIV/2 Annex 11) includes estimates of expected

extrabudgetary resources for programme implementation and is built around the high-level objectives defined by the IOC Draft Medium-term Strategy approved by the Executive Council (Resolution EC-XXXIX.1) at its 39th Session, rather than around small-scale allocations for activities. This approach has been followed by the Financial Committee in its work at the present session of the Assembly. He emphasized the positive experience of UNESCO's World Heritage Centre (WHC) in raising and managing extrabudgetary funds with a ratio of 6:1 when compared to the regular programme and staff allocation in 2004–2006, versus a ratio of 2:1 for IOC. This difference can only be explained thanks to the role of the World Heritage Convention and related Member State contributions based on the UN assessment scale.

63 He reported that, in 2006–2007, IOC maintained a very productive interaction with scientific institutions and networks; a good example was the ongoing collaboration on marine biodiversity with scientific programmes such as Diversitas and the Census of Marine Life, as well as with the countries of the CPPS (Colombia, Chile, Ecuador and Peru), with a view to organizing a meeting at ministerial level in 2008.

64 As to the role of IOC in Africa, the Executive Secretary highlighted the contribution to the NEPAD Science and Technology Plan of the African Union, especially in the field of remote sensing and through a major Forum of GOOS Regional Alliances, 14–17 November 2006, Cape Town, South Africa, which led to the identification of a series of future programmes and projects in Africa and elsewhere.

65 Several Member States thanked the Executive Secretary for the report on programme implementation and budget execution in 2006–2007 and for the approach taken in developing the Draft Programme and Budget for 2008–2009.

66 The United States of America commended the contents and form of the Draft Programme and Budget for 2008–2009, its linkages with the UNESCO Draft 34 C/5 and the adoption of a Zero Real Growth (ZRG) scenario, as well as for the piloting of performance indicators for the IODE and the Tsunami Programme, and recommended that such indicators be adopted for all programmes. It suggested that the Secretariat should provide updated information on the status of National Oceanographic Committees. The United States of America declared a commitment to work towards an increase in extrabudgetary contributions to the IOC.

67 The Russian Federation, echoed by Australia, underlined the importance of the Medium-Term Strategy 2008–2013, as a blueprint for the development of the Programme and Budget 2008–2009, linking financial allocation to priorities and performance indicators. The Russian Federation also suggested that the Secretariat should elaborate on the shortage of funding and staff experienced by the Commission, through the use of targets and performance indicators. It also expressed positive views on the experience of the WHC and the establishment of a legal instrument for IOC, which might help to mobilize funding at the national level.

68 Portugal suggested that the "One UN" process should be used to reinforce the regional implementation of IOC global programmes. The delegate advocated a balanced approach to the allocation of funds and called for the identification of strategic priorities, the strengthening of IOC's functional autonomy within UNESCO and the establishment of regional trust funds.

69 India informed the Assembly that its Commission on Oceanography and Geosciences is now acting as the National Oceanographic Committee. Furthermore, the technological infrastructure for detecting tsunamis has been completed and the national tsunami warning centre will be operational from October this year.

70 Brazil stressed the need that the IOC Secretariat strengthen its support to the IOC/UNESCO GOOS Programme Office in Rio de Janeiro, which recently received a very positive review on its management and implementation of the GOOS programme in the region. It emphasized the importance that the Programme and Budget 2008–2009 properly reflect the

priority given to the implementation of the GOOS Programme, and activities concerning the International Polar Year, and that Member States' priorities in the regional context be given due consideration. It recognized the importance of reinforcing the coordination with other UN agencies, but further recalled that the UN Reform is an ongoing process and therefore the "One UN" approach should not be taken as a reference for the regional implementation of IOC activities at this stage.

71 Senegal underlined the need to reinforce the capacities of Member States in marine sciences. It pointed out that the IOC Strategy for Capacity-Building should be made more effective through stronger cooperation with oceanographic institutes in Africa, by developing projects with clear objectives and performance indicators. It emphasized the importance of ensuring transfer of marine technology, as well as of supporting coastal countries in their efforts to extend their continental shelves pursuant to Article 76 of UNCLOS.

72 The Côte d'Ivoire supported a regional approach to the implementation of the "One UN" process, even for the selected pilot countries, and informed the Assembly that this approach is being followed in the project on the Guinea Current Large Marine Ecosystem (GCLME). It advocated a stronger budget allocation to Africa.

73 Some Member States (Finland, echoed by Australia and Canada) found that there was a certain contradiction between the positive tone of the Executive Secretary's Report on Programme Implementation and the alarming assessment provided by the document on "The Future of IOC: a Proposal by the Officers to the Member States, June 2007" (IOC-XXIV/2 Annex 2). They suggested that more-specific examples of financial deficits should be provided; for example, in relation to GRAME.

74 In replying to Member States, the Executive Secretary noted that document IOC-XXIV/2 Annex 3 Add.1 (SISTER extract) provides an assessment of the challenges experienced by IOC in the last biennium. He underlined the fact that one of the structural challenges to IOC is the size of the staff allocation, recalling that, at the time of the present session, the IOC Secretariat has 21 permanent posts, of which 9 are professional, compared to 22 in 1992. However, 51 staff members are currently employed by the IOC to implement programmes, but under short-term conditions, a proportion unparalleled in UNESCO, especially for the tsunami work. The lack of IOC professional administrative and executive staff is particularly damaging, since the Commission's advantage of having a special account cannot be fully exploited. The Executive Secretary underlined the fact that IOC has to operate very flexibly under uncertain conditions if programmes are to be implemented. One example is GRAME, to which Member States are supposed to contribute \$ 2.2 million, of which only less than one fourth has been made available: waiting for the resources to be made available would have meant not initiating a task that is due to be completed by the end of 2008. The Executive Secretary concluded by calling Member States to support the strengthening of IOC within UNESCO and the provision of extrabudgetary funds.

3.3 REPORT ON ACTIVITIES OF THE IOC (2005–2006) FOR PRESENTATION TO THE THIRTY-FOURTH GENERAL CONFERENCE OF UNESCO

75 The Executive Secretary introduced this item. The Report by IOC to the 34th General Conference of UNESCO will focus on: progress in implementing the priority actions assigned to IOC under the UNESCO Medium-Term Strategy 2002–2007; the Approved Programme and Budget for 2004–2005 (32 C/5) and that for 2006–2007 (33 C/5); and the corresponding Main Lines of Action (MLAs) for the period 2005–2006, noting that, for the biennium 2006–2007, the five MLAs of the previous biennium were consolidated into three. The report contains a comparative appraisal of the activities accomplished by IOC under the 32 C/5 and 33 C/5.

76 The Executive Secretary reminded the Assembly that, in the general debate of the 33rd General Conference of UNESCO on the Preparation of the Draft Programme and Budget for

2008–2009 (Draft 34 C/5), “Strong support was also expressed for priority attention to the management of coastal and marine areas, with particular reference to the Intergovernmental Oceanographic Commission (IOC), which was commended for its role in leading the establishment of a global early warning system and for the strong partnerships it has developed for this purpose. In this regard, several Member States acknowledged UNESCO’s successful contribution to the United Nations-wide coordination mechanisms of water and oceans.”

77 **The Assembly adopted** the Report by the IOC on its Activities (2005–2006), for submission to the 34th UNESCO General Conference.

4. PROGRAMME MATTERS REQUIRING DECISIONS BY THE ASSEMBLY

4.1 GENERAL POLICY ISSUES

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

78 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.

79 The United Nations General Assembly (UNGA) Resolution A/RES/57/141 and the Heads of States and Governments at the World Summit on Sustainable Development (Johannesburg, 26 August–4 September 2002) called for the establishment of a Regular Process for the Global Reporting and Assessment of the State of the Marine Environment, including Socio-Economic Aspects (GRAME) by 2004.

80 UNGA, through its Resolution A/RES/60/30, decided to launch the start-up phase of the Regular Process.

81 In August 2006, a list of high-level experts (20) and peer reviewers identified by IOC and UNEP was endorsed by the Ad Hoc Steering Group. Further preparatory work was undertaken in the fall, in collaboration with the UNEP World Conservation Monitoring Centre (UNEP-WCMC), with the support of GESAMP. This led to the publication of a “Survey of global and regional assessments and related activities of the marine environment” published in February 2007, and the development of an associated online database of 130 assessments at this date (www.unep-wcmc.org/GRAMED). These provide supporting information to the work of the Assessment of Assessments (AoA) Group of Experts as well as recommendations on methodological issues.

82 On 20 December 2006, UNGA adopted a new Resolution A/RES/61/222 on Oceans and the Law of the Sea, which included decisions on the Regular Process (Chapter XII). The Resolution, among other things, invited Member States, the Global Environment Facility and other interested parties to contribute financially to the AoA, taking into account the work plan and budget approved by the Ad Hoc Steering Group, in order to complete the AoA within the specified period. Thanks to financial support received from some Member States, such as Belgium, Canada, The Netherlands, the Republic of Korea and the United States of America, the lead agencies convened the first meeting of the Group of Experts at UNESCO Headquarters from 28 to 30 March 2007. The General Assembly will be briefed through the Informal Consultative Process on the outcome of this meeting.

83 Mr Barbière presented the draft work plan and approach formulated by the Group of Experts, and highlighted the budgetary requirements for the implementation of the AoA (presently estimated at \$ 1,9 Million over the two-year period).

84 IOC and UNEP are fully dependent on extrabudgetary contributions to perform this important task. Both are working to mobilize the financial and human resources necessary, in line with UNGA Resolution A/RES/60/30, which states that the AoA should “be financed through voluntary contributions and other resources available to participating organizations and bodies, and invites Member States in a position to do so to make contributions.”

85 The IOC Executive Secretary recalled the ten-year high-level political developments that led to the establishment of the Regular Process directly under the authority of the UN General Assembly. In this respect, the AoA initiative is under the oversight of the Ad Hoc Steering Group appointed by the Chairman of the General Assembly after consulting the regional groups. He stressed the importance of ensuring the full participation of relevant regional organizations, including IOC subsidiary bodies, in the implementation of the AoA, and informed the Assembly of the steps taken in this regard.

86 Norway thanked the Executive Secretary for his report and congratulated the IOC on starting this work, with others, even under uncertain financial conditions. The UNGA decision should be taken seriously. As mentioned by several delegates, this work will draw upon existing regional and, to some extent, national assessments. Norway is active in this field and is ready to assist with information. The work is also in line with Norwegian policy for environment and development. Norway is ready to consider the scope and modalities for interaction with the further work.

87 **The Assembly stressed** the importance of the Regular Process and the AoA as major global endeavours to improve the sustainable management of oceans and coastal areas.

88 **The Assembly welcomed** the progress made in initiating the AoA start-up phase.

89 Several Member States highlighted the need to ensure that, in formulating the framework for the Regular Process, the contribution of national marine assessments is fully taken into account, as well as the need to tap existing local expertise in the regions.

90 Some Member States highlighted the need for the Regular Process to establish clear linkages with the ocean observation programmes of IOC as well as with GEOSS.

4.1.2 Presentation by the Executive Secretary of the IOC Draft Medium-Term Strategy for 2008–2013

91 The Executive Secretary introduced this item. By Resolution EC-XXXIX.1, the Executive Council, at its 39th Session, adopted four high-level objectives as the basis for the development of the Draft IOC Medium-Term Strategy 2008–2013: (i) prevention and reduction of the impacts of natural hazards; (ii) mitigation of the impacts of, and adaptation to, climate change and variability; (iii) safeguarding the health of ocean ecosystems; and (iv) management procedures and policies leading to the sustainability of coastal and ocean environment and resources.

92 Concerning the relationship between the IOC's and UNESCO's Medium-Term Strategies for 2008–2013, IOC areas of competence are clearly recognized in relation to: (i) the IOC role in established cooperative mechanisms of the UN system, like UN-Oceans; (ii) understanding climate change and resulting sea-level rise and their impacts on resources, societies and ecosystems; (iii) the development of GOOS within the Global Earth Observation System of Systems (GEOSS); and (iv) the implementation of operational tsunami early warning and mitigation systems in Africa, the South Pacific, the Mediterranean Sea, the North-eastern Atlantic and the Caribbean and the preparation of vulnerable communities to mitigate and cope with disasters.

93 The Medium-Term Strategy applies not only to the Secretariat but also to the Member States of the Commission and is based on the mobilization not just of the Regular Programme,

but also on extrabudgetary resources and direct capital investments by Member States: The record shows, the IOC has been able to increasingly support part of its activities with extrabudgetary resources. It is the declared intention of the Member States of the Commission to explore and eventually agree in the coming six years on the design of new mechanisms, under Article 10 of the Statutes, to improve the sustained level of support provided to programme implementation over and beyond the funds appropriated by the General Conference of UNESCO. Resources in the budget of IOC can only sustain the planning and coordination of activities, the promotion of the different elements of the programme and serve as seed money for the leveraging of resources from the international financial institutions, bilateral and multilateral donor agencies engaged in cooperation for development (IOC-XXIV/2 Annex 5, Para. 21).

- 94 China supported the Strategy as being comprehensive, substantial and in line with the UNESCO Medium-Term Strategy. It emphasized that, in the ocean sciences thrust, emphasis should be given to the intergovernmental dimension; the same should apply to the GOOS; whereas ocean services should be developed and provided in cooperation with other competent organizations. Institutional capacity-building should also be strengthened, especially through a regional approach. China recommended that, for the implementation of the IOC Medium-Term Strategy, UNESCO should allocate more staff.
- 95 The United States of America supported the Medium-Term Strategy and its programmatic approach. As for IOC's relation to UNESCO activities, the United States of America was of the view that IOC is contributing to multiple strategic programme objectives and that this should be reflected in the Medium-Term Strategy. It recommended that expected results be placed in a temporal context and that performance indicators be enhanced by the identification of appropriate metrics. These last comments were echoed by Spain.
- 96 Recognizing the challenges arising from climate change, natural disasters and increased population in coastal zones, Norway encouraged the IOC to emphasize the development of evidence-based policy and research capacities in developing countries, in particular in Africa and Asia, in implementing the Medium-Term Strategy.
- 97 Kuwait suggested that the Medium-Term Strategy include strategies for strengthening cooperation with the private sector and other United Nations organizations.
- 98 Venezuela recommended including among the objectives the fight against poverty and the protection of artisanal fishermen.
- 99 The Chairman of the Financial (Programme and Budget) Committee, Dr Neville Smith (Australia, and Vice-Chairman responsible for financial matters), introduced the proposed Medium-Term Strategy 2008–2013 and the proposed Programme and Budget 2008–2009, drawing attention to the fact that the Financial Committee's mandate had been provisionally extended by the Assembly at the present session to include the development of the Biennial Strategy under agenda item 4.1.2.
- 100 The Financial Committee recommended that the basis for the Medium-Term Strategy in Resolution EC-XXXIX.1 be adopted without change by the Assembly as the Medium-Term Strategy 2008–2013.
- 101 The Financial Committee considered the wider issue of strategic planning within the IOC and concluded that it was timely and appropriate to agree on a revised approach as part of the development of plans for the biennium 2008–2009. A number of elements will be considered for the elaboration of this new approach, including:
- The planning process and schedule for UNESCO

- The Medium-Term Strategy for IOC, within UNESCO, prepared by the IOC Executive Council in 2006 and adopted by the Assembly at the present session
- An IOC Biennial Strategy for the period 2008–2009, adopted by the Assembly at the present session
- An IOC Biennial Operational Plan for the period 2008–2009, prepared at the Assembly, but subject to modification in the light of intersessional developments
- An Operational Plan for the IOC Secretariat, developed in initial draft form for the consideration of the Assembly, to be modified and presented in 2008 to the Executive Council at its 41st Session for comment.

102 The Chairman of the Financial Committee drew attention to the need for the Strategic Plan to be truly strategic, focusing on the response to the High-Level Objectives of the Medium-Term Strategy (Resolution EC-XXXIX.1) and to UNESCO and IOC Member State priorities. Expected results, performance indicators and a monitoring and evaluation component are elements of the Strategy. He reported that a draft of this Plan had been agreed, drawing on the information provided in IOC-XXIV/2 Annex 5, but including additional detail on the approach and a strengthened structure.

103 Dr Smith noted that an outline of the Biennial Operational Plan for the period 2008–2009 has also been drawn up, but that it was not possible to complete the work beyond a first draft plan in English, containing an outline and the suggested approach. This Operational Plan is critical for connecting up the actions of all Subsidiary Bodies and, in particular, for emphasizing the role of the Regional Subsidiary Bodies in developing capability and contributing to the programme of work of the IOC. The Committee suggested that this Operational Plan be recognized as an initial draft and requested the Executive Secretary to make it available to Member States. The Chairman of the Financial Committee noted that it was not possible to include, as an annex to Draft Resolution XXIV-(4.1.2), the full Biennial Strategic Plan in its present state; instead, a Biennial Strategy, including revised expected results and performance indicators, is provided.

104 **The Assembly approved** of the Financial Committee report and **adopted** [Resolution XXIV-2](#).

4.1.3 Preparation for the commemoration of the 50th Anniversary of the IOC (1960–2010)

105 The Vice-Chairman in charge of regional affairs, Professor Mário Ruivo, introduced this item. The IOC Executive Council requested the IOC Vice-Chairman and a Past IOC Chairman, Mr Geoffrey Holland (Canada), to work in cooperation with the Officers of the Commission and of its Subsidiary Bodies, and with other experts, as appropriate, to prepare suggestions for the celebration of the 50th IOC anniversary (to take place in 2010), for presentation to Member States for action. The Vice-Chairman noted the significance of a few events occurring in the run-up to and follow-up of the 10-year anniversary of the World Expo 1998 on Oceans, and the prioritization, by the UN Commission on Sustainable Development, of ocean affairs as its thematic issue for 2014.

106 For the strategic planning for the celebration, the Vice-Chairman mentioned two guiding objectives:

- (i) The enhancement of the level of public awareness of the importance of collaboration and involvement in ocean science at all levels of society (e.g. civil society, media, government, international organizations)

- (ii) The worldwide promotion of a better image of IOC and of the solidarity of the international community in the field of ocean science; here IOC should involve other UN agencies where possible (e.g. WMO, UNEP, FAO).

107 The Vice-Chairman then reported on the ideas proposed so far for celebrating the 50th anniversary of the IOC:

- (i) The publication of a book on the 'History of IOC'
- (ii) The publication of country-specific brochures for 2010 with the aim of giving impetus to ocean affairs at the national level
- (iii) In the run-up to the UN Commission on Sustainable Development's thematic issue in 2014, on ocean affairs, prepare and organize an IOC meeting to take place in 2010 in New York with a view to providing the political impetus for cooperation in ocean relations and sustainable development.

108 Several Member States (Argentina, China, Cuba, Germany, Greece, India, Nigeria, and Spain) expressed their strong support and endorsed the proposed activities for the celebration, noting that the celebration presents a great opportunity to direct public attention to the Commission's legacy and to take stock of its achievements.

109 In addition to the proposed activities, several Member States put forth other ideas. As a contribution to IOC's celebration in 2010, Germany reported that it plans to organize an international conference on tsunami issues. Given the level of interest of Member States in contributing to the celebrations, Germany also proposed a calendar of global events held during 2010, in order to ensure coherence and help avoid duplication of effort.

110 India, Argentina and Cuba also expressed their interest in organizing an event. India and Argentina expressed the need for events to be held at the regional level, as a way to show global solidarity.

111 China proposed the organization of a global policy conference to be held in 2010 that could serve to take stock of IOC's achievements.

112 Spain put forth the idea of IOC organizing a UN "Year of the Oceans" in 2010.

113 Argentina, supported by China, Cuba, Greece, Nigeria and Spain, proposed the setting up of a group to coordinate the planning of celebrations of the 50th Anniversary of IOC.

114 Several countries mentioned that the experience of Professor Mário Ruivo (Portugal) and Dr Iouri Oliounine (IOI) would be extremely useful.

115 China recommended that the Assembly adopt a Resolution on this matter that would specify the terms of reference of the proposed Working Group, which should be charged also with reporting on its work to the IOC Executive Council at its 41st Session.

116 Cuba announced that it will be organizing a Latin American Conference on Marine Sciences in 2009, which could be incorporated into the events calendar of the celebrations. Cuba requested IOC to participate in this conference.

117 The Representative of SCOR, a strong partner of IOC, congratulated IOC on its forthcoming anniversary, and invited IOC to participate in its own 50-year anniversary celebrations in October 2008.

118 **The Assembly endorsed** the proposed activities, and **adopted** [Resolution XXIV-4](#).

4.1.4 IOC participation in the International Polar Year 2007–2009

- 119 The Head of the IOC Ocean Observations and Services Section, Dr Keith Alverson, introduced this item. He apologized on behalf of the Director of the German–Russian Laboratory for Polar and Marine Research at the Arctic and Antarctic Research Institute (AARI), Professor Leonid A. Timokhov, who had intended to introduce the item but was unable to do so, owing to his travel itinerary.
- 120 Dr Alverson highlighted the rapid rate of change in the Arctic, exemplified by recent scientific results from the Zackenberg research station in Greenland showing that certain biological indicators of spring had occurred more than 30 days early in 2007 compared to the long-term mean. He noted the necessity of sustained observations in order to document and understand such changes, and that the programme of the IPY had been developed through bottom-up, science-driven cooperation amongst more than 50,000 scientists from over 60 countries. He reminded the Assembly that many of the projects within the IPY target the oceans. A Joint ICSU–WMO Scientific Committee, in which IOC participates, provides the overall guidance and leadership for IPY and has recently published a document (WMO/TD – No. 1364) providing an overview of the scope of the IPY science.
- 121 Dr Alverson also gave an overview of the IOC activities planned as contributions to the IPY. For example, a polar researcher, Professor Leonid A. Timokhov, was chosen to deliver the 2007 Anton Bruun Memorial Lecture. Additionally, GOOS has elaborated a plan for the development of a GOOS Arctic Regional Alliance and is working, together with SCOR, SCAR, POGO and the Census of Marine Life, towards the establishment of a Southern Ocean observing system, both as sustained legacies of the IPY.
- 122 Numerous Member States acknowledged the ongoing efforts carried out to date by the Secretariat to improve the coordination of the IPY. Several Member States noted their substantial national research and observation efforts as contributions to the IPY, and expressed the importance of aligning IOC programmes, including GOOS, IODE and JCOMM, with IPY, in order to facilitate data exchange and sustain ocean observations in the polar regions as a legacy of IPY.
- 123 The United States of America expressed its support for the expansion of the GLOSS sea-level network in polar regions as part of IPY.
- 124 The Co-president of JCOMM, Dr Peter Dexter, indicated that an IPY portal on sea ice had been developed by JCOMM to support missions during the IPY. He noted that the Integrated Arctic and Southern Ocean observing systems being developed as a legacy of the IPY are the most realistic mechanisms to catalyse sustained ocean observing systems at both poles.
- 125 The Representative of IHO noted that his organization works with IOC, SCAR and GEBCO to map the Antarctic and Arctic seafloors so as to increase safety of navigation and support science, and he invited Member States to provide any bathymetric data taken as part of IPY to world data centres, in order to improve these maps.
- 126 **The Assembly welcomed** the progress in the activities under the IPY and **confirmed** its continuing support for this major international scientific programme.

4.1.5 Secretariat report on the Global Earth Observation System of Systems (GEOSS)

- 127 The Under Secretary of Commerce for Oceans and Atmosphere and Administrator of the US National Oceanic and Atmospheric Administration (NOAA), Vice Admiral Conrad Lautenbacher, in his capacity as the Co-Chairperson of the Group on Earth Observations (GEO), spoke on the Global Earth Observation System of Systems (GEOSS).

- 128 He congratulated the IOC on its leadership in generating international action to address tsunami events and to take a multi-hazard approach to all ocean-related disasters.
- 129 Vice Admiral Lautenbacher emphasized the critical economic and societal benefits of observations, and emphasized that the work of IOC was vital to improving the understanding of global and regional ocean processes, as well as to building observation systems that protect health, lives and livelihoods through end-to-end warning systems and improved communication. He highlighted how the work of GEO and the IOC benefit the countries in various societal benefit areas. He presented examples of GEOSS benefits to human life and society: in the United States, industries as varied as shipping, energy, tourism and fisheries, as well as human health and agriculture, all benefited from sustained observation systems. Continued strategic investment in observations will reduce the economic losses by natural disasters, maximize agricultural productivity, and aid public health decision-making.
- 130 He again emphasized the view that GEO and GEOSS would work successfully only when the efforts of member countries and participating organizations are well combined. To ensure robust observing networks, the priority should be given to the operation and sustainability of systems, such as those for sea-level measurement, El Niño/Southern Oscillation (ENSO) Observing System, and the drifting-buoy array. He called for an active role of IOC in sustaining these systems, as well as coordinating the transition to emerging systems, such as that for tsunami early warning, and eventually incorporating end-to-end observational data and information into GEOSS.
- 131 Vice Admiral Lautenbacher encouraged the Member States to convey these messages to their governments and other communities to support observing activities. He invited the Member States to join him in South Africa in November for the GEO Ministerial Summit, which would be an opportunity to promote the GEO vision and to induce investment and commitment to sustained and integrated global observations. The full text of Vice Admiral Lautenbacher's statement is in Annex III-D.
- 132 **The Assembly expressed** its appreciation to Vice Admiral Lautenbacher for his statement and clear demonstration of the intended societal benefits of GEO.
- 133 IOC Programme Specialist, Ms Boram Lee, then presented an update of IOC activities in the GEO framework. The IOC and its subsidiary bodies have led a number of GEO tasks, with a view to maximizing the synergy of IOC and GEO activities. Two major undertakings were: (i) task CL-06-04 of the 2006 GEO Work Plan, to "Identify lead international entities and national focal points for ocean observation efforts that can articulate national goals for their ocean observing sector and coordinate national activities with other designated national entities in order to evolve toward a truly global system of ocean observations." The Member States' responses to the IOC-WMO-UNEP Circular Letter (No. 2220, 17 January 2007) requesting information on national contributions to GOOS, in the light of GOOS's role as an essential component of GEOSS were consolidated by I-GOOS at its 8th Session (UNESCO, Paris, 13–15 June 2007).
- 134 Under the GEO Work Plan for 2007–2009, GOOS led Task CL-06-06 to "Enhance and improve coordination of coastal and marine climate observations in support of a global ocean observation system." The implementation of the Open-ocean Module of GOOS, through JCOMM, in close cooperation with other partners, including the IODE and climate observing systems, such as GCOS, constituted an important contribution to GEOSS. Efforts have been continuously made to improve the global coverage and the data accuracy of the climate-monitoring system, based on the implementation targets defined by the GCOS Implementation Plan for the Global Observing System for Climate in support of the UNFCCC (GCOS-92). To strengthen coordination of coastal observations, the GOOS Scientific Steering Committee (GSSC) created a Group of Experts on Integrated Coastal Observations to: (i) develop coordination and specific projects for coastal ocean observations and related land-based

activities; (ii) provide scientific and technical guidance to appropriate bodies; and (iii) coordinate with JCOMM the integration of common variables into coastal observations as the data streams become operational.

135 IOC has participated in the UN Interagency Coordination and Planning Committee for GEO/GEOSS (ICPC membership also includes ICSU, FAO, IOC, UNESCO, UNEP and WMO) since June 2005 and chaired the Committee in 2006–2007. This Committee is charged with overseeing and coordinating existing observing systems under a UN framework and ensuring they are recognized within GEOSS.

136 **The Assembly noted** the GEO community's growing awareness of the importance of coastal zones as the parts of the earth's surface particularly vulnerable to the impacts of climate change. **The Assembly welcomed** the co-operation of the scientific community and other ocean-related bodies, such as POGO, in emphasizing the importance of integrating observations into models and analyses of both extremely low and high sea levels, to provide information and products for policy-makers and coastal managers to enable them to address key physical, ecological, and socio-economic challenges.

137 **The Assembly noted** that the Integrated Global Observing Strategy (IGOS) Partnership, in which the IOC has led the development of the *Ocean Theme*, the *Coastal Theme* and the *Carbon Theme*, was being gradually integrated into the GEO.

138 **The Assembly emphasized** its view that the success of GEOSS depends on the successful implementation of each component, such as GOOS.

139 **The Assembly**, recognizing that such efforts should be followed and backed up by implementation at the national level and by intergovernmental coordination, **urged** the Member States to enhance communication with their national delegations to GEO, so as to ensure the linkage between GEO and IOC products of benefit to society.

140 **The Assembly also noted** an opportunity, through GEO, to advocate at a high level a common vision of earth observations, and **encouraged** the Member States to actively participate in the GEO Ministerial Summit in South Africa, which will take place on 30 November 2007, to seek political support for sustaining and extending ocean observations.

141 **The Assembly noted** that the GOOS and GEO had a common interest in the question of coastal management. **It agreed** that the ongoing strategic planning and the scientific/technical expertise available under the GOOS Coastal Module should develop synergies with GEO, including the extended use of satellite observation of the coastal zones. **The Assembly also considered** that the GEO should pay attention to the issue of marine biodiversity in its future work.

142 **The Assembly expressed** its concerns about the participation of the developing countries in the GEO process, particularly the African nations. **It stressed** its view that the GEO should develop clear plans to share the knowledge and the benefits of GEOSS with developing countries, in the use of satellite information, for example.

4.2 OCEAN SCIENCES SECTION

4.2.1 Secretariat report on Ocean Sciences Section programme, structure and activities

143 The Acting Head of the Ocean Sciences Section, Julian Barbière, introduced this item. Taking into consideration (i) the Report of the Advisory Group to the IOC Ocean Sciences Section (IOC/INF-1235), (ii) the Member States' responses to Circular Letter 2209 requesting comments on the Advisory Group report, and (iii) the new IOC Medium-Term Strategy proposed in document IOC-XXIV/2 Annex 5, Mr Barbière provided an overview of document IOC-

XXIV/2 Annex 6, which presents priority actions of the Ocean Sciences Programme to respond to these reports, comments and the new IOC strategic framework.

144 Several Member States supported in general the strategy outlined in IOC-XXIV/2 Annex 6, emphasizing the need for the Ocean Sciences Programme activities to be policy-relevant, to provide more regular communication of results to Member States, and to serve as a catalyst for national, regional, and international actions on ocean science issues. They also stressed the importance of integration with activities of other IOC Programmes, including ocean observations, data and information management, and coastal impact studies associated with the tsunami actions.

145 Several Member States endorsed the emphasis on climate-change impacts on ecosystems, and on extreme events in the marine environment and on coastal ecosystem health. The necessity of improving basic research and capacity-building relevant to coastal ocean processes, in order to underpin marine resource management, forecasting, numerical modelling, and socio-economic and other issues of importance to Member States, were also highlighted.

146 Several Member States cautioned against any expansion of the Section's activities without an agreed strategic plan with priorities, identification of activities for termination, and allocation of new resources, including staff.

147 **The Assembly established** a Working Group on the IOC Ocean Sciences Programme to elucidate Member States' priorities and actions for the 2008–2009 biennium.

148 **The Assembly adopted** [Resolution XXIV-5](#).

4.2.2 Eighth Session of the IOC Intergovernmental Panel on Harmful Algal Blooms (IPHAB-VIII) and HAB and GEOHAB Programme

149 The Chairman of the IOC Intergovernmental Panel on Harmful Algal Blooms (IPHAB), Dr Leonardo Guzmán (Chile), introduced this item. He presented the Report, Workplan, Resolutions and Recommendations of the 8th Session of the IOC Intergovernmental Panel on Harmful Algal Blooms (Paris, 17–20 April 2007).

150 The principal outcomes of IPHAB-VIII were: the formulation of a strategy for IPHAB; HAB observations within GOOS; a new integrated data system for HAB, jointly with IODE; and the regional development of the HAB Programme.

151 The Chairman of IPHAB sought the assistance of the Assembly in: (i) promoting the participation in IPHAB of the Member States not already members of it; (ii) the recognition of IPHAB in the appropriate national agencies and institutions; and (iii) the formal involvement of FAO and WHO in IPHAB.

152 He also urged the IOC Member States to carefully match national priorities and potential funding with the HAB Programme Work Plan, in order to interact strongly with and support the Programme's implementation

153 The United Kingdom suggested that interaction between the International Council for the Exploration of the Sea (ICES) and IOC in this area would be useful, particularly as a means of evaluating technical issues. This should also include interaction with CIESM and PICES.

154 **The Assembly strongly endorsed** the IPHAB Resolutions, Recommendations and the Workplan. **It recognized** that the activities under IPHAB are highly relevant to national scientific, societal and economic priorities and **approved** of the active co-ordination of IPHAB, including GEOHAB, with IODE and GOOS.

- 155 **The Assembly noted** that the proposed IPHAB Workplan is in line with the recommendations of the Advisory Group for the IOC Ocean Sciences Section (IOC/INF-1235) and **encouraged** IPHAB to further integrate with other IOC activities concerning climate change and the role of human inputs of nutrients to the marine environment.
- 156 **The Assembly expressed** its appreciation of the regional HAB groups and networks established within, or in addition to, the IOC Regional Subsidiary Bodies.
- 157 Member States from the Gulf and the western Indian Ocean regions requested the IOC's cooperation and support in the establishment of such networks in their respective regions.
- 158 Italy requested IOC assistance in the facilitation of regional cooperation on recent problems with benthic dinoflagellates in the Mediterranean Sea responsible for a skin and respiratory syndrome in human beings in the coastal areas.
- 159 With respect to the longstanding efforts of IOC to assist Member States in enhancing their capacity to undertake research on and management of harmful algal events, several Member States recognized the constructive role that IOC has played in enhancing national capacity to monitor and manage harmful algal events.
- 160 **The Assembly strongly supported** the continued emphasis on capacity development tailored closely to meeting national and regional needs.
- 161 Germany and Spain reconfirmed their commitment to support and work closely with the Secretariat in the enhancement of capacity.
- 162 The Representative of SCOR noted the constructive cooperation with IOC in the development and implementation of GEOHAB, and noted with concern that the development of GEOHAB is impeded by financial constraints. SCOR also welcomed the mention, by several Member States, of GEOHAB as being important and relevant, and reminded the Assembly of the close coupling between research and the ability to deliver better operational observing and predictive systems for harmful algal events.
- 163 The Representative of WMO reminded the Assembly that JCOMM, through its Expert Team on Marine Accident Emergency Support, remains fully committed to collaboration with IPHAB on the use of operational ocean forecasting systems for the prediction of harmful algal events.
- 164 **The Assembly reaffirmed** its recognition and appreciation of the stable and longstanding financial support of Denmark, Japan, Spain and the United States of America. **It recognized** the close relationship between success and the provision of such extrabudgetary resources. Nevertheless, **it also recognized** the concern expressed as to the necessary long-term sustainability of the HAB Programme throughout and beyond the Medium-Term Strategy 2008–2013, and **requested** the Executive Secretary to advise IPHAB on the development of a strategy to overcome this challenge.
- 165 **The Assembly accepted** the summary report of IPHAB-VIII, and **adopted** [Resolution XXIV-6](#).

4.2.3 Report on work plan and budget of the World Climate Research Programme (WCRP) and the IOC Ocean and Climate Programme

- 166 The Chairman of the WMO–ICSU–IOC World Climate Research Programme (WCRP) Joint Scientific Committee, Dr John Church, introduced this item. He reported on the recent progress of the WCRP as outlined in IOC/INF-1234. He reminded the Assembly that the WCRP, through its delivery of science results, supports the achievement of the IOC High-Level

Objectives, UNESCO objectives, and the UN Millennium Development Goals. Noting recent financial commitments by the WMO and ICSU to the WCRP, he requested the Assembly to reconfirm its decision at its 23rd Session (Paris, 21–30 June 2005), which “reaffirmed its continued co-sponsorship and its support of the WCRP” and directed support at a proposed level of at least \$ 125,000 per year through Regular Programme funds.

167 **The Assembly thanked** Dr Church for his informative report and **commended** the work of the WCRP. **It recognized** the growing importance to the Member States' governments of understanding and predicting climate change and variability and its impacts.

168 **The Assembly welcomed** the increased WCRP focus on the end-users of climate research and science, and **noted** that WCRP would contribute to the achievement of IOC's High-Level Objectives.

169 Many Member States highlighted the continuing need to educate and inform their respective governments about climate change and variability and its impacts.

170 Several Member States informed the Assembly of the efforts they were making in their own countries to improve climate science, and offered to interact more closely with WCRP and IOC programmes.

171 Several Member States welcomed the growing WCRP emphasis on linking physical climate science with broader earth system science, including impacts on the marine ecosystems, and its continuing contribution to the development of the ocean observing system.

172 Several Member States stressed the importance of regional activities, including capacity-building, to improve the knowledge and prediction of the local impacts of climate change and variability.

173 The Representatives of ICSU and of WMO expressed their appreciation of the WCRP and encouraged the IOC to continue its co-sponsorship of the programme.

174 A number of Member States asked the IOC Executive Secretary to continue supporting the WCRP at a level of US\$ 125,000 per year from Regular Programme Funds.

175 **The Assembly reaffirmed** its commitment to continue as a sponsor of the WCRP. The Chairman of the Financial Committee, however, noted that the determination of a Regular Programme contribution to a single activity was in contradiction to the approach adopted, which privileges major strategic thrusts, and that it will be considered by the Committee during the present session in this new context. **The Assembly deferred** a decision on the level of financial support till consideration of Agenda item 5.1 had been completed.

176 **The Assembly instructed** the IOC Executive Secretary to maintain a strong level of involvement in the scientific guidance of the WCRP, consistent with IOC's Ocean Sciences Programme described in IOC-XXIV/2 Annex 6.

4.2.4 Report on IPCC Working Group II on Impacts, Adaptation and Vulnerability

177 The Coordinating Lead Author of the WMO–UNEP Intergovernmental Panel on Climate Change (IPCC)'s Fourth Assessment Report (4AR), chapter on Coastal Systems and Low-lying Areas, Dr Robert Nicholls, introduced this item. He summarized the major findings of the Fourth Assessment.

178 Coastal regions are experiencing the adverse consequences of hazards related to climate and sea level, and will be exposed to increasing risks over coming decades due to many compounding climate-change factors. Some of these consequences include those posed

by changes in tropical cyclone intensity, extremes in sea level, coral bleaching and other degradation of coastal ecosystems, and loss of sea ice.

179 The impact of climate change on coasts is exacerbated by increasing human-induced pressures, including the increasing population density in the coastal zone. The most vulnerable coastal areas are the coastal megadeltas, low-lying coastal urban areas, and atolls. Integrated coastal management will therefore grow in importance.

180 Adaptation for the coasts of developing countries will be more challenging than for the coasts of developed countries, owing to constraints on adaptive capacity. Many adaptation options are available, and adaptation costs for vulnerable coasts are much less than the costs of inaction. The inevitability of sea-level rise, even in the longer-term, frequently conflicts with present-day human development patterns and trends. A combination of adaptation and mitigation seems most appropriate.

181 The Executive Secretary, speaking on behalf of the Assembly, thanked Dr Nicholls, and commended the excellent work of the IPCC in the preparation of the Fourth Assessment Report (4AR); he noted the wide political implications of climate change through its impacts on many sectors of society. He stressed that the report would inform the work of the IOC and its programmes.

4.3 OCEAN OBSERVATION AND SERVICES SECTION

4.3.1 Eighth Session of the Intergovernmental Committee for the Global Ocean Observing System (I-GOOS)

182 The Chairman of the Intergovernmental Committee for GOOS, Dr François Gérard, introduced this item. As a Primary Subsidiary Body of the IOC, the Committee is required to report to a Governing Body of the Commission on its activities since the previous meeting of the Committee (Rule of Procedure 48.3). The 8th Session of the I-GOOS (UNESCO, Paris, 13–15 June 2007) was held during the week preceding the IOC Assembly to enable a larger attendance. The Chairman of I-GOOS therefore made an oral report on the results of the session.

183 The Chairman of the I-GOOS recalled that the Director-General of UNESCO, the Executive Secretary of IOC and the Chairman of I-GOOS had all underscored the importance of GOOS to IOC and GEOSS, for their ocean observation systems. The terms of reference of GOOS and I-GOOS are clear, the Coastal Module and Regional Alliances are the essential implementation tools of GOOS. The Recommendations of I-GOOS-VIII concerned: (i) the sustainability of GOOS; (ii) the regional development of GOOS; and (iii) capacity-building.

184 Regarding sustainability, incremental improvements to the national reporting process are needed, to report on the state of GOOS, which will use existing reporting mechanisms and relying, where possible, on Regional Alliances. GOOS should highlight the benchmark completions of the Open-ocean Module in 2012, to encourage support for GOOS accomplishments. It also stressed the need for further work with partner agencies to ensure continuity of space observation systems and decided to prepare a “document for policy-makers” to better communicate GOOS achievements and needs.

185 Regarding regional development, the establishment of engaged, active and supported Regional Alliances is recognized as the key to bridging the gap between the Climate and the Coastal Modules of GOOS. Therefore, the Committee noted that the GRAs would establish a GOOS Regional Council to improve coordination and representation of GRAs vis-à-vis I-GOOS. The Committee also accredited two new GRAs: OCEATLAN, as an interagency agreement for the Oceanography in the Tropical and South-west Atlantic, and GRASP, within the framework of CPPS, for the southwest Pacific Ocean., This brings the total number of GRAs to eleven.

Further discussion of the possibility of creating GRAs for the polar regions, to promote the sustainability of the IPY activities, will continue.

- 186 Regarding capacity-building, the I-GOOS recognized that capacity already exists in developing countries, which must be aided and supported by GOOS through local initiatives designed to meet regional needs. It recommended that GOOS capacity-building efforts be carefully coordinated with other IOC activities under IODE and JCOMM.
- 187 Numerous Member States thanked the Chairman of I-GOOS and the I-GOOS Board for the new energy given to GOOS.
- 188 Numerous Member States supported the Regional Implementation Strategy and the role of the GOOS Regional Alliances in the implementation of the Coastal Module of GOOS and agreed that the GRAs and the IOC Regional Subsidiary Bodies are important mechanisms to achieve the GOOS goals, provide visibility for GOOS and contribute to sustainability. The establishment of the GOOS Regional Council is a positive development in advancing this role of the GRAs. Other Member States recommended that the Regional Subsidiary Bodies of the IOC be involved in the implementation of GOOS, particularly the Coastal Module.
- 189 Several Member States noted that GRAs take many forms, dictated by the regional needs, and they noted the positive value of being able to participate in several GRAs.
- 190 Some Member States noted the useful role of the GRAs in defining ocean data products and targeting coastal managers as users.
- 191 Numerous Member States, notably Brazil, Ecuador, India, Republic of Korea, Ukraine, cited example pilot programmes, national observation systems and successful forecast products, all of which highlight the usefulness and prove the feasibility of the coastal regional alliance approach.
- 192 The United States of America and Canada expressed interest in developing an intergovernmental Arctic GRA to play a role in organizing polar observations and research, and provide the mechanism to sustain systems developed under the International Polar Year programme.
- 193 Some Member States warned that the success of some of the GRA's would depend upon external support to meet basic needs, meetings and secretariat offices.
- 194 Brazil and the United States of America noted with satisfaction the positive external review of the IOC/UNESCO GOOS Programme Office in Rio de Janeiro and emphasized the valuable service the Office has provided in developing the GOOS Regional Alliance – OCEATLAN. A renewal of the MOU between the IOC and the Brazilian Government was urged.
- 195 Argentina noted the designation of OCEATLAN as a GOOS Regional Alliance. It agreed with Brazil that OCEATLAN is a joint programme of Brazilian, Uruguayan and Argentinian scientific institutions covering the upper southwestern and tropical Atlantic Ocean.
- 196 Ecuador also noted with satisfaction the work that is being done by GRASP, highlighting the effort of the countries that belong to this GRA. Even though it is a new Regional Alliance, it has the experience of the studies carried out in the framework of the CPPS, like the Regional Study for the El Niño Phenomenon GRASP is working with operational products based on the data collection network of the member countries and now displayed on the GRASP website, contributing to the main goal of GOOS.
- 197 Several Member States expressed their concern that the image of GOOS should be clarified through an improved national reporting system, clearer implementation and steering-function organization charts and improved I-GOOS meeting reports. Tools for clarifying budgets,

Member States' contributions and GOOS accomplishments were requested to enable Member States to better present the GOOS programme to their governments.

198 Some Member States noted that the completion of global GOOS goals for 2012 is only a benchmark and represents the first step toward a sustained system.

199 Several Member States expressed the view that GOOS capacity-building should be coordinated with other IOC capacity-building programmes, to eliminate duplication and focus effectiveness.

200 Nigeria encouraged I-GOOS to recognize the need for equipment in Africa. Capacity-building should not be limited to workshops and training.

201 Venezuela expressed its concern over the inconvenience of creating programmes under regional organizations with a structure and functions that duplicate those already existing in the framework of the IOC.

202 Member States noted that the GOOS Open-ocean and Coastal Modules are components of the GEOSS and requested that Member States indicate their support of GOOS at the GEO Ministerial Meeting that will take place on 30 November 2007 in Cape Town, South Africa.

203 **The Assembly accepted** the Executive Summary Report of I-GOOS-VIII, and **adopted** [Resolution XXIV-7](#).

4.3.2 Proposal for a GOOS-GTOS Joint Panel for Integrated Coastal Observations (J-PICO)

204 The IOC Technical Secretary, Thorkild Aarup, introduced this item. He referred the Assembly to the Action Paper (Document IOC-XXIV/2) for the background.

205 The Executive Council, at its 39th Session (UNESCO, Paris, 21–28 June 2006), considered a proposal to establish a Joint GOOS–GTOS Panel for Integrated Coastal Observation (J-PICO). The objective of this panel was to provide the GOOS Scientific Steering Committee with general scientific and technical advice concerning the implementation of the Coastal Module of GOOS.

206 The Executive Council did not approve the establishment of J-PICO and asked the Executive Secretary to provide a revised proposal. The Executive Council also recommended finding an interim cost-neutral arrangement to provide scientific advice for the implementation of the Coastal Module of GOOS.

207 Following the 39th Session of the Council, consultations were held with the Chairperson of I-GOOS and the Chairperson of the GSSC.

208 The Terms of Reference for the I-GOOS and the GSSC, as set out in Resolution XXIII-5, do allow “The GSSC to establish a technical advisory group as appropriate”. Bearing that in mind, the Executive Secretary proposed the establishment of such a group: the Panel for Integrated Coastal Observation (PICO), under the GSSC.

209 The GSSC, at its 10th Session, approved this arrangement and I-GOOS, at its 8th Session, took note of this, with the view that, at a later stage, this advisory panel could develop into a joint panel with other organizations (i.e. GTOS, FAO, GEO Coastal Zone Community of Practice).

- 210 The PICO is expected to meet back to back with the 11th Session of the GSSC. The functioning of PICO is expected to be cost-neutral, since the GSSC plans to reduce its size accordingly.
- 211 After this introduction by the Secretariat, some support was expressed for making PICO a joint expert group with other organizations, whereas other Member States questioned joint sponsorship.
- 212 Portugal restated its view that it is time to consider establishing a joint commission co-sponsored by IOC, UNEP and eventually FAO, with a view to facilitating the implementation of the Coastal Module of GOOS, which cover matters dealing with environmental degradation, toxic microalgae, biodiversity and living resources.
- 213 The United Kingdom and Australia supported the request for co-sponsorship of PICO, but not the formation of an intergovernmental body at this stage.
- 214 China questioned the need to have joint sponsorship of PICO, given the clear mandate for the Coastal Module of GOOS to conduct integrated coastal observation, and suggested that this issue be further studied.
- 215 **The Assembly noted** the formation of PICO as a technical advisory group under the GSSC.

4.3.3 Report of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) in support of the implementation of GOOS

- 216 The Co-President of the WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM), Dr Jean-Louis Fellous, introduced this item. He presented a progress report on JCOMM activities that have been carried out in the last year. He reminded the Assembly that the core business of JCOMM takes place within its Observations, Services, and Data Management Programme Areas, and noted that, since JCOMM-II (Halifax, Canada, 19–27 September 2005), all Programme Area Coordination Groups and almost all Expert Teams have met and have defined their strategic and work plans. The new or ongoing priority areas that JCOMM will address in the remaining two years of the JCOMM intersessional period include:
- (i) Continued enhancement of the observing system monitoring and performance reporting, and the elaboration of proposals to further expand the work and scope of JCOMMOPS to develop it into an overall ocean-observing programme support centre;
 - (ii) A greater emphasis across JCOMM programme areas on standards and quality-control practices, for observational data, metadata, products and services
 - (iii) Sharpening the focus of the Services Programme Area on marine service delivery, especially for maritime safety, together with a new emphasis on ocean services and a follow-on to aspects of the Global Ocean Data Assimilation Experiment (GODAE)
 - (iv) In cooperation with IODE, development of a strategic plan for JCOMM data management, with the JCOMM End-to-End Data Management Pilot Project making a major contribution to the WMO Information System (WIS)
 - (v) The organization of three major JCOMM conferences: (i) JCOMM Scientific and Technical Symposium on Storm Surges (Seoul, 2–6 October 2007), CLIMAR-III (Workshop on Advances in Marine Climatology, planned for Warsaw, May 2008), and an International Maritime Met-ocean Services Conference (Exeter, UK, 5–9 October 2008)

- (vi) A new unified JCOMM web presence (www.jcomm.info)
- (vii) Review and restatement of the importance of JCOMM's direct involvement in, and input to, a range of cross-cutting and capacity-building activities
- (viii) Recommendations on the role of JCOMM in coastal GOOS implementation
- (ix) Development of a JCOMM implementation plan, within the frameworks of the IOC High-Level Objectives and the WMO Strategic Plan
- (x) Support for a continued JCOMM–JSC–GOOS dialogue with the private sector to enhance private-sector involvement in the full implementation of a sustained global ocean-observing system.

217 Dr Fellous also elaborated on work done under the Global Sea Level Observing System (GLOSS), an international programme of the IOC put under the technical oversight of JCOMM by IOC Resolution XX-12. GLOSS provides oversight and coordination for global and regional sea-level networks in support of climate, oceanographic and coastal sea-level research. The GLOSS Group of Experts, at their 10th Meeting (Paris, 6–10 June 2007), agreed to continue their work to complete the GLOSS Core Network (GCN) of tide gauges, with each station reporting in Fast Delivery mode or faster; the Group also agreed to expand its activities to include technical advice and strategic planning for water-level stations intended not only for research but also for hazard monitoring.

218 JCOMM-II recognized that the IOC and WMO Regular Programme allocations to JCOMM meet less than 50% of the funding requirements for the actions agreed and requested of JCOMM by the Member States, and major efforts are required to secure the resources needed to ensure the full implementation of the Work Plan.

219 **The Assembly thanked** Dr Fellous for his comprehensive report, and **expressed** its appreciation of the encouraging progress that has been made in the coordination activities of the Joint Technical Commission.

220 **The Assembly recognized** that JCOMM has been extremely successful in discharging its responsibility to coordinate the management and implementation of global ocean observations, and **acknowledged** the contribution of JCOMM to many programmes of importance to Member States. **The Assembly noted** the important role of JCOMM in climate programmes and in certain components of marine hazard warning systems, and **acknowledged** the importance of JCOMM's work in the development of standards and best practices, in support of operational oceanography.

221 Many Member States described their contributions to JCOMM activities, and some noted specific national activities that complement its work. Many Member States articulated the need to show the benefits of JCOMM, and urged it to enhance its communication and outreach activities so as to clearly demonstrate such benefits.

222 Portugal, while recognizing the role of JCOMM as a joint tool of IOC and WMO aimed at facilitating the Open-ocean Module of GOOS, considers that it is not an appropriate body to deal with the Coastal Module. In fact, many of the issues under the latter module (e.g. degradation of the marine environment and pollution, toxic micro-algae, biodiversity) call for a symmetrical joint mechanism under IOC, UNEP and eventually FAO. Portugal also emphasized the need for JCOMM to act strictly within the mandate assigned to it, by the sponsoring organizations, as a joint tool.

223 Venezuela referred to the cooperative research Project titled Carbon Retention in a Coloured Ocean (CARIACO) which illustrates the joint activities of JCOMM; it comprises the

largest series of marine meteorological and oceanographic observations and measurements in the SC-IOCARIBE region, and has been in operation for more than twelve years.

224 The Representative of WMO emphasized the strong partnership that exists between IOC and WMO in JCOMM, and the fact that this cooperation is an important component of the work of the two organizations.

225 The Chairperson of I-GOOS highlighted the importance of the JCOMM contribution to the Open-ocean Module of GOOS, to the Coastal Module in the future, and to the necessary observing systems for the forecasting of marine hazards and the mitigation of their impacts, specifically through GLOSS. He commended the work being done by JCOMM and by the GSSC on enhancing the participation of industry in the Global Ocean Observing System, and looked forward to continuing collaboration with JCOMM.

226 **The Assembly endorsed** plans for the expansion of the JCOMM *in situ* Observing Platform Support Centre (JCOMMOPS) to an Observing Programme Support Centre for the integrated support of all global observing implementation elements.

227 **The Assembly expressed** its appreciation to those Member States that are directly contributing to the work of JCOMM, and **urged** all Member States to commit sufficient national resources, both direct and in-kind, to allow the full implementation of JCOMM activities. **The Assembly encouraged** Member States to facilitate their national involvement in the work of JCOMM through support and encouragement of experts and relevant officers to participate in and contribute to intersessional activities, such as the work of the JCOMM expert teams and main subsidiary bodies, or in national activities being developed or undertaken in support of the JCOMM Work Plan.

228 **The Assembly thanked** the Republic of Korea for its sponsorship and hosting of the JCOMM Scientific and Technical Symposium on Storm Surges. **It also thanked** Australia, Canada, France and the European Space Agency, *inter alia*, for their co-sponsorship of this important event.

229 **The Assembly instructed** the Executive Secretary to continue to work with the Secretary-General of the WMO to ensure that adequate resources and staff are made available to JCOMM.

4.3.4 Report on planning and implementation activities of the Global Climate Observing System (GCOS)

230 The Chairman of the Steering Committee of the IOC–WMO–ICSU–UNEP Global Climate Observing System (GCOS), Dr John Zillman, introduced this item.

231 He reminded the Assembly that the goals of GCOS are to provide comprehensive information on the total climate system, including the atmosphere and ocean, but also the terrestrial and marine biosphere, in order to support the application of climate science and services to the benefit of every sector of society. The Open-ocean Module of GOOS is the ocean component of GCOS, receiving scientific advice from their shared Ocean Observations Panel for Climate (OOPC). GCOS is a critical component of the emerging Global Earth Observation System of Systems (GEOSS). GCOS exists to help the IOC and other GCOS sponsors ensure that the necessary observing systems are in place, providing underpinning for the work of the World Climate Research Programme (WCRP), the International Geosphere–Biosphere Programme (IGBP), the Intergovernmental Panel on Climate Change (IPCC) and the UN Framework Convention on Climate Change (UNFCCC).

232 He recalled that the Assembly, at its 23rd Session (UNESCO, Paris, 21–30 June 2005), had endorsed the “Implementation Plan for the Global Observing System for Climate in Support

of the UNFCCC” (GCOS-92); he noted its wide acceptance and the recent preparation of a supplement on satellites which was helpful in coordinating actions of the Committee on Earth Observation Satellites (CEOS) for ocean surface observations from space. Regional Action Plans for the enhancement of the climate observing system in developing countries had been developed through a series of workshops, and a programme in “Climate for Development in Africa” (ClimDev Africa) had attracted large external funding support. GCOS has also developed strong links to GEOSS and the UNFCCC.

233 He asked the IOC Member States to address GCOS priority actions through enhanced coordination at the national level, through support to the Joint WMO–IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM), through continued attention to the needs of climate research, service, assessment and policy communities, and through reinforcement of the GCOS Secretariat.

234 The Chairman, speaking on behalf of the Member States, thanked Dr Zillman, and expressed IOC’s commitment to implementing the Open-ocean Module of GOOS through its Member States.

4.3.5 Nineteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange (IODE-XIX)

235 The Co-Chairpersons of the IOC Committee on International Oceanographic Data and Information Exchange, Dr Malika Bel-Hassen Abid (Tunisia) and Mr Gregory Reed (Australia), introduced this item. Pursuant to Rule of Procedure 48.3, they reported on the 19th Session of the Committee (Trieste, Italy, 12–16 March 2007).

236 Mr Reed informed the Assembly that the IODE Committee abolished the position of IODE Vice-Chairperson and decided that the Committee shall be led by two Co-Chairpersons, with the work-load being shared equitably between them. It also agreed that the Chairperson of the JCOMM Data Management Coordination Group will be, *ex officio*, an IODE Officer, thus confirming the closer relationship between the IODE and the JCOMM data-management activities. The IODE Secretariat will be relocated to the IOC Project Office for IODE in Ostend, Belgium, as from August 2007, which will allow a consolidation of human resources and should result in increased efficiency.

237 The final report of the UNESCO external review of the IODE Programme for the period 2002–2006, which took place between March and June 2007, will be presented to the 34th UNESCO General Conference (Paris, 16 October–3 November 2007).

238 A major new initiative agreed by the IODE Committee was the Ocean Data Portal project. The Portal will provide seamless access to collections of marine data from the NODCs in the IODE network and will allow discovery, evaluation and access to these data via web services. The key principle of the Portal will be interoperability with existing systems and resources. It will provide a standards-based infrastructure that will ensure the integration of marine data and information from a network of distributed IODE National Oceanographic Data Centres, as well as the resources from other participating systems, such as SeaDataNet and the WMO Information System.

239 The establishment of the IOC Project Office for IODE in Ostend, Belgium, with substantial support from the Government of Flanders (Belgium) and City of Ostend, and under the leadership of Dr Vladimir Vladymyrov, has been most successful for IODE. Since April 2005 (when the Project Office opened), to March 2007, the Project Office has organized 29 training courses, hosted 20 IOC meetings and 53 external meetings; it also received 33 expert visits. The Project Office is a partner in four EU projects and hosts 55 web sites. Unfortunately, Dr Vladymyrov will leave his post at the Project Office at the end of October 2007; he will be

replaced by Mr Peter Pissierssens who will move to Ostend in August 2007, combining the tasks of Head of the Project Office and of the IODE Programme Manager from November 2007.

- 240 Dr Malika Bel-Hassen Abid stressed the fact that the importance of ODINs as capacity-building mechanisms at the national, regional and international levels has been widely recognized. Increasingly, the ODINs also function as end-to-end facilitators of inter-programme cooperation (for example between IODE and GOOS, and between IODE and ICAM), thereby putting in place an end-to-end model that links ocean observations, data and information management and product and service delivery. At its 19th Session, the IODE Committee established three new ODIN networks: ODINWESTPAC (WESTPAC region); ODINECET (six eastern and central European Member States); and ODINBLACKSEA (Black Sea region).
- 241 The OceanTeacher training system has also gained international recognition and will now be further developed as a training tool for use in training courses, but also, in combination with the new training videos, as a self-learning and continuous professional development tool.
- 242 The purpose of ODINAFRICA's African Marine Atlas is to identify, collect and organize available geospatial datasets into an atlas of environmental themes for Africa. The Atlas was prepared by a team of 16 marine scientists and GIS experts from NODC's in Benin, Ghana, Kenya, Mauritania, Mauritius, Mozambique, Namibia, Senegal, Seychelles, South Africa, and Tanzania. The African Marine Atlas has over 800 downloadable data products derived from the fields of marine geosphere, hydrosphere, atmosphere and biosphere, including the geopolitical and the human socio-economic dimensions.
- 243 The IODE Committee continues to support international scientific and operational marine programmes of IOC and WMO by providing advice and data management services. It is actively cooperating with GOOS, JCOMM, HAB, CDIAC, IPY and OBIS to provide an end-to-end model that links ocean observations with data and information management with product and service delivery. It also expects to collaborate with GEO/GEOSS (e.g. through the OceanDataPortal and related standards).
- 244 **The Assembly congratulated** Dr Malika Bel-Hassen Abid and Mr Greg Reed on their election as the Co-Chairpersons of IODE, and **thanked** the Past Chairperson (Dr Lesley Rickards) and the Past Vice-Chairperson (Mr Ricardo Rojas), as well as the Secretariat, for guiding IODE into a new era of potential achievement.
- 245 **The Assembly reaffirmed** the important role of IODE within IOC; **it recognized** that data and information management underpin all ocean science, observation and data-management programme activities and **welcomed** IODE's leading role in applying results-based management and related performance assessment methodology to its programme planning and implementation. **The Assembly noted with appreciation** the important steps taken by the IODE Committee and its network of National Oceanographic Data Centres and information centres to commit themselves to providing services and products for all IOC programmes and partners, thereby making efficient use of the considerable data and information management expertise available within the IODE data and information centres.
- 246 **The Assembly noted with appreciation** the success of the IOC Project Office for IODE as a global oceanographic data and information management training facility involving not only IOC but also such IOC partners as WMO (through JCOMM) and IOI.
- 247 Belgium informed the Assembly that support to the IOC Project for IODE will continue to be provided by the Government of Flanders during the next biennium.
- 248 **The Assembly thanked** Dr Vladymyrov for his commitment to making the Project Office a success and wished him all the best in his future endeavours.

- 249 **The Assembly stressed** the importance of standards and **urged** IODE to focus on this subject during the next biennium. In this regard **the Assembly welcomed** the JCOMM/IODE Forum on Oceanographic Data Management and Exchange Standards, planned to be held at the IOC Project Office for IODE in October 2007.
- 250 **The Assembly**, referring to the IOC and UNESCO Medium-Term Strategies 2008–2013, **noted** that IODE was now in an excellent position to provide the necessary support to the achievement of the Strategic Programme Objectives.
- 251 Several African Member States reported on the considerable impact of ODINAFRICA at the Pan-African sub-regional and national level.
- 252 **The Assembly welcomed** the extraordinary success of the Ocean Data and Information Networks (ODINs) and **noted with appreciation** that ODIN projects have now been established in most IOC regions (ODINAFRICA, ODINCARSA, ODINCINDIO, ODINWESTPAC, ODINBLACKSEA and ODINECET). **The Assembly stated** that the ODINs, combined with the IOC Project Office for IODE and the OceanTeacher training system, are highly effective and efficient capacity-development platforms linking ocean observations (GOOS, JCOMM), data management (IODE) and product/service delivery (ICAM) programmes, responding to national as well as regional needs. **It also considered** that the IODE ODINs are proving to be excellent catalysts for other programmes and projects in the regions and **called on** the ODINs to increasingly address the need for training in the development of ocean data products and services to deal with issues related to fisheries, coastal-zone management, continental shelf, coastal sensitivity mapping, etc.
- 253 **Noting** the successful establishment and strengthening of National Oceanographic Data Centres in all 25 cooperating Member States and the deployment or refurbishing of sea-level stations during ODINAFRICA-III (2004–2007), **the Assembly called** for the implementation of a fourth phase of ODINAFRICA focusing increasingly on the development of operational ocean observation systems (e.g. moored buoys) and the delivery of data and information products and services for decision support and protection against marine-related hazards.
- 254 **The Assembly recognized** the important role that IODE could play in the application of IOC principles governing the transfer of marine technology, as well as the support that the IOC should provide to African Coastal States in the preparation and submission of a proposal for the extension of their continental shelf.
- 255 **The Assembly invited** the Government of Flanders and other interested donors to assist through extrabudgetary contributions.
- 256 **The Assembly noted with great interest** the development of the “African Marine Atlas” and **called on IODE** to develop similar initiatives in other interested regions, as concrete data products of immediate use to Member States.
- 257 **The Assembly welcomed** the establishment of the Ocean Data Portal (ODP) Pilot Project, **noting** that this will be an essential tool to promote further integration of IOC and partner programmes.
- 258 **The Assembly called** on IODE to collaborate with the International Polar Year (IPY) to ensure that all data collected by IPY projects will be professionally managed, disseminated and archived.
- 259 **The Assembly thanked** (i) the Government of Flanders for its continued support of IOC and its IODE through the Flanders-UNESCO Trust Fund for Science (FUST) and through the IOC Project Office for IODE in Ostend, Belgium, (ii) the Government of the United States of America for providing temporary staff support to assist with the preparations for IODE-XIX, and

for the financial support to assist with activities at the IOC Project Office for IODE and the organization of the JCOMM/IODE Forum on Oceanographic Data Management and Exchange Standards, and (iii) the Government of Italy for hosting and supporting the 19th Session of IODE.

260 While recognizing that IOC is now in transition towards the implementation of the new IOC Medium-Term Strategy 2008–2013, which will no longer allocate budgets by programmes but through High-Level Objectives and expected results, several Member States called on the Executive Secretary to ensure that IODE activities are identified in the budget as a part of a core programme of IOC with their corresponding financial allocations.

261 Canada stated that it is particularly pleased at the excellent collaboration between IODE and JCOMM, and appreciates the effort and commitment of the IODE Officers and the Secretariat, and their partners in JCOMM. Furthermore, Canada drew the attention of the Member States to the many references to data management during the present session of the Assembly (for example at the 8th Session of I-GOOS, the special session on GEO, and in many of the agenda items of the Assembly, such as those on WCRP, GCOS and GOOS), particularly on the central role it must play in IOC. Canada pointed out that perhaps it is time that IOC stopped referring to Data and Information Management as a service, though it has a very important service element, and start considering it as a programme with research, management, products and, of course, service elements.

262 Ecuador emphasized the work of ODINCARSA in the field of capacity development and data management, which has allowed regional participation in several IOC programmes. Ecuador also supported the request by Chile and Cuba that adequate and specific funding be assigned, within the proposed budget, to ensure that the IODE Committee can maintain and improve its activities.

263 The Chairman of the Financial Committee, Dr Neville Smith, informed the Assembly that the new Medium-Term Strategies of UNESCO and IOC will create new challenges but also new opportunities. The transformation that will start in 2008 will focus on a small number of strategic objectives to which all IOC programmes will contribute. It will be the responsibility of the Executive Secretary to allocate resources to enable these contributions. This will result in an operational plan that will link programmes and expected outcomes. The interest in and support for IODE shown by the Member States during this session of the Assembly, as well as the considerable extrabudgetary support provided to IODE activities, demonstrate the strong engagement and commitment of Member States to the IODE programme. This will provide valuable guidance to the Executive Secretary. Dr Smith further invited Member States to bring the importance of the IODE data services and associated capacity-development activities to the attention of the UNESCO General Conference, since the experience and expertise acquired in IODE may be of interest to the entire Organization as a UNESCO data and information management platform.

264 **The Assembly accepted** the Executive Summary of the 19th Session of the IODE Committee and the Recommendations therein.

265 **The Assembly adopted** [Resolution XXIV-8](#).

4.3.6 Report on the Strategic Plan for Oceanographic Data and Information Management

266 The Past Chairperson of IODE, Dr Lesley Rickards, introduced this item. She recalled that the IOC Strategic Plan for Oceanographic Data and Information Management had been developed as a result of a number of Resolutions adopted by the Assembly and Executive Council. The proposed Plan addresses all of the disciplines within the mandate of IOC. There is no separation of functions based on the lead time for data delivery (e.g. real-time versus delayed mode) or in the type of data. Different strategies might be employed to satisfy global, regional and local requirements, and to meet timeliness needs. At the present time, no coherent

data management and communications strategy exists for effectively integrating the wide variety of complex marine environmental measurements and observations across disciplines, institutions, and temporal and spatial scales. As a result, the marine community is denied important benefits that might otherwise be derived from these data, such as improved climate forecasts and more effective protection of coastal marine ecosystems.

267 In preparing the Strategic Plan, a concept from the US Integrated Ocean Observing System Data Management and Communications (IOOS DMAC) – “Adopt, adapt and only develop as necessary” – has been used. It is necessary to note that there is no “one size fits all”, but the crucial point is that, by use of standards, interoperability between the systems can be achieved. The GEOSS Data and Architecture Committee are promoting the concept of “What few things must be the same so everything else can be different”. The IOC Strategic Plan for Oceanographic Data and Information Management follows this concept.

268 The overall vision for the Plan is of “a comprehensive and integrated ocean data and information system, serving the broad and diverse needs of IOC Member States, for both routine and scientific use”. A key element is adherence to the IOC Oceanographic Data Exchange Policy, which promotes the free and open access to data and encourages the use of the IODE network of National Oceanographic Data Centres.

269 Communication and outreach must also play an important part in the implementation of the Strategic Plan. Communication within and between IOC programmes, and with IOC’s partners, is essential to ensure that one data system rather than the current multitude of systems results. Information about the Plan, its development, data centres, standards, and implementation progress must be made available in an easy to understand form.

270 The greatest challenge to be faced in developing and implementing this Strategic Plan is one of coordination and cooperation among Member States, partners and user communities. There are currently still major barriers to the efficient use and re-use of data and to overcome these, and make the best use of the new technologies available, a culture change is required. The information technology required to meet most of the requirements of the strategy, whilst challenging, can be developed from existing capabilities through relatively straightforward software engineering. But the Plan will only succeed if all participants actively use the data and metadata standards, communications protocols, software, and policies that will knit the parts into an integrated whole.

271 Canada suggested that all science programmes, either coordinated through IOC or implemented nationally or regionally, have a data-management component incorporating the strategy, with distinct allocation of funding and clear deliverables that include data archival and dissemination through the IODE system.

272 Japan called for IOC and its IODE to address the issue of Responsible National Oceanographic Data Centres (RNODCs), recalling that the system of RNODCs had been abolished by IODE-XVIII.

273 The Representative of SCOR emphasized the need to take into account the human element when implementing the Strategic Plan. Unless scientists can be convinced of the importance of submitting data to data centres it will be difficult to apply the strategy. A balance needs to be found between the interest of the individual scientists and the common good by making the data available in the public domain. In this regard the Representative of SCOR proposed to work with IODE on identifying incentives for data providers.

274 **The Assembly**, while recognizing that the IOC Strategic Plan is adhering to the IOC Oceanographic Data Exchange Policy, which promotes the free and open access to data, **noted** that other relevant international data-exchange policies may include restrictions and

conditions, and **instructed** the Advisory Group for the IOC Strategic Plan for Oceanographic Data and Information Management to take this into consideration.

275 **The Assembly adopted [Resolution XXIV-9](#).**

4.4 CAPACITY-BUILDING SECTION

4.4.1 Secretariat report on IOC capacity-development activities, 2005–2007

276 The Chairman of IOCEA, Dr Julius Wellens-Mensah, introduced this item. He first provided an overview of capacity-development activities across the different sections of IOC, and the current and future activities of the Capacity-development Section. While the ongoing capacity-development activities focussed on the training of individuals, the activities presented focussed on capacity-development at the level of institutes. He informed the Assembly of the new extrabudgetary resources that had been secured, and the programme of leadership development for directors, team-building and bid-writing workshops for project leaders and scientists, and workshops on decision-support systems.

277 The Chairman of IOCEA presented plans for the next phase in capacity-development, in particular the securing of resources and support to begin activities at the level of policy-makers for science planning, and more country-focussed initiatives. He also outlined the progress in harmonizing capacity-development activities between the different sections of IOC. He called on the Assembly to: provide further guidance on harmonizing capacity-development activities and the assessment of interventions; decide on the designation of a single point of contact in each Member State for all capacity-development activities; consider assisting the Secretariat in raising the profile of capacity-development to science policy-makers; and second experts in the field and at headquarters.

278 Kenya expressed its appreciation of the capacity-development activities of IOC in the western Indian Ocean region, while pointing out that investment in infrastructure, in addition to training and development of human capacity, was needed to derive full benefits from these activities.

279 A number of Member States noted that capacity-development was among the most important activities of the IOC.

280 The Russian Federation commented on the important role that UNESCO/IOC Chairs have played in IOC activities, and requested the Secretariat to strengthen its support to them; it believed that capacity-development activities should take full advantage of their expertise.

281 The Republic of Korea and the United Kingdom both expressed the view that satellite observations are a critical and cost-effective method of developing capacity. The Republic of Korea informed the Assembly of its recently developed international training programmes for scientists in South East Asia, and Central and South America, while the United Kingdom reminded the Assembly that the BILKO teaching package has been an excellent starting point for training in remote sensing, and informed the Assembly of its developing links with Kenya and Tanzania on scientific cooperation in remote-sensing and ocean sciences.

282 Spain noted that its contribution to IOC capacity-development, including training on harmful algal blooms (HAB) in Vigo, were not given sufficient visibility, and asked the Secretariat to consider preparing an inventory of all IOC capacity-development activities in the last five years.

283 Argentina, Colombia, Cuba, Ecuador and Venezuela expressed their appreciation of the work done and reaffirmed their full support for IOC capacity-development. Venezuela noted that, while in certain areas it still needed capacity-development, in some others, it was now in a position to provide training to other countries' scientists.

- 284 China and Cuba stressed the importance of the regional approach to capacity-development. China also expressed its support for the idea of a single contact person in each Member State for IOC capacity-development activities. China suggested the adoption by IOC of a more comprehensive and balanced staff strategy, taking into consideration both the global and increasingly urgent regional needs.
- 285 Germany expressed its support for capacity-development and informed the Assembly that it will increase its contribution to it, through a HAB training course and a course on tsunami preparedness, at the Alfred Wegener Institute in Bremerhaven.
- 286 The United Kingdom requested the Secretariat to fully exploit capacity-development opportunities in all programmes of IOC, to develop the IOC/ABE-LOS Roster of Experts to transfer knowledge and experience.
- 287 India expressed its satisfaction with progress achieved, and reminded the Assembly that much training was still needed in observations and data assimilation into forecasting models. It offered its help to IOC in the domain of satellite oceanography to determine potential fishing zones.
- 288 Norway noted the importance of capacity-development for the sustainability of IOC's activities and informed the Assembly of its willingness to consider further cooperation in this area.
- 289 The United States of America expressed its support for IOC capacity-development and its satisfaction with the many achievements of the Capacity-development Section. While welcoming the proposal for additional posts for capacity-development, it requested clarification of whether using the Regular Programme budget was the most cost-effective way to implement the programmes and obtain extra funding. Recognizing that the Secretariat Report was based on the Assembly Resolutions, it encouraged the use of SISTER in future reporting. The United States of America recommended that a 5-year programme based on long-term goals and metrics to evaluate performance be drawn up.
- 290 Cameroon stressed the capacity-development aspect because of the need to train researchers in oceanographic, geological and mining research. The training of researchers in the control of natural hazards and climate change are also among Cameroon's priorities.
- 291 The Representative of CPPS expressed his Commission's appreciation of capacity-development and its hope that collaboration in this field will continue, in particular as it pertains to oceanography in the South Pacific.
- 292 **The Assembly accepted** the report of the Capacity-Building Section and **restated its support** for this important IOC activity.

4.5 REGIONAL ACTIVITIES

4.5.1 Secretariat report on the implementation of IOC programmes in regions and regional programmes

- 293 The Executive Secretary introduced this item. He reported on the implementation of IOC global programmes in the regions in the current biennium, and how the relevant Programme and Budget items had been invested. He noted the substantial proportion (47%) devoted to the Indian Ocean, particularly attributable to the tsunami activities, and to the establishment of four regional IOC Intergovernmental Coordination Groups for Tsunami Early Warning and Mitigation Systems (ICG/TWSs). He also noted the substantial activity of the two IOC Sub-Commissions, WESTPAC and IOCARIBE, and of other specific activities, such as HAB and ODINAFRICA.

294 The Executive Secretary thanked the Government of Flanders (Belgium) for providing financial resources for ODINAFRICA.

295 He then presented the list of IOC Subsidiary Bodies and the current network of IOC Offices world-wide. The Regional Subsidiary Bodies and the IOC Offices established away from Headquarters have proven useful tools for programme/project implementation. Nevertheless, the available resources and Member States' support have varied and are not fully secure. An example of success in this regard is the HAB Vigo Project Office, which is fully financed by Spain. The IOC Perth Regional Programme Office is also good example, substantially sustained by local resources provided by the governments of Australia and of the State of Western Australia. In UNESCO terms however, the IOC Offices established away from Headquarters are not supported by the present UNESCO administrative machinery and, at best, seem to have 'one foot in, one foot out' with respect to the UNESCO umbrella; this is something that should be improved.

296 While successful in their early stages, the IOC regional activities have become hampered in recent years by insufficient support in terms of human, institutional and financial resources. All of IOC's regional operations are 95% dependent on extrabudgetary resources. If these resources do not remain available, the regional operations will come to a halt. The Executive Secretary indicated that an alternative and more optimistic resource scenario is not foreseeable within UNESCO. In consequence, external means will have to be mobilized for IOC to maintain effectively its regional presence, bearing in mind the ongoing reform of the UN, which is promoting the consolidation of the UN's presence at the country level, and the current decentralization policy of UNESCO.

297 **The Assembly acknowledged** the report of the Executive Secretary.

298 The Chairman then invited Professor Hyung Tack Huh, Chairman of the IOC Sub-Commission for the Western Pacific (WESTPAC), to report on the implementation of the Sub-Commission's activities, on the progress that has been made since the 6th Session (Viet Nam, 23–27 May 2005) and on the recent attempts to revitalize the Sub-Commission.

299 The Chairman of WESTPAC reported on: the operational activities of the Regional Secretariat; programme structure reform; GOOS activities; ODINWESTPAC; the WESTPAC-HAB Programme; cooperation with other regional programmes (notably through a series of MOUs signed with UNDP/GEF YSLME and UNEP/GEF-IMO PEMSEA); and the preparations for the 7th IOC/WESTPAC International Scientific Symposium, to be kindly hosted by the Government of Malaysia in 2008.

300 He also pointed out several major problems impeding the development of IOC/WESTPAC, notably: the longstanding inadequacy of IOC Budget for the WESTPAC Regional Secretariat and its activities; a lack of interest in the current programmes by Member States; ineffective communication between the IOC Headquarters Secretariat and the WESTPAC Regional Secretariat; limited possibility for the participation of the Regional Secretariat and regional experts in the planning and steering of IOC Global Programmes.

301 The Chairman of WESTPAC acknowledged the support of Member States, particularly China, Japan, and Thailand for their contribution to the WESTPAC Trust Fund, workshops and training courses.

302 He commended the work of Mr Wenxi Zhu as Acting Head of the WESTPAC Secretariat.

303 **The Assembly thanked** the Chairman of WESTPAC for his report.

304 Thailand requested that all the implementing projects/programmes inform the national focal point.

305 **The Assembly expressed** its special appreciation to the Government of Thailand for its continued hosting of the WESTPAC Secretariat and the provision of local staff, and **thanked** the Government of China for its secondment of Mr Wenxi Zhu as Acting Head of the WESTPAC Secretariat, and for its offer to continue its support.

306 **The Assembly welcomed** the proposal to revitalize and restructure WESTPAC in order to improve its functionality and continue the recent momentum established by the Sub-Commission. **It urged** Member States to contribute to WESTPAC.

307 Malaysia informed the Assembly that, at the national level, all necessary arrangements are being made to ensure that the 7th Session of IOC-WESTPAC and the associated WESTPAC International Scientific Symposium (tentatively planned for May 2008) will be successful.

308 **The Assembly welcomed** the organization of the 7th IOC/WESTPAC International Scientific Symposium, and **thanked** the Government of Malaysia for its generosity and work in this respect.

4.5.2 Follow-up to the Report of the Intersessional Working Group on Regional Programmes

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

310 In accordance with Resolution XXIII-6, the IOC Executive Secretary created, in April 2006, an Intersessional Working Group, composed of the Chairpersons of Regional Subsidiary Bodies and involving all interested Member States, to assess the efficiency and effectiveness of IOC Regional Subsidiary Bodies, as well as the role of regional activities in the long-term plans of the Commission.

311 The meeting of the IOC Subsidiary Body Officers (Paris, 20 June 2006) examined the Working Group's preliminary work and considered background information and proposals for the its continuation, to be transmitted to the Executive Council.

312 In its appraisal, the Intersessional Working Group recognized the relatively successful regionalization of IOC programmes and that IOC Regional Subsidiary Bodies are necessary for the effective delivery of the Programme of the Commission and to meet the expectations of the Member States. It identified essential limitations to the efficient and effective implementation of regional programmes and activities in: (i) the chronic shortage of resources relative to the declared needs of the Member States; (ii) the widening mismatch between the Commission's agreed programmes and the resources available to implement them effectively; and (iii) the declining capacity of UNESCO to support IOC's regional and global programmes through its Regular Budget. In its report, the Working Group made a series of recommendations to the Assembly and to the Executive Secretary, including: (i) enhanced focus of IOC Regional Subsidiary Bodies on capacity-building activities in cooperation with Headquarters; (ii) strategic alliances with other UN agencies, based on complementarity of function and optimization of means; (iii) strategic planning capacities of Regional Subsidiary Bodies; (iv) innovative financial mechanisms to support the Regional Subsidiary Bodies, possibly through the creation of a Trust Fund for Regions for earmarked contributions of Member States, and other modalities under Article 10 of the IOC Statutes; and (v) the consideration of alternative logistic arrangements for the Sub-Commissions, to provide them with all the needed administrative support.

313 The Vice-Chairman then suggested further points of consideration that resulted from the meeting of the Intersessional Working Group on Regional Programmes, convened just prior to the 24th Session of the IOC Assembly, namely that:

- (i) the role of Regional Subsidiary Bodies (RSB) should be reflected in the IOC Medium-Term Strategy for 2008–2013 and the Programme and Budget 2008–2009 in a more balanced way that enhances their staffing, logistical and administrative capacities
- (ii) there is a need to develop the strategic plans of RSBs as a means to attract funds from external sources
- (iii) IOC should be encouraged to develop joint programmes with a series of UN agencies and other organizations already operating regional programmes and funding mechanisms (e.g. CPPS, UNEP, WMO)
- (iv) regional programmes should incorporate the national needs into their plans and implementation, and in line with the “One UN” process
- (v) appropriate mechanisms that can facilitate the allocation of donor contributions (both financial and in-kind) to regional programmes, such as the establishment of Regional Trust Funds, should be encouraged; Member States and other donor organizations are encouraged to contribute to these mechanisms once they are established
- (vi) communication between IOC Headquarters and IOC Offices established away from Headquarters should be enhanced, and the establishment of a focal point at Headquarters is needed to fulfil this function, insofar as the Programme and Budget will allow.

314 **The Assembly thanked** the Vice-Chairman and the Working Group for their report, and **accepted** the recommendations presented by the Vice-Chairman. Recognizing the long-standing issue of reconciling global priorities with regional priorities, **the Assembly agreed** that effective activities of IOC at the regional level will require the mobilization of more external resources through innovative means. Regional Subsidiary Bodies and IOC decentralized offices must be reinforced as a mechanism by which IOC's programmes are implemented.

315 China, supported by Cuba and Venezuela, advocated the decentralization of resources to the Commission's Regional Subsidiary Bodies.

316 **The Assembly noted** the lack of activity of the Regional Committee for IOCEA since its 5th Session (Dakar, Senegal, 5–11 May 2000), and **agreed** that an effort should be made to bring IOCEA back into full function.

317 **The Assembly particularly agreed** with the proposal to establish Regional Trust Funds as subsidiary accounts under the IOC Special Account, but **noted**, however, that financial mechanisms will only be as effective as the extent to which Member States and other donors contribute to them. **The Assembly echoed** the Vice-Chairman's call to urge Member States to actively contribute.

318 Based on the MOU between UNEP and IOC, a series of projects has been developed in the Wider Caribbean with IOCARIBE. The ‘Know-Why Network’ is one project that develops tools to implement the Land-based Sources Protocol of the Cartagena Convention. UNEP/CAR-CU is participating in the biodiversity module of the Caribbean Large Marine Ecosystem Project (CLME).

319 In the case of WMO, the important collaboration with IOCARIBE in the development of IOCARIBE-GOOS and in the area of disaster management was noted. The Representatives of ICSU, UNEP and WMO expressed their organizations' desire to enhance cooperation with IOC.

320 The Director of Scientific Affairs of the CPPS welcomed the report by Professor Mário Ruivo. He reviewed the activities carried out in the region in the framework of the present agreement with the IOC, referring particularly to: the meeting of the joint IOC–WMO–CPPS

Working Group on the Regional Study of the "El Niño" Phenomenon; the support of ODINCARSA for the establishment of a database on regional oceanographic cruises; and the IOC support for the meeting on the formal establishment and strengthening of GRASP. These activities have facilitated the strengthening of the cooperation between the two institutions, and thus reflect the institutional will to further strengthen the existing collaboration, contributing to the implementation of programmes in the region and presenting reports to the Assembly on the activities carried out.

321 Ecuador, supported by Colombia, presented a proposal to broaden the present agreement between the Intergovernmental Oceanographic Commission and the Comisión Permanente del Pacífico Sur that would allow a more active cooperation between them.”)

322 The Executive Secretary informed the Assembly that discussions with CPPS were ongoing.

323 **The Assembly restated** its view that communications between the IOC Headquarters and the Regional Subsidiary Bodies should be strengthened.

324 **The Assembly adopted** [Resolution XXIV-10](#) and [Resolution XXIV-11](#).

4.6 UN CONVENTIONS AND AGREEMENTS

4.6.1 Seventh Meeting of the IOC Advisory Body of Experts on the Law of the Sea (IOC/ABE-LOS VII): report of the Chairman

325 The Chairman of the IOC Advisory Body of Experts on the Law of the Sea, Elie Jarmache, introduced this item. He informed the Assembly on the outcome of the 7th Meeting of IOC/ABE-LOS (Libreville, Gabon, 19–23 March 2007) which focused mainly on “the IOC Legal Framework within the Context of UNCLOS which is Applicable to the Collection of Oceanographic Data.” He highlighted the progress achieved by reaching a provisional consensus on the definitions to be used, including an initial list of variables and parameters to be updated on a regular basis by the IOC Assembly. He also called the attention of the Assembly to the Recommendations adopted by the Advisory Body at its 7th Meeting, and sought the advice of the Assembly, particularly on Recommendations 5 and 6.

326 Several Member States stressed the importance of IOC/ABE-LOS completing its work on the "Guidelines for the Collection of Oceanographic Data within the Context of UNCLOS by Specific Means", for consideration by the Executive Council at its 41st Session (24 June–1 July 2008), since these guidelines are critical to the implementation of a global operational ocean observing system and other related IOC programmes and projects.

327 Spain and the United States of America encouraged all Member States to fully participate in the intersessional activities and in the 8th Meeting of IOC/ABE-LOS, in the form of both technical and legal expertise, to ensure balanced discussion and practical outcomes.

328 Greece expressed its support for the work of IOC/ABE-LOS whose guidelines, based on the legal context of UNCLOS, will be very important for effective global operational activities, including scientific research through IOC and other international organizations in marine areas, taking into account the sovereignty and the sovereign rights of Coastal States.

329 China pointed out that, given the IOC's competence in marine scientific research and ocean services, the drafting and implementation of international legal instruments, within its field of competence and in accordance with the UN Convention on the Law of the Sea (UNCLOS), was necessary and was an opportunity for the future of IOC.

330 The Netherlands highlighted the need to reach agreement on a set of simple and pragmatic guidelines on good practices in the collection of oceanographic data.

- 331 The United Kingdom proposed the use of meetings of small intersessional sub-working groups of the IOC/ABE-LOS to expedite the negotiation of the final text of the Guidelines, since the annual plenary meeting of IOC/ABE-LOS itself had proven insufficient to accelerate progress in the negotiations. It also considered that IOC/ABE-LOS has the potential to deal with emerging issues, such as biodiversity issues. This view was shared by other Member States.
- 332 Argentina considered the work of IOC/ABE-LOS-VII to be positive in respect of the framework, in the context of UNCLOS, for the collection of oceanographic data by specific means, and expressed its full support for continuing this work in a constructive and flexible manner. Argentina added that the natural limits of this work were not “good practices” but clearly and obviously respect for international law, and particularly that which codifies the principle that the consent of the Coastal State governs the conduct of activities in marine areas under its sovereignty or jurisdiction. It also urged the IOC, the Executive Secretary and the Secretariat to actively pursue the effective implementation of the Roster of Experts on the development of legislation and legal practice relative to marine scientific research and the transfer of marine technology, as well as the IOC Procedure for the Application of Article 247 of UNCLOS. Argentina also expressed its wish to obtain information on concrete results on both these themes, for the 25th Session of the Assembly. Finally, regarding Recommendation 5 of IOC/ABE-LOS VII, it considered that IOC/ABE-LOS had a clear role to play in providing juridical input to the discussion on the future of IOC.
- 333 The Executive Secretary informed the Assembly that informal consultations had been held with the Director of UN/OLA/DOALOS, confirming the very favourable conditions for the continuing cooperation with the Commission.
- 334 The Chairman of I-GOOS proposed to hold a joint meeting of the I-GOOS and the IOC/ABE-LOS to allow both these Subsidiary Bodies together to achieve better and more harmonious results.
- 335 The Government of Greece kindly extended an invitation to host the 8th Meeting of IOC/ABE-LOS. **The Assembly thanked** Greece for this offer.
- 336 **The Assembly accepted** the Report and Recommendations of the 7th Meeting of IOC/ABE-LOS, and **adopted** [Resolution XXIV-12](#).

4.7 TSUNAMIS AND OTHER MARINE HAZARDS

4.7.1 Secretariat Report on the implementation of IOC activities in the Tsunami Programme and strategic approach

- 337 The Head of the Tsunami Coordination Unit, Peter Koltermann, introduced this item. Recalling the Sumatra tsunami disaster of December 2004 and the subsequent Resolutions (XXIII-12, XXIII-13, XXIII-14, and XXIII-15) establishing three regional and one global Intergovernmental Coordination Groups to oversee the development of tsunami warning systems, he reminded the Assembly that the proposed systems built upon more than 40 years of experience gained by the Pacific Tsunami Warning System. Today all oceans have tsunami warning systems at different levels of maturity, while the Pacific Tsunami Warning Centre and the Japan Meteorological Agency provide interim tsunami watch coverage for the Indian Ocean and the Caribbean tsunami warning systems until regional tsunami watch centres have been set up. The responsibility for the “downstream” part lies with the Member States themselves, but in all regional systems, working groups have been established which, in close cooperation with the UN's International Strategy for Disaster Reduction (ISDR) and its strategic partners, provide advice on best practice in capacity-building and preparedness of populations in endangered coastal regions. Mr Koltermann stressed the need to harmonize norm-setting, technical standards and governance procedures among regional systems, and invited Member States to provide guidance.

- 338 Mr Koltermann thanked the Member States for their substantial extrabudgetary contributions for tsunami coordination; such contributions make up 96% of the total budget of the Unit.
- 339 Mr Kusmayanto Kadiman, State Minister of Research and Technology of the Republic of Indonesia, reported on the status of the Indonesian Tsunami Warning System, as a component of the IOTWS, and the achievements since the Sumatra tsunami in December 2004, which he denominated a *global wake-up call*. He also reviewed the lessons learned from implementing the IOTWS and suggested ways forward that may also hold for implementing other tsunami warning systems and extending their remit to include a multi-hazard approach. He announced his highest appreciation of the generous support by numerous donor countries to Indonesia to mitigate the damage the 2004 tsunami caused and in building the national warning system coordinated by IOC. He also stressed the numerous Indonesian activities in securing the establishment of an end-to-end TWS which had been closely coordinated with major donors, like Germany and the USA, all the Indonesian stakeholders and relevant ministries and agencies. He reminded Member States of the vulnerability of his country to tsunamis and other ocean-related hazards and stressed that his country is making a major effort to also contribute significantly to GOOS. From the lessons Indonesia had learned, he urged Member States to give high priority to the ocean and ocean-related threats and issues. The Minister's full statement is in Annex III-B.
- 340 In thanking Mr Kadiman, the Chairman said that the Assembly appreciated how much Indonesia had suffered in the 2004 tsunami, and that the Indonesian response had been an inspiration to all Member States. He particularly noted the phrase that we needed "rational preparedness as a cultural component of a warning system."
- 341 **The Assembly warmly welcomed** the commitment of Indonesia to the wider work of the IOC.
- 342 The United States of America acknowledged the IOC Secretariat's commitment to coordination of the tsunami efforts via the establishment of the IOC Tsunami Unit. It stressed the need for close coordination between the IOC and WMO through JCOMM, and to raise the importance of GOOS within GEO, as an important contribution to GEOSS. The United States of America stressed the view that the role of the Secretariat's Tsunami Unit is not to manage the ICGs or to implement regional tsunami warning systems, and asked to the Executive Secretary to provide clear goals and a strategy for the Unit's future role and focus.
- 343 Australia welcomed the Secretariat's report and supported the general concerns raised by the United States of America. In contrast to the Unit's present focus, Australia did not support the move to consolidate the terms of reference for the four ICGs for tsunami warning systems, but supported the need to develop common implementation and communication plans, operation manuals and standard operating procedures for all the IOC regional tsunami warning systems which could be used as a basis for harmonization among the regions. (It also expressed the hope that the agreement between IOC and CTBTO will be finalized soon. Australia urged the Executive Secretary to establish more robust links with disaster risk reduction and development organizations at international and regional levels, especially ensuring a stronger role of ISDR in the IOTWS. It encouraged the Secretariat to adopt the role of a facilitator of the work of the relevant Intergovernmental Coordination Groups rather than that of overall manager of the ICGs.
- 344 Norway welcomed the report and stressed the need to strengthen IOC's activities in awareness and capacity-building, as well as to ensure sustainability of the regional tsunami warning systems. Provided improved clarification of the different roles of IOC and ISDR, Norway would consider continued financial support to the IOC Secretariat.

- 345 Japan stressed its interest in building sustainable tsunami warning systems and its strong involvement and support; e.g. through continuing the secondment of two experts to the Tsunami Coordination Unit in the Secretariat.
- 346 China thanked Mr Koltermann for the excellent report and overview, and expressed its appreciation of the significant progress made under the coordination of IOC. China also announced its consideration of the deployment of tsunameter buoys in the South China Sea and its interest in cooperation with other relevant countries and international groups within the framework of IOC.
- 347 Germany appreciated the progress so far and welcomed the report of the Tsunami Coordination Unit. Germany confirmed its intention to extend the two secondments to UNESCO/IOC until the end of 2008.
- 348 Ecuador thanked the Head of the Tsunami Coordination Unit for his introduction and reported on Ecuador's strong involvement in several mapping workshops and activities. Ecuador stressed its intention to continue its cooperation with and commitment to IOC; e.g. through hosting the next session of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System (ICG/PTWS) in 2007.
- 349 India welcomed the significant progress in coordination by the IOC in the last two years. With the completion of its National Tsunami Warning System by the end of 2007, India will be prepared to share data with and provide warning guidance to other Indian Ocean Member States.
- 350 Kenya noted the large number of activities coordinated by the Tsunami Unit and the progress it had made, but stressed the need to ensure close coordination and cooperation with other UN agencies, like WMO, and key stakeholders, especially at the national level.
- 351 The Republic of Korea welcomed the Unit's report and stressed the importance of monitoring both slow and rapid sea-level changes, in order to serve currently established multiple-purpose warning systems, in closer coordination with GLOSS through JCOMM.
- 352 Canada appreciated the work done and the progress made in the coordination of activities in this field, but recommended closer collaboration with the regions and greater involvement of experts from the participating countries. Canada stressed the team approach and confirmed its continuous interest and involvement in the process.
- 353 Greece appreciated the Unit's activities and actively supported the work of IOC in global and regional coordination.
- 354 The Representative of the International Ocean Institute (IOI) thanked the Secretariat for the report. IOI also supported the development of tsunami warning systems, but called for better coordination, so as to avoid duplication. IOI also announced a conference dealing with tsunami issues.
- 355 The Representative of WMO stressed his Organization's active participation and involvement in IOC's work in the coordination of the relevant regional and global activities and stressed that WMO's Global Telecommunication System (GTS) has been provided as the backbone communication system for all regional warning systems.
- 356 The Representative of the International Hydrographic Organization (IHO) reminded the Assembly of the past joint IHO–IOC activities and projects and stressed the importance of mapping for tsunami warning purposes. He noted the development in IOC's Ocean Mapping programme and stressed IHO's readiness to further support the process.

4.7.2 Follow-up to the Report of the ad hoc Working Group on the Framework for a Global Tsunami and Other Ocean-related Hazards Early Warning System

- 357 The Chairman of the Ad hoc Working Group for the Establishment of a Framework for the Global Tsunami and Other Ocean-related Hazards Early Warning System (GOHWMS), Dr François Gérard, introduced this item. He recalled the mandate given to this Working Group by the IOC in Resolution XXIII-15; it asked the Group to prepare a global coordination strategy, which is outlined in a Framework Document (IOC-XXIV/2 Annex 10) and is before the present Assembly. He summarized the key issues in the document and stressed that the ad hoc Working Group has confirmed an urgent need to coordinate the four regional intergovernmental tsunami warning systems globally and to ensure the involvement of other agencies and bodies in the UN system, as well as relevant NGOs, with a view to exploring synergies relative to different ocean-related hazards considered for inclusion in a common warning mechanism or system. Draft Resolution XXIV-(4.7.2), based on the findings of the ad hoc Working Group, proposes the establishment of a permanent global working group on tsunami and other hazards related to sea level, comprising representatives of all relevant IOC subsidiary bodies and those from UN sister agencies, like ISDR and WMO, as well as representatives of relevant stakeholders and the seismic community.
- 358 The United States of America welcomed the work done by the ad hoc Working Group and its Chairman, supported the need for a coordinated cross-cutting system of systems approach and declared its serious commitment to high-level participation in the proposed broadly based permanent global tsunami and other ocean-related hazards Working Group. The United States of America called on the Member States to support the coordination approach through GEO, and to include the relevant seismic and satellite networks. It announced its readiness to play a leadership role.
- 359 China welcomed the report by the Chairman of the ad hoc Working Group and supported the establishment of the proposed global working group. China also reminded the Assembly that, given the wide range of potential hazards involved, the related coordination will need to be conducted carefully.
- 360 Portugal stressed the complex structure of the proposed framework, given the different stakeholders and agencies involved, and reminded the Assembly that the proposed global working group will take on a great responsibility within the "One UN" process.
- 361 India fully supported the idea of establishing a permanent global coordination working group and asked that the scope of the proposed global warning system be broadened to include related target groups, such as fishermen.
- 362 Australia congratulated the ad hoc Working Group and its Chairman for its excellent work and agreed that the proposed global working group needs to be established and work in the light of the Hyogo Framework of Action. Therefore, Australia believes that collaboration with other UN agencies is crucial for success, and urged IOC to ensure the involvement of the relevant stakeholders.
- 363 Japan, Republic of Korea and the Russian Federation supported the establishment of the proposed global working group. Japan mentioned the advantages of multi-hazard warning systems, but pointed out that each hazard warning system had been developed independently, so integration of such systems should be considered carefully. Japan suggested that the group should start its activity from tsunami issues.
- 364 Argentina stressed that this global working group should also take into account regional and cultural differences.

365 The Representative of WMO reported on the relevant decisions of the 14th WMO Congress, (Geneva, Switzerland, 5–24 May 2003) and stressed the strong need to coordinate with the operational stakeholders and their programmes.

366 The Chairman thanked the Member States for their broad support for the proposed permanent global working group on tsunami and other ocean-related hazards and assured the Assembly that the new working group will ensure the inclusion of the relevant stakeholders. He reminded the Assembly that all partners would have essentially the same goal of getting hazard warnings out in good time.

367 The Executive Secretary thanked the Chairman of the ad hoc Working Group for the Group's excellent work. He stressed that IOC and WMO, as technical agencies, only cover the upstream part of an end-to-end warning system and that IOC has to make sure that, through close cooperation with partners like ISDR and International Federation of Red Cross and Red Crescent Societies (IFRC), warnings reach the endangered coastal populations.

368 **The Assembly adopted [Resolution XXIV-14](#).**

4.7.3 Third and Fourth Session of the IOC Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS)

369 The Chairman of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS), Dr Jan Sopaheluwakan, introduced this item. He reported on the progress in the coordination of activities in the establishment of the IOTWS since the ICG's 3rd Session (Bali, Indonesia, 31 July–2 August 2006). He reminded the Assembly that an interim tsunami advisory service continues to be provided by the Pacific Tsunami Warning Center (PTWC) and the Japan Meteorological Agency (JMA). A main outcome of the last 4th Session of the ICG/IOTWS (Mombasa, 28 February–2 March 2007) was the decision to establish a Task Team to Develop a Plan for an Interoperable Network of Regional Tsunami-Watch Providers, which will eventually take over this responsibility from PTWC and JMA. Owing to regional and cultural differences, the IOTWS is following a "system of systems" approach. Another significant outcome was the endorsement of the Terms of Reference for a Steering Group to guide the future development of the IOTWS and to ensure that synergies between the ICG's subsidiary bodies are exploited and that overlaps and duplications are avoided.

370 Dr Sopaheluwakan stressed that the IOTWS was a complex multi-national, multi-agency, multi-donor system. The pace of implementation has not therefore been uniform across the region or across the different parts of the system. However, considerable progress has been made over the last two years at regional, national and local levels.

371 India welcomed the report. India expects to complete its National Tsunami Warning System on schedule, by the end of 2007. Observation systems are already deployed on its eastern and western coasts. Real-time data transmissions have already started and Standard Operating Procedures (SOPs) are under development.

372 Kenya thanked the ICG Chairman and reminded the Assembly that some countries do not have the capacity to build up a national system on their own; he requested other Member States to consider providing more capacity-building resources. Kenya offered to host future Working Group meetings.

373 Sri Lanka welcomed the report and expressed its interest in hosting an IOC training course.

374 Australia congratulated the ICG Chairman on his report and extended its appreciation to all the Member States participating in the ICG. Australia reported that the Australian Tsunami

Warning System will be fully operational in 2009 and that Australia will continue to support and fund the ICG Secretariat in the IOC Perth Regional Programme Office.

375 The United States of America welcomed the report and acknowledged the role of the ICG Secretariat in the IOC Perth Regional Programme Office in organizing training courses and workshops and in helping to launch the International Tsunameter Partnership. The United States of America is, however, concerned about the resources available to the IOC and asked the Executive Secretary to make stronger efforts to facilitate funding through possible donors. They were also concerned about the balance between Regular Programme and Extrabudgetary funding. They suggested that IOC organize a test of the IOTWS in an exercise similar to the 2006 Pacific Wave Exercise. This would provide a useful measure of the state of preparedness and promote ongoing US contributions of scientific, technical and policy support.

376 France congratulated the ICG Chairman and recalled that it had actively participated in the IOTWS. It had launched a programme to strengthen the instrumentation network of seismic and sea-level stations in the south-western Indian Ocean, which should be completed by the end of 2007.

4.7.4 Third Session of the IOC Intergovernmental Coordination Group for the Tsunami Warning and Mitigation System for the North-eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS)

377 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. In accordance with Rule of Procedure No. 48.3, as a Subsidiary Body of the IOC, ICG/NEAMTWS reports to the Assembly.

378 The ICG, at its 3rd Session (Bonn, Germany, 7–9 February 2007), reviewed the progress made from June 2006 to January 2007 and adopted the NEAMTWS Implementation Plan for the period 2007–2011 (published as IOC Technical Series 73). The Implementation Plan will be executed in two phases. The first phase, aimed at the detection of mega-tsunamis, and to be completed in 2007, will focus on: (i) support to the continuing work of the ICG's intersessional Working Groups; (ii) nomination of national Tsunami Warning Focal Points (TWFP) and Tsunami National Contacts (TNC); (iii) implementation of the initial architecture and functions of the tsunami warning system through regional and subregional watch centres; (iv) the conduct of assessments of national capacities to address tsunamis and other ocean-related hazards, when requested, through expert missions; (v) the preparation of a Communication Plan. The second phase, covering the period 2008–2011, will focus on: the establishment of regional and national tsunami warning centres and the implementation of the full TWS. Among the immediate objectives are: (i) the development of a decision matrix to classify local and regional tsunamis and related levels of watch; (ii) the preparation of risk assessments and inundation maps for coastal zones prone to coastal hazards; and (iii) the conduct of missions to assess national capacities for addressing tsunamis, the first of which is scheduled for Ireland in early July 2007.

379 The ICG adopted a preliminary list of institutions that had been nominated as regional tsunami watch centres.

380 At ICG/NEAMTWS-III, Italy announced that it would provide a 24/7 processing and watch coverage of seismic data from the seas around Europe. The tsunami information bulletins will be provided by the Istituto Nazionale di Geofisica e Vulcanologia (INGV). The INGV will thus serve as the system's first hub for immediate data delivery and tsunami information dissemination and a technical workshop of these seismological centres will be held in Rome on 24–25 October 2007.

- 381 As for the sea-level stations, the IOC/GLOSS specifications should be applied, depending on the region. In addition, more national tsunami warning focal points were also nominated. The ICG explicitly supported the establishment of a framework for a global tsunami and other ocean-related hazards early warning system.
- 382 The ICG decided to organize its 4th Session in early November 2007 and accepted the offer of Portugal to host it. The ICG also adopted Recommendation ICG/NEAMTWS-III.1, "Development and Implementation of the NEAMTWS".
- 383 Italy pointed out the shortage of funds for carrying out the NEAMTWS Implementation Plan and called on other Member States to share the financial responsibility in respect of NEAMTWS.
- 384 Portugal confirmed that it would host the 4th Session of the ICG/NEAMTWS in Lisbon in early November 2007; it informed the Assembly of the creation by the Portuguese Committee for IOC of a special group on research and monitoring for tsunamis, including university institutes and meteorological and hydrological agencies, as a means of ensuring an integrated national effort towards the creation of the NEAMTWS. Portugal suggested that institutions participating in the NEAMTWS should apply to European Union's funding scheme for support.
- 385 The United Kingdom informed the Assembly of its active contribution to NEAMTWS and in particular the working groups. It agreed with the multi-hazard approach adopted by the Implementation Plan, which will make the development of warning and mitigation systems for marine hazards more sustainable. It also informed the Assembly that the UK was giving serious consideration to how it might host a regional Tsunami Watch Centre that would include seismic and sea-level data, numerical models of tsunami propagation and the requirements of national warning systems. It will report on these discussions at ICG/NEAMTWS-IV.
- 386 Israel highlighted the importance of a tsunami warning and mitigation system for the Mediterranean, given the high and growing level of coastal population. It expressed its concerns about the capacity of Member States to implement the TWS according to the agreed calendar, especially upgrading GLOSS stations from near- to real-time data transmission. It suggested that, in the effort to coordinate the development of the NEAMTWS, IOC will act as a demonstrator and as a pilot to trigger support from other UN agencies.
- 387 Ukraine informed the Assembly about its involvement in NEAMTWS, the nomination of the lead national agency and focal point, the identification of targeted funds for initial implementation, and the dialogue with other Black Sea countries on regional cooperation in the field of tsunami mitigation.
- 388 The United States of America expressed its strong support to NEAMTWS and to the preparation of guidelines to mainstream marine hazards into integrated coastal-area management, to which it is ready to contribute its experience with guidelines for resilient coastal communities, developed for the Indian Ocean. It appreciated the exchange of bathymetric data through the regional watch centres and invited the ICG/NEAMTWS and all members of all other ICGs to continue collaboration through the U.S.-hosted ICSU World Data Centre for Solid Earth Geophysics, which has compiled and makes freely available a unique set of tsunami-related information, data and products. It informed the Assembly that the 24th General Assembly of the International Union of Geodesy and Geophysics (IUGG) will be held in Perugia, Italy, 2–13 July 2007, providing an occasion for collaboration between the IUGG Tsunami Commission and relevant Associations focused on links between ocean and seismic networks. The United States of America supported research identified by the NEAMTWS and the IOC Ocean Sciences Programme as a contribution to the High-Level Objective on the prevention and reduction of natural hazards. The United States of America suggested that the NEAMTWS develop linkages across the Atlantic with the Caribbean TWS, and recommended efforts in the characterization of tsunamis resulting from marine landslides, volcanoes and other non-seismic sources. It strongly

supported the NEAMTWS focus on enclosed seas and local events, as well as risks in Arctic and near-Arctic waters, and encouraged collaboration among all ICGs on these different issues. It expressed its optimism that the NEAMTWS would also contribute to tsunami and mitigation systems needed to protect the African coastlines and encouraged the IOC Secretariat through the global tsunami framework activities to integrate the activities of ICGs for NEAMTWS, CARIBE-EWS and IOTWS to develop a coordinated set of implementation plans for Africa.

389 Chile drew the Assembly's attention to the importance of also addressing other causes of tsunamis not in the open ocean, such as landslides, hazards to which some countries are exposed, such those in the Mediterranean and elsewhere whose geographical characteristics, fjords, for example, make them vulnerable to this sort of hazard.

390 Ecuador informed the Assembly that the Instituto Oceanográfico de la Armada (INOCAR) will host the 22nd Session of the ICG/PTWS in Guayaquil, Ecuador, 17–20 September 2007. The Session will be preceded by an International Tsunami Mitigation Workshop, hosted by the ICG/PTWS, IUGG-Tsunami Commission and INOCAR, on 14–15 September 2007.

391 **The Assembly accepted** the Executive Summary report of ICG/NEAMTWS-III. **It expressed its appreciation** to Italy, France, Germany and Portugal for their support to the ICG/NEAMTWS.

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

392 The Vice-Chairman of the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions (ICG/CARIBE-EWS), Mr Gustavo Malavé (Venezuela), introduced this item. He expressed the regrets of the Chairman of the ICG, Mr Paul Sanders (Trinidad and Tobago), that he was not able to attend the Assembly.

393 He briefly recalled the history of the establishment of the ICG/CARIBE-EWS, and its first Session (Bridgetown, Barbados, 10–12 January 2006). He then summarized the status of the seismic and sea-level monitoring network in the Caribbean region.

394 The 2nd Session of the ICG/CARIBE-EWS, was held in Cumaná, Venezuela, 12–14 March 2007. The ICG reviewed the progress made during the intersessional period and adopted twelve Recommendations.

395 The ICG recommended the adoption of the Communications Plan developed for the Caribbean and Adjacent regions by the Pacific Tsunami Warning Center (PTWC).

396 The ICG also revised the terms of reference of its Working Groups and urged Member States to nominate their Tsunami Warning Focal Points (TWFP) and Tsunami National Contacts (TNC) by the end of 2007 at the latest. The ICG planned two regional workshops for Tsunami Warning Focal Points (TWFP) and one regional symposium immediately prior to the 10th Session of IOCARIBE in the second half of 2008.

397 The ICG agreed to establish an initial core system for detecting and verifying tsunamis by the end of 2008 and to actively plan to take over the full responsibility for the system with a Caribbean Tsunami Warning Centre in the region at least by 2010.

398 The United States of America encouraged the IOC and the ICG/CARIBE-EWS to seek resources for establishing a Caribbean Tsunami Information Centre (CTIC) in Barbados, and to leverage the expertise of the International Tsunami Information Centre (ITIC) and the

operational experience of the Pacific Tsunami Warning System to participate in regional missions and hazard assessments. It also welcomed the opportunity to exchange best practices and promote interoperability, including by means of regional system exercises and communication tests. It noted that a Caribbean Tsunami Warning Centre is planned and restated that the United States of America will continue to make available timely and accurate regional warning bulletins and information through the existing operational West Coast Alaska Tsunami Warning Center (North American Center) and Pacific Tsunami Warning Center beyond the 2010 milestone identified by the ICG for within-region stand-alone capabilities.

399 Colombia thanked the Vice-Chairman of the ICG and expressed its support to the planned activities for establishing a Tsunami Warning System in the region within a multi-hazard approach. It indicated that the Colombian Commission for the Ocean (CCO) has been designated as the Tsunami National Contact (TNC) and that a governmental Tsunami Warning Focal Point (TWFP) will be defined very soon.

400 Barbados indicated that the CARIBE-EWS is vital to reducing the risks in the region and pledged that it will continue to the best of its ability to contribute to make the system fully functional.

401 The IOC Chairman observed that there are many commonalities among the regional systems, confirming the need for a coordinated approach.

402 **The Assembly accepted** the Executive Summaries of the reports of ICG/IOTWS-III and IV and ICG/CARIBE-EWS II and the Recommendations they contain, and **adopted** [Resolution XXIV-13](#).

403 **The Assembly expressed** its appreciation to Venezuela and Panama for their support to the ICG/CARIBE-EWS.

5. ADMINISTRATION AND MANAGEMENT

5.1 DRAFT PROGRAMME AND BUDGET 2008–2009

404 The Executive Secretary introduced this item. The UNESCO 34 C/5 contains a proposal in which the Zero Real Growth (ZRG) budget of 648 millions USD is the core scenario. While the 176th Executive Board converged toward the ZRG scenario, some key Member States still supported a Zero Nominal Growth (ZNG) scenario, which in real terms represents a diminution of the budget. Given the uncertainty in the approval of UNESCO's 34 C/5, the IOC Programme and Budget 2008–2009 has been conceived around three scenarios (ZRG/RG, AZNG, ZNG). While in the 34 C/5 there is an apparent increase in the staff allocation for IOC, this actually is an analytical artefact, since it refers to staff costs of the central services of the Science Sector of UNESCO, and does not provide IOC with any reinforcement of the Secretariat. The Executive Secretary reviewed some important new trends in UNESCO's approach to the definition of its budget; in particular, the effort to identify the real costs of the Organization, especially indirect costs, including those associated with extrabudgetary contributions. In fact, as an organization like the IOC receives increasing extrabudgetary contributions, the associated transaction costs also increase, and impact the Regular Budget disproportionately, which calls for a balance between the regular and extrabudgetary contributions to finance this added cost.

405 The Director of UNESCO's Bureau of the Budget, Ms Yolande Valle, presented UNESCO's cost-recovery policy. She pointed out that financing United Nations organizations is becoming unsustainable, owing to a decline in mandatory contributions and an increase in voluntary contributions, which today finance most of UNESCO's activities. This situation has a significant impact on the administration; should result-based management be really applied, extrabudgetary contributions should be charged indirect costs. In 1998, extrabudgetary

resources represented 24% of the total budget of UNESCO, whereas in 2006 they had risen to 54%. The Director of the Bureau highlighted the fact that, for UNESCO, a satisfactory cost recovery on extrabudgetary contributions is about 20–25%, covering indirect variable costs, or programme-support costs, and direct costs associated with projects funded by extrabudgetary resources. Underestimating the impact of managing projects funded by extrabudgetary resources may result in UNESCO's inability to meet expectations.

- 406 Australia noted that projects associated with extrabudgetary contributions should include expected results and performance indicators, and if these projects are contributing to the core goals of the Organization, it should bear at least part of the associated indirect costs; otherwise, donors may prefer to provide funds to other organizations.
- 407 The Executive Secretary noted that this has already had an impact on IOC, but that, on the other hand, non-earmarked contributions can still be attractive, as they do not have the same level of reporting obligations.
- 408 China commended the approach taken with the Draft Programme and Budget 2008–2009 and suggested that specifics be discussed by the Financial Committee.
- 409 Brazil recalled that an informal drafting group created by UNESCO's Executive Board is currently revising the text of the Draft 34 C/5, with language that strengthens the role of the IOC. It stressed the importance that Member States of IOC coordinate their efforts in order to obtain a larger budget for IOC within UNESCO. Brazil also noted that implementing the activities in the programme through a regional approach may increase the chance of attracting extrabudgetary funds.
- 410 The Executive Secretary commented that it will be the role of the Assembly to promote better and more stable financial conditions.
- 411 The Chairman of the Financial Committee, Dr Neville Smith (Australia, Vice-Chairman responsible for financial matters) reported on the discussions and decisions of the Committee. He thanked the members of the Committee for their excellent work.
- 412 Dr Smith noted the budget for 2006–2007 adopted by the General Conference of UNESCO and referred the Member States to IOC-XXIV/2 Annex 11 which provided the initial basis for the Committee's discussions. The process for the development of the UNESCO Programme and Budget (Draft 34 C/5) was working in parallel and, as a final draft from those discussions was not yet available, the Committee worked from the drafts as they existed at the time of the Assembly.
- 413 A number of budget scenarios remain on the table, ranging from Zero Nominal Growth for UNESCO to Real Growth for UNESCO. The existing drafts for the 34 C/5 provided preliminary projections for Major Programme II – Natural Sciences, which include the Main Lines of Actions relevant to the IOC. Owing to other factors in the elaboration of the budget that lie outside the direct influence of the IOC Member States, the Natural Science share of the UNESCO Budget relative to the 2006–2007 biennium has decreased, for all budget scenarios, by around 5%.
- 414 The Financial Committee drew attention to a statement in the Draft Appropriation Resolution attached to the 34 C/5 which states that “The budget appropriations for the UNESCO Intergovernmental Oceanographic Commission (IOC) and the UNESCO World Heritage Centre (WHC) shall not be decreased by transfers of funds to other parts of the budget”. The Committee recognized and appreciated the many factors influencing the budget and that the decisions of the UNESCO Conference will largely be influenced by matters external to IOC. However, the Committee noted that there appeared no justification, either in the draft 34 C/5 or in the consideration of the Natural Sciences Review, that would suggest a change in the

relative priority of IOC activities, and agreed that this should provide one of the underlying assumptions for the IOC Programme and Budget 2008–2009.

- 415 The Financial Committee further considered the implications of the different scenarios at the level of IOC. It agreed to use Zero Nominal Growth for IOC (IOC/ZNG) as the basis, with attached specific measures that should be taken into account in the UNESCO Draft 34 C/5 budget, irrespective of the scenario finally agreed for IOC. The Committee concluded that there is a strong case for enhancements in several areas, and accepted that the probability of those propositions becoming a reality would increase if UNESCO moved beyond a ZNG scenario towards a Real Growth scenario.
- 416 In contrast to the budget outlined in IOC-XXIV/2 Annex 11, adopting IOC/ZNG, as recommended by the Committee, means that the total funds available for the 2008–2009 programme activities would be increased by \$ 505,090 to \$ 3,319,300 net. The Committee noted that the treatment of permanent posts within the UNESCO Appropriation remains unclear at the level of IOC. The Committee noted that the number of permanent posts remains at the same level and that the position of the Head of the Sciences Section remains vacant. In the absence of specifics, the Committee adopted the IOC/ZNG scenario without further adjustments.
- 417 The Committee then considered the application of scenarios other than ZNG in the proposed budgets outlined in IOC-XXIV/2 Annex 11. The Committee agreed that all growth propositions should be based on specific proposals at the level of the High-Level Objectives and associated actions, and agreed that such proposals should favour extension of regular budget activities in the first instance. In the event a Zero Real Growth scenario is adopted for UNESCO (that is, the funds made available for existing activities are maintained in real terms) and the proposals for enhanced and new activities are also accepted (that is, real growth in ocean activities), then the Committee agreed that the enhancement of permanent posts could be justified.
- 418 The Committee 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 could be met by either shifting resources at the activity level or by the Secretariat redeploying the effort associated with permanent posts.
- 419 The Committee noted that the 2006–2007 IOC budget was anomalous in the sense that funds devoted to Part I – General Policy and Coordination were not actually sufficient to cover mandatory costs and that the Executive Secretary was obliged to call on reserves and one-off extra-budgetary funds. This shortfall was in part due to decisions of the 23rd Assembly with respect to the Regular Budget, and in part due to follow-up adjustments agreed at the 39th Session of the Executive Council. The Committee recommended enhancement of Part I of the IOC Programme and Budget 2008–2009 by \$283,700 and a corresponding reduction to Part II (Programmes and Programme-related activities), as well as a small enhancement of Part III.
- 420 Several interventions in plenary related to Regular Budget allocations. Some interventions influenced the Financial Committee's discussions on the IOC Strategic Plan 2008–2009. In particular, the Operational Plan recognizes regional mechanisms as an integral element of the implementation of the Plans and that, at this time and without further review by the Commission as a whole, there was no case for enhancing or decreasing decentralization within IOC, other than those arising from practical considerations of resource deployment which are decisions of the Executive Secretary. The Committee concluded that the IOC should explore options for reinforcement of the funding for decentralized activities, consistent with UNESCO policy and IOC priorities.
- 421 The Committee noted the calls for increased emphasis on Africa, and the calls from developing nations for increased focus. It responded directly to these calls in the proposals for

New Activities, detailed below, and agreed to emphasize Africa and Small Island Developing States in those proposals.

422 The Committee took specific note of the interventions related to the WCRP (agenda item 4.2.3) and suggested that a specific allocation for the WCRP within the Regular Budget was not desirable, but that, with the agreement of the Assembly, strong encouragement toward fully supporting the WCRP at the same level as in the current biennium was.

423 The Committee noted the many calls on Regular Budget made under other agenda items of the present session of the Assembly. The new programme-based approach does not allow a mechanism to respond directly to such calls. The Committee further noted that the projection of the IOC Budget down to the level of the Secretariat (an Operating Plan for the IOC Secretariat) is an important part of the process discussed under agenda item 4.1.2, and suggested that such a document should be made available to the Executive Council at its 41st Session and that, for future Bienniums, such a plan should be available in draft form at the relevant Assembly.

424 The Committee discussed a number of principles that should be considered in drafting the Operational Plan for Secretariat:

- Adjustments should respond to the important planned tasks agreed by the Member States, not necessarily the urgent
- Optimize the use and deployment of extra-budgetary resources, and potential, for leveraging effort in areas of priority to IOC and to supplement regular budgetary support
- All responses should take full account of priorities established by the Commission within a balanced allocation of funds to global and regional activities
- Forward commitments of a mandatory nature and agreed by Member States must be honoured, but in a transparent manner, so that Member States are fully informed
- Look for opportunities to partner within UNESCO and other agencies, to exploit synergies and introduce enhanced efficiency
- Ensure to the extent possible that new actions introduced through extrabudgetary contributions are fully costed and supported, particularly in terms of calls on the Secretariat
- Responses to cuts should maintain an appropriate balance between activities and staff, including contractors.

425 In the light of these considerations, and the fact that the adoption of the new IOC Medium-Term Strategy 2008–2013 did not imply any major shift in priorities relative to the 2006–2007 Biennium (when that Budget was projected into the programme-based framework being used for the next Biennium), the Committee agreed to apply the reduction in funding available to Part II evenly across all elements, but with some minor adjustments to correct anomalous attributions in the draft contained in IOC-XXIV/2 Annex 11.

426 The Committee suggested that a staffing strategy should be developed as part of the Operational Plan for the Secretariat that recognizes the need to maintain a balance between human resources and resources for activities. This strategy would take account of the possibilities for applying extra-budgetary resources to both staff and activities.

427 The Commission's Programme and Budget 2008–2009 is being developed according to the 33 C/5 Zero Nominal Growth scenario, with an overall net envelope of \$ 3,319,300.

428 As for the criteria adopted for the formulation of the Programme and Budget 2008–2009, the following should be highlighted with respect to the Programme and Budget 2006-2007:

429 The overall allocation for **Part I – General policy and coordination, and for Part III – Support for programme execution and administration**, have been nominally increased by US\$ 283,700 and US\$ 9,500, respectively, to better support, coordinate and administer the statutory commitments of the Commission; in fact, this represents a true costing, since, in the previous bienniums, part of these general costs were supported through the use of interest accrued to the IOC Special Account and other one-off sources. It should be noted that contributions to the Special Account are now expected to contribute 10% towards the general support costs of UNESCO, thus reducing the funding available for programme activities.

430 The Committee encouraged the Executive Secretary to explore the possibility of negotiating with UNESCO a waiver or reduction of overhead charges applied to the IOC Special Account.

431 As a consequence, the overall allocation to **Part II – Programmes and programme-related services** will undergo a corresponding reduction of US\$ 293,200, which concerns exclusively **Part A – Programmes**, while **Part B – Programme-related services** will remain the same. As stated above, the Committee agreed this reduction should be distributed on a pro rata basis.

Part	2008–2009 (proposed net allocation for activities)	2008–2009 Expected extra-budgetary (estimate)
	US\$	US\$
Part I – General policy and coordination		
A. Governing bodies	400,000	
B. Coordination	300,000	
C. Participation in the UN machinery	10,000	
<i>Subtotal Part I</i>	<i>710,000</i>	
Part II – Programmes and programme-related services		
A. Programmes		
1. Prevention and mitigation of natural hazards	48,634	2,905,000
2. Mitigation of climate change	1,468,913	2,300,000
3. Safeguarding oceans ecosystems	685,900	860,000
4. Integrated coastal area management and UNCLOS	358,353	1,550,000
B. Programme-related services	30,000	
<i>Subtotal Part II</i>	<i>2,591,800</i>	<i>7,615,000</i>
Part III – Support for programme execution and administration	17,500	
TOTAL	3,319,300	7,615,000

432 Breakdown of the budget below the high-level objectives, at the action level, is contained in the Annex to the [Resolution XXIV-15](#).

433 The Committee further agreed that, in the event that the Budget agreed at the General Conference of UNESCO is partly or totally covering real growth, the additional resources to IOC should be apportioned according to the above principle; that is, off-setting the reduction.

434 Subsequent to the UNESCO General Conference and a final decision on the 34 C/5 Programme and Budget, the Committee requested the Executive Secretary to inform the Member States of the outcome and to circulate a proposal for adjustments to Member States,

well before the 41st Session of the Executive Council, with reference to the principles introduced above.

435 In response to opportunities to influence the UNESCO 34 C/5 budget, this strategy suggests that upward adjustments be sought and applied to:

- (i) additional investment in the area of climate change and impacts and adaptation strategies for coastal regions, specifically for the benefit of Africa, Small Island Developing States and Least-Developed Countries [US\$ 420,000]
- (ii) additional support for the response to the risks posed by tsunamis, and specifically within actions associated with HLO 1 action (a) [US\$ 250,000]
- (iii) new support to provide additional actions in the prevention and mitigation of natural hazards and, in particular, to extend the level of activity, across all lines of IOC [US\$ 175,000]
- (iv) the global reporting process for assessment of the marine environment [US\$ 200,000].

436 These requested enhancements represent both re-enforcement and new actions in response to changed UNESCO priorities. The Executive Secretariat should, in response to any such adjustments in 34 C/5, make changes to the Operational Plan of the Secretariat to, first, ensure an effective and efficient response to the new requirements and, second, to enable synergies to be exploited within the Secretariat, for the benefit of all the IOC Programmes.

437 **The Assembly reaffirmed** its continued sponsorship of the WCRP through the 2008–2009 biennium and **called on** the Executive Secretary to continue support at the level of US\$ 125,000 per annum, ideally through Regular Budget, and to report to the Executive Council at its 41st Session on the specific measures within the operational plans for the Secretariat to meet this commitment.

438 Several Member States congratulated the Financial Committee and its Chairman, and commented on the presentation of the Biennial Strategy and Programme and Budget for 2008–2009 made by the Chairman of the Financial Committee.

439 Portugal noted the improvements in the planning and budgeting process, but was concerned by the absence of a specific allocation to IOC Regional Subsidiary Bodies in the Draft Programme and Budget.

440 The United States of America commended the introduction of guiding principles for the drafting of the Operating and Operational Plans of the Commission and the Secretariat, the use of performance indicators, a strategic approach to cuts or increases in the different budget lines.

441 Argentina suggested that the future planning process take full account of the developments from the intersessional Working Group on the Future of the IOC.

442 China supported the Biennial Strategy and Programme and Budget 2008–2009 and suggested that the functional autonomy of IOC be utilized as a basis for negotiating with UNESCO the allocation of additional resources to IOC in the next biennium.

443 Canada welcomed the approach and the specific attention given to climate change, small islands and Africa.

444 Brazil underlined the importance of coordination among Member States and the Commission in ensuring that the spirit of the Financial Committee and the present momentum be maintained in preparing for the discussion at the 34th General Conference of UNESCO. It

suggested that the expected results presented in the Biennial Strategy be considered in a flexible way and be used as guidelines to work on a continuous basis.

445 Côte d'Ivoire noted with appreciation that the priority of Africa was taken into account in the Biennial Strategy and possible upward adjustments of the IOC budget. With Sudan, it noted however the importance of reflecting in an explicit way contributions from the IOC Regular Budget and extrabudgetary sources to regions and, in particular, Africa.

446 Cuba emphasized the need for the Member States to advocate the cause of the Commission at the highest national political level for more effective action with UNESCO.

447 **The Assembly adopted** [Resolution XXIV-15](#) and [Resolution XXIV-3](#).

448 The Chairman of the Financial Committee also introduced the draft text of a reply from the Chairman to the Director-General concerning the Review of Major Programmes II (Natural Sciences) and III (Social and Human Sciences) (Item 3.1).

449 **The Assembly endorsed** the response, contained in Annex VII to the present report and **requested** the Chairman to transmit it to the Director-General of UNESCO.

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

450 The Chairman of the Nominations Committee, Mr A. Picasso de Oyagüe 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-XXIV/NOM-WP.3 rev.

451 Subsequently, there was one change: (i) Tanzania withdrew its candidate for the Vice Chairpersonship for Electoral Group V, so that Tanzania consequently became a candidate for election to the Executive Council in conformity with Technical Arrangements for the Elections No 1.8.

452 **The Assembly noted** that: (i) Cook Islands, Djibouti, Papua New Guinea, and the Democratic Republic of Timor-Leste, had joined the IOC since the 23rd Session of the Assembly; (ii) the present grouping of IOC Member States for the purpose of election to the Executive Council is in Annex V to this report; and (iii) the number and distribution of seats on the Executive Council, by Electoral Group, had not changed since the 23rd Session of the Assembly.

5.2.1 Election of the Chairperson of the Commission

453 **The Assembly noted** that there was only one candidate for the position of Chairperson. Captain Javier Valladeres (Argentina) was therefore elected by acclamation.

5.2.2 Election of the Vice-Chairpersons of the Commission

454 **The Assembly noted** that there was only one candidate for each Electoral Group 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 Julian Reyna (Colombia)	Group III
Dr Neville Smith (Australia)	Group IV
Professor Cherif Sammari (Tunisia)	Group V

5.2.3 Election of the Members of the Executive Council

455 **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.

456 **The Assembly noted** that Georgia and Ukraine were candidates for the remaining Member State seats on the Executive Council for Electoral Group II, whereas the number of those remaining seats was one. A vote had therefore to take place to elect the Member State from Electoral Group II to the Executive Council.

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

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

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

460 After a ballot to elect the representatives to the Executive Council from Electoral Group II, the Ukraine was the Member State of this Group elected to the Executive Council with 54 votes out of 81 valid votes cast.

461 The list of Member States of the Commission and the composition of the Executive Council are given in Annex V.

5.3 DATES AND PLACES OF THE TWENTY-FIFTH ASSEMBLY AND THE FORTY-FIRST AND FORTY-SECOND SESSION OF THE EXECUTIVE COUNCIL

462 The Chairman introduced this item. The Executive Council, at its 40th Session (Paris, 18 June 2007), confirmed the dates of its 41st Session: from Tuesday 24 June to Tuesday 1 July 2008, for a total of six working days, leaving the final decision to the Officers and the Executive Secretary when they discuss the Provisional Agenda thereof. In 2009, the Executive Council, acting as the Steering Committee of the Assembly, will hold its 42nd Session, meeting during half a day, on 15 June 2009; the 25th Session of the Assembly will begin on 16 June 2009 and its closing date is left to the decision of the Officers and the Executive Secretary.

463 Portugal suggested that two half-days could be accommodated in the timetable of the 25th Session of the Assembly to allow more time for the work of the sessional Working Groups and Statutory Committees.

5.4 THEMES OF THE NEXT A. BRUUN AND N.K. PANIKKAR MEMORIAL LECTURES

464 The IOC Chairman introduced this item; he reminded the Assembly of the proposal on the "Carbon Retention in a Coloured Ocean" (CARIACO) Project by Venezuela to the Assembly at its 23rd Session.

465 Venezuela restated its proposal.

466 Portugal proposed, respectively, for the Bruun Memorial Lecture, a theme on the development of an EU ocean and seas policy, and, for the Panikkar Memorial Lecture, the state of deep sea research and biodiversity, including biotechnology.

467 **The Assembly took note** of these proposals. The IOC Chairman reminded the Assembly that proposals are still expected from the IOC Subsidiary Bodies. Member States may also make proposals to the Executive Secretary.

6. ADOPTION OF RESOLUTIONS AND SUMMARY REPORT

468 The Chairman of the Resolutions Committee, Mr Geoff Holland (Canada), presented the report of the Committee to the Assembly; it is in Annex VIII.

469 The Chairman of the Resolutions Committee drew the attention of the Assembly to the *Draft guidelines for the preparation and consideration of Draft Resolutions* (IOC-XXIV/2 Annex 12) and highlighted the need that Member States provide comments on this document for future discussion and eventual adoption by the Executive Council at its 41st Session. He remarked that future revised Guidelines may substantially improve the processing of Draft Resolutions and may provide solutions to current problems.

470 The Chairman of the Financial Committee shared the concern of the Resolutions Committee over the short time between the deadline for the submission of Draft Resolutions and their adoption, since it makes the task of the Financial Committee, and the timely consideration of the implications of the Draft Resolutions, very difficult.

471 **The Assembly took note** of the Committee's recommendations and **thanked** the Committee's Chairman for his excellent work in this respect.

472 **The Assembly accepted** the Report of the Chairman of the Resolutions Committee and **asked** the Member States to provide inputs to the *Draft guidelines for the preparation and consideration of Draft Resolutions* within two months, to allow the Secretariat to revise the document to be presented to the Executive Council at its 41st Session.

7. CLOSURE

473 The Chairman first thanked the Secretariat for its excellent servicing of the 24th Session of the Assembly. He particularly thanked Stefano Belfiore, Patrice Boned and Cigié Pontes in this respect.

474 He also thanked the Executive Secretary for his leadership: "We did not give you many bricks, but you built good houses."

475 The Chairman thanked the three outgoing Vice-Chairmen, Professor Mário Ruivo (also a former Secretary of the Commission and member of the Portuguese delegation for many years), Dr Alfonse M. Dubi (Tanzania) and Dr Alexander Folov (Russian Federation). He also welcomed the new Chairman, Captain Javier Valladares (Argentina). He noted the new Chairman's experience in IOC, but also offered him several pieces of friendly advice on the conduct of the affairs of the IOC and the session of its Governing Bodies; notably, never to accept any advice.

476 The Executive Secretary responded on behalf of the Secretariat. The question of how many bricks would be needed to build the houses in the Medium-Term Strategy remained to be answered. There are some difficulties regarding how to advance the development of the Global Ocean Observing System. Relations with and within the UN system need to be addressed further, particularly given the need for the Commission to have an independent Medium-Term Strategy and Programme and Budget, as had been agreed by the Assembly; this would change

things for the better, but will also present problems for the Assembly to solve. Although there was tension, the Executive Secretary considered it to be a source also of force and energy.

477 He thanked the outgoing Chairman for his excellent cooperation over the past four years and, as a mark of appreciation, presented Dr Pugh with the gavel the Chairman had used to good effect when on the podium, noting that it would be replaced using extrabudgetary funding.

478 The Republic of Korea expressed its appreciation of the Chairman's work and his skilful use of good humour to relieve any tension that had arisen during Governing Body sessions. The Republic of Korea also paid tribute to the work of the five Vice-Chairmen, particularly in their conduct of the inter- and intrasessional Working Groups, and to the Executive Secretary and his staff: all deserved the highest praise.

479 The Member States unanimously supported the Republic of Korea's statement.

480 The incoming Chairman, referring the symbolism of a lighthouse as a guide, suggested that the Chairman of the IOC is not so much a lighthouse as a scientific buoy, collecting and transmitting data.

481 The outgoing Chairman declared the 24th Session the Assembly closed at 11.40 on Thursday 28 June 2007.

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 INTRASESSIONAL 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
- 3.2 REPORT BY THE EXECUTIVE SECRETARY ON PROGRAMME AND BUDGET IMPLEMENTATION (2006–2007)
- 3.3 REPORT ON ACTIVITIES OF THE IOC (2005–2006) FOR PRESENTATION TO THE THIRTY-FOURTH GENERAL CONFERENCE OF UNESCO

4. PROGRAMME MATTERS REQUIRING DECISIONS BY THE ASSEMBLY

4.1 GENERAL POLICY ISSUES

- 4.1.1 Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socio-economic Aspects
- 4.1.2 Presentation by the Executive Secretary of the IOC Draft Medium-Term Strategy for 2008–2013
- 4.1.3 Preparation for the commemoration of the 50th Anniversary of the IOC (1960–2010)
- 4.1.4 IOC participation in the International Polar Year 2007–2009
- 4.1.5 Secretariat report on the Global Earth Observation System of Systems (GEOSS)

4.2 OCEAN SCIENCES SECTION

- 4.2.1 Secretariat report on Ocean Sciences Section programme, structure and activities
- 4.2.2 Eighth Session of the IOC Intergovernmental Panel on Harmful Algal Blooms (IPHAB-VIII) and HAB and GEOHAB Programme
- 4.2.3 Report on work plan and budget of the World Climate Research Programme (WCRP) and the IOC Ocean and Climate Programme
- 4.2.4 Report on IPCC Working Group II on Impacts, Adaptation and Vulnerability

4.3 OCEAN OBSERVATION AND SERVICES SECTION

- 4.3.1 Eighth Session of the Intergovernmental Committee for the Global Ocean Observing System (I-GOOS)

- 4.3.2 Proposal for a GOOS-GTOS Joint Panel for Integrated Coastal Observations (J-PICO)
- 4.3.3 Report of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) in support of the implementation of GOOS
- 4.3.4 Report on planning and implementation activities of the Global Climate Observing System (GCOS)
- 4.3.5 Nineteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange (IODE-XIX)
- 4.3.6 Report on the Strategic Plan for Oceanographic Data and Information Management
- 4.4 CAPACITY-BUILDING SECTION
 - 4.4.1 Secretariat report on IOC capacity-development activities, 2005–2007
- 4.5 REGIONAL ACTIVITIES
 - 4.5.1 Secretariat report on the implementation of IOC programmes in regions and regional programmes
 - 4.5.2 Follow-up to the Report of the Intersessional Working Group on Regional Programmes
- 4.6 UN CONVENTIONS AND AGREEMENTS
 - 4.6.1 Seventh Meeting of the IOC Advisory Body of Experts on the Law of the Sea (IOC/ABE–LOS VII): report of the Chairman
- 4.7 TSUNAMIS AND OTHER MARINE HAZARDS
 - 4.7.1 Secretariat Report on the implementation of IOC activities in the Tsunami Programme and strategic approach
 - 4.7.2 Follow-up to the Report of the ad hoc Working Group on the Framework for a Global Tsunami and Other Ocean-related Hazards Early Warning System
 - 4.7.3 Third and Fourth Session of the IOC Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS)
 - 4.7.4 Third Session of the IOC Intergovernmental Coordination Group for the Tsunami Warning and Mitigation System for the North-eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS)
 - 4.7.5 Second Session of the IOC Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions (ICG/CARIBE EWS)

5. ADMINISTRATION AND MANAGEMENT

- 5.1 DRAFT PROGRAMME AND BUDGET 2008–2009
- 5.2 ELECTIONS OF THE OFFICERS OF THE COMMISSION AND MEMBERS OF THE EXECUTIVE COUNCIL
 - 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 TWENTY-FIFTH ASSEMBLY
AND THE FORTY-FIRST AND FORTY-SECOND SESSION
OF THE EXECUTIVE COUNCIL

5.4 THEMES OF THE NEXT A. BRUUN AND N.K. PANIKKAR
MEMORIAL LECTURES

6. ADOPTION OF RESOLUTIONS AND SUMMARY REPORT

7. CLOSURE

ANNEX II

ADOPTED RESOLUTIONS

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4	4.1.3	The Fiftieth Anniversary of the Intergovernmental Oceanographic Commission of UNESCO	14
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6	4.2.2	Eighth Session of the IOC Intergovernmental Panel on Harmful Algal Blooms (IPHAB)	16
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13	4.7	IOC Intergovernmental Coordination Groups (ICG) for Tsunami Warning and Mitigation Systems for the Indian Ocean (IOTWS), North-Eastern Atlantic, Mediterranean and Connected Seas (NEAMTWS), and Caribbean and Adjacent Regions (CARIBE-EWS)	27
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Resolution XXIV-1

WORKING GROUP ON THE FUTURE OF IOC

The Intergovernmental Oceanographic Commission,

Recalling the reports of the ad hoc Study Group on Measures to Ensure Adequate and Dependable Resources for the Commission's Programme of Work (IOC/FURES-III/3) and the ad hoc Study Group for Development, Operations, Structure and Statutes, entitled "Quo Vadis IOC?" (IOC/DOSS-III/3) and the recent documents "We have a problem" (IOC-XXIII/2 Annex 8) and "The Future of IOC: a Proposal by the Officers to the Member States, June 2007" (IOC-XXIV/2 Annex 2),

Noting the benefits arising from the use of the ocean and coastal zones, concerned however, by the growing challenges faced by the international community arising from, *inter alia*, climate variability and change, marine environmental degradation and pollution, habitat and biodiversity losses and natural hazards,

Recognizing the complexity of integrated ocean and coastal management and the increased pressures on the ocean and the coastal zones,

Recalling the need to enhance public awareness of these matters and to increase the visibility of the role of IOC in addressing these issues,

Further recalling the UN conventions and instruments that have a bearing on the mandate of IOC: *inter alia* the United Nations Conference on Environment and Development (UNCED), the United Nations Convention on the Law of the Sea (UNCLOS), and the United Nations General Assembly Resolutions 57/141, 58/240, 60/30 and 61/222,

Recognizing that the 50th anniversary of the Commission, in 2010, presents an opportunity to reinforce the role and capabilities of IOC in addressing such challenges and mandates,

Being aware that the public and governments need to understand the challenges facing the global and coastal oceans and the constraints, under which the Commission operates, reflected in the statement in Annex 1 to the present resolution,

Calls on the Officers of the Commission, in collaboration with the IOC Executive Secretary, to coordinate consultations with IOC Member States, IOC Subsidiary Bodies, competent UN bodies and other competent international organizations and bodies dealing with ocean issues, in order to ascertain their views on what role IOC should play to contribute to the effective coordination of ocean affairs in the relevant intergovernmental fora and on how IOC could be reinforced in order to carry out effectively its mission as set out in Article 2, paragraph 1, of its Statutes;

Requests the Member States to provide inputs to the above-mentioned consultations;

Decides to establish an intersessional Working Group on the Future of the IOC, open to all Member States, with the specific mandate of identifying emerging challenges and opportunities for the reinforcement of the roles, capabilities and status of the IOC and proposing options in accordance with the terms of reference contained in Annex 2 to the present resolution;

Also decides that the IOC Executive Council at its 41st Session (2008) shall:

- (i) include in its agenda an item on the future of IOC, in order to consider the report and conclusions of the intersessional Working Group;
- (ii) submit conclusions to the Assembly at its 25th Session (2009);
- (iii) seek, as appropriate, for consideration of the Assembly, the necessary legal advice, including the examination of the Working Group's conclusions by the UNESCO Office of International Standards and Legal Affairs and by the IOC Advisory Body of Experts on the Law of the Sea (IOC/ABE-LOS) at its 9th Meeting (2009), with the legal advice to be provided at least three months before the beginning of the 25th Session of the IOC Assembly.

Annex 1 to Resolution XXIV-1

Statement of the Intergovernmental Oceanographic Commission prepared at the 24th Session of the Assembly

Preamble

The Intergovernmental Oceanographic Commission of UNESCO was established in 1960 and now has the mandate to "promote international cooperation and to coordinate programmes in research, services and capacity-building, in order to learn more about the nature and resources of the ocean and coastal areas and to apply that knowledge for the improvement of management, sustainable development, the protection of the marine environment, and the decision-making processes of its Member States." (Article 2 of the Statutes)

As it nears the completion of its fifth decade since its establishment as an intergovernmental body with functional autonomy within UNESCO, it is timely to review the role that it has played in promoting successful global and regional programmes to underpin the wise governance of the ocean and coasts.

Challenges

The ocean and coasts are experiencing increasing demands upon their renewable and non-renewable resources, including, for example, marine transportation, recreation, and coastal development, all of which produce great benefits to the marine community and society at large. However these benefits are not without their impacts and related challenges. The increased awareness and expectations of society for scientific knowledge and information, and the importance of providing scientific information for policy-decisions in wise governance for the sustainable use of ocean resources, adds a new dimension to the role that the Commission must play in the future. The necessity of this new role is further enhanced in the context of the special challenges posed by climate change, sea-level rise, and the accelerating degradation of the marine environment simultaneously with attendant habitat and biodiversity losses, and the large loss of lives and livelihoods from marine-based natural hazards. This has led to a growth in both the extent and number of tasks which the IOC has undertaken, including a significant role in the coordination of ocean sciences, observations and services, as reflected in the current and future Medium-Term Strategy. This growth has coincided with a period in which there has been a significant decline, in real terms, of the resources available to the IOC to conduct its work. The Commission further appreciates that these challenges must be met with a much greater focus at national and regional levels in a more holistic fashion, if it is to be successful in preserving the ocean heritage for future

generations. That we must preserve the ocean environment is unarguable – without a living ocean, we risk losing a liveable planet.

Mechanisms

The Commission therefore recognizes the urgent necessity to reinforce the role and capabilities of IOC, by examining structural, financial and legal mechanisms to allow it to continue its unique contribution to ocean affairs. As the recognized entity within the UN system for science dealing with the oceans, the Commission requires adequate resources and a recognized voice at senior levels of government and amongst other specialized agencies. It will reinforce its links with relevant organizations of the UN system, namely UNESCO and its traditional partners. It must be better equipped to deal with the interdisciplinary nature of ocean science and services and capacity-development both at global and regional level demanded by increasingly complex interactions, to have the capabilities necessary to acquire and share knowledge and data, and the capacity to provide assistance in these relevant domains of ocean affairs. IOC will undertake consultations and explore interessionally the most appropriate responses to these issues through the mechanisms established by the present resolution.

Annex 2 to Resolution XXIV-1

Terms of Reference of the Working Group on the Future of IOC

Objectives:

- **Further pursue** the initial study by the Officers, with a view to better identifying challenges and evaluating opportunities and needs for intergovernmental collaboration in oceanographic activities, in light of the mission of IOC, taking into account the mandates of other UN and other international organizations dealing with relevant aspects of ocean affairs,
- **Evaluate** those challenges and opportunities taking particularly into account the results-based criteria of feasibility, relevance, sustainability, continuity and impact,
- **Analyse** options for institutional mechanisms and financial requirements to respond to the above identified challenges and opportunities, and
- **Present** a written report for discussion by the IOC Executive Council at its 41st Session (2008).

Membership and participation:

- IOC Officers,
- A maximum of two (2) representatives of each Electoral Group of IOC Member States selected in accordance with the Rules of Procedures (Appendix II),
- The sessions of the Group will be open to participation of all IOC Member States at their own expense.

Mechanisms:

- The Group will be co-chaired by two individuals nominated by the IOC Officers,
- The Group shall conduct its work through meetings and electronically,

- The Group shall meet once in the beginning of 2008 to generate a draft document for discussion,
- The final document for discussion shall be submitted to the IOC Secretariat three months prior to the 41st Session of the Executive Council to ensure its timely translation and distribution to Member States in accordance with the relevant IOC Rules of Procedure.

The Executive Secretary shall circulate the final document for comments from Member States two months before the 41st Session of the Executive Council.

Resolution XXIV-2

IOC BIENNIAL STRATEGY 2008–2009

The Intergovernmental Oceanographic Commission,

Noting the Draft Medium-Term Strategy of UNESCO 2008–2013 (Draft 34 C/4), considered by the 176th Executive Board of UNESCO, defining the general strategic framework for the organization, especially Overarching Objective 2: Mobilizing science, knowledge and policy for sustainable development,

Recalling IOC Resolution XXIII-16 and the work of the inter-sessional Working Group on the IOC Medium-Term Strategy 2008–2013,

Also recalling IOC Resolution EC-XXXIX.1, and the text annexed to that resolution as the basis for the development of the IOC Medium-Term Strategy 2008–2013,

Further noting that the Strategic Programme Objectives of the Draft Medium-Term Strategy of UNESCO 2008–2013 give full consideration to the IOC High-Level Objectives and associated activities, as defined in IOC Resolution EC-XXXIX.1, in particular through the following three Strategic Programme Objectives (notwithstanding the rolling review and updating procedure for the Strategy):

- Leveraging scientific knowledge for the benefit of the environment and the management of natural resources,
- Fostering policies and capacity-building in science, technology and innovation with special emphasis on the basic sciences and energy, and
- Contributing to disaster preparedness and mitigation,

Adopts according to Article 6.B.4 of the Statutes of the Commission:

- (i) the Medium-Term Strategy 2008–2013 in IOC Resolution EC-XXXIX-1;
- (ii) the IOC Biennial Strategy 2008–2009, in the Annex to this resolution;

Confirms that IOC may adjust the Medium-Term Strategy in line with decisions arising from the discussions on the “Future of IOC”;

Urges Member States to take into account the IOC Medium-Term Strategy and its possible adjustments, and the IOC Biennial Strategy 2008–2009, in developing their national plans and programmes for ocean sciences and ocean observations, as well as in planning their contribution to and participation in the programmes of the Commission;

Further urges Member States to convey and support the IOC Medium-Term Strategy and the IOC Biennial Strategy within the preparation of the next draft of the UNESCO Programme and Budget (Draft 34 C/5);

Requests Sub-Commissions, Regional and Technical Committees and all Subsidiary Bodies of the IOC to adhere to the direction and priorities set forth in the IOC Biennial Strategy annexed to this resolution and to organize their activities so as to coherently pursue the IOC High-Level Objectives contained therein;

Further requests all its Subsidiary Bodies, Sub-Commissions and other bodies responsible for the implementation of the Biennial Strategy of the IOC to monitor and evaluate progress against the Expected Results and Performance Indicators for 2008–2009 relevant to their plans, including their targets of action, and to prepare input for the future Biennial Strategy and adjustments to the Medium-Term Strategy consistent with the IOC planning process;

Instructs the IOC Executive Secretary:

- (i) under the appropriate articles of the IOC Statutes, Rules of Procedure and Financial Regulations, to prepare and execute an Operational Plan for the Secretariat and to use the IOC Medium-Term Strategy and the process described in this Biennial Strategy as the strategic framework for the formulation of future Biennial Programme and Budgets of the Commission;
- (ii) to transmit the IOC Medium-Term Strategy 2008–2013 and the annexed Biennial Strategy to the Director-General of UNESCO and to widely disseminate it, including to the relevant national and international organizations cooperating with the Commission;
- (iii) to continue the work initiated under a study of performance indicators, to enhance the links and improve the effectiveness of performance measures.

Annex to Resolution XXIV-2

IOC Biennial Strategy 2008–2009

HIGH-LEVEL OBJECTIVES

Responding to its mission in this new context and guided by the strategic thrusts described above, 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 Action, the UN Millennium Development Goals, and acting in conformity with international law, including relevant UN Conventions and Resolutions, the IOC in its Medium-Term Strategy 2008–2013 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 co-ordinating 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 to develop a global system for addressing multiple marine hazards, thus supporting the overall objective of contributing to disaster preparedness, mitigation and recovery.

Action	Expected results and 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.	<p>Development of initial/core regional and national capabilities for tsunamis and other related coastal hazards warning and mitigation systems.</p> <ul style="list-style-type: none"> – Number of initial regional broadband seismic monitoring stations upgraded or initiated contributing real-time data for earthquake notification related to tsunamis. – Number of regional sea-level stations upgraded or initiated contributing real-time data for catastrophic-inundation notification related to tsunamis. – 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.	<p>Plans developed for risk assessment and hazard mitigation integrated into coastal planning and management at the national level.</p> <ul style="list-style-type: none"> – Number of plans developed for coastal inundation integrated in CCA's, UNDAF's, and national development plans. – Number of national development projects for which plans have been developed. – Number of technical and capacity-building training courses undertaken in each region. – Number of different multi-user, culturally adapted educational materials published and distributed through Regional Tsunami Information Centres. – Development and dissemination of guidelines for mainstreaming marine-related hazards into coastal planning and management.

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 improve 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.

Action	Expected results and performance indicators
2a. Increase the understanding of the ocean's role in climate variability and climate change.	<p>Participation of the Ocean Sciences research community promoted and catalysed, and their cutting-edge results integrated into international Climate Research.</p> <ul style="list-style-type: none"> – Degree of engagement and contribution of the oceanographic scientific community in WCRP projects and other international programmes. – Knowledge gaps about sea-level change better addressed through targeted observations and research. – Periodical Policy Briefs on Sea-level established and regularly updated. – Improvement of Forecasts of El Niño events and

Action	Expected results and performance indicators
	<p>mitigation of its multiple impacts at regional and global levels.</p> <ul style="list-style-type: none"> – Extension of the forecast window of atmospheric and ocean-weather and climate.
<p>2b. Contribute to the better prediction of climate through ocean observations and process studies, at regional and global scales.</p>	<p>Provide the intergovernmental coordination and promote the international cooperation required to sustain the two modules of the Global Ocean Observing System.</p> <ul style="list-style-type: none"> – Further facilitation of the implementation of the Open-ocean Module of the Integrated Ocean Observing System, increasing its coverage from 58% to 62% of its initial design by the end of 2009. – Consolidation and expansion of an integrated technical support facility for all global components of the Integrated Ocean Observing System. – Increase in national involvement in the work of JCOMM through participation in statutory meetings and expert groups. – Degree of development of the new JCOMM Implementation Plan for coordinated implementation of observations, products and data management activities agreed at JCOMM sessions. – Development, collation and publication of the first set of guidelines, standards and best practices for operational oceanographic observations, products and services, through the work of the relevant JCOMM groups and expert teams. <p>Scientific and expert guidance for global and coastal observations and services ensured.</p> <ul style="list-style-type: none"> – Quality and opportunity of outcomes of science panel and expert groups improved through enhanced accountability and peer-review processes, including OOPC, PICO, GSSC, and all JCOMM coordination groups and expert teams. – Effectiveness of liaison meetings with partner organizations improved in the development of GOOS. – Number of science conferences, workshops, observational pilot project spin-up meetings, coordinated, including a major OceanObs conference in 2009–2010. <p>Support for regional cooperation in ocean observations and services provided.</p> <ul style="list-style-type: none"> – Improved global access to ocean observations, including agreements on standards and technical guidelines achieved through JCOMM–IODE Ocean Data Portal and related activities (contributing also to Action 1a). – Capacity developed in ocean observations, data/information management and

Action	Expected results and performance indicators
	<p>product/service development in all IOC regions through integrated IODE/ODIN-GOOS/GRA-IOC/ICAM-JCOMM networks (Links with Actions 3c, 4a, 4b).</p> <ul style="list-style-type: none"> – Secretariat support to GOOS regional offices provided. <p>International cooperation in observations and research of the ocean's role in the global carbon cycle facilitated.</p> <ul style="list-style-type: none"> – Support the coordination of national and regional programmes contributing to a global network of ocean carbon observations, including agreements on standards, methods, and data formats, improving access to data, and increasing participation in international synthesis activities.
<p>2c. Increase the understanding of the impacts of climate change and variability on marine ecosystems and their living resources.</p>	<p>Organize the participation of the Ocean Sciences research community to address the impacts of climate change on marine ecosystems and their living marine resources at the global and regional level. Integration of their cutting-edge results into mitigation strategies and interventions at the national and regional level.</p> <p>Cooperation to improve understanding of coral bleaching and regularly assess the status of coral reefs of the world facilitated.</p> <ul style="list-style-type: none"> – Through sponsorship of the GEF/WB Coral Reef Targeted Research and Capacity-Building programme, contribute to assess knowledge of coral bleaching and focus future research priorities. – Through partnerships and the sponsorship of the Global Coral Reef Monitoring Network, continue to produce a regular global assessment of the status of coral reefs of the world (every two years), including climate impacts as well as human impacts. <p>International cooperation required to improve understanding of ocean acidification and its impacts on marine ecosystems sustained and enhanced.</p> <ul style="list-style-type: none"> – Implement a regular international symposium (every four years) to assess cutting-edge research on ocean acidification, its impacts on marine ecosystems and focus global research priorities. – Maintain an international web-based communications forum to provide information to the scientific community about ocean acidification research programmes, results, meetings, and publications. <p>International cooperation to improve the scientific understanding of climate impacts on fisheries and other living marine resources continued and facilitated.</p> <ul style="list-style-type: none"> – Through sponsorship of the Global Ocean

Action	Expected results and performance indicators
	<p>Ecosystem Dynamics (GLOBEC) project, implement targeted workshops to improve understanding of climate change on fisheries and ensure wide distribution of results and publications to the IOC Member States.</p> <ul style="list-style-type: none"> – Follow-up to the recommendations of the jointly sponsored Symposium on the Impacts of Climate Change on the Oceans, with ICES and PICES provided.

IOC High-level objective 3 – Safeguarding the health of oceans 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 for sustainable management of their resources.

Action	Expected results and 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”.	<p>First phase of the Regular Process completed.</p> <ul style="list-style-type: none"> – Complete the start-up phase of the Regular Process before the end of 2009, with results and recommendations, including a methodology for regular assessment, transmitted to the UN General Assembly.
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.	<p>Through the sponsorship of GEOHAB, capacity to predict and mitigate harmful algal events improved.</p> <ul style="list-style-type: none"> – Number of GEOHAB core research projects initiated/completed – Number of national and targeted research projects launched as contribution to GEOHAB. – Number of trainers and national officers trained and number and kind of publications to underpin institutional capacity-building at national level.
3c. Identify and develop the capacity-building necessary for maintenance of healthy oceans ecosystems focusing on the regional needs.	<p>Initiate integrated cooperative regional frameworks focusing on regional capacity-building and regional collaboration (GOOS GRA's, IODE ODIN's)</p> <ul style="list-style-type: none"> – Number of regional frameworks focusing on regional capacity-building and regional collaboration developed.
	<p>Assess institutional capacities in eastern, western and central Africa and Latin America to conduct marine scientific research.</p> <ul style="list-style-type: none"> – Number of marine science institutes whose capacities have been assessed.
	<p>Enrol selected number of UNESCO Chairs to promote educational aspects within pilot projects in developing regions.</p> <ul style="list-style-type: none"> – Number of UNESCO Chairs enrolled.
	<p>Engage young scholars in science done at sea through Training-Through-Research (TTR) grants.</p> <ul style="list-style-type: none"> – Number of young scholars supported through TTRs.

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 building 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.

Action	Expected results and 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.	<p>Member States will be assisted in implementing Part XIII and XIV of UNCLOS.</p> <ul style="list-style-type: none"> – Completion, to the satisfaction of the IOC Executive Council, of the work by ABE-LOS on “guidelines for collection of oceanographic data”. – Access enabled to a website with information on Parts XIII and XIV of UNCLOS. – Requests by Member States for advice on Marine Scientific Research and Transfer of Marine Technology to be dealt with, via Roster of Experts, within 6 months. <p>Assistance provided to developing countries to make timely submissions for the extension of their continental shelf (deadline 13 May 2009), alerting all Member States to this by the end of 2007 and responding to all requests within 3 months.</p> <ul style="list-style-type: none"> – Improved implementation of global programmes at regional level.
	<p>Assistance to developing countries to make timely submissions for the extensions of the continental shelf provided.</p> <ul style="list-style-type: none"> – Awareness of decision-makers on the deadline of 13 May 2009 for presenting submissions to the Commission on the Limits on the Continental Shelf promoted.
4b. Facilitate science related to ocean and coastal resource management.	<p>Science-based applications and policies to adapt to climate and coastal change developed.</p> <ul style="list-style-type: none"> – Number of adaptation measures (policy and technical) implemented in identified pilot areas.
	<p>Approaches to link freshwater management with coastal management developed.</p> <ul style="list-style-type: none"> – 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> <ul style="list-style-type: none"> – Number of countries having completed indicator-based “state of coastal resources” reports.
	<p>Marine and coastal spatial planning methodologies developed.</p> <ul style="list-style-type: none"> – Number of coastal areas where pilot projects for marine zoning plans have been developed.

Resolution XXIV-3

THE PAST, PRESENT AND FUTURE OF AFRICA WITHIN THE IOC PROGRAMMES

The Intergovernmental Oceanographic Commission,

Recalling:

- (i) The UNESCO Decision contained in the Programme and Budget 2000–2001 (30 C/5, paragraph 02240), on the Geographical Balance and the use of the African Expertise,
- (ii) IOC Resolution EC-XXXI.7, Priority Africa,
- (iii) IOC Resolutions XX-17; XX-20 and XX-21 on the importance of the IOC Regional Committee for the Central Eastern Atlantic (IOCEA) covering more than 20 countries and Island States; and on the African Priority within IOC, and
- (iv) IOC Resolution XXI-11, African Priorities,

Noting with regret that important steps were not taken to ensure the implementation of these Resolutions,

Further recalling that IOC has a particular mandate to ensure the full implementation of the objectives of the major Global Development Plans including: (i) the Millennium Development Goals (MDGs), (ii) the Plan of Implementation of the Johannesburg World Summit on Sustainable Development (WSSD), and (iii) the Recommendations of the Summit of the Small Island States, to reinforce the capacity of the least developed countries for sustainable development of their marine and coastal resources,

Noting with satisfaction the increased awareness and interests of African Member States in the IOC programmes in the perspective of the future of a reinforced IOC within the UNESCO framework,

Also noting the positive synergy and cooperation among African IOC-related programmes, notably, the GOOS-AFRICA, ODINAFRICA and the Large Marine Ecosystems programmes,

Noting with appreciation the successful results of the First African Leadership Workshop on Operational Oceanography and Satellite Remote Sensing in Africa, and the Third Forum of the GOOS Regional Alliances, held in Africa with the support of African institutions and programmes, notably, the GOOS-AFRICA, ODINAFRICA, the African Large Marine Ecosystem Programmes, and various African stakeholders,

Further noting with appreciation that there are capable African institutions with expertise in marine sciences and technologies at various levels of development,

Supporting the South African offer to host the GEO Ministerial Conference in Cape Town on 30 November 2007,

Invites IOC Member States to support and attend the GEO Ministerial Conference in 2007;

Welcomes the ongoing discussions on the future of a reinforced IOC within the framework of UNESCO;

Instructs the IOC Executive Secretary to find ways and means to:

- (i) implement the above past Resolutions and Decisions;

- (ii) reflect Africa's Priority status in the IOC Medium-Term Strategy 2008–2013 and in the Programme and Budget 2008–2009, with particular emphasis on and support to the major ongoing African programmes, notably the ODINAFRICA and GOOS-AFRICA, and Climate Change;
- (iii) use primarily African institutions in the implementation of the IOC Programmes in Africa which will empower the existing capacities and expertise in Africa;
- (iv) revitalize the IOCEA regional programmes;
- (v) initiate the implementation of Multi-hazards Early Warning Systems in the central and south-eastern Atlantic in consultation with African Member States and institutions;
- (vi) revitalize the activities in the African countries of the Red Sea;
- (vii) provide more support to the regional programmes in general and in Africa in particular.

Resolution XXIV-4

THE FIFTIETH ANNIVERSARY OF THE INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION OF UNESCO

The Intergovernmental Oceanographic Commission,

Noting that the fiftieth anniversary of the Commission will occur in 2010,

Accepting with appreciation the presentation to this Assembly setting out initial thoughts and information,

Recognizing that future plans for the IOC will depend largely on the programmes, structure and experience built up within the organization over the previous years and that the fiftieth anniversary will provide an opportunity to demonstrate to governments and to the public, the value and importance of the Commission's achievements,

Recognizing also that the present need for an intergovernmental presence in coastal and ocean understanding and management in terms of science, observations and capacity-building has never been stronger and that political and public awareness of the Commission will be an important factor in financing its future mandate and programmes,

Recalling the International Year of the Ocean in 1998 and wishing to make use of the experience and results gained during that Year, such as Ocean EXPO '98, the Ocean Charter and the many educational and public awareness events at both national and international levels,

Requests the Chairperson of the IOC, in cooperation with the Vice-Chairpersons and the Executive Secretary, to prepare a preliminary plan and schedule to be brought to the next Executive Council, in 2008, for discussion and adoption;

Urges Member States and Regional Subsidiary Bodies to consider national and regional initiatives and ideas to be communicated to the Executive Secretary for inclusion in the overall plan.

Resolution XXIV-5

**OCEAN SCIENCES PROGRAMME PRIORITIES IN LIGHT
OF THE IOC MEDIUM-TERM STRATEGY 2008–2013**

The Intergovernmental Oceanographic Commission,

Recalling the endorsement of the Terms of Reference of the Programme Elements in the Ocean Sciences (IOC/INF-1180) by the 22nd Session of the IOC Assembly (2003),

Further recalling the establishment of an Advisory Group for the Ocean Sciences Section as a regular mechanism to provide advice on ocean science activities,

Having considered the report of the first meeting of the Advisory Group, presented to the 39th Session of the IOC Executive Council (2006), and subsequent responses from IOC Member States,

Stressing the role of the Ocean Sciences Programme in promoting the exchange and dissemination of marine scientific knowledge and in providing the scientific underpinning for the IOC Medium-Term Strategy 2008–2013 and its High-Level Objectives,

Acknowledging the leading role of the IOC, through its Ocean Sciences Programme, in the implementation of the start-up phase, the Assessment of Assessments of the UN Regular Process for the Global Reporting and Assessment of the State of the Marine Environment (GRAME), including socio-economic aspects,

Taking into account the need to improve basic research and capacity-building in the area of coastal oceanography, and ocean mapping, including emerging science issues for the prevention and reduction of the impacts of natural hazards, including tsunamis,

Noting the need to ensure closer integration of activities of the Ocean Sciences Programme with other IOC programmes including ocean observations, data and information management, and capacity-building within the Commission and with UNESCO Programmes, as recommended by the Overall Review of Major UNESCO Programmes II and III,

Noting with concern that, while additional responsibilities are assigned to the Ocean Sciences Section and the Ocean Sciences Programme, the level of Regular Programme resources and staffing allocated to the Ocean Sciences Programme has decreased,

Approves the structure and associated priorities of the IOC Ocean Sciences Programme presented in Document IOC-XXIV/2 Annex 6, as an appropriate and effective response to the IOC Medium-Term Strategy 2008–2013, and in line with the IOC Biennial Strategy 2008–2009;

Decides to emphasize the following priority areas during the 2008–2009 biennium and beyond:

- (i) The role of the ocean in climate variability and climate change, and their impacts on the marine environment and on its living resources and ecosystems
- (ii) Coastal research as a primary element, including: climate impacts, direct human influences on coastal-ocean functioning and ecosystem health, integrated coastal management, natural marine hazards, and forecasting
- (iii) Science and modelling for the prevention and reduction of the impacts of natural hazards, including tsunamis

- (iv) Marine assessment as a primary element, with emphasis on the science that will underpin the Regular Process for GRAME, and its Assessment of Assessments
- (v) Marine modelling as a basic and cross-cutting element of IOC programmes;

Notes that these priorities, as well as the priority areas identified in IOC-XXIV/2 Annex 6, are consistent with the formulation of the IOC Medium-Term Strategy 2008–2013, and with the Programme and Budget of the Commission and the corresponding work plans.

Resolution XXIV-6

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

The Intergovernmental Oceanographic Commission,

Having considered the Executive Summary Report of the 8th Session of the IOC Intergovernmental Panel on Harmful Algal Blooms (IPHAB) and the Work Plan for 2008–2009 adopted at the Session (IOC/IPHAB-VIII/3), including the Recommendations and Resolutions therein,

Recognizing the importance of capacity-building in the IPHAB programme,

Noting the improved linkages between IODE and GOOS that will improve the availability and dissemination of data and the mitigation of harmful events,

Decides to take action as follows:

- (i) **Encourages** Member States, not already part of IPHAB, to ensure membership at an appropriate level and to facilitate awareness and recognition of IPHAB in relevant national agencies and institutions
- (ii) **Instructs** the IOC Executive Secretary to open a dialogue with FAO and WHO with a view to improving the cooperation with IPHAB and to establish their formal membership
- (iii) **Endorses** the proposed HAB Work Plan 2008–2009 within the limits of the relevant resources in the Regular Programme and of the extrabudgetary resources identified for this purpose; and
- (iv) **Agrees** to convene the 9th Session of the Panel prior to the 25th Session of the Assembly.

Urges Member States to assist in the identification of funding to support the work of the Secretariat and the implementation of the Work Plan for 2008–2009.

Resolution XXIV-7

PROGRAMME OF ACTION FOR GOOS

The Intergovernmental Oceanographic Commission,

Recalling:

- (i) Resolution XVI-8 deciding to undertake development of a Global Ocean Observing System (GOOS) and establishing a GOOS Support Office in the IOC Secretariat,
- (ii) Resolution XXIII-1 recognizing the systems and programmes for ocean observations under the leadership of the IOC, and in particular, GOOS as a crucial component of the Global Earth Observing System of Systems (GEOSS),
- (iii) Resolution XXIII-5 revising the terms of reference for the Intergovernmental Committee for GOOS and the GOOS Scientific Steering Committee (GSSC), and
- (iv) Resolution EC-XXXIX.1 setting down the Medium-Term Strategy for the IOC,

Noting:

- (i) The contributions of ICSU, WMO and UNEP as co-sponsors of GOOS,
- (ii) The role of the Joint WMO–IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) in the coordination and implementation of GOOS,
- (iii) The IOC Strategic Plan for Oceanographic Data and Information Management (2008–2011) (IOC-XXIV/2 Annex 7),
- (iv) The report of the Seventh Meeting of the Advisory Body of Experts on the Law of the Sea (IOC/ABE-LOS VII),
- (v) The contributions of IOC Subsidiary Bodies WESTPAC and IOCARIBE as well as the IOC decentralized offices,

Further noting:

- (i) The encouraging information emerging from the National Reports to I-GOOS-VIII
- (ii) The considerable achievements of the climate component of GOOS supported by the Open-ocean Module, and the many challenges that remain; and the emergence of progress with the Coastal Module
- (iii) The adoption by JCOMM of the ocean component of the GCOS implementation plan (GCOS-92), the climate component of GOOS, as its initial implementation goal for ocean observations
- (iv) That the GOOS Regional Alliances have constituted a GOOS Regional Council to advise I-GOOS regarding their collective needs
- (v) The recognition, by I-GOOS-VIII, of the Regional Alliances in Oceanography for the Upper Southwest and Tropical Atlantic (OCEATLAN), as an agreement among institutions, and the GOOS Regional Alliance for the Southeast Pacific (GRASP), in the framework of CPPS (Comisión Permanente del Pacifico Sur/Permanent Commission for the South Pacific), as new GOOS Regional Alliances, and

- (vi) The establishment, by the GSSC-X, of the Group of Experts on Integrated Coastal Observation (PICO) as an expert group for coastal observation,

Acknowledges the importance of regional implementation facilitated by GOOS regional offices, and **notes** with approval the report made by the independent performance evaluation group of the GOOS Programme Office in Rio de Janeiro, including its recommendation to renew the Memorandum of Understanding between UNESCO and the Government of Brazil for the functioning of this Office;

Having considered the Executive Summary Report arising from I-GOOS-VIII (IOC-WMO-UNEP/I-GOOS-VIII/3s);

Decides to focus the GOOS programme of actions on the areas of sustainability, capacity-building, and funding, as follows:

1. Sustainability

- (i) To achieve and sustain the climate component of GOOS supported by the Open-ocean Module at its initial design specification, with the goal of a performance review by 2012
- (ii) To facilitate implementation of the Coastal Module of GOOS, through concerted actions with the IOC Regional Subsidiary Bodies, GOOS Regional Alliances, and pilot projects, as appropriate
- (iii) To seek sustained commitments to essential ocean and coastal remote sensing data streams through GEOSS, the Committee on Earth Observing Satellite (CEOS) and the Coordination Group for Meteorological Satellites (CGMS)
- (iv) To 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
- (v) To contribute to the IOC Medium-Term Strategy through the development and synthesis of consolidated datasets for monitoring climate change, detecting and understanding impacts, conducting marine assessments, following and predicting changes in the coastal environment including pollution, and the support of mitigation and timely warning of hazards;

2. Capacity-building

- (i) To promote the development of GOOS-related human capacity and technical infrastructure in developing countries, for both the Open-ocean and Coastal Modules, with priority given to Africa, through IODE, JCOMM and other appropriate mechanisms
- (ii) To request Member States to support GOOS-related capacity-building in their respective countries;

3. Funding

To prepare a "Summary for Policy-Makers" of the major achievements in GOOS over the last decade and, from this, a persuasive case for additional investment in the observing system and in the various mechanisms that facilitate and coordinate GOOS action and the GOOS Support Office in particular;

Urges Member States to mobilize resources to support the operations of the GOOS, in accordance with the priorities outlined above.

Resolution XXIV-8

INTERNATIONAL OCEANOGRAPHIC DATA AND INFORMATION EXCHANGE (IODE)

The Intergovernmental Oceanographic Commission,

Having considered the Executive Summary and Report of the 19th Session of the IOC Committee on International Oceanographic Data and Information Exchange (IODE-XIX; Trieste, Italy 12–16 March 2007), 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”*,

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, 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 and its network of National Oceanographic Data Centres (NODCs) as a focus for ocean data and information in 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 role of IODE in the Joint WMO–IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) Data Management Programme Area, and
- (iii) the leading role of IODE and its Project Office in capacity-building,

Expresses its appreciation to the Government of Flanders (Kingdom of 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 Italy for its hosting and support of the 19th Session of the IODE Committee, and to the United States of America for its financial support provided in 2006 and 2007 to the IODE programme;

Decides to take action as follows:

- (i) establish the Ocean Data Portal project as a system that will provide seamless access to marine data across the IODE network of NODCs
- (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) establish the IOC Harmful Algal Events Information System as a joint Intergovernmental Panel on Harmful Algal Blooms (IPHAB)-IODC activity, combining the scientific expertise of the HAB community with the data and information management expertise of the IODE network
- (iv) establish the OceanDocs project as a mechanism and tool to make scientific literature available to all in an equitable way
- (v) continue the OceanTeacher 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;

Urges Member States to increase their participation in international oceanographic data and information exchange through the establishment and/or strengthening of national data and information management infrastructures;

Invites Member States to assist in the implementation of the IODE Work Plan 2008–2009, through the provision of extrabudgetary funds and/or secondment of experts to the IOC Project Office for IODE.

Resolution XXIV-9

IOC STRATEGIC PLAN FOR OCEANOGRAPHIC DATA AND INFORMATION MANAGEMENT

The Intergovernmental Oceanographic Commission,

Recalling:

- (i) Resolution XX-4 requesting IODE to work in concert with JCOMM and GOOS to develop a comprehensive ocean data management system and Resolution EC-XXXV.2 which established a Task Team on the development of a unified, comprehensive IOC Strategic Plan for Oceanographic Data and Information Management
- (ii) Resolution XXII-6 which adopted the IOC Oceanographic Data Exchange Policy
- (iii) Resolution XXIII-4 which revised the objectives of the IODE, including “*to support international scientific and operational marine programmes of IOC and WMO and their sponsor organizations with advice and data management services*” and
- (iv) Resolution 4 of JCOMM-II which, *inter alia*, invited IODE to participate in the work of the JCOMM Data Management Programme Area,

Recognizing that:

- (i) the IOC Oceanographic Data Exchange Policy is compatible with other international relevant data-exchange policies that promote free and open access to data, such as WMO Resolution 40
- (ii) IODE has developed a global network of National Oceanographic Data Centres, information centres and related networks, representing a considerable pool of expertise in data and information management and sharing
- (iii) many IOC Member States have developed national distributed networks of data management facilities involving IODE, as well as other centres, to deal with a wide variety of ocean observations
- (iv) IOC and WMO have established close, efficient and effective collaboration in ocean data management
- (v) the IOC Committee for IODE and JCOMM have established a number of joint mechanisms to advance ocean data management,

Considering that the IOC Strategic Plan for Oceanographic Data and Information Management 2008–2011 contains the following main elements:

- (i) a vision for *“a comprehensive and integrated ocean data and information system, serving the broad and diverse needs of IOC Member States, for both routine and scientific use”*
- (ii) an objective to develop a system that can receive data and information collected by all IOC programmes and projects and deliver them to users
- (iii) adherence to the IOC Oceanographic Data Exchange Policy
- (iv) acceptance and implementation of agreed interoperability arrangements, including technical standards and specifications for processing, quality control, storing and disseminating shared data and information
- (v) a global network of data centres and related national distributed networks, and permanent long-term data-archiving centre(s) for all data, which operate to agreed standards, providing seamless access to data and information
- (vi) capacity-building through continued development of Ocean Data and Information Networks (ODINs), whilst extending the OceanTeacher capacity-building tool through cooperation through JCOMM, and more widely with WMO and others as appropriate
- (vii) an advisory group that brings together the various programme elements of IOC as well as of bodies and organizations collaborating closely with IOC,

Endorses the IOC Strategic Plan for Oceanographic Data and Information Management 2008–2011 as given in document IOC-XXIV/2 Annex 7;

Agrees that the Plan should be:

- (i) Published and distributed widely and used as a basic data strategy throughout the Programmes and Projects of the IOC; and
- (ii) Regularly reviewed and revised by the IODE Committee, in close consultation with the IOC Data and Information Management Advisory Group.

Resolution XXIV-10

**BROADENING THE COOPERATION AGREEMENT BETWEEN THE
INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (IOC) OF UNESCO
AND THE PERMANENT COMMISSION FOR THE SOUTH PACIFIC (CPPS)**

The Intergovernmental Oceanographic Commission,

Noting the Memorandum of Understanding signed on 30 September 2003 between the Intergovernmental Oceanographic Commission (IOC) and the Permanent Commission for the South Pacific (CPPS),

Considering that the purpose of the Memorandum of Understanding is to strengthen the cooperation between both institutions in their respective fields of competence, principally in the areas of ocean science, ocean services, capacity-building and training,

Further Considering that the IOC implements its activities, programmes and sub-programmes in cooperation with other United Nations institutions and programmes, and with international, regional and sub-regional intergovernmental and non-governmental organizations,

Bearing in mind that the CPPS is a regional maritime organization responsible for the coordination of maritime policies among its Member States (Chile, Colombia, Ecuador and Peru) and that its fields of competence include oceanography, marine meteorology, the study of climatic variability phenomena (El Niño and La Niña) and climate change, and that, by virtue of such competences, it implements the Regional Study of the Phenomenon known as “El Niño” (ERFEN) and the Programme of Annual Regional Oceanographic Observation Cruises in the South-east Pacific, and issues a Climate Alert Bulletin for the region,

Considering, in particular, that the IOC and the CPPS have implemented in the region the GOOS Regional Alliance for the South-east Pacific (GRASP), initially comprised of 20 institutions of the member countries of CPPS, and that the CPPS provides the technical secretariat for the Alliance,

Bearing in mind that the IOC has neither a sub-commission nor a regional committee for the South-east Pacific,

Recognizing the benefit in avoiding duplicating functions in a region in which a regional maritime organization already exists and regularly operates,

Decides that the existing agreement between IOC and CPPS should be broadened with a view to fostering the effective participation of the CPPS in meetings, programmes and projects of the competent bodies of IOC to the best mutual advantage; and therefore

Instructs the IOC Executive Secretary to negotiate and finalize an amended agreement with the Secretary-General of CPPS to this effect.

Resolution XXIV-11

ENHANCING THE ROLE OF THE COMMISSION AT THE REGIONAL LEVEL

The Intergovernmental Oceanographic Commission,

Recognizing that:

- (i) the strengthening of the regional mechanisms is fundamental to respond better to the requirements of Member States
- (ii) IOC Regional Subsidiary Bodies (RSBs) and IOC decentralized offices are the mechanisms through which IOC global programmes and activities of specific interest to the countries are regionally implemented
- (iii) the recent drive for UN agencies to move toward functioning as “One UN” in meeting country-specific needs can be harmonized with the IOC regional approach by addressing issues that are common to groups of countries in a sub-region/region
- (iv) IOC Regional Subsidiary Bodies have been instrumental in promoting advancements in marine scientific research, raising awareness of marine issues, developing national capacities for marine science and ocean services, and fostering regional cooperation in their respective regions
- (v) the regional scale is particularly appropriate for addressing issues concerning climatic impacts on marine ecosystems, assessment of the state of the marine environment, namely marine pollution, large marine ecosystems and biodiversity
- (vi) implementing and maintaining regional activities remains a challenge due to the mismatch between the Commission’s agreed programmes and the resources available, the declining capacity of UNESCO to support IOC’s regional and global programmes through its Regular Budget, and the present administrative limitations of Regional Subsidiary Bodies
- (vii) the efforts that IOC, particularly in recent years, has been making financially and in raising extrabudgetary funds for supporting IOC Regional Subsidiary Bodies, are appreciated
- (viii) the financial and in-kind contributions made by Member States through IOC Regional Subsidiary Bodies and decentralized offices have been essential in reinforcing implementation of IOC Programmes in the regions,

Recalling:

- (i) the appeal to Member States to strengthen the regional role of the Commission made by Resolution XXIII-6 (Regional Cooperation in Marine Science and Technology and the Role of Regional Subsidiary Bodies)
- (ii) the conclusions of documents IOC/EC-XXXVII/2 Annex 12, “Concept Paper on the Modalities of Implementation of IOC Programmes in Regions”, and subsequently IOC-XXIII/2 Annex 5, “Enhancing the Effectiveness of Regional Cooperation in Marine Science and Technology and the Role of the IOC Regional Subsidiary Bodies”,

Noting:

- (i) Documents IOC-XXIV/2 Annex 8 and IOC/INF-1239, of the Intersessional Working Group on Regional Programmes and the Role of IOC Regional Subsidiary Bodies,

established pursuant to Resolution XXIII-6 to review the efficiency, effectiveness and role of the Commission's regional programmes

- (ii) the current decentralization policy of UNESCO and the need for IOC to operate coherently within this policy, so that IOC Regional Subsidiary Bodies can improve their stability and efficiency and benefit from the resources made available through the decentralization policy, and
- (iii) the administrative limitations on Regional Subsidiary Bodies and Member States resulting from the lack of appropriate mechanisms to further facilitate the allocation of contributions of Member States (and other entities compatible with the provisions of Article 10 of the IOC Statutes) supporting the programmes of work of the Regional Subsidiary Bodies,

Further noting the need for strengthening IOC Regional Subsidiary Bodies to fully ensure the regional implementation of the IOC Medium-Term Strategy 2008–2013,

Encourages Regional Subsidiary Bodies to attract funds through strategic plans that focus on capacity-development in marine sciences leading to a better knowledge of the ocean, and improved monitoring, governance and management of marine resources and environment;

Further encourages Regional Subsidiary Bodies to develop joint programmes and activities with the regional components of UNEP and other UN agencies, in particular WMO and FAO;

Urges Member States and relevant international and regional organizations to accord priority to the regional components of programmes in ocean sciences, observation and services, capacity-building and technology transfer, in their dialogue with the international donor community;

Instructs the IOC Executive Secretary to explore financial mechanisms to support the agreed programmes of work of the IOC Regional Subsidiary Bodies and, as appropriate, to take steps to establish Regional Trust Funds (Subsidiary Accounts under the IOC Special Account) and provide a mechanism for the contributions;

Also urges Member States and other donor entities to support the activities of the IOC Regional Subsidiary Bodies;

Agrees that a meeting on IOC Regional Subsidiary Bodies be held the day prior to commencement of sessions of the IOC Assembly or Executive Council;

Further instructs the IOC Executive Secretary:

- (i) to adopt measures to enhance and strengthen capabilities of the IOC Regional Subsidiary Bodies and IOC decentralized offices, namely by supporting staff, considering a more balanced allocation of funds among global and regional components of the IOC programme of work, and decentralizing IOC global programmes to regions, when implementing the Medium-Term Strategy 2008–2013 and the Programme and Budget 2008–2009;
- (ii) to harness the services offered by UNESCO network of regional, cluster and national offices and science bureaus, for the provision of administrative support.

Resolution XXIV-12

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

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 7th Meeting (Libreville, Gabon, 19–23 March 2007),

Recalling the United Nations General Assembly Resolution A/RES/61/222, paragraphs 14 and 110, which acknowledges the work done by the Intergovernmental Oceanographic Commission of UNESCO through its Advisory Body of Experts on the Law of the Sea,

Recalling further IOC Resolutions XXII-12, XXIII-8 and XXIII-9, 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 the Intergovernmental Oceanographic Commission of UNESCO
- (iv) the IOC legal framework that is applicable to the collection of oceanographic data within the context of UNCLOS,

Endorses the IOC/ABE-LOS VII Report and welcomes the Recommendations in the Annex of this Resolution;

Decides:

- (i) that IOC/ABE-LOS pursue its work on the “IOC legal framework for the collection of oceanographic data within the context of UNCLOS” in close cooperation with I-GOOS and the United Nations Office of Legal Affairs/Division for Oceans Affairs and Law of the Sea (UN/OLA/DOALOS); and request it to come up with consensual text as soon as practicable;
- (ii) that IOC/ABE-LOS should contribute, as required, to the updating of the document “*Marine Scientific Research: A Guide for the Implementation of Relevant Provisions of UNCLOS*”, in close cooperation with the UN/OLA/DOALOS;

Urges Member States to provide financial support for the organization of the 8th Meeting of the IOC Advisory Body of Experts on the Law of the Sea, to supplement regular funds.

Annex to Resolution XXIV-12

Recommendations

The Advisory Body of Experts on the Law of the Sea at its 7th meeting (IOC/ABE-LOS VII) recommended that:

1. The IOC Assembly be informed that the progress made in the preparation of the “Draft Guidelines, within the context of UNCLOS, for the collection of oceanographic data by specific means” reflects the relevance of the IOC programmes in strengthening the international cooperation devoted to promoting a global understanding of the ocean and to contributing to short-term warnings, weather forecasts and climate prediction.
2. The IOC Members States fully participate in the IOC/ABE-LOS sessions, through the participation of their experts in law of the sea and in marine scientific research, as prescribed in IOC Resolution XIX-19, including in the intersessional activities, to stimulate its work and facilitate the accomplishment of the ongoing work on the draft Guidelines, preferably at its Eighth Session (2008).
3. The IOC Executive Secretary disseminates the “Procedure for the application of Article 247 of UNCLOS by the IOC” and assists Member States in the implementation of that Procedure.
4. The IOC Member States acknowledge the “Orientation Guide” and participate actively in the implementation of the “Roster of Experts for advice or guidance on the development of legislation and practice regarding marine scientific research and transfer of marine technology” and contribute to the multi-donor funds established for this purpose.
5. The Assembly, at its 24th Session, highlight the value of the role of IOC/ABE-LOS as a contributor to the work of IOC in the implementation of UNCLOS and other relevant UN Conventions and Agreements and to the promotion of international cooperation, in conformity with international law, as regard to scientific activities related to the ocean.
6. The Assembly, at its 24th Session, request the IOC Executive Secretary to consult UN/OLA/DOALOS on the possibility that IOC/ABE-LOS contribute to the updating of the document “*Marine Scientific Research: A Guide for the Implementation of Relevant Provisions of UNCLOS*”, published in 1991.

Resolution XXIV-13

IOC INTERGOVERNMENTAL COORDINATION GROUPS (ICG) FOR TSUNAMI WARNING AND MITIGATION SYSTEMS FOR THE INDIAN OCEAN (IOTWS), NORTH-EASTERN ATLANTIC, MEDITERRANEAN AND CONNECTED SEAS (NEAMTWS), AND CARIBBEAN AND ADJACENT REGIONS (CARIBE-EWS)

The Intergovernmental Oceanographic Commission,

Recalling IOC Resolutions XXIII-12, XXIII-13 and XXIII-14, which established the Intergovernmental Coordination Groups, respectively, for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS), the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS), and the Tsunami Early Warning and Mitigation System in the North-eastern Atlantic, Mediterranean and Connected Seas (ICG/NEAMTWS), and which decided that the IOC shall provide the Secretariats for these ICGs,

Reaffirming:

- (i) that the IOTWS, CARIBE-EWS and NEAMTWS will be coordinated networks of national systems and capacities and will be part of a global network of early warning systems for ocean-related hazards

- (ii) that each Member State should have responsibility to issue warnings within their respective territories, and
- (iii) the IOC commitment to the free and unrestricted exchange of tsunami-relevant real-time observational data in accordance with the UNESCO/IOC Oceanographic Data Exchange Policy and without prejudice to the sovereignty of Member States,

Noting the Hyogo Framework for Action (HFA) priorities for action to enhance early warning and to strengthen disaster response,

Further noting paragraph 112 of the United Nations General Assembly Resolution A/61/222,

Acknowledging with appreciation the ongoing and dedicated financial and other support provided by Member States and other donors to the operation of the Tsunami Co-ordination Unit,

Having considered:

- (i) the report of the 3rd Session of the ICG/IOTWS (ICG/IOTWS-III/3)
- (ii) the report of the 4th Session of the ICG/IOTWS (ICG/IOTWS-IV/3)
- (iii) the report of the 2nd Session of the ICG/CARIBE-EWS (ICG/CARIBE-EWS-II/3)
- (iv) the report of the 3rd Session of the ICG/NEAMTWS (ICG/NEAMTWS-III/3),

Expresses its gratitude and appreciation to:

- (i) the Government of Indonesia for hosting the 3rd Session of the ICG/IOTWS in Bali, 30 July–2 August 2006
- (ii) the Government of Germany for hosting the 3rd Session of the ICG/NEAMTWS in Bonn, 7–9 February 2007
- (iii) the Government of Kenya for hosting the 4th Session of the ICG/IOTWS in Mombasa, 28 February–2 March 2007
- (iv) the Government of Venezuela for hosting the 2nd Session of the ICG/CARIBE-EWS in Cumana 12–14 March 2007;

Accepting the need for setting common requirements for regional centres (for watches and warnings) of the Tsunami Warning and Mitigation Systems,

Instructs the IOC Executive Secretary to prepare draft common requirements for regional centres in close co-operation with the ICGs, for submission to the 41st Session of the IOC Executive Council, in 2008;

Expresses its appreciation to the Pacific Tsunami Warning Center (PTWC) of NOAA and the Japanese Meteorological Agency (JMA) for providing interim tsunami advisory information to the Indian Ocean;

Encourages the PTWC and JMA to continue to provide this information;

Welcomes and **accepts** the generous offers of:

- (i) the Government of Ecuador to host the 22nd Session of the ICG/PTWS in September 2007

- (ii) the Government of Portugal to host the 4th Session of the ICG/NEAMTWS in November 2007
- (iii) the Government of Panama to host the 3rd Session of the ICG/CARIBE-EWS in January 2008
- (iv) the Government of Malaysia to host the 5th Session of the ICG/IOTWS in February 2008.

Resolution XXIV-14

**TSUNAMIS AND OTHER OCEAN HAZARDS WARNING
AND MITIGATION SYSTEMS (TOWS)**

The Intergovernmental Oceanographic Commission,

Recalling the Guidelines given by the IOC Executive Council at its 39th Session to the ad hoc Working Group on the Framework for a Global Tsunami and Other Ocean-Related Hazards Early Warning System (GOHWMS) (Annex V of Report IOC/EC-XXXIX/3) to:

- (i) Continue the development of the framework document, taking into account the need for the System to:
 - Address the effectiveness, relationship and sustainability of the technical components of all IOC regional tsunami and ocean-related hazard warning systems
 - Consider potential gaps in the present system, particularly in areas for which no system exists
 - Develop and exploit synergies amongst all regional warning systems, in the form of a global system of systems, and
 - Harmonize and promote the efficiency of the governance mechanisms for all IOC regional tsunami and related-hazard warning systems
- (ii) Provide an outline for a permanent group or mechanism to discharge the governance tasks elucidated in (i), and
- (iii) Provide an outline for the further development of a strategy for ocean-related multi-hazards,

Noting:

- (i) the IOC Draft Medium-Term Strategy 2008–2013 and its High-Level Objective 1: Prevention and Reduction of the Impact of Natural Hazards
- (ii) the Hyogo Framework for Action (HFA) priorities for action to enhance early warning and strengthen disaster response,

Further noting that the World Meteorological Organization (WMO) Executive Council has established a Working Group on Disaster Risk Reduction (Service Delivery) and the WMO Congress (Cg-XV) adopted Resolution 19—Marine Meteorology and Oceanography Programme,

Considering that the harmonization and standardization of relevant observation, data management and communication, forecast, warning and mitigation practices in tsunami and other ocean hazard warning systems, and the implementation of a multi-hazard warning system framework at the national level, will deliver direct benefits to Member States, enhancing the effectiveness, robustness and sustainability of their national and regional warning systems, as well as address the High-Level Objectives of the IOC,

Agreeing that harmonization and standardization can only be developed and defined incrementally,

Recognizing:

- (i) that the development and implementation of multi-hazard strategies and interoperable systems, including for tsunamis, can only be achieved through close consultation, coordination and cooperation among all stakeholders with tsunami and related ocean hazard mandates, and in particular those organizations within the strengthened UN International Strategy for Disaster Reduction (ISDR) System, and the international seismic community
- (ii) that the development, implementation and operation of the different ocean basin tsunami warning and mitigation systems has depended on close coordination in particular with WMO, and the National Meteorological and Hydrological Services which are its counterpart national agencies,

Expresses appreciation for the work of the GOHWMS ad hoc Working Group and welcomes the proposals made in the first draft of the framework document (IOC-XXIV/2 Annex 10);

Encourages the Global Ocean Observing System (GOOS) to promote and establish essential observation systems to contribute to hazard detection and forecasting, and the IOC Expert Group on Integrated Coastal Area Management (ICAM) to promote inclusion of ocean hazards in integrated coastal-zone management;

Decides:

- (i) to establish a Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems (TOWS-WG)
- (ii) that the terms of reference and composition of the Group shall be as given in the Annex to this Resolution
- (iii) that the Group shall report to the 41st Session of the IOC Executive Council, in 2008, with the results, mandate and purpose of the Group to be reviewed at the 25th Session of the Assembly, in 2009
- (iv) that the Group shall submit the Framework Document for a Global Tsunami and other Ocean-related Hazards Early Warning System to the 41st Session of the IOC Executive Council;

Invites the organizations listed in the Annex to nominate representatives at an appropriate level to participate in the Group.

Annex to Resolution XXIV-14

**Terms of Reference of the Working Group
on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation
Systems (TOWS-WG)**

Mandate

1. The TOWS-WG will:

- (a) Advise on co-ordinated development and implementation activities on warning and mitigation systems for tsunamis and other hazards related to sea level of common priority to all ICG/TWSs, with special emphasis on:
 - (i) harmonization and standardization of relevant observation, data management and communication, forecast and warning practices
 - (ii) development of synergies in capacity-building and outreach activities
 - (iii) reinforcement of intergovernmental, international and national capabilities on hazard knowledge, vulnerability, and impact assessment
 - (iv) effective coordination with all related subsidiary bodies, experts groups and partner organizations with relevant mandates.
- (b) Report to the IOC Executive Council and Assembly on these common activities and propose new actions, as required.
- (c) Advise the IOC Executive Council and Assembly regarding:
 - (i) instructions to the relevant subsidiary bodies responsible for coordinating the implementation of TOWS-WG actions
 - (ii) any liaison or consultation required with relevant international and intergovernmental stakeholders in implementing TOWS-WG actions not under the unique mandate of IOC.

2. The TOWS-WG shall review and provide guidance on establishing the framework mechanism for a comprehensive, sustained and integrated end-to-end global system covering tsunami and other hazards related to sea level, exploiting existing IOC mechanisms, capacities and capabilities, and facilitating priority projects and programmes, in alignment with the IOC Strategic Plan and IOC Executive Council decisions and in coordination with relevant stakeholders.

Membership and modus operandi

The membership of the TOWS-WG will be constituted by:

- a) The Chairpersons of the four ICG-TWSs, and of I-GOOS, JCOMM, IODE
- b) Three Members of the IOC Executive Council, nominated by the Chairperson, taking into account geographical distribution
- c) High-level representatives invited from the key TOWS-WG stakeholders in disaster risk reduction outside IOC, including WMO and other ISDR System members, FDSN/GSN, and other relevant intergovernmental and international agencies

- d) Appointed members of the Executive Council may be re-appointed for a second two-year term.

The TOWS-WG shall be chaired by one of the Vice-Chairpersons of IOC and co-chaired by one of the Chairpersons of an IOC Subsidiary Body, on the recommendation of the Chairperson of the Commission after consultations with the IOC Officers

The TOWS-WG shall meet once a year, prior to the IOC Executive Council or the Assembly.

The IOC Executive Secretary shall provide the secretariat for the TOWS-WG.

Resolution XXIV-15

IOC PROGRAMME AND BUDGET 2008–2009

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 2006–2007 Biennium, contained in Document IOC-XXIV/2 Annex 3,

Further noting the presentation of the IOC Draft Programme and Budget 2008–2009, contained in Document IOC-XXIV/2 Annex 11,

Noting with concern that the flagship status of IOC within UNESCO, as designated in the 31 C/4 — Medium-Term Strategy 2002–2007, is not retained in the Draft 34 C/4 Medium-Term Strategy 2008–2013,

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 draft 34 C/4 Medium-Term Strategy 2008–2013 and the use of biennial sectoral priorities to link through to the draft 34 C/5 Programme and Budget 2008–2009 and resulting orientation of that approach
- (ii) the increased responsibilities IOC is called upon to fulfil in the 2008–2009 Biennium, especially the coordination of the establishment of the Tsunami Warning and Mitigation Systems in the multi-hazards context
- (iii) the role IOC plays in the technical coordination with other UN Specialized Agencies and Organizations,

Having considered the proposals regarding the structure, formulation and budgetary framework for the 2008–2009 biennium contained in the UNESCO Draft 34 C/5 Programme and Budget 2008–2009 and the four retained scenarios ranging from zero nominal growth to real growth,

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,

Stressing the importance of:

- (i) the regular funds provided by UNESCO, as an efficient and effective intergovernmental means to generate additional actions 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,

Noting the IOC Medium-Term Strategy 2008–2013 and the Biennial Strategy 2008–2009, and the expected results, and performance indicators,

Decides that the IOC Programme and Budget 2008–2009 shall be aligned with the High-Level Objectives of the Biennial Strategy and the actions detailed within that Strategy;

Adopts the Draft IOC Programme and Budget 2008–2009 given in the Annex to this Resolution;

Recognizing:

- (i) the need to maintain, as a principle, that the IOC budget should not be decreased by transfers of funds to other parts of the UNESCO budget, as introduced into the UNESCO Draft Resolution on Programme and Budget 2008–2009,
- (ii) the need for an increase to the net IOC Programme Budget of the 33 C/5 totalling US\$ 1,045,000, to be allocated to: High-Level Objective 1 and new and re-enforced actions related to tsunami and natural hazards; High-Level Objective 2 for actions related to the impacts of, and adaptation to, climate change in coastal zones and for the benefit of Africa and Least-Developed Countries, and to the UN Regular Process for Global Reporting and Assessment of the Marine Environment,

Instructs the IOC Executive Secretary to bring these needs to the attention of the UNESCO Director-General in the preparation of the 34th General Conference of UNESCO;

Urges Member States:

- (i) to support the IOC programme proposals when the Draft 34 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;

Calls on the Executive Secretary to communicate the results of the UNESCO's General Conference 34 C/5 to Member States, together with an analysis of implications for the IOC Programmes;

Authorizes the Executive Council, at its 41st Session, to produce a draft Programme Strategy for the 2010–2011 biennium and to review the approved budget under 34 C/5 and the operational plans of the Secretariat for 2008–2009;

Decides that the Executive Council at its 41st Session will consider adjustments to the Medium-Term Strategy and possible budgetary implications and to review the Programme and Budget approach adopted in this resolution.

Annex to Resolution XXIV-15

**IOC Programme and Budget 2008–2009
based on net allocations in USD**

(see next page)

PART	2008-2009 Regular Budget Activities	Difference from 2006-2007	2008- 2009 Extra- budgetary resources estimate
	\$	\$	\$
PART I. GENERAL POLICY AND COORDINATION			
A. Governing bodies			
1. Assembly	200,000	98,400	
2. Executive Council	150,000	74,000	
3. Regional statutory meetings	50,000	11,300	
Total I.A	400,000	183,700	
B. Coordination			
5. ADG (travel)	60,000	45,000	
6. Office of the ADG	240,000	45,000	
Total I.B	300,000	90,000	
C. Participation in UN coordination and consultation	10,000	10,000	
TOTAL PART I	710,000	283,700	
PART II. PROGRAMMES AND PROGRAMME RELATED SERVICES			
A. Programmes			
1. Prevention and mitigation of natural hazards			
1.a Monitoring and warning systems			2,865,000
1.b Educating communities at risk and policy-makers	48,634	(5,666)	40,000
Total 1	48,634	(5,666)	2,905,000
2. Mitigation of climate-change impacts			
2.a Understanding ocean role in climate change	224,326	(25,674)	150,000
2.b Climate prediction, observations and services	1,071,927	(122,683)	2,000,000
2.c Climate change and marine ecosystems	172,660	(19,781)	150,000
Total 2	1,468,913	(168,118)	2,300,000
3. Safeguarding oceans ecosystems			
3.a Regular Process			400,000
3.b Monitoring of marine environment degradation	133,799	(15,313)	200,000
3.c Capacity-building at the regional level	552,102	(63,188)	260,000
Total 3	685,900	(78,502)	860,000
4. Integrated coastal management and UNCLOS			
4.a UNCLOS and transfer of marine technology	105,984	(12,016)	50,000
4.b Science for ocean and coastal management	144,032	(16,485)	900,000
4.c Decision-support tools for coastal management	109,336	(12,514)	600,000
Total 4	358,353	(41,014)	1,550,000
Total II.A	2,561,800	(293,200)	7,615,000
B. Programme-related services			
1. External relations and cooperation	10,000		
2. Publications	20,000		
Total II.B	30,000		
TOTAL PART II	2,591,800	(293,200)	7,615,000
PART III. SUPPORT FOR PROGRAMME EXECUTION AND ADMINISTRATION			
A. Administration			
1. Mailing, shipping and information systems	9,500	5,500	
2. Supplies	8,000	4,000	
Total III.A	17,500	9,500	
TOTAL PART III	17,500	9,500	
TOTALS PARTS I-III	3,319,300	0	7,615,000

ANNEX III

ADDRESSES

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 24th Session of the General Assembly of the Intergovernmental Oceanographic Commission of UNESCO. This is an important year for the United Nations system, for UNESCO, and for IOC. You have a rich agenda before you, and I have high expectations for this Assembly's outcomes.

These last two years have been ones of great challenge and change for IOC, largely as a result of the Indian Ocean tsunami of December 2004. IOC responded with remarkable success to this tragedy, bringing a whole new dimension to its work in tsunamis, while at the same time maintaining other ongoing facets of its programme. UNESCO's visibility within the UN family and beyond has greatly benefited from these efforts.

I would like to thank all the nations that have contributed to the development of the Indian Ocean Tsunami Warning System, especially those that provided financial and human resources through UN mechanisms, supporting IOC's coordinating role and making this remarkable achievement possible. Thanks to your efforts, the Indian Ocean Tsunami Warning System is now operational.

After the agreement that gave rise to the Intergovernmental Coordination Group in 2005, 28 national tsunami centres were established under the authority of each national government. These centres are responsible for issuing warnings in their territories and communicating with local authorities, the media and populations at risk.

Of course, regional instrumentation and infrastructure are not sufficient by themselves to protect coastal populations. As the Java tsunami of 17 July 2006 made clear, national preparedness for these unpredictable events is also critical.

Today, over two years after the tragedy of 2004, 20 out of the 28 countries participating in the system still have to develop their own national plans for a tsunami early warning and response system. The whole Indian Ocean region and many other vulnerable areas remain totally unprepared to react to a tsunami. Without effective national infrastructure, tsunami warnings will not reach people at risk along coastlines. And without practice response exercises, when warnings do reach coastlines, communities and local authorities at the receiving end are unlikely to know the best actions to take.

Good progress in the establishment of tsunami early warning systems can be reported for the North-eastern Atlantic and the Mediterranean and for the Caribbean, with the adoption of implementation plans and the nomination of national tsunami focal points. In the North-eastern Atlantic and the Mediterranean, a list of institutions qualifying as regional watch centres has been established, providing around-the-clock processing and watch coverage of seismic data from the seas around Europe.

However, the devastating effects of the tsunami that hit the Solomon Islands in April this year demonstrate the need for stronger emergency response and communication in vulnerable nations. I will be visiting the Solomon Islands next week, and hope to discuss how they can improve their disaster response system.

Ladies and Gentlemen,

IOC is the only body within the United Nations system that is developing an inclusive system for obtaining data and information on oceans and coasts, one in which all nations of the world can participate and benefit.

The climate module of the Global Ocean Observing System (GOOS) has achieved important benchmarks. There are today 1229 surface drifters and 2851 drifting ARGO floats collecting essential data and information for major research programs. Never before has there been such a number of dedicated ocean observing automatic platforms deployed in the world's oceans. These instruments also play a major role in improving weather and climate forecasting, thus helping to meet the demands of the UN Framework Convention on Climate Change.

The coastal module of GOOS is expected to provide the information needed to manage and restore healthy coastal ecosystems and living resources; to forecast and mitigate the effects of natural hazards; to enable safer and more cost-effective marine operations; and to protect public health. These are very ambitious goals, which entail mobilizing science and technology to find new solutions to key societal issues.

The most developed countries can make a major contribution to ocean and earth observations. And they are indeed doing so, by maintaining networks of earth observing satellites and financing the majority of the in-situ observing networks.

However, the principles that underpin GOOS guarantee all participating nations the open exchange of data and information and the development of ocean services. A case in point is early warning for tsunamis and other coastal inundations.

In tsunami warnings, sea-level information is essential. Hence, the fundamental importance of the Global Sea Level Observing System (GLOSS). However, the value of GLOSS extends well beyond tsunami early warnings. Last year, IOC hosted at UNESCO Headquarters an important scientific conference on "Understanding Sea-Level Rise and Variability", jointly organized with the World Climate Research Project. The conference reviewed current knowledge on sea-level rise and made valuable recommendations to policy makers on the issue, including through the development of improved observing systems. GOOS must underpin the long-term sustainability of these networks and governments must strongly engage with IOC. We cannot afford to have a partial global system, or even worse, to have many independent systems responding to individual geographic or political criteria.

This is why GOOS cooperates with GEO, the Group on Earth Observations, and contributes to the building of GEOSS, even if GEO is not part of the UN system. GEO has recognized the need for inclusiveness and capacity building in the developing world. However, in order to avoid duplication or repetition, GEO and GEOSS should also recognize GOOS and its sponsoring partners.

Ladies and Gentlemen,

Coastal zones are an important area of IOC's work, and one where UNESCO has a long tradition of expertise.

About 50 percent of the world's population is concentrated within 200 km of the coastline. By 2010, 20 out of the world's 30 mega-cities will be on the coast, and therefore increasingly

vulnerable to sea-level rise, coastal erosion, and other physical hazards. Small island developing states are also particularly at risk.

Coastal research has therefore become an overarching and unifying theme that cuts across all sections of IOC and is now supported by the newly developed Panel for Integrated Coastal Observations (PICO) of the coastal module of GOOS.

This approach is of particular relevance in light of the lead role given to IOC by the UN General Assembly in the regular process for global reporting and assessment of the state of the marine environment, including socio-economic aspects (GRAME), in particular its initial phase – the Assessment of Assessments.

This work is being led jointly by IOC and UNEP, and will provide a framework and methodology for the regular process itself, which is to be submitted to the UN General Assembly in 2009.

Within the UN system, the work of the UN-Oceans network and the extension of IOC's coordination of this body for another two years is a source of great pride for UNESCO. This is even more so, given the recent creation of a Task Force on Marine Protected Areas and Other Area-Based Tools that will also be co-led by UNESCO. Together with IOC, two other UNESCO programmes – the Man and Biosphere Programme and the World Heritage Centre – will contribute to the Task Force, thus helping to enhance intersectoral cooperation. Intersectorality is one of UNESCO's great strengths, and something we want to reinforce.

It is very important that the work of IOC and UN-Oceans be taken into account in the current drive for greater UN system-wide coherence.

First, efforts are needed to promote the inclusion of ocean issues in national development plans and UN assistance frameworks. In this regard, I welcome the recent decision by UN-Ocean members to compile an inventory of their activities in all the coastal One UN pilot countries.

Second, as the UN seeks to establish greater coherence in the environmental field, due regard should be given to the role UN-Oceans is already playing in achieving effective and coordinated action on ocean and coastal issues. IOC has proven experience on which to help shape the debate.

Ladies and Gentlemen,

Let me now turn to a subject with which I am sure you are very familiar: the overall review of major programmes II and III.

The Review Committee has examined UNESCO's science programmes and proposed a vision and strategy for the future of the sciences at UNESCO. The Executive Secretary of IOC, Dr Bernal, acted as one of the Committee's internal members and the Chairman, Professor Pugh, provided input.

The Committee's Report, together with my response, has been sent to all international sciences programmes including IOC. I very much look forward to receiving your comments, which will be submitted to the General Conference in October.

IOC, as an intergovernmental scientific programme and specialized body within UNESCO, received a very positive review, and I am pleased to see that IOC is already planning to incorporate some of the Committee's key recommendations in its new draft medium-term strategy and biennial programme and budget. In particular, I welcome the links IOC is making

with other UNESCO programmes, in such areas as biodiversity preservation, groundwater management, and science policy development. As the Review Committee recommends, UNESCO needs to better integrate its work in the sciences, and strengthen interdisciplinary and intersectoral activities.

These documents, and the Review Committee's recommendations, have also closely informed UNESCO's work in developing its own Medium-Term Strategy for 2008-2013 – the 34 C/4 – and its Programme and Budget for 2008-2009 – the 34 C/5. This symbiosis in our planning is mutually benefiting.

At its last session in April, the Executive Board thoroughly discussed the draft 34 C/4 prepared by the Secretariat, and made a series of recommendations that considerably sharpen the original text. Both the draft document and the Board's recommendations shall now be forwarded to the General Conference.

The 34 C/4 focuses on five programme-driven overarching objectives, representing the core competencies of UNESCO, and fourteen strategic programme objectives.

The contribution of IOC is particularly important to achieving strategic programme objective 3, "Leveraging scientific knowledge for the benefit of the environment and the management of natural resources," and strategic programme objective 5, "Contributing to disaster preparedness and mitigation", which places special emphasis on tsunamis, earthquakes, floods and landslides.

As I have already said, UNESCO must adopt a holistic approach to these challenges, mobilizing the full range of expertise that exists within the science sector, and also drawing on relevant competencies in other sectors. This is particularly important in disaster response and mitigation. IOC's work in tsunamis clearly shows that in order to be effective scientific detection systems must be combined with emergency-preparedness plans, communication policies, public-awareness raising strategies and education, as well as respect for cultural diversity. An interdisciplinary approach is critical.

The Executive Board did not have time to discuss the draft 34 C/5 at its April session, and therefore asked its Drafting Group to meet between sessions to prepare its recommendations. The Drafting Group has just held its first meeting, and will meet again in early July.

At its 175th session last October, the Board asked me to prepare four budget ceilings for the draft 34 C/5. Debate at the April Board meeting showed that while the great majority of Board Members support my core scenario of zero real growth – or \$648 million – a few – including certain key Member States – still uphold the option of zero nominal growth, or \$610 million. The Board has requested that I present to it at its 177th session a single budget scenario taking into account the debates and discussions on this matter at the April meeting. Nevertheless, I must say that, regrettably, it still remains unclear at this juncture what budget ceiling the General Conference will finally adopt.

Ladies and Gentlemen,

Later this morning, you will be discussing an important proposal by IOC Officers to Member States entitled "The Future of IOC". This paper outlines future possibilities for IOC, ranging from the creation of a new independent specialized organization inside the UN to the re-enforcement of IOC with its current mandate inside UNESCO, including the possibility of drafting a Convention.

Let me recall that IOC was established, almost 50 years ago, as part of the Science Sector. From very early on, IOC, seeking to have more stability and better support, worked hard

to gain greater autonomy. After 10 years or more of negotiations, the General Conference granted IOC the functional autonomy to conceive and manage its programmes in 24 C/Resolution 10.4. My predecessors subsequently adopted several measures that gave IOC administrative flexibility, a much sought after goal by IOC's Member States and Officers. In 1992, the Division of Marine Sciences was abolished and all programmes on ocean and coasts were concentrated in IOC. In 1998, the post of IOC Executive Secretary was upgraded from D-2 to Assistant Director-General level. The post is at the same level as the ADG for Natural Sciences, with the two ADGs mandated to collaborate to ensure a holistic approach to UNESCO's programme objectives.

To me, this was a clear signal that UNESCO was willing to trust and support IOC, and to delegate to IOC Member States the mandate to promote international cooperation and to coordinate programmes on ocean and coastal areas.

In my mind, functional autonomy also implies additional responsibilities to the Member States of IOC. IOC's financial rules request that the IOC Assembly adopt a programme and budget, including estimates of the extra-budgetary resources available to the Commission.

This is somewhat similar to what the World Heritage Convention and the World Heritage Fund do for the World Heritage programme, which also enjoys considerable administrative flexibility. The World Heritage programme is UNESCO's other flagship initiative, led by the World Heritage Centre. Headed by a Director at D-2 level, and under the authority of the ADG for Culture, the Centre has been tremendously successful in its role as Secretariat of the Convention Concerning the Protection of the World Cultural and Natural Heritage. Given the limits of UNESCO's regular budget, the World Heritage Centre has had to depend increasingly on extrabudgetary resources. As a result, for the 2004-2005 biennium the ratio of extrabudgetary resources to regular programme resources was 6 to 1 for the Centre. For the IOC, it was 2 to 1. There is thus room, I believe, for greater mobilization of extrabudgetary funding.

Article 10 of your statutes leaves ample freedom to interpret the financial implications of the status of functional autonomy enjoyed by IOC. Therefore, I call upon IOC Member States to reinforce the Commission's activities by increasing the share of extra-budgetary resources in IOC's budget.

For its part, UNESCO will continue to support IOC as one of the Organization's flagship programmes. The financial and human resources allocated for the next biennium will of course depend on the budget scenario adopted. Let me recall that when we had a real growth budget of over 10 per cent in the 32 C/5 – thanks to the return of the US – the IOC benefited substantially. Even under the austerity of a zero nominal growth budget, particular attention has always been paid to IOC.

I can assure you that enhancing UNESCO's leadership within the UN through IOC on issues related to the sustainable management of oceans and coastal zones remains a core priority. I shall therefore be following your debate on the future of IOC with great attention.

Ladies and Gentlemen,

UNESCO, through the work of IOC, has been involved in climate change research long before this topic attracted public attention. Dr Roger Revelle, one of IOC's founders, published as early as 1953 a seminal scientific paper drawing attention to climate change and the related role of the oceans. In March 1960, when Dr Revelle outlined the future challenges for IOC, he pointed to the need to work towards a better understanding of the role of the oceans in absorbing excess CO₂, therefore slowing down or accelerating climate change.

Today, IOC coordinates the collection of direct measurements of carbon fluxes from and into the ocean, and has contributed directly to the work of the Intergovernmental Panel on

Climate Change (IPCC). This is yet another example of how IOC's work is enhancing UNESCO's visibility.

UNESCO has benefited greatly from having IOC as part of the Organization for the past 47 years. And we look forward to an even stronger IOC for the celebration of its 50th anniversary in 2010.

Ladies and Gentlemen,

Before you begin, I would like to express my thanks to the Officers that are ending their second mandate with this session: first of all, to Professor David Pugh from the United Kingdom, for his outstanding chairmanship; as well as to Professor Mário Ruivo from Portugal, Dr Alexander Frolov from the Russian Federation and Captain Javier Valladares from Argentina. To all of you, I extend my special thanks and congratulations for the work accomplished in these last four years.

To conclude, I wish you a very fruitful meeting, and look forward to hearing about your deliberations and to receiving this Assembly's recommendations.

Thank you.

B. Keynote Speech

**by H.E. Mr. Kusmayanto Kadiman,
Minister of Research and Technology
of the Republic of Indonesia**

23 June 2007

Mr Koichiro Matsuura, the Director-General of UNESCO,
Mr David Pugh, Chairman of IOC,
Mr Patricio Bernal, Executive Secretary of IOC,
Vice-Chairmen of IOC-UNESCO,
Distinguished Delegates of Member Countries, UN and other International Organizations,
Representatives, Participants, Ladies and Gentlemen,

Allow me first of all to thank God Almighty for His blessing in making it possible for all of us to meet in this important 24th Assembly of the IOC (UNESCO). Please accept also my highest appreciation and thanks on behalf of my government and my people to IOC (UNESCO) for having invited me to address this Assembly, and therefore I am delighted to share with you the state-of-the-art, some major breakthroughs and important contributions by Indonesia to establish the end-to-end Indonesian Tsunami Warning System as an important part of the basin-wide Indian Ocean Tsunami Warning and Mitigation System.

As we have witnessed, the trans-Indian Ocean Sumatran Tsunami did not only hit Indonesia, but also many other countries around the rim of the Indian Ocean. This most severe oceanbound disaster of unmatched scale ever recorded in modern human history has given us the most valuable lesson; as I would call it, a "wake-up call", not only reminding us of how vulnerable the countries around the Indian Ocean had been, but even we have observed that this disaster has totally changed our mindset and we rethink our current practices on how we proceed forward with development. The disaster has not only been a simply vivid remembrance of how important the tsunami early warning system is, but moreover, it has been an imperative call from our Mother Nature to mainstream the disaster risk-reduction measures in our development policy and to improve the wellbeing of our people and free the human being from hazard impacts.

It was still fresh in our mind how massive the tsunami has impacted the Province of Aceh and North Sumatra at the end of 2004. The total damage from the tsunami in Aceh alone was estimated at \$4.5 billion - almost equal to the entire GDP of Aceh. Aceh's total population is just over 4 million, of which 470,000 people reside in the coastal area. Poverty had been increasing over the past few years, reaching almost 30% in 2003, while the national poverty incidence declined to 17.4%. Aceh fell from being the fifth richest province in 1999 to the third poorest in 2005, after Papua and Maluku. I would therefore like to use this opportunity to convey our highest appreciation and expression of our thankfulness to governments, nations, people, institutions and organizations in the region and around the world, for their immediate humanitarian help, pledges for rehabilitation and reconstruction, sympathy and other forms of support to our country, since the very day of the disaster until today.

Excellencies,
Distinguished Delegates,
Ladies and Gentlemen

As Indonesia was the hardest hit by the 2004 trans-Indian Ocean Sumatran Tsunami and the locus of tsunami-generating seismic zones for likely future disasters, our government and people are aware of the multi-dimensional commitment to protect lives, not only in our country, but also within the Indian Ocean Region and the Pacific Basin. Indonesia realizes and believes that there is no country in the world that can survive alone, especially in responding to a sudden disaster of that scale. It was indeed such a disaster that brought forward our world

and sense of humanity to move to as a unity. In this perspective, my government took initiatives to host the Tsunami Summit on 5 January 2005 in Jakarta, immediately after the unparalleled, greatest calamity ever to have happened in our life. We then participated actively in the Phuket High-Level Meeting where ASEAN and Indian Ocean Countries, as well as UN Bodies and International Organizations, have met on 29 January 2005 to implement the spirit of the Jakarta Tsunami Summit. The Phuket Meeting successfully laid down the basic principles of the mechanism, processes, and architecture of the then future Indian Ocean Tsunami Warning and Mitigation System. Indonesia has promoted and shared with the Member Countries the principle of a network of networks as a feasible and plausible system deployed in the Indian Ocean. We also then consistently initiated, participated and actively contributed to the important processes in the development of the Indian Ocean Tsunami Warning and Mitigation System (IOTWS) coordinated by the IOC (UNESCO). The Regional Governance for this IOTWS under the Intergovernmental Coordination Group (ICG), for which Indonesia has shared the Chairmanship since its establishment in 2005, and from this year until 2009 Indonesia will assume the Chairmanship of this important primary subsidiary of the IOC (UNESCO). All of these efforts also reflect our determination to build the Indonesian Tsunami Early-Warning Systems (Ina-TEWS) to be fully compatible with IOTWS standards.

The Government of Indonesia is committed to mobilizing its resources in protecting its coastal communities, among others, by developing the Ina-TEWS. The system is being developed by several Indonesian Institutions and has benefited from sympathetic support and collaboration from quite a number of countries and organizations, facilitated by the processes led by the IOC (UNESCO). In general, the Ina-TEWS is divided into two main components: the Structural Component and the Cultural Component. The deployment of the Structural Component is considered to be the task of Central Government and consists of the earthquake and tsunami detection devices, data processing from the devices into tsunami warning, and warning dissemination to the interfacing institutions, including local government and media.

We are continuously on our way to shortening significantly the warning time, through densification of the seismic network in cooperation with Germany, Japan, China, France and CTBTO, in that we are now able to inform the occurrence of seismic events down to around 8 minutes from 30 minutes or so. By the end of 2008, when we expect to launch Ina-TEWS, we aim at issuing a tsunami warning within 5 minutes after the earthquake. In order to meet the expectation, we have also deployed some tsunami buoys in cooperation with Germany, Malaysia and the USA. Meanwhile, our home-made buoys have also been deployed recently. We will continue to build our own tsunami buoys in cooperation with the USA and deploy them in our waters together with the Germany's buoys, to complete the total planned configuration to protect the people in our country and the region. A network of tide gages has also been installed along the coastlines of the tsunami-prone areas, from our own resources as well as from IOC (UNESCO) and Germany, which will complete the existing network of gages to monitor the tides so as to understand the behaviour of our oceans and seas. As Ina-TEWS is an integral part of IOTWS, I am pleased to share with you that, in brief, the present progress of the Structural Component of Ina-TEWS is as follows: 73 out of 160 (73/160) seismometers have been installed; accelerometers (51/500); tide gauges (9/80); DART-buoys (4/22); and tsunami database areas (2/14).

While most of our attention is now directed toward the successful operation of the Ina-TEWS, we are continuously improving the service and cost-effectiveness of the system by complementing and introducing into the existing system the future multi-user platform. The supplemental systems are expected to increase the performance of Ina-TEWS and, at the same time, maintain the sustainability of the systems by promoting the use of the system for other purposes.

We have started and continued a systematic programme to convert people's panic and ignorance into a more rational preparedness, which forms part of the Cultural Component. This is the task and includes the capacity-building of local governments, consisting of warning

dissemination to the coastal communities at risk, equipping the people with skill and knowledge to act accordingly, and increasing the community preparedness as part of the longer-term mitigation effort. Two disaster drills have been exercised on the Grand Simulation Day: in Padang on 26 December 2005, exactly one year after the Sumatran Tsunami; and the following year in 2006 in Bali. Similar activities were organized in collaboration with local government, the armed forces, and police, and NGOs will be also exercised in many coastal areas in Indonesia from this year onward. All of these will reflect our commitment to save lives and property in Indonesia and the region.

Excellencies,
Distinguished Delegates,
Ladies and Gentlemen

We all are aware that the Indonesian Seas, which cover 3.1 million km² and become 5.8 million km² if you include the EEZ, are great entities that have to be observed, monitored, understood and their present and future behaviour predicted for the benefit of all of us. The oceans and seas enclose more than 17 thousand islands, with a coastline 81,000 km long. Nearly half of the coastlines are vulnerable to tsunami disaster. The coastal regions which are vulnerable to tsunami disaster are populated by 20 million people. The past and ongoing complex processes that shaped the current location between Asia, and Australia and between the Pacific and the Indian Oceans, have also interplayed with the biological and climatological processes that lead this region to be the locus of the world's highest terrestrial and marine biodiversity. It is also the ideal place for the formation of monsoon, along with the intervening complexities of the El Niño/La Niña Southern Oscillation ENSO and Indian Ocean Dipole Mode (IODM). It is within this framework and spirit that Indonesia has also initiated the launching of the Indonesian Ocean Observing System (Ina-GOOS) in Bali in August 2005, as part of the Global Ocean Observing System (GOOS) of the IOC (UNESCO). We feel that the launching of Ina-GOOS is a timely decision, given the fact that we have accumulated quite a significant amount of oceanographic data and information through many expeditions and routine monitoring, though they are dispersed in many institutions and universities. We are also on the verge of having our national data exchange policy, through a series of intensive consultations among the key players. We have identified the possible future users' interest in Ina-GOOS products based on the ocean system we have. Disaster-prevention belongs to the top priority, together with coastal-zone management, engineering and protection; fishery, marine ecosystem conservation; climate studies and forecasting; pollution and public health; marine-culture and aquaculture; scientific research; chlorophyll/ eutrophication/dissolved nutrients (harmful algae blooms, fish kills, etc.). Our ongoing effort to build up our national GOOS would be accelerated and we believe this is one of the real ways for the Global Ocean Observing System to contribute to our national capabilities to develop the regional and global capacities in the management and sustainable use of our oceans, including our intention to adapt to and mitigate the adverse impacts of the world water topic, namely the global warming and climate change.

Excellencies,
Distinguished Delegates,
Ladies and Gentlemen,

In concluding my remarks, I would also like to refer to all of our efforts in the soon to be celebrated International Year of the Planet Earth. As most of our Earth is covered by the oceans, I commend the UNESCO's firm decision to take "the ocean" as its flagship programme. Our understanding of the behaviour of our oceans, their dynamics with the climate variability, and their interaction with human behaviour are far less than adequate. Indonesia realizes and is aware of its dual responsibilities through the establishment of the Ina-TEWS as the backbone of the Indian Ocean Tsunami Warning and Mitigation System (IOTWS). I should therefore like to express my deep appreciation to IOC (UNESCO), to the Member States, to other UN Bodies, as well as International Organizations, for their generous and friendly support and collaboration in the development of Ina-TEWS, such as the human resources development, the development of

a crisis center, upgrading and renewal of our seismic and sea-level monitoring systems, construction of *tsunameters*, and strengthening the capacity-building for the local government. This international cooperation in developing Ina-TEWS has demonstrated a new perspective on facing the challenge. We strongly believe such cooperation can be extended, and strengthened, into the operational stage of Ina-TEWS. Therefore, we invite member countries and international communities to join in mutually benefiting cooperation and make the most of the Ina-TEWS.

The wake-up call of the recent devastating mega-earthquake and the ensuing mega-tsunami of 26 December 2004 reminds us of how important it is to continuously observe and monitor our oceans and try to predict their behaviour to protect our marine and coastal environment and our future. Such a trans-boundary nature of the processes and their impact have brought us to the notion that we have the responsibility to understand better our seas and oceans, despite our limitations imposed on us to bear such a huge task. This great disaster and the ongoing global climate change have also brought us together to further consolidate and work together in a concerted and coordinated manner and share all our capabilities. It is within this framework and spirit that I offer you our oceans and seas, our experience, facilities, capacities and wisdom to promote a mutually benefiting cooperation to understand better their behaviour and dynamics for future human wellbeing and their survival in the years to come. I would like to foresee and therefore applaud the continuous, sustained and inspiring IOC (UNESCO) leadership in the many years ahead.

Lastly, I proudly share with you the news that Indonesia will host the UN Climate Change Conference, to held in Bali in December 2007. We cordially invite you to participate actively in the UN Conference.

I thank you for your attention.

C. Statement on recent developments
in the work of the Commission and perspectives for the coming years¹

**by Prof. David Pugh,
Chairman of the Intergovernmental Oceanographic Commission of UNESCO**

19 June 2007

According to our eighth Rule of Procedure I am required to present to this Assembly a view on the state of the Intergovernmental Oceanographic Commission. In doing so I want again to pay a tribute to my fellow Officers, the five Vice-Chairmen who have each been active in pursuing their designated areas of responsibility. We have met on four occasions, most recently in Saint Petersburg in January, and by teleconference in March. Our role has been to give advice and guidance to the Executive Secretary and to plan meetings of the Governing Body including this Assembly. At our meetings we benefit from the wise advice of the immediate past Chairman, Su Jilan.

In all our deliberations we are mindful of the reasons why the IOC was established nearly 50 years ago. Our Statutes, and it is proper to remind ourselves of this at the start of our 24th Assembly, define our purpose as the promotion of international cooperation and the coordination of programmes in research, services and capacity-building, in order to learn more about the nature and resources of the oceans and coastal areas and to apply that knowledge for the improvement of management, sustainable development, and the protection of the marine environment, and the decision-making processes of our Member States. Our activities must have practical and beneficial results.

For the future of the oceans, I am a determined optimist. My personal impression, through my four years as your Chairman, is that Governments are increasingly aware of the need for a holistic approach to the oceans and coastal zones. As an example we have the continuing success of the UN Informal Consultative Process in New York, whose eighth annual meeting will be held from 25 to 29 June 2007. This year the theme is "marine genetic resources". Other recent topics have been sustainable ecosystems and marine science. Through this Process I believe that Governments are increasingly acting as a coordinated customer for ocean services, many of which the IOC should be able to provide. Within the UN system the UN-OCEANS serves to coordinate activities across the Agencies under the leadership of our own Executive Secretary. Even my own country, the United Kingdom, is in the advanced stages of consulting on a cross-cutting Marine Bill which will among other things, establish a Marine Management Organisation; several other countries already have something similar in place.

Within IOC there are many encouraging responses to these external requirements of Member States. For example, the new '*Handbook for measuring the progress and outcomes of integrated coastal and ocean management*' (IOC Manuals and Guides 46) has been well received; and the fourth volume of the '*IOC Manual on sea level measurement and interpretation*' (IOC Manuals and Guides 14) published by GLOSS in 2006 has already been reprinted. I want particularly to mention the work of the Capacity-development Section that has raised funding for and coordinated professionally conducted Leadership and Marine Action Planning workshops in various developing regions: East Africa, Caribbean, Latin America, Southeast Asia and West Africa. These are developing leadership skills, and regional networks of ocean leaders, for the future.

Some of the longer-term more insidious potential ocean hazards are being addressed through the well-focussed IOC Sciences Section in coastal zone, algal blooms, ocean carbon dioxide, and climate research. Observations and data management are central to our coordination role, and I was particularly impressed when I visited our IODE Project Office in Ostend (Belgium) for an ODINAFRICA workshop. The Global Ocean Observing System

¹ In accordance with IOC Rule of Procedure 8.1(a).

continues to make progress and to contribute to GEOSS. In this as in many other areas, where possible IOC works with appropriate partners: for the World Climate Research programme with WMO and ICSU; for ocean observations with WMO through our Joint Commission, JCOMM; and for the Global Marine Assessment, with UNEP. At this Assembly we will hear about progress in many of these areas. But we should realise that at present the Ocean Sciences section is without a leader, and that progress in GOOS is affected by staff limitations.

I mentioned that we will soon be celebrating 50 years of achievements. Our Medium Term Strategy for 2008–2013 (see the proposed draft in IOC-XXIV/2 Annex 5) will take us into our next half-century. At this Assembly you will be asked to endorse the Strategy based on the Resolution passed by our 39th Executive Council a year ago. I commend it to you. The four High Level Objectives are:

- Prevention and reduction of the impacts of natural hazards
- Mitigation of the impacts and adaptation to climate change and variability
- Safeguarding the health of ocean ecosystems
- Management procedures and policies leading to the sustainability of coastal and ocean environment and resources.

Our programmes must provide the necessary data, information and knowledge to contribute to services needed to address these ocean issues effectively.

Within UNESCO, the IOC is established as a body having functional autonomy under our Governing Bodies: the Assembly and the Executive Council. In my dealings elsewhere within UNESCO I have heard IOC described as its most visible and successful programme. Nevertheless, we are also regarded as just one programme within the Natural Sciences Sector, where our Executive Secretary has to argue for his budget and programme against other priorities and restructuring plans. This dual control often leads to tensions and misunderstanding. But, UNESCO provides our Regular Budget, and our permanent staff are UNESCO employees. Neither our budget nor our staff resources are anywhere near adequate to address effectively our overall responsibilities.

In October 2005, the UNESCO General Conference set up a Committee to make an overall review of the Natural Sciences and Social and Human Sciences (Programmes II and III of UNESCO). Our Executive Secretary was a member, and the Review took a lot of time and effort. Along with the Chairs of other Intergovernmental Programmes I was invited to give evidence. It was, by its terms of reference, very much an inward looking process concerned with the way UNESCO functions. Its recommendations² include a call for better coordination and synergy among the UNESCO Intergovernmental Science Programmes. In my view, for IOC, these are secondary to our main role in working on ocean issues across the UN system and beyond. However, the response to these recommendations will be increased pressure on us to link more firmly with existing and new programmes within UNESCO.

Basically the IOC is a mechanism established to facilitate cooperation among Member States and across UN Agencies. It is up to us all, as representatives of our Member States to work together to make the IOC increasingly effective in all our areas of responsibility, and enable us to realise much needed mutual benefit. Although I have not mentioned it until now, the best recent example of why IOC exists, and what can be achieved through our mechanisms, is the response to the 26 December 2004 Indian Ocean tsunami and its horrific consequences. Member States and the Secretariat have responded magnificently.

² Document 176 EX 7, Report by the Director-general on the conclusions and Recommendations of the Expert team on the Overall Review of Major Programmes II and III

For our Assembly two years ago, Vice-Chairman Javier Valladares, responsible among the Officers for programme and budget, prepared a paper³ that included a range of options which at one extreme could lead to increased autonomy for IOC as a separately funded Commission, and at the other extreme could reduce the IOC to an intergovernmental debating forum on oceanographic issues. The Assembly then asked for further consideration by Member States. The Officers of the Commission, elected by you and acting on your behalf, have continued debating how to respond to the severe circumstances that are limiting a viable future for the IOC.

It is clear that the current crisis demands appropriate and urgent measures by Member States. As Officers, we are now making specific proposals, outlined in the accompanying paper, to increase the autonomy of IOC, and at the same time to address the issues of serious under funding of our programmes. Member States should be aware that we cannot expect the necessary change to happen through our existing relationship within UNESCO.

Despite many important achievements, the “State of the IOC’ is a state of crisis. Cynics may say that this is normal and that one crisis is much like another. I prefer the Italian political thinker, Antonio Gramsci’s definition of a crisis: “When the old is dead and the new cannot be born”. Together we must plan for the rebirth of IOC.

Within the Intergovernmental Oceanographic Commission, we have ongoing achievements and programmes of which we can be justly proud. Member States know that much more can and needs to be done. However, until we have a new structure, even our existing activities are increasingly vulnerable. As I said when the UNESCO Director-General met with our Executive Council a year ago, the question is not whether intergovernmental ocean activities, including ocean monitoring and assessments, will continue to increase: they certainly will. The question is the extent to which the IOC will contribute and lead those activities for which we were established nearly fifty years ago.

For the future of the oceans, and for the future of the IOC, I remain a determined optimist.

On behalf of the Officers I welcome you, and wish for us all a productive 24th Assembly.

³ Document IOC-XXIII/2 Annex 8, “We have a Problem”

D. Statement
by Vice Admiral Conrad C. Lautenbacher, Jr. USN (ret.)
Under Secretary of Commerce for Oceans and Atmosphere

19 June 2007

Secretariat report on the Global Earth Observation System of Systems (GEOSS)

(Item 4.1.5)

Thank you Patricio. Good afternoon colleagues and friends, and thank you for allowing me to present to you as a Co-chair and member of the Executive Committee of the Group on Earth Observations (GEO). I am honored to have this opportunity to meet with you again at this 24th IOC Assembly.

Last year when the Executive Committee met, I described the progress of GEO toward its 10-year implementation plan and the key role of the IOC in that plan. I also congratulated the IOC on its leadership to generate international action to address tsunami events and a multi-hazard approach to all disasters. I iterate again that your work has been and continues to be vital to build observation systems that protect health, lives and livelihoods through end-to-end warning systems and improved communication. Today, allow me to present my conclusions both as an opening and a close to this presentation.

As members of the IOC, we are aware of the critical economic and societal benefits of sustained observation systems. But we also must continue our efforts to ensure that our leaders, colleagues, and the general public more fully understand their importance.

When you return home from the IOC, please reach out within your own governments and other relevant communities to help people take notice of the great value sustained observation systems bring to our lives. Let GEO help you do this – invite your Ministers to participate in South Africa in November at the GEO Ministerial Summit. It will be an opportunity to promote the IOC in the greater GEO vision, enabling our leaders to build our economies and sustainably manage earth and ocean resources through investment and commitment to a sustained and integrated Global Earth Observation System of Systems (GEOSS).

I am not going to describe GEO or GEOSS today; I hope that you already know about this effort, but if not, I encourage you to go to the website and familiarize yourself with the concept and the organization. However the basis of the GEO concept is reflected in the title of this slide, Developing a Strong Observing and Communication Infrastructure.

In order to deliver services to address the basic needs of society, such as protection from hazards, drought, food shortages, health, and shelter, we need to continue developing a strong observing and communication infrastructure. Through IOC, observing capabilities can be integrated to improve our understanding of global and regional ocean processes. IOC's capabilities are a critical part of GEOSS. The success of GEOSS is based on the success of the IOC as well as other members and participating systems of GEO in building and sustaining the entire family of Earth observation systems.

GEOSS provides life-saving and economy building information to decision-makers. Ocean and earth observation systems integral to GEOSS provide tangible economic benefits. Studies show that national institutions providing weather, climate, and water observation services to their citizens contribute an estimated \$20–\$40 billion dollars each year to their national economies. In the United States, industries as varied as shipping, energy, tourism and fisheries all benefit from data collected from sea-level gauges, deep-sea pressure sensors, seismic stations, satellite images and other platforms.

Energy consumption is also significantly linked to weather and climate. The United States Department of Energy recognizes GEOSS as a key to optimizing energy production, use

and distribution in the 21st century. In the US alone, energy costs could be cut by a potential \$1 billion annually. At no additional cost, industry could construct buildings using 50% less energy.

And now I would like to provide you some examples. Regionally, we use these observation systems to understand our most valuable resources. The Carolina coast is one of the most ecologically diverse and economically important systems in the U.S. The ocean, atmosphere and land interact dynamically here creating a rich environment. Since 2000, the Coastal Ocean Research and Monitoring Program (CORMP) has been collecting and providing coastal observational data to establish baseline oceanographic and environmental conditions, predict and verify long-term trends and identify linkages among coastal ocean ecosystem components. The information provided by the program promotes economic growth and effective management of the coastal Carolinas.

In the Gulf of Mexico, accurate water-level forecasts are of vital importance, as its waterways play a critical economic role for a number of industries, including shipping, oil and gas, tourism, and fisheries. In fact, a report we recently produced shows direct and indirect economic benefits in the range of \$14 to \$15 million derived from the Physical Oceanographic Real-Time System (PORTS) installation at Houston/Galveston Port in the Gulf of Mexico.

Drought and rainfall patterns have an enormous impact on our national economies. Many regions and countries experience the devastation of drought – the Horn of Africa, Brazil, Australia, and the United States. In the United States, drought is estimated to result in average annual losses to all sectors of the economy of \$6–8 billion. This slide depicts the changes in North American drought conditions every month over the last three years. Through investments in sustained observation systems we can reduce those losses and empower farmers to maximize productivity.

Agricultural sector benefits from weather services are about 15 to 1. Farmers get about \$15 of value out of every dollar spent on forecasting the weather. Today Earth observations are used widely to access production and resource conditions at a point in time, but we need to move beyond the snapshot.

The North American Drought Monitor (NA-DM) is an excellent example of GEOSS working. NA-DM is a cooperative effort between drought experts in Canada, Mexico and the United States to monitor drought across the continent. Although all three countries have active climate and drought monitoring programs, until recently coordination has been limited because of policy and methodological differences. The NA-DM program was designed to overcome these limitations and provide assessments of drought across the continent on a monthly basis. This effort could be expanded to include the entire hemisphere.

For science to be sound and valuable for public health, we need more than instant assessments – we must incorporate Earth observations into models that can be used to forecast and prevent or mitigate health concerns before they become a crisis. Precipitation and other geophysical parameters have significant impacts on health; therefore we in the IOC have an important role to play in health.

I have had several interesting meetings lately with the public health community to explain the benefits we can provide. There are opportunities to strengthen decision-making in the areas of disease, famine, drought, drinking water quality, air quality, and heat waves, among other health areas. Earth observations and monitoring can provide days, weeks, and even months of lead time in health areas.

In Niger, for instance, there is a clear correlation between rainfall and malaria. On the graph, the vertical lines indicate rainfall levels – malaria outbreaks begin to increase in the middle of the rainy season in late July and peak toward the end of the rainy season during the first week of October. The lines show weekly malaria cases. Working closely with local

communities, the Massachusetts Institute of Technology and the Niger Ministry of Health are using Earth observation products to fight malaria.

In this case and others, international partners are using Earth observations to put environmental and health indicators to good use – and lives are being saved as a result.

Investments in health and economic stability strengthen our global community, but they must be supported by our continued efforts to protect the world's people from tsunami's and other natural hazards through end-to-end warning systems and public awareness.

Remember that GEO and GEOSS work only because of the combined efforts of Member States and participating organizations. As an example, in the last several years we have made mutual investments in building and integrating the Indian Ocean Tsunami Warning System. The many pieces of this critical warning system represent another step toward realizing GEOSS.

NOAA joined the Government of Thailand in deploying the first Deep-ocean Assessment and Reporting of Tsunami (DART) buoy station in the Indian Ocean in December, 2006. Its data are now available to all countries through GTS. Also, tide-gauge stations and GTS systems have been upgraded in the region by IOC Member States, WMO and NOAA in order to provide users with near-real-time data.

Training has taken place. A Community Tsunami Inundation Model is available on the Internet for hazards identification and vulnerability analysis, and Coastal Resilient Communities workshops were held, their best practice guidelines finalized, and plans for pilot projects are in the works.

And importantly, Pacific Tsunami Warning Center operations were expanded to provide 24/7 notification of tsunami-relevant information to Indian Ocean countries until the regional system is fully established.

The good news is collectively we have begun the development of a warning system in the Indian Ocean that can serve as a key step to building a global system.

To ensure robust observing networks, we need to remain focused on the operations and sustainability of systems. A continued commitment to quality assurance and global coverage is required if a number of systems are to remain effective, including systems supporting forecasts and climate and environmental trend assessments.

The international cooperation among countries collecting sea-level data is a model of a sustainable observation system that can be replicated. The pie graph here shows contributions from over 60 agencies representing over 70 countries – that is a true partnership effort.

These partners provide the O&M for their instruments (the in situ sea-level sites shown on the map), and by doing so, support the largest international archive of research-quality hourly data. As there are many users of the data, and it is used for several purposes, there is more interest in continuing the O&M for the components. The Joint Archive For Sea Level (JASL), managed by the University of Hawaii Sea Level Center and NOAA, serves as the IOC GLOSS Archive Center for this data.

The TAO/TRITON system was one of the first models for the development of the GEOSS concept, and a superb example of shared operations and maintenance. The TAO/TRITON array consists of approximately 70 moorings in the tropical Pacific Ocean that telemeter oceanographic and meteorological data to shore in real time via the Argos satellite system.

The array is a major component of the El Niño/Southern Oscillation (ENSO) Observing System, the Global Climate Observing System (GCOS) and the Global Ocean Observing System (GOOS). Support to sustain the TAO/TRITON system is provided by the United States, Japan, and France.

Drifting buoys represent another important partnership. Recently, the drifting-buoy array became the first component of the Global Ocean Observing System to be fully implemented and the first element of GEOSS to be fully completed. The ARGO system is another important example of a successful partnership. I would like to acknowledge my colleague Jim Baker for his work on the ARGO system.

International organizations such as the IOC and WMO have a key role to play in sustaining these systems, as well as coordinating the transition to emerging systems, such as the tsunami early warning system.

The IOC and its Member States must constantly decide how best to ensure the continuation of high-value activities while also making investments where critical needs are not being met. We need to focus on the fundamental requirements that ensure the effective planning, establishment and co-ordination of an operational global ocean observing system to provide the information needed for oceanic and atmospheric forecasting, for oceans and coastal-zone management by coastal nations and for global environmental change research.

As we invest in partnership in integrated observing systems we should recognize that the social and economic benefits of accurate predictions of ocean systems will far outweigh the cost of the systems themselves.

The IOC working with other GEO members has been successful in developing a number of new agreements for providing and sharing information within GEOSS. Still, the observational data being collected today is just a fraction of what could be available through comprehensive data sharing, collaboration, leveraging each other's investments, and filling the known gaps. We need to have vision. It is important that the IOC and its Member States work with their GEO partners to push the envelope, ask new questions, see where we need applied research activities, and increase our understanding of earth systems.

The upcoming GEO Ministerial Meeting, titled Earth Observation Summit IV in South Africa in November will be an opportunity to reaffirm commitment to international cooperation on global observation systems and continued leadership in the development of the GEOSS.

GEO provides an opportunity to reach a new level of excellence in our mission, gain broad ministerial-level support and provide enormous benefits to society.

The oceanographic community is already a champion for enhanced integrated observing programs to improve the lives of the world's people. We must now reach beyond our colleagues here in the IOC, and back at home. We must extend a hand to our ministries of health, energy, tourism, agriculture, environment and other user ministries. We must convince them to be champions for achieving the economic and societal benefits that can result only from global, comprehensive, sustained and end-to-end observing systems. And finally, no one country alone can achieve the benefits of GEOSS. We must continue to work together.

Thank you.

ANNEX IV

LECTURES

A. THE BRUUN MEMORIAL LECTURE, 2007

The Arctic and Southern Oceans: origin, physical and chemical properties and circulation, variability and its role in the world ocean and global climate system

Leonid A. Timokhov

Director German–Russian Laboratory for Polar and Marine Research,
State Research Center of the Russian Federation, Arctic and Antarctic Research Institute
(AARI), 38 Bering Street, St. Petersburg 199397, Russian Federation

Summary— Professor Timokhov presented his lecture under five main headings.

Regarding *the similarities and differences between the Arctic and the Southern Oceans*, Professor Timokhov noted that their main similarities are: (i) they are both polar oceans; (ii) they are to a greater or lesser extent both ice-covered in winter, hence they both play an important role as the "refrigerators" of the climate "heat machine" and as power sources for the polar atmospheres. Their main differences are: (i) the Arctic Ocean is an ocean basin surrounded by continents, which principally influences the circulation in the Atlantic Ocean; (ii) the Southern Ocean is a continuous ocean surrounding the Antarctic continent, which influences the circulation in all the main oceans; (iii) in summer, the Arctic Ocean ice cover decreases proportionately less than that of the Southern Ocean, but its contribution of ice and fresh water to low latitudes is more intensive.

With respect to *the history of polar ocean exploration*, prior to the 19th century, expeditions to the Arctic were mainly to find new lands; studies of the region's natural history were episodic. The basis for the Arctic observation network was laid during the First International Polar Year (1882–1883). A first understanding of the natural conditions and life-forms in the hard-to-access Arctic Basin came from drifting-ship studies (in 1893–1896 and in 1937–1940) and airplane surveys. The bottom topography of the Arctic Basin was completed in the 1950s, whereas, in the Southern Ocean, it was completed much later.

The general oceanography of the Southern Ocean was largely determined by the RV *Meteor* and the RRS *Discovery II* expeditions.

With respect to *the present structure of the polar oceans*, Professor Timokhov noted that the general water-mass structure of the Arctic Ocean and of the Southern Ocean is now well known, and observations of the thermo- halo- and pycno-clines, with the identification of the Pacific Ocean, Atlantic Ocean and freshwater inputs, has clarified water-mass transformation, particularly with respect to bottom-water formation.

Regarding *the variability of the Arctic and Southern Oceans*, the interannual variability in the strata of the water column of the Arctic Basin has been determined and is particularly significant in the surface and in the Atlantic Ocean water layers; periodicity in the surface-layer salinity ranges from 13 to 26 years, and there is notable coherence among sea-level atmospheric pressure, mean sea-surface salinity and geostrophic circulation. Professor Timokhov also discussed cycles in the ice cover and in the Atlantic Ocean inputs to the Arctic Ocean.

In the Southern Ocean, there remains a significant need for studies of the atmospheric and oceanic processes, as well as of the interactions among the lithosphere, the ocean, the atmosphere, the sea-ice cover and the glaciers, all of which affect the overall variability.

As for *the problems of, and a strategy for, the polar ocean studies*, it is apparent that climate change is the most greatly manifested in the polar regions. Such questions as "What will happen in the Arctic?", "Will the Arctic ice melt?" and "How will global climate changes be affected by natural and human factors?" have no answers yet: hence the International Polar Year, 2007–2008.

Professor Leonid Alexandrovich Timokhov, born in 1938, is a distinguished scientist in the field of polar and marine research. Since 1989 he is Director of the German–Russian Laboratory for Polar and Marine Research and Chief of Scientists in the Oceanography Department of the State Research Center of the Russian Federation Arctic and Antarctic Research Institute (AARI). He has participated in 12 Arctic and Antarctic expeditions as an oceanographer and chief of expedition on board research ships. In 2002–2004 he was co-chief of the American–Russian *Nansen Amundsen Basins Observation System* (NABOS) expeditions in the Laptev Sea. Professor Timokhov has held numerous international appointments, such as those of Coordinator, on the Russian side, for the NABOS project (2002–2007), Principal Investigator of the Russian–German joint project *The Laptev Sea System* (2002–2007), and Member of the Environment Working Group Arctic Climatology Subgroup of the USA–Russian Joint Commission on Economic and Technological Cooperation (1995–1998). He is the author of more than 85 publications.

B. N.K. PANIKKAR MEMORIAL LECTURE, 2007

Information exchange and development:
the challenges ahead for the intellectual property regime

R.A. Mashelkar, FRS

President, Global Research Alliance, National Chemical Laboratory (NCL),
Dr Homi Bhabha Road, Pune 411008, India; <http://www.research-alliance.net>

Summary— Dr Mashelkar summarized the main rights to intellectual property resulting from intellectual activity in the industrial, scientific, literary and artistic fields; notably: inventions; industrial designs; commercial marks, names and designs; scientific discoveries; and artistic performances. He noted also the negative aspects of intellectual property rights (IPR), such as reduced stimulation of invention in developing countries, limitation of the option of technological learning by imitation, favouring holders of intellectual property (by foreign firms) over non-holders (competing domestic firms), and increasing the cost of medicines and agricultural products. He particularly stressed such impacts in the field of public health.

Dr Mashelkar described the current availability of medicinally useful compounds from marine organisms and the wealth of scientific and technical resources in this field. The main groups of marine organisms that are now sources of useful compounds are: microbes, algae, sponges, coelenterates, echinoderms, bryozoans, molluscs and tunicates. The uses of the marine compounds of primary interest are: anti-bacterial, anti-fungal, anti-viral, anti-cancer, in analgesia, anti-osteoporosis/arthritis, anti-toxicity/neurotoxicity, in coronary heart disease or as cardiotonics, as immuno-stimulants/depressives, in diabetes, in mental and nervous disorders, and anti-malaria.

Dr Mashelkar outlined the potential new sources of useful compounds, notably: Arctic glaciers; glacial ice; soils of polar deserts; the stratosphere; the deep sea; hydrothermal vents; suboxic sediments and water; and marine solar salterns.

In the matter of data sharing, the critical issues are the strategic good (security concerns; fear of the unknown; resource nationalism), private good (return on research and development investment; exclusive right to data for a specified period; assured level competitive advantage via monopolies), and public good (growth by sharing, but collectively, not individually; imperative improvement in affordability of, and accessibility to, products; open source movement).

He then outlined the main actions in the protection of traditional knowledge; notably: the WIPO–UNESCO model law on folklore; farmers' rights incorporated by FAO into an international understanding on plant genetic resources; and the Convention on Biodiversity.

Dr Mashelkar described India's Traditional Knowledge Digital Library, which is available in six languages (including three of the Commission's official languages: English, French and Spanish). He also indicated how access to the Internet and copyright could influence the protection of traditional knowledge and traditional property.

Dr Raghunath Anant Mashelkar, born in 1943, has a distinguished academic and science management career. His last appointment was as Director General of CSIR, starting in 1995 and continuing through to 2006. CSIR (India) is the largest science and industrial chain of laboratories, which organization he led with distinction, conceiving and successfully transforming the CSIR during his tenure. He has been elected Fellow of several prestigious academies, both in India and abroad – importantly, Fellow of the Royal Society, London, and

Foreign Fellow of the U.S. National Academy of Engineering, both in 2003. He was elected President of the Indian National Science Academy in 2005. Dr Mashelkar has played an important role in raising awareness of intellectual property in India, as Chairman of the Standing Committee on Information Technology of the World Intellectual Property Organization (WIPO) and as a member of the UK Intellectual Property Rights Commission. The President of India honoured Dr. Mashelkar with civilian honours – the Padmashri and the Padmabhushan, in 1991 and 2000, respectively, for his contribution to nation building. Dr Mashelkar is presently the CSIR Bhatnagar Fellow at the National Chemical Laboratory, Pune, India.

ANNEX V

A – LIST OF MEMBER STATES OF THE IOC EXECUTIVES COUNCIL

<u>Chairperson</u>	: C. de N. Javier A. Valladares (Argentina)	Group III
<u>Vice-chairpersons</u>	: Dr Savithri Narayanan (Canada)	Group I
	Dr Nicolay Mikhailov (Russian Federation)	Group II
	Captain Julian Reyna (Colombia)	Group III
	Dr Neville Smith (Australia)	Group IV
	Professor Cherif Sammari (Tunisia)	Group V

States members of the Executive Council

Electoral group I (11)

Belgium	Canada	France
Germany	Greece	Norway
Portugal	Spain	Turkey
United Kingdom	United States of America	

Electoral group II (2)

Russian Federation	Ukraine
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Electoral group III (9)

Argentina	Brazil	Chile
Colombia	Cuba	Dominican Republic
Ecuador	Peru	Venezuela

Electoral group IV (9)

Australia	China	India
Indonesia	Iran	Japan
Republic of Korea	Sri Lanka	Thailand

Electoral group V (9)

Egypt	Ghana	Kenya
Madagascar	Mauritius	Nigeria
South africa	Tanzania	Tunisia

B – MEMBER STATES OF THE COMMISSION (136)

(as of 25 June 2007)

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 REPUBLIC OF KOREA	(31 October 1978)	SAINT LUCIA	(14 September 1992)
DJIBOUTI	(6 January 2006)	SAMOA	(10 April 1978)
DENMARK	(Before November 1961)	SAUDI ARABIA	(14 June 1978)
DOMINICA	(21 September 1999)	SENEGAL	(Oct. 1967/Sep. 1969)
* DOMINICAN REPUBLIC	(Before November 1961)	SERBIA	(23 May 2005)
* ECUADOR	(Before November 1961)	SEYCHELLES	(27 February 1979)
* EGYPT	(Oct. 1969/Nov. 1971)	SIERRA LEONE	(19 April 1974)
EL SALVADOR	(16 February 1993)	SINGAPORE	(Dec. 1965/Oct. 1967)
ERITREA	(12 November 1993)	SLOVENIA	(16 June 1994)
ESTONIA	(10 March 1992)	SOLOMON ISLANDS	(11 May 1982)
ETHIOPIA	(05 March 1976)	SOMALIA	(10 July 1974)
FIJI	(09 July 1974)	* SOUTH AFRICA	(Oct. 1967/Sep. 1969)
FINLAND	(Before November 1961)	* SPAIN	(Before Nov. 1961)
* FRANCE	(Before November 1961)	* SRI LANKA	(Jun. 76/Jan. 1977)
GABON	(26 October 1977)	SUDAN	(26 August 1974)
GAMBIA	(30 August 1985)	SURINAM	(21 January 1977)
GEORGIA	(09 July 1993)	SWEDEN	(Jul. 1964/Nov. 1965)
* GERMANY	(Before November 1961)	SWITZERLAND	(Before Nov. 1961)
* GHANA	(Before November 1961)	SYRIAN ARAB REPUBLIC	(Oct. 1969/Nov. 1971)
* GREECE	(Oct. 1962/Jun. 1964)	* THAILAND	(Before Nov. 1961)
GUATEMALA	(Dec. 1965/Oct. 1967)	TIMOR-LESTE	(19 October 2005)
GUINEA	(01 May 1982)	TOGO	(22 October 1975)
GUINEA-BISSAU	(26 January 1984)	TONGA	(03 January 1974)
GUYANA	(20 July 1977)	TRINIDAD & TOBAGO	(Oct. 1967/Sep. 1969)
HAITI	(23 March 1976)	* TUNISIA	(Before Nov. 1961)
ICELAND	(Oct. 1962/Jun. 1964)	* TURKEY	(Nov. 1961/Sep. 1962)
* INDIA	(Before November 1961)	* UKRAINE	(Nov. 1961/Sep. 1962)
* INDONESIA	(Oct. 1962/Jun. 1964)	UNITED ARAB EMIRATES	(02 June 1976)
* IRAN, Islamic Republic of	(03 June 1975)	* UNITED KINGDOM OF GREAT BRITAIN & NORTHERN IRELAND	(Before Nov. 1961)
IRAQ	(Oct. 1969/Nov. 1971)	* UNITED REPUBLIC OF TANZANIA	(Oct. 1967/Sep. 1969)
IRELAND	(07 November 1978)	* UNITED STATES OF AMERICA	(Before Nov. 1961)
ISRAEL	(Before November 1961)	URUGUAY	(Before Nov. 1961)
ITALY	(Before November 1961)	* VENEZUELA	(Oct. 1962/Jun. 1964)
JAMAICA	(Oct. 1967/Dec. 1969)	VIET NAM	(Before Nov. 1961)
* JAPAN	(Before November 1961)	YEMEN	(22 May 1960)
JORDAN	(06 April 1975)		
KAZAKHSTAN	(24 March 2005)		
* KENYA	(Nov. 1971/Nov. 1973)		
KUWAIT	(13 November 1974)		

* Members of the Executive Council are indicated with an asterisk

ANNEX VI

**REPORT OF THE FORTIETH SESSION OF THE IOC EXECUTIVE COUNCIL
ACTING AS THE STEERING COMMITTEE OF THE ASSEMBLY**

UNESCO, Paris, 18 June 2007
(IOC/EC-XL/3)

1. OPENING

1 The Chairman, Professor David Pugh, opened the 40th Session of the Executive Council at 09.45hr in Room IV on Monday 18 June 2007. He welcomed the participants and briefly referred to the documentation for the present session of the Executive Council. The Council was convened as the Steering Committee for the 24th Session of the Assembly, in accordance with Rule of Procedure No. 12(2).

2. ADMINISTRATIVE ARRANGEMENTS

2.1 ADOPTION OF THE AGENDA

2 **The Executive Council adopted** the Revised Provisional Agenda (document IOC/EC-XL/1 prov. rev.) as the Agenda of its 40th Session (Annex I, hereto).

2.2 DESIGNATION OF THE RAPPORTEUR

3 The Chairman invited proposals for the task of Rapporteur. On the proposal of Mauritius, **the Executive Council designated** Mr Ariel Hernán Troisi (Argentina) as the Rapporteur for the present session.

3. ARRANGEMENTS FOR THE 24th SESSION OF THE ASSEMBLY

3.1 DESIGNATION OF STATUTORY COMMITTEES

4 The Chairman reminded the Executive Council that, in the designation of the three Statutory Committees for the Assembly, it could submit proposals, in respect of their composition, but that the final decision as to that composition, including the Chairpersonship, of each Statutory Committee remained entirely with the Assembly. He then invited Member States to declare their wish to participate in the Statutory Committees, and informed the Executive Council that he would submit proposals for the Chairpersons of the Nominations and the Resolutions Committees to the Assembly, following his discussion of this matter with the Officers and the Executive Secretary. He also indicated the need to ensure an appropriate language balance within each of the Statutory Committees.

5 Pursuant to Rule of Procedure No. 12 (2), **the Executive Council**, acting as the Steering Committee of the Assembly, **proposed** a Nominations Committee for the Assembly, with the following initial composition:

Members: Canada, Chile, China, Dominican Republic, Ecuador, France, Japan, Peru, Republic of Korea, the Russian Federation, Sri Lanka, Tunisia, the USA, Venezuela.

6 **The Executive Council proposed** a Resolutions Committee for the Assembly, with the following initial composition:

Members: Argentina, Australia, Canada, China, France, Japan, Republic of Korea, the Russian Federation, the USA, Venezuela.

7 **The Executive Council proposed** a Financial Committee for the Assembly, under the Chairpersonship of the IOC Vice-Chairman Dr Neville Smith (Australia), with the following initial composition:

Members: Argentina, Australia, Brazil, Canada, China, France, India, Japan, Nigeria, Portugal, the Russian Federation, Tanzania, the UK, the USA, and Venezuela.

3.2 SESSIONAL WORKING GROUPS

8 To ensure a smooth running of the Assembly, the **Executive Council recommended** the establishment of open-ended Working Groups on:

- "The Future of the IOC", to discuss the proposal made by the Officers (item 3.1 of the Assembly Agenda, scheduled on Tuesday 19 June)
- "The Final Version of the IOC Medium-Term Strategy for 2008–2013" (item 4.1.2 of the Assembly Agenda, scheduled on Wednesday 20 June)
- "The IOC Ocean Sciences Programme" (item 4.2.1 of the Assembly Agenda, scheduled on Thursday 21 June)
- "The IOC Data Management Strategy" (item 4.3.6 of the Assembly Agenda, scheduled on Friday 22 June).

9 The Chairman proposed that nominations and chairpersonships for these sessional Working Groups be left to the Assembly. He suggested that the meetings of the Working Groups on the Ocean Sciences Programme and on the Data Management Strategy should be relatively short and decided in the light of developments during the Assembly itself.

10 Regarding the discussion of the IOC Medium-Term Strategy for 2008–2013, he reminded the Executive Council of the Overall Review of Major UNESCO Programmes II (Natural sciences) and III (Social and human sciences) and of the UNESCO Executive Board invitation to the IOC to transmit its comments on the recommendations of the Review by 31 July 2007 (176 EX/Dec.7)..

11 **The Executive Council recommended** that the Financial Committee take on the responsibility of addressing the question of the IOC response.

3.3 CONSIDERATION OF REQUESTS FOR SUPPLEMENTARY ITEMS

12 In accordance with Rules of Procedure 8, 9 and 11.2, dealing with the preparation of the Agenda for the Assembly, two requests for supplementary items were received at the Secretariat by 19 April 2007, two months before the date of the opening of the 24th Session in the follow order:

Supplementary item 1 was proposed by Italy, based on a report on IOC progress on world ocean-bottom investigation, including the Mediterranean Sea; with an accompanying document entitled "Summary report on IHO-IOC Ocean Bottom: main investigations in progress."

Supplementary item 2 was proposed by Sri Lanka on (i) the establishment of a Sri Lanka National Oceanographic Institute; (ii) the possibility of hosting an IOC Regional Office in this Institute; and (iii) the establishment of a regional mechanism/facility for the maintenance of oceanographic instruments.

13 A third supplementary item was proposed by Sudan on the inclusion of the Red Sea within the scope of the IOC Regional Committee for the Western Indian Ocean (IOCWIO), to be renamed IOC Regional Committee for the Western Indian Ocean and the Red Sea. This request, however, was transmitted to the Secretariat on 12 June, after the statutory deadline.

14 The Chairman informed the Executive Council that the Officers, at their meeting on Sunday 17 June 2007, thought that the Italian proposal could best be looked at in the context of the Assembly's consideration of the IOC Sciences Programme. He informed the Council that the document submitted by Italy had been prepared by Professor Morelli who has played a very active

role in IOC over many years; unfortunately Professor Morelli could not participate in the 24th Session of the Assembly.

15 Regarding, the Sri Lankan proposal, the Officers recognized its multiple character and considered that it should be approached step by step; it would not be appropriate for the Assembly itself to get into the detailed attention the proposal required. The Chairman therefore invited the Executive Secretary first to discuss with the Sri Lankan delegation how the IOC might be able to help in the implementation of the Sri Lankan proposal. He also suggested that the delegation discuss with other Member States present at the Assembly the experience of these Member States in similar undertakings at the national level.

16 Regarding the Sudan proposal, the Officers, while acknowledging that it was too late to include it in the Assembly Agenda, nevertheless encouraged initial preparation for the discussion of it during the Assembly outside the Agenda.

17 Tanzania suggested that the question raised by the Sudan should also be considered by the IOC Regional Committee for the India Ocean (IOCINDIO), given the intermediate geographical situation of the Red Sea, between IOCWIO and IOCINDIO.

18 The Chairman stressed the importance of ensuring no duplication of effort between the Regional Committees in this matter.

19 As per Rule of Procedure 8 (3), **the Executive Council**, having considered the list of supplementary items and the relevant documentation, **decided** that they should be dealt with as suggested by the Officers and that the revised provisional agenda and timetable of the Assembly need not be modified.

3.4 TIMETABLE

20 The Technical Secretary, Stefano Belfiore, reviewed the Provisional Revised Timetable. **The Executive Council**, taking into consideration the inclusion of supplementary items, the reporting of sessional Working Groups and Statutory Committees in plenary and scheduled invitation of speakers, **endorsed** the Provisional Revised Timetable (IOC-XXIV/1 Add.Prov.Rev.3) for the Assembly; it is annexed to the present Summary Report.

4. RECRUITMENT OF THE IOC EXECUTIVE SECRETARY

21 The Chairman informed the Executive Council that the Director-General of UNESCO extended the tour of duty of the present Executive Secretary to September 2009; however, he stressed that the Executive Council should decide whether to postpone consideration of this matter till its 42nd Session, in 2009, which might leave too little time for the necessary IOC and administrative decisions to be taken and acted upon, or to take the matter as an agenda item at its 41st Session, in June/July 2008. He invited the Executive Secretary to outline the steps required and the expended time required for this purpose. The Executive Secretary outlined the usual procedure and suggested that the process should commence in January 2009.

22 Canada suggested that, as the process of developing requirements of the position, preparing the job announcement, and reviewing the applications will take considerable time, it would be really useful to have the work descriptions and draft announcement ready for discussion at the next Executive Council.

23 The Executive Secretary informed that recruitment process allowed the use of the Executive Council at its 42nd Session (EC-XLII), preceding the 25th Session of the Assembly in 2009, as the Selection Committee following the procedures for consultations on the appointment of the Secretary IOC.

24 Given the statutory deadlines, the timeline of the process would be as follow:

December 2008	External Announcement of the Post (60days).
30 January 2009	Deadline Applications (Midnight Paris time).
1 February – 30 March 2009	<u>Pre-selection</u> Technical screening (HRM/IOC Secretariat) Selection of list of highly qualified applicants (Officers, Past Chairman, E.S. <i>ex-officio</i>).
15 March 2009	Communication of Dossiers to all Member States of IOC three months prior to the EC Session of the 15 of June.
15 June 2009	Executive Council XLII meets <i>in camera</i> to express its opinion.
16 of June - 31 September 2009	Director-General decides and appoints the Executive Secretary.
1 October 2009	Newly designated Executive Secretary assumes its duties in Paris.

25 The **Executive Council agreed** with the suggestions and **instructed** the Secretariat to include this as an agenda item for the next Executive Council, and prepare the necessary documents.

5. DATES AND PLACE OF THE FORTY-FIRST SESSION OF THE EXECUTIVE COUNCIL

26 The IOC Executive Secretary recalled the decision taken at 39th Session of the Executive Council to schedule the 41st Session: *“from Tuesday 24 June to Tuesday 1 July 2008, for a total of six working days, leaving the final decision of shortening it by one day to the IOC Officers and the Executive Secretary, taking into account the Agenda for the 41st Session of the Executive Council.”* (Report IOC/EC-XXXIX/3, para. 393). In 2009, the Executive Council will act as the Steering Committee for the 25th Session of the Assembly, meeting on the day preceding the opening of the Assembly.

6. ADOPTION OF THE SUMMARY REPORT

27 The **Executive Council adopted** the Draft Summary Report of its 40th Session.

7. CLOSURE

28 The Chairman closed the 40th Session of the Executive Council at 17.40hr on 18 June 2007.

ANNEX VII

**COMMENT OF THE IOC ON REPORT BY THE COMMITTEE
FOR THE OVERALL REVIEW OF MPS II AND II**

The Intergovernmental Oceanographic Commission

To: Director-General of UNESCO
Mr Koïchiro Matsuura
cc: Chairman of the UNESCO Executive Board
Mr Zhang Xinshen

Dear Mr Matsuura,

Thank you for the invitation to comment on the Report by the Committee for the Overall Review of MPs II and III, sent by the Deputy Director-General Mr Barbosa.

Document 176 Ex/7 was reviewed by delegates at the 24th Assembly of the IOC, and Member States were invited to provide input through the Financial Committee which was tasked with developing a response for consideration and endorsement by the Assembly.

The Assembly expressed its appreciation of the work of the Overall Review Committee and noted that the Review was timely in terms of changes that are underway within IOC. The Assembly appreciated the opportunity given to me, as Chairman, to brief the Committee on the work of IOC, and the role played by our Executive Secretary, Patricio Bernal, as one of the internal Members.

The Committee rightly identified the challenges facing UNESCO in science, particularly as science appears in the actions of many UN agencies. The IOC agrees with the Review's key finding that UNESCO has a unique role in sciences within the UN in today's world. UNESCO's comparative advantage is its potential to integrate science, education, and culture. This is a cornerstone of capacity-building and sustainable development across the world, in particular, the developing world. However it is difficult to establish leadership and a focused programme with such a broad mandate. The IOC, for its part, does provide an area where the mandate and leadership in ocean science and services is clear and we accept the responsibility for ensuring the development of a vision and a clear, targeted strategy for the future of ocean science and services, within the Natural Sciences Programme. In this respect we believe IOC is a significant asset.

The Assembly noted the Committee's conclusion on intersectoral coordination and interdisciplinary action. The IOC coordinates a small, but important part of the Natural Sciences Sector in ocean science and services. The IOC has already begun more systematic intersectoral coordination on climate, capacity-building and disaster risk-reduction and mitigation. The Assembly did express its willingness to take a leading coordinator role within the Sector where appropriate. The impacts and consequences of climate change, particularly in relation to adaptation strategies for the coastal and marine environment and the Regular Process for Global Reporting and Assessment of the State of the Marine Environment provide two instances. The IOC would consider enhanced intersectoral coordination in the areas of hazards, noting its extensive capabilities in tsunami warning and the Global Ocean Observing System, an important component of the Global Earth Observing System of Systems. Work in the area of disaster risk-reduction and mitigation and climate impacts and adaptation are by their nature interdisciplinary, enabling the natural and social sciences, education, and culture to integrate their activities for greater impact.

The IOC is proud of its record working with other intergovernmental and international science programmes. It is a cosponsor with World Meteorological Organization (WMO) and the International Council for Science (ICSU) of the World Climate Research Programme. The Joint Technical Commission on Oceanography and Marine Meteorology is "jointly" with WMO; it has collaborated with a number of governmental and international organizations in development of tsunami warning systems and it is working with UNEP, WMO, SCOR and the intergovernmental

Group on Earth Observation to develop ocean observing systems. IOC shares a number of links with SCOR (of ICSU) in science and the management of data. Leveraging funding and expertise through partnerships is fundamental to IOC strategy. The focus on climate has created opportunities within the Natural Sciences Sector for greater cooperation, and IOC has been at the forefront of this coordination. The IOC is also a lead member of UN-Oceans, the mechanism for coordination of UN organizations in ocean affairs.

At this Assembly, significant progress was made in restructuring the IOC Programme and Budget process, in line with UNESCO's own restructuring, as reflected in 34 C/4 and the draft C/5. Significant progress was made in the development of a new planning framework, one that emphasizes performance and impact, and makes more transparent the links from regular budget investment to outcomes. We believe these changes at the IOC are in line with changes already underway in UNESCO. IOC, like UNESCO, faces challenges with decentralization and regional actions. The role of our regional subsidiary bodies is being examined and there is a willingness to examine all options for making this aspect more dynamic and responsive.

The IOC agrees that greater visibility and improved outreach are important. These elements are often the casualty when resources are tight, which is precisely the time when the benefit can be greatest. Within its own community, IOC is respected but visibility in Governments varies and is certainly an area for improvement. The IOC is sometimes concerned about visibility within UNESCO and we share the challenges of making the UNESCO Science Programmes visible; one of the best routes is via impact and the more focused strategic approach should assist. The IOC would benefit from being able to share in communication strategies and outreach opportunities of UNESCO as a whole.

The Member States took note of and appreciated the comments of the Director-General (also contained in 176 EX/7). The Assembly noted the following additional specific points against some of the Recommendations.

Recommendation 1: Policy advice towards capacity-building needs strengthening.

The IOC recognizes the value of the recommendation and actions are already underway to strengthen aspects of our programme. For example, the IOC has targeted leaders of ocean science and ocean science management in its capacity-building programme, as a result of a major revitalization initiative begun two years ago.

Recommendation 2: Programmes must address new scientific paradigms and incorporate "cutting-edge" research

The IOC has been at the forefront of developing ocean data and information systems, a new paradigm for ocean sciences, and has fostered a number of cutting-edge science and technological advances (e.g., the profiling float). The Assembly believes IOC's data and information management programme and the newly endorsed IOC data management strategy will provide many opportunities for UNESCO in the area of data systems; for example, the high impact that the IOC International Oceanographic Data and Information Exchange is having in Africa.

Recommendation 5: The ISPs need better coordination and synergy.

The IOC views the recommendation as a potential opportunity. There are probably programmatic synergies with UNESCO's other science programmes that have not been identified and exploited. In the proposed UNESCO 34 C/5 the biennial sectoral priorities in the Science Sector would seem to provide opportunities for collaboration between the IOC and UNESCO's other ISPs throughout the programme cycle. The IOC encourages the Director-General to ensure that work plans provide for appropriate collaboration. The IOC's potential collaboration with UNESCO's other science programmes is an issue that should be examined within the context of the working group on "The Future of IOC". There is already an existing basis for synergy between aspects of the IOC, IHP and MAB programmes in the coastal zone, including impacts of climate change on coastal marine ecosystems that could be further enhanced through the GOOS Regional Alliances.

Recommendation 6: Outreach and partnerships need improvement.

As noted above, the IOC does face significant challenges at the national level and has been striving to improve communication. While some UNESCO National Commissions have engagement in ocean science, many others do not. Many of the Member State actions are spread through a number of government agencies and the IOC is continually facing challenges to identify the right targets for communications, particularly because of the many other indirect routes for communication via our partner intergovernmental organisations. The IOC highlights its partnerships with non-governmental organizations and several emerging partnerships with the private sector, for example in ocean observations, and the many partnerships through to end-users arising from the service role.

Recommendation 7: Rigorous and transparent selection, assessment and evaluation of programmes and projects are required.

At the 24th Assembly a new approach to strategic planning was developed which should allow better evaluation and monitoring of all programmes, and better integration with UNESCO programmes and actions. It should be recognized that in a UN world of tightening budgets and efficiency, opportunities for new dynamic programmes are rare, unless there is a transfer of resources to the receiving agency. The IOC has no choice but to be extremely selective and, wherever possible, draw on the resources of others to support actions. We accept that review and assessment can be improved and the revised planning approach should allow for a better rolling review.

Closing Remarks. The Member States took note of the closing remarks of the Committee. It is clear that the organization structure of the sectors is the prerogative of the Director-General and that, in turn, the organizational structure of the IOC Secretariat is the responsibility of the Assistant Director-General for the IOC. However, it is the Member States who are responsible for delivering, say, an ocean observing network (where the costs of gathering data are at least two orders of magnitude greater than the relevant IOC budget for coordination) and it is for the Member States to decide how they might like to bring such actions in as a programme of work within the IOC. The IOC is continually looking for improved ways to organize and arrange its work. IOC is fortunate to have a responsive and effective Secretariat in support of this work. It is, however, also a source of tension, since the push to remain relevant, both in terms of policy and the leading edge of science, demands more of the Secretariat than is possible under current resource scenarios.

The four High-Level Objectives of the IOC's Medium-Term Strategy 2008–2013 have an essential role in supporting UNESCO's mission:

- Prevention and reduction of the impacts of natural hazards
- Mitigation of the impacts and adaptation to climate change and variability
- Safeguarding the health of oceans ecosystems
- Management procedures and policies leading to the sustainability of coastal and ocean environment and resources.

Given the urgency of the recommendations outlined in the Report of the Review Panel, we are looking forward to your regular updates regarding implementation of the specific recommendations.

Paris, 28 June 2007

ANNEX VIII

REPORT OF THE CHAIRMAN OF THE RESOLUTIONS COMMITTEE

Mr Geoff Holland (Canada)

Mr Chairman, the Resolutions Committee has carried out its task of examining the Draft Resolutions that have been prepared at this Assembly. I would like to thank the delegates of Member States that assisted in the work of the Committee and the members of the Secretariat and authors of the Resolutions who also attended to help us in our deliberations. Ms Aurora Mateos took care of the Committee's needs and many demands, and deserves especial praise.

I appreciated the effort by the Executive Secretary and his staff in preparing a new draft Revised Guidelines document IOC-XXIV/2 Annex 12 for the preparation of Draft Resolutions and I will return to this document later. Firstly I would like to comment on the Draft Resolutions that were presented.

The relative shortness of the 24th Assembly caused the Resolutions Committee some unique problems. There were more sessional groups meeting every day than usual and delegates had to choose between the demands of their delegation and their responsibilities to the Resolutions Committee. The result was that at this Assembly the numbers of delegates regularly attending the meetings of our Committee to look at draft resolutions were fewer. Especially lacking was full representation of the range of our official languages. Although the work of the Resolutions Committee is carried out almost entirely in the English language, when the DRs arrive back from the translators and are presented to plenary, it is useful to have delegates that have been present during the discussions on adjustments to the language, so that we can be sure that the rationale for those changes has been carried through to the translated documents. Again time constraints did not allow the Committee to review DRs after they had been to translation; in fact, of the fifteen Draft Resolutions that were considered, half arrived towards the end of the Saturday afternoon session. The governing bodies of our Commission should possibly adjust the deadline for DRs so that the time to prepare them for translation is at least reasonable.

I shall give the Assembly some comments on the DRs received and many of these you will have heard before. Firstly the duties of the Resolutions Committee are straightforward. Each DR is examined to see firstly whether it is admissible, then whether the content is accurate. In cases where substance is unclear the DR is returned to the authors for reconsideration. Of course the Resolutions Committee has no mandate to alter matters of substance. Sometimes the DR is examined before the respective plenary discussion on that item, a circumstance that has happened more often in recent years. Any adjustments due to the subsequent debate may need to be completed in plenary. Wherever possible the Resolutions Committee verifies the references to any quoted past decisions and Resolutions. Grammar is corrected for clarity rather than style, and the format may be adjusted where necessary to be more easily read and understood.

A Resolution represents the decision of the Assembly and each should be self-contained, but as succinct as possible. Too often the amount of detail presented in DRs, especially in the preparatory paragraphs, is excessive and can obscure the message that the authors are trying to convey.

The DR from the African Member States did not arrive until after the deadline for the acceptance of DRs. It is up to plenary to decide whether to accept a late DR; in this case, despite the lateness, the Resolutions Committee reviewed the DR and submitted it for translation. Our Committee did not however have the time to check the accuracy of the many references to past Resolutions and the authors were unavailable during Saturday evening to assist in this regard.

One of the most difficult problems we have is dealing with the reports of subsidiary bodies and the Resolutions and Recommendations contained in them. It should be clear that each

subsidiary body has the ability to carry out activities and to function within the terms of its mandate; these should be the Resolutions in their report. Actions that exceed those terms or require approval by the IOC should come to the Assembly or Executive Council as Recommendations. The Resolutions Committee has suggested wording defining the meaning of Resolutions and Recommendations of subsidiary bodies and these can be added to our Draft Guidelines document to assist in this regard. When dealing with the reports of subsidiary bodies, the DR should use the format "**Having considered** the report and the Recommendations therein..." followed by the operative paragraphs outlining the necessary actions and decisions by our governing body.

In the draft guidelines, the Committee felt that the restriction imposed by requiring a Member State from each geographical group to sponsor a DR is too rigid and unnecessary. Any Member State should have the right to submit a DR for consideration by a governing body. It must refer to the business on the agenda and will only be successful if supported in plenary. There would seem little chance that such a relaxation of the rule would lead to an inflow of unnecessary DRs. The Committee also felt that the IOC has long used the operative verb "**Instructs**", when referring actions to our Executive Secretary and feels that such a practice can continue. However in many cases such specific instructions can be avoided by making the operative verb a decision by the Governing Body, which then naturally have to be carried out by the Executive Secretary in the performance of his managerial duties. It may be also helpful to include a glossary of terms in our guidelines. Finally, I would ask that a decision be placed in the Summary Report of this Assembly requesting Member States to review the new Draft Guidelines and submit their comments to the Executive Secretary for the preparation of a final document that could be adopted at the next Executive Council.

That concludes my report Mr. Chairman and I would of course be willing to provide any additional clarification that may be necessary.

ANNEX IX

LIST OF DOCUMENTS

Document Code	Title	Agenda Items	Languages available
WORKING DOCUMENTS			
IOC-XXIV/1 Prov. Rev.2	Second Revised Provisional Agenda	2.1	E only
IOC-XXIV/1 Add. Prov. Rev.3	Third Revised Provisional Timetable	2.4	E only
IOC-XXIV/2	Action Paper	2.4	E F R S
IOC-XXIV/2 Annex 1	Chairman's Report to the 24th Assembly of the Intergovernmental Oceanographic Commission of UNESCO	3.1	E F R S
IOC-XXIV/2 Annex 2	The Future of IOC – A Proposal by the Officers to the Member States, June 2007	3.1	E F R S
IOC-XXIV/2 Annex 3	Report by the IOC Executive Secretary on Programme Implementation	3.2	E F R S
IOC-XXIV/2 Annex 3 Add.1	SISTER Follow-up Qualitative Report for the IOC	3.2	E only
IOC-XXIV/2 Annex 3 Add.2	Implementation of IOC Governing Bodies' Resolutions	3.2	E only
IOC-XXIV/2 Annex 4, Parts 1-2	Progress Report on Budget Execution (2006) and Anticipated Funding for 2007	3.2	E F R S
IOC-XXIV/2 Annex 4, Part 3	Update for the Period 1 January–31 May 2007	3.2	E only
IOC-XXIV/2 Annex 5	IOC Draft Medium-Term Strategy, 2008–2013	4.1.2	E F R S
IOC-XXIV/2 Annex 5 Add.1	IOC Required Staff Allocation to Fulfil the Objectives of the Medium-Term Strategy 2008–2013	4.1.2	E only
IOC-XXIV/2 Annex 6	Perspective of the Ocean Sciences Section Programme in Light of the Draft IOC Medium-Term Strategy	4.2.1	E F R S
IOC-XXIV/2 Annex 7	IOC Strategic Plan for Oceanographic Data and Information Management	4.3.6	E F R S
IOC-XXIV/2 Annex 8	Report of the Intersessional Working Group on Regional Programmes and the Role of IOC Regional Subsidiary Bodies	4.5.2	E F R S
IOC-XXIV/2 Annex 9	Report of the Head of the IOC Tsunami Unit	4.7.1	E F R S
IOC-XXIV/2 Annex 10	Draft Framework Document of the ad hoc Working Group for Global Tsunami and Other Ocean-related Hazards Early Warning System (GOHWMS)	4.7.2	E F R S
IOC-XXIV/2 Annex 11	Draft IOC Programme and Budget 2008–2009	5.1	E F R S
IOC-XXIV/2 Annex 12	Draft Revised Guidelines for the Preparation and Consideration of Draft Resolutions	6	E F R S
IOC-XXIV/3 Prov.	Draft Summary Report (5 parts were issued during the Session)	6	E F R S *
IOC-XXIV/4 Prov.	Provisional List of Documents	2.4	E F R S
IOC-XXIV/5 Prov.	Provisional List of Participants (to be issued during the Session)	--	E/F/S *

Document Code	Title	Agenda Items	Languages available
IOC-XXIV/6	Draft Report of the Intergovernmental Oceanographic Commission on its Activities, 2005–2006	3.3	E F R S
REPORTS OF IOC AND COOPERATIVE BODIES REQUIRING ACTION			
IOC-XXIII/3	Report of the Twenty-third Session of the IOC Assembly, Paris, 21–30 June 2005	2.1	E F R S
IOC/EC-XXXIX/3	Report of the 39th Session of the IOC Executive Council, Paris, 21–28 June 2006	2.1	E F R S
IOC/EC-XL/3 prov.	Provisional Summary Report of the 40th Session of the IOC Executive Council, Paris, 18 June 2007	2.1 & 5.3	E F R S *
IOC Annual Report No. 13	IOC Annual report, 2006	3.2	E only
IOC Annual Report No. 12	IOC Annual Report, 2005	3.2	E only***
IOC/IPHAB-VIII/3s	Executive Summary of the Eighth Session of the IOC Intergovernmental Panel on Harmful Algal Blooms, Paris, 17–20 April 2007	4.2.2	E, F, R, S
IOC-WMO-ICSU/I-GOOS-VIII/3s	Executive Summary of the Eighth Session of the Intergovernmental Committee for the Global Ocean Observing System, Paris, 13–16 June 2007	4.3.1	E F R S *
IOC/IODE-XIX/3	Report of the Nineteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Trieste, Italy, 12–16 March 2007	4.3.5	E [Ex. Sum. in F, R, S]
IOC/ABE-LOS VII/3	Report of the Seventh Meeting of the IOC Advisory Body of Experts on the Law of the Sea, Libreville, Gabon, 19–23 March 2007	4.6.1	E/F
ICG/IOTWS-III/3	Report of the Third Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS-III), Bali, Indonesia, 30 July–2 August 2006	4.7.3	E [Ex. Sum. in F, R, S]
ICG/IOTWS-IV/3	Report of the Fourth Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS-IV), Mombassa, Kenya, 30 February–2 March 2007	4.7.3	E [Ex. Sum. in F, R, S]
ICG/NEAMTWS-III/3	Report of the 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 (ICG/NEAMTWS-III), Bonn, Germany, 7–9 February 2007	4.7.4	E [Ex. Sum. in F, R, S]
ICG/CARIBE-EWS II/3	Report of the Second 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-II), Cumaná, Venezuela, 12–14 March 2007	4.7.5	E [Ex. Sum. in F, R and S]

Document Code	Title	Agenda Items	Languages available
INFORMATION AND OTHER REFERENCE DOCUMENTS			
IOC-XXIV/Inf.1	Presentation and Abstracts of A. Bruun and N.K. Panikkar Memorial Lectures, 2007	2.5	E only
176 EX/7	Report by the Director-General on the Conclusions and Recommendations of the Expert Team on the Overall Review of Major Programmes II and III	3.1	E F R S
IOC-XXIII/2 Annex 8	"We have a Problem"	3.1	E F R S
DG/2007/024	UNESCO Director-General's Speech on the UN Reform	3.2	E only
IOC/INF-1242	Compilation of Relevant UN References Related to the Work of IOC (2004–2007)	3.2	E only
United Nations Document A/61/583	Delivering as One – Report of the High-Level Panel on UN System-wide Coherence in the Areas of Development, Humanitarian Assistance and Environment	3 & 4.5	E F R S
United Nations Document A/61/GRAME/AHSG/1	Report of the First 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	4.1.1	E only
United Nations Document GRAME/GOE/1	Report of the First Meeting of the Group of Experts for the Start-up Phase, Assessment of Assessments of the Regular Process for the Global Reporting and Assessment of the State of the Marine Environment, including Socio-Economic Aspects	4.1.1	E only
United Nations Document A/RES/61/222	UNGA Resolution on Oceans and Law of the Sea, December 2006	4.1.1	E F R S
United Nations Document A/RES/57/141	UNGA Resolution on Oceans and the Law of the Sea, February 2003	4.1.1	E F R S
UNEP/UNESCO-IOC/UNEP-WCMC (2007)	Global Marine Assessments: a Survey of Global and Regional Assessments and Related Activities of the Marine Environment	4.1.1	E only
Draft 34 C/4	Draft Medium-Term Strategy, 2008–2013 of UNESCO	4.1.2	E F R S
IOC-XXIV/Inf.2	Compilation of IOC-related Texts from the Draft Medium-Term Strategy, 2008–2013 of UNESCO (Draft 34 C/4)	4.1.2	E only
IOC/INF-1192	IOC Draft Medium-Term Strategy, 2004–2007	4.1.2	E/F/R/S
WMO/TD – No. 1364	The scope of science for the International Polar Year 2007–2008	4.1.4	E only
IOC/INF-1235	Report of the First Meeting of the Advisory Group for the IOC Ocean Sciences Section (OSS), Paris, 9–10 November 2005	4.2.1	E only
IOC/INF-1234	Future Path of the World Climate Research Programme, Relevance to IOC, and the Proposed WCRP, Budget and Extrabudgetary Resources Sought for 2008–2009	4.2.3	E only

Document Code	Title	Agenda Items	Languages available
IOC-WMO-UNEP/I-GOOS Board-II/3 (GOOS Report 156)	Report of the Second Meeting of the Executive Board of the IOC-WMO-UNEP Intergovernmental Committee for the Global Ocean Observing System, Cape Town, South Africa, 18 November 2006	4.3.1	E only
IOC-WMO-UNEP-ICSU/GSC-VIII/3 (GOOS Report 144)	Report of the Eighth Session of the IOC-WMO-UNEP-ICSU Steering Committee of the Global Ocean Observing System (Melbourne, Australia, 21–23 February 2005)	4.3.1 & 4.3.2	E only
IOC/EC-XXXIX/2 Annex 6	A Proposal to Establish a GOOS-GTOS Joint Panel for Integrated Coastal Observations	4.3.2	E F R S
IOC/INF-1183 (GOOS Report 125)	The Integrated Strategic Design Plan for the Coastal Ocean Observations Module of GOOS	4.3.2	E (Ex. Sum. In F R S)
IOC/INF-1217 (GOOS Report 148)	An implementation Strategy for the Coastal Module of the Global Ocean Observing System	4.3.2	E (Ex. Sum. In F R S)
IOC-WMO-UNEP/I-GOOS-VII/3 (GOOS Report 145)	Report of the Seventh Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System (I-GOOS), Including the Report of the First Extraordinary Session (Paris, 4–7 April 2005)	4.3.2	E (Ex. Sum. In F R S)
IOC-WMO-UNEP-ICSU/GSSC-IX/3 (GOOS Report 151)	Report of the Ninth Session of the IOC-WMO-UNEP-ICSU Scientific Steering Committee of the Global Ocean Observing System (Paris, 6–8 March 2006)	4.3.2	E only
IOC/INF-1220	A Coastal Theme for IGOS Partnership —For the Monitoring of our Environment from Space and from Earth	4.3.2	E only
IOC-WMO/JCOMM-II/3 (<i>Abridged final report</i>)	Summary Report of the Second Session of the Joint IOC-WMO Technical Commission for Oceanography and Marine Meteorology (JCOMM-II, Halifax, Canada, 15–25 September 2005)	4.3.3	E F S R
IOC/INF-1238	Future Development of the Global Climate Observing System	4.3.4	E only
IOC/INF-1236	Improving the IOC's Performance Management System: IODE Reporting as a Pilot Project	4.3.5 & 3.2	E only
IOC/INF-1211	IOC Principles and Strategy for Capacity-Building	4.4.1	E only
IOC/INF-1212	Implementation Plan for IOC Capacity-Building	4.4.1	E only
IOC/INF-1229	Report on the activities of the Capacity-Building Section, June 2005–April 2006	4.4.1	E only**
IOC/INF-1241 Prov.	Rules of Procedure Applying to IOC Subsidiary Bodies (Draft)	4.5	E only
IOC/INF-1239	Report of the Intersessional Working Group on Regional Programmes and the Role of IOC Regional Subsidiary Bodies	4.5.2	E only
IOC/EC-XXXVII/2 Annex 12	Concept Paper on the Modalities of Implementation of IOC Programmes in Regions, 2004	4.5.2	E F R S

Document Code	Title	Agenda Items	Languages available
IOC-XXIII/2 Annex 5	Enhancing the Effectiveness of Regional Cooperation in Marine Science and Technology and the Role of the IOC Regional Subsidiary Bodies, 2005	4.5.2	E F R S
United Nations document A/RES/61/132	UNGA Resolution on Strengthening Emergency Relief, Rehabilitation, Reconstruction and Prevention in the Aftermath of the Indian Ocean Tsunami Disaster	4.7.1	E only
IOC/INF-1237	Improving the IOC's Performance Management System: Tsunami Reporting as a Pilot Project	4.7.1 & 3.2	E only
CTBT/PC-24/1/Annex I	Decision on Possible Contribution of the CTBTO Preparatory Commission to a Tsunami Warning System	4.7.1	E only
IOC Technical Series 71 (<i>updated online</i>)	Indian Ocean Tsunami Warning and Mitigation System, IOTWS. Implementation Plan, March 2007	4.7.3	E only
IOC Technical Series 73 (<i>updated online</i>)	Implementation Plan for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas (NEAMTWS), 2007–2011	4.7.4	E only
ICG/CARIBE-EWS II/11	Communications Plan for the Interim Tsunami Advisory Information Service to the Caribbean Sea and Adjacent Regions	4.7.5	E only
Draft 34 C/5	Draft Programme and Budget, 2008–2009 of UNESCO	5.1	E F R S
IOC-XXIV/Inf.3	IOC Financial Regulations [157 EX/Decision 3.3.1; 1999]	5.1	E/F/R/S
IOC-XXIV/Inf.4	Compilation of IOC-related Texts from the 34th Draft Programme and budget, 2008–2009 (Draft 34 C/5)	5.1	E only
IOC-XXIV/Nom/WP.1	Updated Listing for the Elections	5.2	E only
IOC-XXIV/Nom/WP.2	List of Candidates for Election	5.2	E only
IOC-XXIV/Nom/WP.3	Chairman of the Nominations Committee's Report —Results of the Elections	5.2	E only

ANNEX X

LIST OF PARTICIPANTS

**I. OFFICERS OF THE
COMMISSION/BUREAU DE LA COI/
MESA DE LA COI**

Tel: 54 15 5113 9820
Fax: 54 11 4312 7203
E-mail: javieravalladares@yahoo.com

Chairperson

Vice-Chairperson

Prof. David T. PUGH
Marine Science Adviser
3, Deeside Court, Dee Hills Park
Chester CH3 5AU
UNITED KINGDOM
Tel: 44 1244 346 454
E-mail: d.pugh@mac.com

Dr Neville SMITH
Chief of Division
Bureau of Meteorology Research Centre
700, Collins St. Melbourne
G.P.O. Box 1289, Melbourne 3001
AUSTRALIA
Tel: 61 3 9669 4444
Fax: 61 3 9669 4660
E-mail: n.smith@bom.gov.au; csr@bom.gov.au

Vice-Chairperson

Vice-Chairperson

Prof. Mário RUIVO
Chairman, Portuguese Committee for IOC
Av. Infante Santo – 42/4th Floor
Lisbon 1350
PORTUGAL
Tel: 351 21 390 43 30
Fax: 351 21 395 22 12
E-mail: cointersec.presid@fct.mces.pt

Dr Alfonse M. DUBI
Director & Senior Research Fellow
University of Dar es Salaam
Institute of Marine Sciences
P.O. Box 668, Zanzibar
TANZANIA
Tel: 255 24 223 0741
E-mail: dubi@ims.udsm.ac.tz

Vice-Chairperson

Former Chairperson

Dr Alexander V. FROLOV
Deputy-Head
Federal Service for Hydrometeorology &
Environmental Monitoring (Roshydromet)
12, Novovagan'kovsky St.
123995, Moscow
RUSSIAN FEDERATION
Tel: 7 495 252 03 13
Fax: 7 495 255 22 69
E-mail: afrolov@mecom.ru

Prof. SU Ji-lan
Advisor to the Administrator
Second Institute of Oceanography
State Oceanic Administration
P.O. Box 1207, Hang Zhou
Zhejiang 310012
CHINA
Tel: 86 10 884 03 32
Fax: 86 10 807 15 39
E-mail: sujil@zgb.com.cn

Vice-Chairperson

Javier Armando VALLADARES
Capitán de navío
Licenciado en Oceanografía Física
Asesor Científico en Ciencias del Mar
Dirección de Relations Internacionales
Secretaría de Ciencias, Tecnología e
Innovación Productiva
Av. Córdoba 831 4to. Piso
(C1054AAH) Buenos Aires
ARGENTINA

II. PARTICIPANTS FROM MEMBER STATES/PARTICIPANTS DES ETATS MEMBRES/PARTICIPANTES DE LOS ESTADOS MIEMBROS

Afghanistan/Afghanistan/Afganistán
Not Represented

Albania/Albanie/Albanía

Head of Delegation

H.E. Ms Tatiana GJONAJ
Ambassador & Permanent Delegate
Permanent Delegation of Albania
to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 32 40
Fax: 33 1 45 66 63 71
E-mail: dl.albanie@unesco.org

Alternate

Ms Avenilda DOKO
Third Secretary
Permanent Delegation of Albania
to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 32 44
Fax: 33 1 45 66 63 71
E-mail: dl.albanie@unesco.org

Algeria/Algérie/Argelia

Head of Delegation

Mrs Farida AKHDACHE
Advisor, Permanent Delegation of Algeria
to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 30 06
Fax: 33 1 42 19 09 56
E-mail: dl.algerie@unesco.org

Angola/Angola/Angola

Head of Delegation

H.E. Mr Almerindo JAKA JAMBA
Ambassador & Permanent Delegate to
UNESCO
1, rue Miollis
75015 Paris
FRANCE

Tel: 33 1 45 68 29 76
Fax: 33 1 45 67 57 48
E-mail: dl.angola@unesco.org

Alternates

Mr Rolando Felicidades Jesús NETO
Ministerial Advisor
Permanent Delegation of Angola to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 29 75
Fax: 33 1 45 67 57 48
E-mail: rj.neto@unesco.org

Mrs Luzitu Lukombo PETERSON GALA
Third Secretary
Permanent Delegation of Angola to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 30 11
Fax: 33 1 45 67 57 48
E-mail: ll.peterson-gala@unesco.org

Argentina/Argentine/Argentina

Head of Delegation

Capt. Javier Armando VALLADARES
Licenciado en Oceanografía Física
Asesor Científico en Ciencias del Mar
Dirección de Relations Internacionales
Secretaría de Ciencias, Tecnología e Innovación
Productiva
Av. Córdoba 831 4to. Piso
(C1054AAH) Buenos Aires
Tel: 54 15 5113 9820
Fax: 54 11 4312 7203
E-mail: javieravalladares@yahoo.com
(Also IOC Vice-Chairperson)

Alternate

Capt. Ariel Hernan TROISI
Director, National Oceanographic Data Centre
Navy Hydrographic Service
Av. Montes de Oca 2124
C1270ABV Buenos Aires
Tel/Fax: 54 11 4303 2240
E-mail: atroisi@hidro.gov.ar

Representatives

Mr Ariel Walter GONZALEZ
Consejería Legal
Ministerio de Relaciones Exteriores, Comercio
Internacional y Culto
Esmeralda 1212 – Piso 15^o

C1007ABR Buenos Aires
Tel: 54 11 4819 8008/8012
Fax: 54 11 4819 8009
E-mail: awg@mrecic.gov.ar

Mr Miguel Angel HILDMANN
Minister & Deputy Permanent Delegate
Permanent Delegation of Argentina to
UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 34 36
Fax: 33 1 43 06 60 35
E-mail: ma.hildmann@unesco.org

Mr José Luís FERNÁNDEZ VALONI
First Secretary
Permanent Delegation of Argentina
to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 34 37/38
Fax: 33 1 43 06 60 35
E-mail: jl.fernandez@unesco.org

Australia/Australie/Australia

Head of Delegation

Dr Neville SMITH
Chief of Division
Bureau of Meteorology Research Centre
700, Collins St. Melbourne
G.P.O. Box 1289, Melbourne 3001
Tel: 61 3 9669 4444
Fax: 61 3 9669 4660
E-mail: n.smith@bom.gov.au;
csr@bom.gov.au
(Also IOC Vice Chairperson)

Alternate

Dr Peter DEXTER
Section Head
Oceanographic Services Section
Bureau of Meteorology
G.P.O. Box 1289 Melbourne, VIC 3001
700, Collins St., Docklands, VIC 3008
Tel: 61 3 9669 4870
Fax: 61 3 9669 4695
E-mail: p.dexter@bom.gov.au
(Also Co-President JCOMM)

Representative

Mr Greg REED
Executive Officer
Australian Ocean Data Centre Joint Facility
Dept. of Defence, Australian Govt.
Maritime Headquarters
Wylde St., Potts Point NSW 2011
Tel: 61 2 9359 3141
Fax: 61 2 9359 3120
E-mail: greg@aodc.gov.au
(Also Co-Chairperson IODE)

Adviser

Ms Anne SIWICKI
Permanent Delegation of Australia to UNESCO
Australian Embassy
4, rue Jean Rey
75015 Paris
FRANCE
Tel: 33 1 40 59 33 44
Fax: 33 1 40 59 33 53
E-mail: anne.siwicki@dfat.gov.au

Austria/Autriche/Austria

Head of Delegation

H.E. Mr Harald WIESNER
Ambassador & Permanent Delegate
Permanent Delegation of Austria to UNESCO
1, rue Miollis
Paris 75015
FRANCE
Tel: 33 1 45 6834 57
Fax: 33 1 47 83 26 25
E-mail: harald.weisner@bmcia.gv.at

Azerbaijan/Azerbaidjan/Azerbaiyán

Not Represented

Bahamas/Bahamas/Bahamas

Not Represented

Bangladesh/Bangladesh/Bangladesh

Head of Delegation

Mr Faisal AHMED
Adviser, Embassy of the People's Republic of
Bangladesh
39, rue Erlanger
Paris 75016
FRANCE
Tel: 33 1 46 51 90 33/46 26 32 08
Fax: 33 1 46 51 90 35
E-mail: faisal20992002@yahoo.com

Barbados/Barbade/Barbados

Head of Delegation

Ms Lorna Veronica INNIS
Deputy-Director
Coastal Zone Management Unit
Bay St., St. Michael, Barbados
Tel: 1 246 228 5950
Fax: 1 246 228 5956
E-mail: linniss@coastal.gov.bb
(Also IOCARIBE Vice-chairperson)

Belgium/Belgique/Bélgica

Head of Delegation

Dr Rudy L. HERMAN
Senior Researcher
IOC/UNESCO Representative for Belgium
Member of Flanders UNESCO Commission
Dept. of Economy, Science & Innovation
Policy Support & Academic Policy
Koning Albert II-laan 35 bus 10
B-1030 Brussels
Tel: 32 2 553 60 01
Fax: 32 2 553 60 07
E-mail: rudyl.herman@ewi.vlaanderen.be

Representative

Mr David COX
Research Programmes Dept. – North Sea
Rue de la Science, 8, Wetenschapsstraat, 8
B-1000 Brussels
Tel: 32 2 238 34 03
Fax: 32 2 230 59 12
E-mail: david.cox@belspo.be

Belize/Bélize/Belize

Head of Delegation

Mrs Mireille CAILBAULT
Permanent Delegation of Belize to UNESCO
1, rue Miollis
Paris 75015
FRANCE
Tel: 33 1 45 68 32 11
Fax: 33 1 47 20 18 74
E-mail: dl.belize@unesco.org

Benin/Bénin/Benin

Not Represented

Brazil/Brésil/Brasil

Head of Delegation

Mr Paulo Roberto FRANCA
Deputy Permanent Delegate
Permanent Delegation of Brazil to UNESCO
1, rue Miollis
Paris 75015
FRANCE
Tel: 33 1 45 68 28 85
Fax: 33 1 47 83 28 40
E-mail: p.franca@unesco.org

Alternate

Vice-Admiral Lawrence Mariath DANTAS
Director, Brazilian Navy
Directorate of Hydrography & Navigation
Rua Barão de Jaceguai, s/n
Ponta da Armação – Niteroi – RJ
ZC: 24.048-900
Tel: 55 21 2189 3001/3003
Fax: 55 21 2189 3063
E-mail: lawrence@dhn.mar.mil.br

Representatives

Mr Ademilson ZAMBONI
Programme Manager
Ministry of Environment
Esplanada dos Ministerios
Bl. B – Sala 831
70.067.900 – Brasilia DF
Tel: 55 61 4009 1025
Fax: 55 61 4009 1761
E-mail: ademilson-zamboni@mma.gov.br

Mr João Luiz NICOLodi
Geografa, Gerenciamento Costeiro e Marinho
Ministerio do Meio Ambiente
Secretaria de Qualidade Ambiental
Esplanada dos Ministerios
Bloco B – Sala 833, CEP 70068-900
Brasilia DF
Tel: 55 61 4009 1160
Fax: 55 61 4009 1766
E-mail: joao.nicolodi@mma.gov.br

Advisers

Ms Janice Romaguera TROTTE
Adviser for International Relations
Directorate of Hydrography & Navigation
Brazilian Navy
Rua Barão de Jaceguai, s/nº
Niteroi – Rio de Janeiro 24.048.900
Tel: 55 21 2189 3013
Fax: 55 21 2189 3088
E-mail: janice.trotte@terra.com.br;
Janice@dhn.mar.mil.br

Ms Daniela BENJAMIN
First Secretary
Permanent Delegation of Brazil to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 28 88
Fax: 33 1 47 83 28 40
E-mail: d.benjamin@unesco.org

Bulgarie/Bulgarie/Bulgaria

Head of Delegation

H.E. Ms Irina BOKOVA
Ambassador & Permanent Delegate
Permanent Delegation of Bulgaria to UNESCO
1, rue Miollis
Paris 75015
FRANCE
Tel: 33 1 45 68 29 12
Fax: 33 1 47 83 34 52
E-mail: dl.rep.bulgarie@unesco.org

Ms Vesselina IVANOVA
Deputy Permanent Delegate
Permanent Delegation of Bulgaria to UNESCO
1, rue Miollis
Paris 75015
FRANCE
Tel: 33 1 45 68 29 12
Fax: 33 1 47 83 34 52
E-mail: dl.rep.bulgarie@unesco.org

Ms Svezlana MANOILOVA
Attaché, Permanent Delegation of Bulgaria to UNESCO
1, rue Miollis
Paris 75015
FRANCE
Tel: 33 1 45 68 33 99
Fax: 33 1 47 83 34 52
E-mail: dl.rep.bulgarie@unesco.org

Cameroon/Cameroun/Camerún

Head of Delegation

Dr Thomas DONGMO
Maître de Recherche
Chef de la Division de la Coopération
Scientifique et Technique
B.P 1457
Yaoundé
Tel: 237 222 24 76/223 85 77
E-mail: dongmothomas@hotmail.com

Canada

Head of Delegation

Dr Savithri (Savi) NARAYANAN
Dominion Hydrographer/Director-General
Ocean Sciences-Canadian Hydrographic
Service
Fisheries & Oceans
615, Booth St., Suite 311
Ottawa, Ontario, K1A OE6
Tel: 1 613 995 4413
Fax: 1 613 947 4369
E-mail: narayanans@dfo-mpo.gc.ca

Representatives

Mr Michel R. MITCHELL
Manager, Ocean Sciences Division
Bedford Institute of Oceanography
1, Challenger Drive
P.O. Box 1006, Dartmouth
Nova Scotia B2Y 4A2
Tel: 1 902 426 8366
Fax: 1 902 426 5153
E-mail: mitchellmr@mar.dfo-mpo.gc.ca

Mr Val SWAIL
Manager, Climate Data & Analysis Environment
Canada
4905 Dufferin St., Downsview
Ontario M5H 5T4
Tel: 1 416 739 4347
Fax: 1 416 739 5700
E-mail: val.swail@ec.gc.ca

Advisers

Mr Geoffrey L. HOLLAND
2WE Associates Consulting Ltd.
1267, Gabriola Drive
Parksville BC V8P 2T5
Tel: 1 250 954 1343
E-mail: hollandg@2weassociates.com
(Also Chairperson of the sessional Resolutions Committee)

Ms Dominique LEVASSEUR
Senior Programme Officer
Permanent Delegation of Canada to UNESCO
5, rue de Constantine
Paris 75007
FRANCE
Tel: 33 1 44 43 25 73
Fax: 33 1 44 43 25 79
E-mail: Dominique.levasseur@international.gc.ca

Cape Verde/Cap Vert/Cabo Verde
Not Represented

Chile/Chili/Chile

Head of Delegation

Capt. Jorge L. Ibarra RODRIGUEZ
Director, Hydrographic & Oceanographic
Service of the Chilean Navy
Errazuriz 254, Playa Ancha
P.O. Box 237-0168, Valparaíso
Tel: 56 32 26 65 55
Fax: 56 32 26 65 42
E-mail: jbarra@shoa.cl

Alternate

Capt. Andres ENRIQUEZ
Jefe, Departamento de Oceanografía
Servicio Hidrográfico y Oceanográfico de la
Armada de Chile
Errazuriz 254, Playa Ancha
CP 237-0168 Valparaíso
Tel: 56 32 22 66 540
Fax: 56 32 22 66 542
E-mail: aenriquez@shoa.cl

China/Chine/China

Head of Delegation

Dr LI Haiqing
Director-General
Dept. of International Cooperation
State Oceanic Administration
1, Fuxingmenwai Ave.
Beijing 100860
Tel: 86 10 6804 2695
Fax: 86 10 6804 8051
E-mail: hqli@soa.gov.cn
(Also Vice-Chairperson WESTPAC)

Representatives

Mrs Shao Hua LIN
Director, National Marine Data & Information
Services
93 Tianjin City Rd., Liu Wei Rd.
(P.O. Box 74)
Hedong District
300171 Tainjin
Tel: 86 22 2401 0803
Fax: 86 10 240 10926
E-mail: shlin@mail.nmdis.gov.cn
(also Vice-Chairperson I-GOOS)

Ms Lin GAO
Programme Officer
Dept. of Marine Environmental Protection
State Oceanic Administration
1, Fuxingmenwai Ave.
Beijing 100860

Tel: 86 10 68047637
Fax: 86 10 68047644
E-mail: gb@soa.gov.cn

Mr Hongmei XIN
Deputy Division Chief
Dept. of Science & Technology
State Oceanic Administration
1, Fuxingmenwai Ave.
Beijing 100860
Tel: 86 10 6804 7669
Fax: 86 10 6803 0799/6804 7664
E-mail: hmxin@soa.gov.cn

Mr Ya Feng YANG
Programme Officer
Division of International Organizations
Dept. of International Cooperation
State Oceanic Administration
1, Fuxingmenwai Ave.
Beijing 100860
Tel: 86 10 68048051
Fax: 86 22 68048051/10 6803 0799
E-mail: yvf@soa.gov.cn

Mr Fujiang YU
Deputy-Director/Professor
National Marine Environmental Forecasting
Centre
Dept. of Marine Environment Forecast
Dahuisi 8, Haidan District
Beijing 100081
Tel: 86 10 6217 3615
Cell: 86 13 3660 77787
Fax: 86 10 6217 3620
E-mail: yufj@nmefc.gov.cn

Dr Fangli QIAO
Research Prof. of Physical Oceanography
Deputy-Director, First Institute of Oceanography
Director, Key Lab. of Marine Science &
Numerical Modelling
State Oceanic Administration
6, Xianxialing Rd.
Qingdao 266061
Tel: 86 532 8896 7400/0055
Fax: 86 532 8896 7400/5544
E-mail: qiaofl@fio.org.cn

Mr Chen ZHI
Director, Office of Science & Technology
National Marine Environmental Forecasting
Centre
Dahuisi 8, Haidan District
Beijing 100081
Tel: 86 10 6217 3598
Fax: 86 10 6217 3620
E-mail: chenzhi@nmefc.gov.cn

Dr Xueen Chen
Institute of Oceanography
Ocean University of China
100, Songling Rd., Qingdao 266100
Tel: 86 532 820 32853
Fax: 86 532 820 32070
Email: xchen@mail.ouc.edu.cn

Adviser

Prof. SU Ji-lan
Adviser to the Administrator
Second Institute of Oceanography
State Oceanic Administration
P.O. Box 1207, Hangzhou
Zhejiang 310012
Tel: 86 571 8884 0332
Fax: 82 571 8807 1539
E-mail: sujil@zqb.com.cn
(Former IOC Chair)

Colombia/Colombie/Colombia

Head of Delegation

Capt. Julián Augusto REYNA MORENO
Secretario Ejecutivo
Comisión Colombiana del Oceano
Transversal 41, No. 27-50 Piso 4º - CAN
Bogotá, DC
Tel: 57 1 222 04 21/36/49
Fax: 57 1 222 04 16
E-mail: seco@cco.gov.co

Alternate

H.E. Mr Luís Guillermo ANGEL CORNEA
Ambassador & Permanent Delegate
Permanent Delegation of Colombia to
UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 28 71
Fax: 33 1 43 06 66 09
E-mail: dl.colombie@unesco.org

Adviser

Ms Ana Cecelia MANNIQUE
Permanent Delegation of Colombia to
UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 28 71
Fax: 33 1 43 06 66 09
E-mail: ac.mannique@unesco.org

Comoros/Comores/Comoras

Not Represented

Congo/Congo/Congo

Head of Delegation

Mr Armand Joseph KOKOLO
Ministère des Transports Maritimes et de la
Marine Marchande
B.P. 15000, Brazzaville
Fax: 33 1 48 58 68 91
E-mail: arikokolo@yahoo.fr

Cook Islands/Iles Cook/Isias Cook

Not Represented

Costa Rica/Costa Rica/Costa Rica

Not Represented

Côte d'Ivoire/Côte d'Ivoire/Côte d'Ivoire

Head of Delegation

Mr N'Guessan Joel KOUASSI
Director, Oceanographic Research Centre
11, rue des Pêcheurs
B.P. V18, Abidjan
Tel: 225 213 564 48
Fax: 225 213 555 11
E-mail: kujoel@aieiso.ci

Croatia/Croatie/Croacia

Head of Delegation

Ms Maja FRANKOVIC
Advisory Minister
Deputy Permanent Delegate
Permanent Delegation of Croatia to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 43 06 12 97
Fax: 33 1 45 68 31 48
E-mail: dl.croatie@unesco.org

Cuba/Cuba/Cuba

Head of Delegation

Mr Guillermo GARCIA MONTERO
Presidente, Comité Oceanográfico Nacional
Director, Acuario Nacional Cuba
Ave. 1ra. y Calle 60, Miramar
Ciudad Habana CP 11300 ZP 13
Tel: 53 7 203 6401/06
Fax: 53 7 209 2737
E-mail: ggarcia@ama.cu;
guillermog@acuaronacional.cu
(Also Chairperson IOCARIBE)

Representatives

M. Andrés QUINTANA LANDA
Premier Secrétaire
Délégation Permanente de Cuba auprès de
l'UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 29 24
Fax: 33 1 45 6747 41
E-mail: a.quintana@unesco.org

Adviser

Ms Alicia PEREA
Conseiller, Délégation Permanente de Cuba
auprès de l'UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 67 34 13
Fax: 33 1 45 6747 41
E-mail: dl.cuba@unesco.org

Cyprus/Chypre/Chipre

Head of Delegation

Mrs Photini PANAYI
Deputy Permanent Delegate
Permanent Delegation of Cyprus to UNESCO
86, avenue Foch
Paris 75016
FRANCE
Tel: 33 1 45 00 35 05
Fax: 33 1 45 01 20 53
E-mail: dlcypunesco@leventisparis.com

Alternate

Mr Franck BONNET
Permanent Delegation of Cyprus to UNESCO
86, avenue Foch
Paris 75016
FRANCE
Tel: 33 1 45 00 35 05
Fax: 33 1 45 01 20 53
E-mail: dlcypunesco@leventisparis.com

Adviser

Ms Melanie MELODIAD
Interne
86, avenue Foch
Paris 75016
FRANCE
Tel: 33 1 45 00 35 05
Fax: 33 1 45 01 20 53
E-mail: dlcypunesco@leventisparis.com

**Czech Republic/République Tchèque/
República Checa**

Head of Delegation

Mr Bohumir JANSKY
Chairman, Czech IOC Committee
Charles University, Faculty of Science
Dept. of Physical Geography & GeoEcology
Albertov 6, Praha 2, 128 43
Tel: 420 2 2195 1350
Fax: 420 2 2195 1367
E-mail: jansky@natur.cuni.cz

**Democratic People's Republic of Korea/
République Populaire Démocratique de
Corée/República Popular Democrática de
Corea**

Head of Delegation

Mr Jae Hom KIM
Minister, Deputy Permanent Delegate
Permanent Delegation of the Democratic
People's Republic of Korea to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 25 64
Fax: 33 1 45 68 25 63
E-mail: dl.dprkorea@unesco.org
Mr Han SOK CHOL
Adviser, Permanent Delegation of the
Democratic People's Republic of Korea to
UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 25 64
Fax: 33 1 45 68 25 63
E-mail: dl.dprkorea@unesco.org

Djibouti/Djibouti/Djibouti

Head of Delegation

Ms Nicole ABOU-FADEL
Permanent Delegation of Djibouti to UNESCO
1, rue Miollis
Paris 75015
FRANCE
Tel: 33 1 45 68 26 50
Fax: 33 1 45 68 26 51
E-mail: dl.djibouti@unesco.org

Denmark/Danemark/Dinamarca

Not Represented

Dominica/Dominique/Dominica

Head of Delegation

Mr Claude SKALAWSKI
Minister Adviser
Permanent Delegation of Dominica to
UNESCO
22, rue St. Augustin
Paris 75002
FRANCE
Tel: 33 1 4007 50 00
Fax: 33 1 40 07 50 05
E-mail: unesco@dominica-gov.eu

**Dominican Republic/République
Dominicaine/República Dominicana**

Head of Delegation

Mr Carlos Antonio Michelen NAMNUN
Director, National Oceanographic Commission
Ministry of External Relations
Av. Independencia 752
Santo Domingo
Tel: 1 809 284 9039/535 4986
E-mail: carlosmichelen@gmail.com

Representative

Ms Christina DIAZ
Asistente Cancillería
Comisión Nacional de Oceanografía
Av. Independencia #752
Santo Domingo
Tel: 1 809 535 6280
E-mail: cristyo13@hotmail.com

Ecuador/Equateur/Ecuador

Head of Delegation

Capt. Mario PROANO SILVA
Director, Instituto Oceanográfico de la Armada
Av. de la Marina – Base Naval Sur
Guayaquil
Tel: 593 4 248 1100
E-mail: director@inocar.mil.ec

Alternate

Mr Marcelo VAZQUEZ
Chargé d'affaires
Permanent Delegation of Ecuador to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 33 03
Fax: 33 1 43 06 49 06
E-mail: dl.ecuador@unesco.org

Adviser

Mr Luís F. MORALES AUZ
Head, Dept. of Marine Sciences – INOCAR
Oceanographic Institute of the Navy
Av. de la Marina, Base Naval Sur
Guayaquil
Tel: 593 4 248 1300, Ext: 1200
Fax: 593 4 248 51 66
E-mail: ccmar@inocar.mil.ec

Egypt/Egypte/Egipto

Head of Delegation

Mr Mamadouh MANSOUR
Deputy Permanent Delegate
Permanent Delegation of Egypt to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 33 09
Fax: 33 1 47 83 41 87
E-mail: dl.egypte@unesco.org

El Salvador/Salvador/El Salvador

Head of Delegation

Mrs Nanette VIAUD DESROCHES
Adviser/Deputy Permanent Delegate
Permanent Delegation of El Salvador to
UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 34 19
Fax: 33 1 47 34 41 86
E-mail: dl.el-salvador@unesco.org

Eritrea/Erythrée/Eritrea

Head of Delegation

H.E. Dr Ahmed DEHLI
Ambassador/Permanent Delegate
Ambassade de l'Erythrée
1, rue de Staël
75015 Paris
FRANCE
Tel: 33 1 43 06 15 56
Fax: 33 1 43 06 07 51

Estonia/Estonie/Estonia

Not Represented

Ethiopia/Ethiopie/Etiopía

Prof. Darge WOLE
Deputy Permanent Delegate
Permanent Delegation of Ethiopia to UNESCO
1, rue Miollis
Paris 75015
FRANCE
Tel: 33 1 45 68 34 61/62
Fax: 33 1 47 83 31 45
E-mail: d.wole@unesco.org

Fiji/Fidji/Fiji

Not Represented

Finland/Filande/Finlandia

Head of Delegation

Dr & Prof. Matti PERTILLÄ
Head, Finnish Institute of Marine Research
Erik Palmenin Aukio 1
(P.O. Box 2)
FI 00561 Helsinki
Tel: 358 9 6139 4510
Fax: 358 9 323 2970
E-mail: matti.pertila@fimr.fi

France/France/Francia

Head of Delegation

M. François GERARD
Président du Comité National pour la COI
C/o CGPC-52, Tour Pascal B
92055 La Défense Cedex
Tel: 33 1 40 81 23 88
Cell: 33 1 6 85 07 73 34
E-mail: francoisgerard@equipement.gov.fr
(also Chairperson I-GOOS and GOHWMS)

Representatives

M. Elie JARMACHE
Chargé de Mission
Secrétariat Général de la Mer
16, bd. Raspail
75007 Paris
Tel: 33 1 53 63 41 58
Fax: 33 1 53 63 41 78
E-mail: elie.jarmache@pm.gouv.fr
(Also Chairperson IOC/ABE-LOS)

Mme Hélène SEKUTOWICZ-LE BRIGANT
Délégation Permanente de la France auprès
de l'UNESCO
1, rue Miollis
75015 Paris
Tel: 33 1 45 68 35 03
Fax: 33 1 53 69 99 49
E-mail: helene.sekutowicz@diplomatie.gouv.fr

M. René FEUNTEUN

Direction de la Prévention des Pollutions et des
Risques
Sous-direction de la Prévention des Risques
Majeurs
Ministère de l'Ecologie et du Développement
Durable
20, avenue de Ségur
75007 Paris
Tel: 33 1 42 19 15 63
Fax: 33 1 42 19 14 79
E-mail: rene.feunteun@ecologie.gouv.fr

M. Bernard FRONTERO

Conseiller pour les Sciences
Commission Nationale Française pour
l'UNESCO
57, bd. des Invalides
75007 Paris
Tel: 33 1 53 69 39 96
Fax: 33 1 53 69 32 23
E-mail: bernard.frontero@diplomatie.gouv.fr

M. Christian BLONDIN

Directeur des Affaires Internationales
Direction des Missions Institutionnelles et des
Affaires Internationales, Météo France
1, quai Branly
75007 Paris
Tel: 33 1 45 56 70 50
Fax: 33 1 45 56 70 40
E-mail: christian.blondin@meteo.fr

M. Serge ALLAIN

Chargé Relations Extérieures
Service Hydrographique et Océanographique de
la Marine (SHOM)
29228 Brest Cedex 2
Tel: 33 1 53 66 97 81
E-mail: serge.allain@shom.fr

M. Patrick AUDEBERT

Chef, Bureau des Risques Majeurs
Direction de la Défense et de la Sécurité Civiles
Sous-Direction de la Gestion des Risques
Ministère de l'Intérieur et de l'Aménagement du
Territoire
Place Beauveau
Paris 75008
Tel: 33 1 56 04 72 89
Fax: 33 1 56 04 71 85
E-mail: patrick.audebert@interieur.gouv.fr

Gabon/Gabon/Gabón

Head of Delegation

H.E. Mr Anatole MIKOUNGUI
Ambassadeur, Directeur des Relations
Internationales Maritimes

Direction Générale du Droit de la Mer
Ministère des Affaires Etrangères, de la
Coopération, de la Francophonie et de
l'Intégration Régionale
B.P. 2245 Libreville
Tel: 241 73 12 48
Fax: 241 73 09 63
E-mail: amikoungui@yahoo.fr

Alternate

Mr Paul BEKALE
First Adviser
Permanent Delegation of Gabon to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 34 96
Fax: 33 1 45 68 34 94
E-mail: pabekale@yahoo.fr

Representatives

Dr Paule Christiane GONDI-M'BOUALA
Conseiller, Chef, Dépt. des Recherches
Naturelles
Spécialiste de la recherche des roches mères
de Diamant
Cabinet du Premier Ministre
LIBREVILLE
Gabon
Tel: 241 72 98 53
E-mail: pc-gondimbouala@yahoo.fr

Dr Lucien OBAME
Conseiller Premier Ministre
B.P. 14153
Libreville
Tel: 241 0627 1929
Fax: 241 77 20 04

Gambia/Gambie/Gambia
Not Represented

Georgia/Géorgie/Georgia

Head of Delegation

Mr George JAOSHIVILI
First Deputy Head
Centre for Monitoring & Prognostication
Ministry of Environment Protection & Natural
Resources
150, D. Agmashenebeli Ave.
0122, Tbilissi
Tel: 995 32 05 01 31/35 21
Fax: 995 32 96 06 65
E-mail: gjaoshvili@environment.ge

Germany/Allemagne/Alemania

Head of Delegation

Prof. Dr Peter EHLERS
President, Federal Maritime & Hydrographic
Agency
Bernhard-Nocht-Strasse 78
D-20359 Hamburg
Tel: 49 40 31 80 1000
Fax: 49 40 31 90 1004
E-mail: peter.ehlers@bsh.de

Alternate

Dr Anna V. GYLDENFELDT
Dept. of Marine Science
Federal Maritime & Hydrographic Agency
Bernhard-Nocht-Strasse 78
D-20359 Hamburg
Tel: 49 40 3190 3111
Fax: 49 40 3190 5032
E-mail: anna.gyldenfeldt@bsh.de

Representatives

Dr Susanne FRETZDORFF
Project Management Jülich
Forschungszentrum Jülich GmbH
Seestraße 15
18119 Rostock-Warnemünde
Tel: 49 381 5197 288
Fax: 49 381 51509
E-mail: s.fretzdorff@fz-juelich.de

Dr Karsten HESS
Federal Ministry of Education & Research
Heinemannstr. 2
D-53175 Bonn
Tel: 49 1888 57 3722
Fax: 49 1888 57 83722
E-mail: karsten.hess@bmbf.bund.de

Ms Isabell LADIGES
Permanent Delegation of Germany to UNESCO
1, rue Miollis
Paris 75015
FRANCE
Tel: 33 1 53 83 46 63
Fax: 33 1 53 83 46 67
E-mail: Unesco@amb-allemaigne.fr

Mr Reinhold OLLIG
Director, Head of Division "System Earth"
Federal Ministry of Education & Research
Heinemannstr. 2
D-53175 Bonn
Tel: 49 1888 57 3469

Fax: 49 1888 57 83469
E-mail: reinhold.ollig@bmbf.bund.de

Dr Hans WERNER SCHENKE
Senior Scientist
Alfred Wegener Institute for Polar & Marine
Research
Van-Ronzelen-Str. 2
D-27568 Bremerhaven
Tel: 49 471 4831 1222
Fax: 49 471 4831 1977
E-mail: hans-werner.schenke@awi.de
Mr Reinhard ZÖLLNER
Deutscher Wetterdienst
Bernhard-Nocht-Str. 76
D-20359 Hamburg
Tel: 49 40 6690 1400
Fax: 49 40 6690 1499
E-mail: rinhard.zoellner@dwd.de

Ghana

Head of Delegation

Mr Julius WELLENS-MENSAH
Director, Hydrological Services Dept.
P.O. Box MB 501
Accra
Tel: 233 21 677 383
Fax: 233 21 677 384
E-mail: hsd@ghana.com
(**Also Chairperson IOCEA**)

Greece/Grèce/Grecia

Head of Delegation

Dr Eustathios Th. BALOPOULOS
Director, Institute of Oceanography
Hellenic Centre for Marine Research
Ministry of Development
General Secretariat for Research &
Technology
46,7 km Athens-Sounio, Mavro Lithari
(P.O. Box 712)
19013 Anarissos, Attica
Tel: 30 22910 76452
Fax: 30 22910 7 6347
E-mail: efstathios.balopoulos@ath.hcmr.gr

Alternate

Mr Alexandros THEOCHARIS
Head, Physical Oceanography Dept.
Institute of Oceanography
Hellenic Centre for Marine Research
46,7 km Athens-Sounio, Mavro Lithari
(P.O. Box 712)
19013 Anavissos - Attica
Tel: 30 229 107 63 29

Fax: 30 229 107 63 23
E-mail: alekos@ath.hcmr.gr

Representatives

Dr Fanny VOUTSINOI-TALIADOURI
Research Director
Chemical Oceanographer
Hellenic Centre for Marine Research
Institute of Oceanography
Ministry of Development
General Secretariat for Research & Technology
46,7 km Athens-Sounio, Mavro Lithari
(P.O. Box 712)
19013 Anavissos, Attica
Tel: 30 229 107 63 66
Fax: 30 229 107 63 47
E-mail: fvouts@ath.hcmr.gr

Dr George PETIHAKIS
Institute of Oceanography
Hellenic Centre for Marine Research (HCMR)
Ministry of Development
General Secretariat for Research & Technology
Gournes Padiados
(P.O. Box 2214)
71003 Iraklio, Crete
Tel: 30 2810 337755
Fax: 30 2810 337822
E-mail: pet@her.hcmr.gr

Dr George TRIANTAFYLLOU
Senior Researcher
Ecosystems Modelling & Data Assimilation
Hellenic Centre for Marine Research
Institute of Oceanography
Ministry of Development
General Secretariat for Research & Technology
46,7 km Athens-Sounio, Mavro Lithari
(P.O. Box 712)
19013 Anavissos, Attica
Tel: 30 22910 76402
Fax: 30 22910 76347
E-mail: gt@ath.hcmr.gr

Dr Anastasia STRATI
Expert Counsellor
Ministry of Foreign Affairs
3, Akademias Str.
Athens
Tel: 30 210 368 2138
Fax: 30 210 368 2239
E-mail: astrati@cc.noa.gr

Dr Gerassimos PAPADOPOULOS
Research Director
National Observatory of Athens
Lofos Nymfon 1
Athens
Tel: 30 210 3490155

Fax: 30 210 3490165
E-mail: g.papad@gein.nod.gr
(Also Vice-Chairperson ICG/NEAMTWS)

Adviser

Mr Emmanuel GOUNARIS
Minister Plenipotentiary
Ministry of Foreign Affairs
Academias 3
Athens 10027
Tel: 30 210 36 82 235
Fax: 30 210 36 82 239
E-mail: d01@mfa.gr

Guatemala/Guatemala/Guatemala
Not Represented

Guinea/Guinée/Guinea
Not Represented

Guinea-Bissau/Guinée-Bissau/Guinea-Bissau
Not Represented

Guyana/Guyana/Guyana
Not Represented

Haiti/Haïti/Haiti

Head of Delegation

Ms Marie-Denise JEAN
Deputy Permanent Delegate
Permanent Delegation of Haiti to UNESCO
35, avenue de Villiers
75017 Paris
FRANCE
Tel: 33 1 42 12 70 54
Fax: 33 1 42 12 82 38
E-mail: delehaitiunesco@wanadoo.fr

Alternate

Ms Marie Guerlyne JANVIER
Adviser, Permanent Delegation of Haiti to UNESCO
35, av. de Villiers
75017 Paris
FRANCE
Tel: 33 1 42 12 70 53
Fax: 33 1 42 12 82 38
E-mail: delehaitiunesco@wanadoo.fr

Iceland/Islande/Islandia
Not Represented

India/Inde/India

Head of Delegation

Dr P.S. GOEL
Secretary, Ministry of Earth Sciences
Mahasagar Bhavan
C.G.O. Complex, Block-12, Lodhi Rd.
New Delhi 110003
Tel: 91 11 24360874/2548
Fax: 91 11 24362644/0336
E-mail: dodsec@dod.delhi.nic.in

Alternate

Mr Birender S. YADAV
First Secretary
Permanent Delegation of India to UNESCO
1, rue Miollis
Paris 75015
FRANCE
Tel: 33 1 45 68 29 86
Fax: 33 1 4734 51 88
E-mail: dl.india@unesco.org

Representative

Dr Shailesh NAYAK
Director, Indian National Centre for Ocean Information Services
Ministry of Earth Sciences
Ocean Valley, Post Bag 21
Jeedimetla P.O. Hyderabad 500 055
Tel: 91 40 2389 5000
Fax: 91 40 2389 5001
E-mail: director@incois.gov.in
(Also Vice-Chairperson ICG/IOTWS)

Indonesia/Indonésie/Indonesia

Head of Delegation

H.E. Mr Aman M. WIRAKARTAKUSUMAH
Ambassador & Permanent Delegate
Permanent Delegation of Indonesia to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 29 73
Fax: 33 1 45 66 02 37
E-mail: amb.indonesia@unesco.org

Alternate

Mr Hery HARJONO
Deputy Chairman, Earth Sciences
Indonesian Institute of Sciences
JI Gatot Subroto
Jakarta 12710

Tel: 62 21 525 1850
Fax: 62 21 526 0804
E-mail: hery.harjono@lipi.go.id

Representatives

Capt. Dr Dede YULIADI
Head, Marine Environmental Division
Hydro-Oceanographic Service
Indonesian Navy
Jl. Pantai Kuta V/1 Ancol Timur
Jakarta Utara 14430
Tel: 62 21 6471 4810, Ext: 3935
Fax: 62 21 6471 4819
E-mail: infohid@indo.net.id

Mr Exo GUDHI WAHYONO
Commanding Officer
Hydro-Oceanographic Service
Indonesian Navy
Jl. Pantai Kuta V/1, Ancol Timur
Jakarta Utara 14430
Tel: 62 21 6471 4810, Ext: 3958
Fax: 62 21 6471 4819
E-mail: infohid@indo.net.id

Professor Jan SOPAHELUWAKAN
Deputy Chairman, Scientific Services
Indonesian Institute of Sciences
Jl. Jenderal Gatot Subroto 10
Jakarta Selatan 12710
Tel: 62 21 525 5179
Fax: 62 21 5290 7313
E-mail: jans@lipi.go.id

Mr FAUZI
Head, Earthquake & Tsunami Meteorological &
Geophysical Agency
Jl. Angkasa 1. No. 2, Kemagoran
Jakarta DK1 10720
Tel: 62 21 424 6321
Fax: 62 21 654 6316
E-mail: fauzi@bmkg.go.id

Dr Sugiarta WIRASANTOSA
Director, Research Centre of Maritime
Territories & Non-Biological Resources
Jl. M.T. Haryono, Kav. 52-53
Jakarta
Tel/Fax: 62 21 791 91202
E-mail: igir@dkp.go.id

**Iran, Islamic Republic of/République
Islamique d'Iran/Irán, República Islámica del**

Head of Delegation

Dr Vahid CHEGINI
Director, Iranian National Centre for
Oceanography
19, Etemadzadeh St, Fatemi Ave.
Tehran
Tel: 98 21 6694 48 67
Fax: 98 21 6694 48 66
E-mail: y_chegini@inco.ac.ir

Iraq/Irak/Iraq

Not Represented

Ireland/Irlande/Irlanda

Not Represented

Israel/Israël/Israel

Head of Delegation

Prof. Barak HERUT
Director-General
Israel Oceanographic & Limnological Research
Tel-Shikmona, P.O. Box 8030
Haifa 31080
Tel: 972 4 8565 221/220
Fax: 972 4 8511 911
E-mail: barak@ocean.org.il

Italy/Italie/Italia

Head of Delegation

Prof. Ezio BUSSOLETTI
Scientific Adviser
Permanent Delegation of Italy to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 31 41/121
Fax: 33 1 45 66 41 78
E-mail: e.bussoletti@unesco.org

Representatives

Professor Stefano TINTI
Department of Physics
University of Bologna
Viale Carlo Berti Pichat, 8
I-40127 Bologna
Tel. +39 051 2095025
Fax +39 051 2095058
Email: stefano.tinti@unibo.it
(Also Chairperson ICG/NEAMTWS)

Professor Enrico ZAMBIANCHI
Dipartimento di Scienze per l'Ambiente
Università degli Studi di Napoli "Parthenope"
Via de Gasperi, 5
80133 Napoli
Tel: 39 81 54 76 583
Cell: 39 329 650 6097
Fax: 39 81 55 13 679
E-mail: enrico.zambianchi@uniparthenope.it

Dr Renzo MOSETTI
Director, Dept. of Biological Oceanography
Istituto Nazionale di Oceanografia e di
Geofisica Sperimentale
Via Auguste Piccard 54
34014 Trieste
OGS Head Office: Borgo Grotta Gigante 42/C
34010 Sgonico, Trieste
Tel: 39 40 224 9710/21401
Fax: 39 40 224 9770/327 307
E-mail: rmosetti@ogs.trieste.it

Professor Antonio TERAMO
Osservatorio Sismologico Univ.
Messina Italy ICES
Via Osservatorio, 4
Messina 98121
Tel: 39 90 36 01 01
E-mail: teramo@unime.it

Mr Claudio RAFANELLI
Environment & Climate
International Centre for Earth Sciences (ICES)
c/o CNR-IDAC "O.M. Corbino"
Area della Ricerca CNR
"Roma Tor Vergata"
Via del Fosso del Cavaliere, 100
00133 Roma
Tel: 39 6 4993 4284
Fax: 39 6 4993 4061
E-mail: c.rafanelli@e-ices.eu

Dr Alessandra MARAMAI
Climate & Environmental Sciences Dept.
Marine Branch
Istituto Nazionale di Geofisica e Vulcanologia
Via di Vigna Murata, 605
00143 Roma
Tel: 39 6 518 60210
Fax: 39 6 518 60338
E-mail: maramai@ingv.it

Adviser

Professor Dr Maurizio IACCARINO
Consiglio Nazionale delle Ricerche
Istituto di Genetica e Biofisica
"A. Buzzati-Traverso"
Via P. Castellino, 111
80131 Napoli
Tel: 39 81 6132 242
Fax: 39 81 6132 722
E-mail: iaccarin@ibg.cnr.it

Jamaica/Jamaïque/Jamaica

Head of Delegation

Ms Renee Anne SHIRLEY
Senior Advisor to the Prime Minister
Office of the Prime Minister
1, Devon Road
Kingston 6
Tel: 1 876 927 4101 2, Ext: 2061/929 8705
Fax: 1 876 946 3013
E-mail: rashir0@hotmail.com

Representative

Ms Angela DABY
First Secretary
Permanent Delegation of Jamaica to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 33 60/32 23
Fax: 1 33 43 06 84 51
E-mail: dl.jamaica@unesco.org

Japan/Japon/Japón

Head of Delegation

Dr Makoto TERAZAKI
Prof., University of Tokyo
1-15-1 Minamidai, Nakano-Ku
Tokyo 164-8639
Tel: 81 3 53 51 63 42
Fax: 81 3 53 51 68 36
E-mail: terazaki@stm.co.jp

Representatives

Mr Hiroshi OHNO
Unit Chief, Ocean & Earth Division
Ministry of Education, Culture, Sports, Science &
Technology (MEXT)
2-5-1 Marunouchi, Chiyoda-ku
Tokyo 100-8959
Tel: 81 3 5253 4111
Fax: 81 3 6734 4147
E-mail: h-ohno@mext.go.jp

Prof. Yutaka MICHIDA
Associate Professor
Centre for International Cooperation
Ocean Research Institute
University of Tokyo
1-15-1 Minamidai, Nakano-ku
Tokyo 164-8639
Tel: 81 3 5351 6532
Fax: 81 3 5351 6532
E-mail: ymichida@ori.u-tokyo.ac.jp

Dr Masao FUKASAWA
Director-General
Institute of Observational Research for Global
Change (IORGG)
Japan Agency for Marine-Earth Science &
Technology (JAMSTEC)
2-15, Natsushima-cho
Yokosuka 237 0061
Tel: 81 46 867 9400
Fax: 81 46 867 9372
E-mail: fksw@jamstec.go.jp

Mr Yasushi TAKATSUKI
Head, Buoy Robot Unit
Marine Division
Global Environment & Marine Dept.
Japan Meteorological Agency
1-3-4 Otemachi, Chiyoda-ku
Tokyo 100-8122
Tel: 81 3 3212 8341, Ext: 5149
Fax: 81 3 3211 6908
E-mail: y_takatsuki@met.kishou.go.jp

Mr Eriko HIMATA
Programme Specialist for UNESCO
Office of the Director-General for International
Affairs
Ministry of Education, Culture, Sports, Science
& Technology (MEXT)
2-5-1 Marunouchi, Chiyoda-ku
Tokyo 100-8959
Tel: 81 3 5222 1007
Fax: 81 3 6734 3679
E-mail: himata@mext.go.jp

Ms Tomoko IKUTA
Second Secretary
Scientific Affairs & Protocol
Permanent Delegation of Japan to UNESCO
148, rue de l'Université
Paris 75007
FRANCE
Tel: 33 1 53 59 27 16
Fax: 33 1 53 59 27 27
E-mail: deljpn.pro@unesco.org;
ikuta@dg8.so-net.ne.jp

Mr Yohei HASEGAWA
Senior Coordinator
International Earthquake & Tsunami Information
Earthquake & Tsunami Observations Division
Seismological & Volcanological Dept.
Japan Meteorological Agency
1-3-4, Ote-machi, Chiyoda-ku
Tokyo 100-8122
Tel: 81 3 3284 1743
Fax: 81 3 3215 2963
E-mail: yhasegawa@met.kishou.go.jp

Jordan/Jordanie/Jordania
Not Represented

Kazakhstan/ Kazakhstan/Kazajstán

Head of Delegation

Mr Talgat ZEINNLLINE
Directeur général
Société Nationale "Kazhydromet"
Ministère de l'Environnement
32, rue Abaï
Almaty
Tel: 7 32 7 267 52 71
Fax: 7 32 7 267 24 24

Kenya/Kenya/Kenya

Head of Delegation

Dr Johnson M. KAZUNGU
Executive Director
Kenya Marine & Fisheries Research Institute
P.O. Box 81651, Code 80100
Mombasa
Tel: 254 41 475 151/7
Fax: 254 41 475 157
E-mail: jkazunqu@kmfri.co.ke

Alternates

Mr Boniface W. WANYAMA
Assistant Secretary-General, Natural Science
Kenya National Commission for UNESCO
14th Floor, National Bank Building
Harambee Av, P.O. Box 72107-00200
Nairobi
Tel: 254 20 229053/4
Fax: 254 20 213025
E-mail: bwwekesa@yahoo.com

Representative

Mr Geoffrey MOKABI
Director, Research Development
Ministry of Science & Technology
P.O. Box 30568
Nairobi

Tel: 254 20 218 557
Fax: 254 20 215 349
E-mail: geffnqugi@yahoo.com

Kuwait/Koweit/Kuwait

Head of Delegation

Mr Taleb AL-BAGHLI
Deputy Permanent Delegate
Permanent Delegation of Kuwait to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 26 67
Fax: 33 1 42 19 96 95
E-mail: dl.koweit@unesco.org

Representative

Dr Muhammad AL SHATTI
Deputy Permanent Delegate
Permanent Delegation of Kuwait to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 26 69
Fax: 33 1 42 19 96 95
E-mail: m.alshatti@unesco.org

Lebanon/Liban/Libano

Head of Delegation

Mr Iskandar SURSOCK
Director, Centre for Geophysical Research
Baannes
P.O. Box 16-5432
Beirut
Tel: 961 4 981 885
Fax: 961 4 981 886
E-mail: asursock@cnrs.edu.lb

Lybian Arab Jamahiriya/Jamahiriya arabe libyenne/Jamahiriya árabe Libia

Head of Delegation

H.E. Mr Abdulsalam EL-QALLALI
Ambassador, Permanent Delegate
Permanent Delegation of Libya to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 33 21 / 23
Fax: 33 1 45 66 08 55
E-mail: del.libsec@unesco.org

Madagascar/Madagascar/Madagascar

Head of Delegation

Dr Faneva RANDRIANANDRAINAINA
Scientific Advisor
Permanent Delegation of Madagascar to UNESCO
40, rue du Général Foy
75008 Paris
FRANCE
Tel: 33 1 42 93 34 77
Cell: 33 6 18 44 92 47
E-mail: faneve@hotmail.com

Representative

Mr Pierre RAVELONANDRO
Director CNRE
Ministry of National Education & Research
Rue Grande Voie de Vignes
Chatenoy 92
Tel: 230 41 13 14 25
E-mail: pravelonandro@yahoo.com

Adviser

Mr Jean-Jacques
RANDRIAFAMANTANANTSOA
Conseiller Scientifique
Délégation Permanente de Madagascar auprès de l'UNESCO
Ambassade de Madagascar
40, rue du Général Foy
75008 Paris
FRANCE
Tel: 33 1 42 93 34 77
Fax: 33 1 42 22 22 89
E-mail: depemadu@wanadoo.fr

Malaysia/Malaisie/Malasia

Head of Delegation

Dr Mohd. Taupek B. MOHD. Nasir
Deputy Director
National Oceanography Directorate
Ministry of Science, Technology & Innovation
Level 6, Block C4, Parcel C
Federal Govt. Administrative Centre
62662 Putrajaya
Tel: 60 3 8885 8203
Fax: 60 3 8889 3008
E-mail: taupek@mosti.gov.my

Maldives/Maldives/Maldivas

Not Represented

Malta/Malte/Malta

Head of Delegation

H.E. Mr Joseph LICARI
Ambassador & Permanent Delegate
Permanent Representative to the Council of
Europe
Permanent Delegation of Malta to UNESCO
46, rue de Longchamp
75016 Paris
FRANCE
Tel: 33 1 47 55 60 73
E-mail: joseph.licari@gov.mt;
Jospeh.licari@gmail.com

Mauritania/Mauritanie/Mauritania

Not Represented

Mauritius/Maurice/Mauricio

Head of Delegation

Dr Mitrasen BHIKAJEE
Director, Mauritius Oceanographic Institute
4th floor, France Centre, Victoria Av.
Quatre Bornes
Tel: 230 427 44 32
Fax: 230 427 44 33
E-mail: bhikajee@moi.intnet.mu

Mexico/Mexique/México

Head of Delegation

Biol. Francisco BRIZUELA VENEGAS
Director-General
Education, Science & Technology of the Sea
Public Education Secretariat
Viaducto Miguel Alemán, Distrito Federal
03810 México DF
Tel: 52 55 300 31000, Ext: 1804
Fax: 52 55 23 19 13
E-mail: brizuela@sep.gob.mx

Adviser

Dr Ismael MADRIGAL-MONARREZ
Delegación Permanente de México ante la
UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 34 87
Fax: 33 1 47 34 92 45
E-mail: i.madrigal@unesco.org

Monaco/Monaco/Mónaco

Head of Delegation

Dr Michel BOISSON
Secrétaire général
Centre Scientifique de Monaco
16, blvd. de Suisse
98030 Monaco
Tel: 377 92 15 85 96
Fax: 377 92 15 86 74
E-mail: mboisson@gouv.mc

Morocco/Maroc/Marruecos

Head of Delegation

Prof. Az El- Arab ELMOURAOUAH
Responsable du Service Prévention Sismique et
Coopération à l'Institut National de Géophysique
Centre National pour la Recherche Scientifique
et Technique
52, av. Omar Ibn Al-Khattab Agdal
(B.P. 8027)
Rabat – NU
Tel: 212 37 77 86 74
Fax: 212 37 77 13 34
E-mail: elmouraouah@cnrst.ma

Mozambique/Mozambique/Mozambique

Not Represented

Myanmar/Myanmar/Myanmar

Head of Delegation

Mrs L. Nang TSAN
Counsellor, Embassy of the Union of Myanmar
60, rue de Courcelles
75008 Paris
FRANCE
Tel: 33 1 56 88 15 90
Fax: 33 1 45 62 13 30
E-mail: tsan.l-nang@wanadoo.fr

Namibia/Namibia/Namibia

Not Represented

Netherlands/Pays-Bas/Países Bajos

Head of Delegation

Dr Annelies C. PIERROT-BULTS
University of Amsterdam
P.O. Box 94766
Amsterdam 1090 6T
Tel: 31 20 525 7194
Fax: 31 20 525 5402
E-mail: pierrot@uva.nl

Representative

Ms Auke BIJLSMA
Senior Staff Member
Netherlands Organization for Scientific
Research
Laan Van NOF 300
The Hague 2593 BM
Tel: 31 70 344 0845
E-mail: bijsma@nwo.nl

**New Zealand/Nouvelle-Zélande/
Nueva Zelandia**

Head of Delegation

Dr Andrew LAING
Regional Manager, Wellington
National Institute of Water & Atmospheric
Research Ltd.
301, Evans Bay Parade, Greta Point
Wellington
Private Bag 14901, Kilbirnie
Wellington
Tel: 64 4 386 03 00
Fax: 64 4 386 21 53
E-mail: a.laing@niwa.co.nz

Nicaragua/Nicarágua/Nicaragua
Not Represented

Nigeria/Nigéria/Nigeria

Head of Delegation

Mr O.A. AYINLA
Director, Nigerian Institute for Oceanography &
Marine Research
3, Wilmot Point Rd.
Bar-Beach Victoria Island
(P.M.B. 12729), Lagos
Tel: 234 802 326 1588
Fax: 234 1 261 9517
E-mail: jideayinla@yahoo.com

Alternate

Dr Larry AWOSIKA
Marine Geology & Geophysics Division
Nigerian Institute for Oceanography & Marine
Research
Wilmot Point Rd, Bar-Beach
Victoria Island
(P.M.B. 12729) Lagos
Tel/Fax: 234 1 261 95 17
E-mail: larryawoisika@yahoo.com;
niomr@linkserve.com.ng

Norway/Norvège/Noruega

Head of Delegation

Dr Peter M. HAUGAN
Prof., Geophysical Institute
University of Bergen
Allegaten 70
N-5007 Bergen
Tel: 47 5558 2678
Fax: 47 5558 9883
E-mail: peter.haugan@gfi.uib.no

Alternate

Mr Bjørn JOHANNESSEN
Senior Adviser
Section for Humanitarian Affairs
Ministry of Foreign Affairs
P.O. Box 8114 Dep
NO-0032 Oslo
7, juin pl./Victoria Terrasse
Tel: 47 22 24 36 28
Fax: 47 22 24 27 76
E-mail: bjø@mfa.no

Representative

Mr Alf VESTRHEIM
First Secretary
Permanent Delegation of Norway to UNESCO
1, rue Miollis
Paris 75015
FRANCE
Tel: 33 1 45 68 34 35
Fax: 33 1 45 67 92 03
E-mail: a.vestrheim@unesco.org

Oman/Oman/Omán

Not Represented

Pakistan/Pakistan/Pakistán

Not Represented

Panama/Panama/Panamá

Head of Delegation

Mr Jorge PATINO
Permanent Delegation of Panama to UNESCO
145, avenue de Suffren
75015 Paris
FRANCE
E-mail: dl.panama@unesco.org

**Papua New Guinea/Papouasie-Nouvelle-
Guinée/
Papua Nueva Guinea**
Not Represented

Peru/Pérou/Perú

Head of Delegation

Capt. Rafael ZEGARRA
Peruvian Navy
89, rue de la Tour
75016 Paris
FRANCE
Tel: 33 1 45 03 58 20
E-mail: agrenafr@yahoo.com

Alternate

Mr Mario BUSTAMANTE
First Secretary
Permanent Delegation of Peru to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 29 33
Fax: 33 1 45 68 29 20
E-mail: m.bustamante@unesco.org

Representative

Mr Alfredo PICASSO de OYAGUE
Counselor for Scientific & Technological
Cooperation
B.P. 33816
75016 Paris
FRANCE
Tel/Fax: 33 1 45 27 63 42
E-mail: a.picasso@club-internet.fr
**(Also Chairperson of the sessional
Nominations Committee)**

Philippines/Philippines/Filipinas

Head of Delegation

Dr Rolu P. ENCARNACION
Chairman, National Committee on Marine
Sciences
UNESCO National Commission of the
Philippines
Dept. of Foreign Affairs
Roxas Blvd., Pasay City, Metro-Manila
Tel: 63 2 834 3447/834 4818
Fax: 63 2 831 8873
E-mail: roluph@yahoo.com

Mr Igor BAILEN
Deputy Permanent Delegate
Permanent Delegation of the Philippines to
UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 30 12

Fax: 33 1 45 68 29 66
E-mail: dl.philippines@unesco.org

Poland/Pologne/Polonia

Head of Delegation

Mr Marek CHMIELEWSKI
Director, Maritime Safety Dept.
Ministry of Maritime Economy (MGM)
Chalubinskiego 4/6 St.
00-928 Warsaw
Tel: 48 22 630 15 40
Fax: 48 22 830 09 47
E-mail: mchmielewski@mgm.gov.pl

Portugal

Head of Delegation

Professor Mario RUIVO
Chairman, Portuguese Committee for IOC
Av. Infante Santo, No.42, 4th Floor
Lisbon 1350-179
Tel: 351 21 390 43 30
Fax: 351 21 395 22 12
E-mail: cointersec.presid@fct.mctes.pt
(Also Vice-Chairperson IOC)

Representatives

Mr Ricardo SERRAO SANTOS
Director, Dept. of Oceanography & Fisheries
University of the Azores
PT-9901-862 Horta
Tel: 351 292 200 400
Fax: 351 292 200 411
E-mail: Ricardo@notes.horta.uca.pt

Mrs Teresa SALADO
Permanent Delegation of Portugal to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 30 54
Fax: 33 1 45 67 82 93
E-mail: t.salado@unesco.org

Qatar/Qatar/Qatar

Not Represented

**Republic of Korea/République de
Corée/República de Corea**

Head of Delegation

Dr Young-Sang SUH
Director, Korea Oceanographic Data Centre
(KODC)
National Fisheries Research & Development
Institute
408-1, Shirang-ri, Gijang-up, Gijang-gun

Busan 619-705
Tel: 82 51 720 2210
Fax: 82 51 720 2225
E-mail: yssuh@nfrdi.re.kr

Representatives

Dr Jang-Won SEO
Senior Research Scientist
Global Environment System Research Lab.
Marine Meteorology & Earthquake Research Lab.
National Institute of Meteorological Research (METRI)
Korea Meteorological Administration (KMA)
45 Gisangcheong-gil, Dongjak-gu
Seoul 156-720
Tel: 82 2 841 2786/842 0940, Ext: 712
Fax: 82 2 841 2787
E-mail: jwseo@kma.go.kr

Dr Hyung Tack HUH
Fellow, Agriculture/Fisheries Sciences Div.
Senior Scientist Emeritus
Korean Ocean Research & Development Institute (KORDI)
National Coordinator, UNDP/GEF YSLME Project
Korean Academy of Science & Technology
12-41 Bangbae-dong, Seocho-gu
Seoul 137-060
Tel: 82 2 534 5059
E-mail: hthuh@kordi.re.kr
(Also Chairperson WESTPAC)

Dr Sang-Kyung BYUN
Marine Environment Research Dept.
Physical Oceanography
President, Korean Society of Oceanography
Korea Ocean Research & Development Institute (KORDI)
Ansan P.O. Box 29
Seoul 425-600
Tel: 82 31 400 6127
Fax: 82 31 408 58 29
E-mail: skbyun@kordi.re.kr
(Also Rapporteur for the Session)

Mr Sik HUH
Head, International Cooperation Division
Principal Research Scientist
Geophysics (Seismic Stratigraphy)
Korea Ocean Research & Development Institute (KORDI)
Ansan P.O. Box 29
Seoul 425-600
Tel: 82 31 400 6269
Fax: 82 31 406 6925
E-mail: sikhuh@kordi.re.kr

Mr Kyung-Man KO
Deputy-Director
Ministry of Foreign Affairs & Fisheries (MOMAF)
Marine Research & Development Team
Headquarters for Marine Policy
Blue Ocean, Blue Revolution
75, Yulgok-ro, Jongno-gu
Seoul 110-793
Tel: 82 2 3674 6533
Fax: 82 2 3674 6536
E-mail: chivalry@momaf.go.kr

Mr Ki-Dai YUM
President, Korean Ocean Research & Development Institute (KORDI)
Ansan P.O. Box 29
Seoul 425-600
Tel: 82 31 400 6011
Fax: 82 31 408 5821
E-mail: kydum@kordi.re.kr

Mr Seok Jae KWON
Researcher, Ocean Research Lab.
Ministry of Foreign Affairs & Fisheries (MOMAF)
National Oceanographic Research Institute
1-17, 7 Ga, Hang-dong, Jung-gu
Incheon, 400-800
Tel: 82 32 880 0430
Fax: 82 32 891 3773
E-mail: sj79kwon@nori.go.kr
Mr Junghyun KIM
Oceanographic Division
Ministry of Foreign Affairs & Fisheries (MOMAF)
National Oceanographic Research Institute
1-17, 7 Ga, Hang-dong, Jung-gu
Incheon, 400-800
Tel: 82 32 880 0461
Fax: 82 32 891 2233
E-mail: kimjh@nori.go.kr

Mr Hyo-Jin CHOI
Secretariat, Korea Oceanographic Commission
Korea Ocean Research & Development Institute (KORDI)
Ansan P.O. Box 29
Seoul 425-600
Tel: 82 31 400 7755
Fax: 82 31 406 6925
E-mail: choihj@kordi.re.kr

Romania/Roumanie/Rumania

Head of Delegation

H.E. Mr Nicolae MANOLESCU
Ambassador & Permanent Delegate
Permanent Delegation of Romania to UNESCO
1, rue Miollis
75015 Paris

FRANCE

Tel: 33 1 45 68 25 24

Fax: 33 1 47 34 91 38

E-mail: dl.roumanie@unesco.org

Alternate

Dr Dumitru PREDA

Advisory Minister

Deputy Permanent Delegate

Permanent Delegation of Romania to UNESCO

1, rue Miollis

75015 Paris

FRANCE

Tel: 33 1 45 68 26 45

Fax: 33 1 47 34 91 38

E-mail: d.preda@unesco.org

**Russian Federation/Fédération de
Russie/Federación de Rusia**

Head of Delegation

Dr Alexander V. FROLOV

Deputy Head

Federal Service for Hydrometeorology &
Environmental Monitoring (Roshydromet)

12, Novovagan'kovsky Street

123995, Moscow

Tel: 7 495 252 03 13

Fax: 7 495 255 22 69

E-mail: afrolov@mecom.ru

(Also Vice-Chairperson IOC)

Alternate

Dr Sergey M. SHAPOVALOV

Director, Centre for Coordination of Ocean
Research

Shirshov Institute of Oceanology

Russian Academy of Sciences

36, Nakhimovsky Ave.

117997 Moscow

Tel: 7 495 124 59 81

Fax: 7 495 124 59 83

E-mail: smshap@ocean.ru

Representatives

Mr Mikhail D. BUBYNIN

Director, Coordination & Analytical Centre on
Environmental Problems

Federal Agency for Science & Innovations

Evaluation & Consulting Services

Federal Research Centre for Projects

Ministry of Education & Science

11, Tverskaya St.

123995 Moscow

Tel: 7 495 629 22 34

Fax: 7 495 629 17 30

E-mail: bubynin@fasi.gov.ru

Dr Vitaly I. SYCHEV

Chief, UNESCO Chair in Remote Sensing &
Modelling in Oceanography

Russian State Hydrometeorological University
98, Malokhtinsky Prospect

195196, St. Petersburg

Tel: 7 812 2243061

Fax: 7 812 4446090

E-mail: vsychev@bk.ru

Mr Nicolay N. MIKHAILOV

Head, Oceanographic Data Centre

Russian Federal Service for Hydrometeorology
& Environmental Monitoring

All-Russia Research Institute of

Hydrometeorological Information – WDC

6, Korolev St., Obninsk

Kaluga Region 249020

Tel: 7 08439 74907

Fax: 7 495 255 22 25

E-mail: nodc@meteo.ru

Mr Robert I. NIGMATULIN

Director, P.P. Shirshov Institute of Oceanology

Russian Academy of Sciences

36, Nakhimovsky Ave.

117997 Moscow

Tel: 7 495 124 5996

Fax: 7 495 124 5983

E-mail: nigmar@ocean.ru

Mr Pavel TATARINOV

Head, Division of Earth & Ocean Sciences

Federal Agency for Science & Innovation

11, Tverskaya St.

Moscow 125009

Tel: 7 495 629 93 42

Fax: 7 495 629 17 30

E-mail: tatarinov@fasi.gov.ru

Advisers

Professor Dr Anatoly KOLODKIN

Judge, UN International Tribunal for the Law of
the Sea

Scientific-Expert Counsel to the Chairman of the
Council of the Federation

Scientific Counsel to the Minister of International
Affairs

President, Russian Associations of International
Law & Maritime Law

3, B. Koptevsky pr.

Moscow 125319

Tel: 7 495 151 75 88/54 54

Fax: 7 495 152 09 16/151 75 88

E-mail: kolodkin@smniip.ru

Ms Irina N. TARASOVA

Senior Counsellor, Legal Dept.

Ministry of Foreign Affairs

32/34, Smolenskaya-Sennaya Sq.
Moscow 121200
Tel: 7 495 241 28 25
Fax: 7 495 241 11 66

Saint Lucia/Sainte-Lucie/Santa Lucía

Head of Delegation

Ms Maya KHAWAM
Second Secretary
Permanent Delegation of St. Lucia to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 33 58
E-mail: dl.sainte.lucie@unesco.org

Samoa/Samoa/Samoa

Not Represented

Saudi Arabia/Arabie Saoudite/Arabia Saudita

Head of Delegation

Dr Assad Ahmed Mohamed AL-THUKAIR
Assistant Prof., Chemistry Dept.
King Fahd University of Petroleum & Minerals
P.O. Box 157
Dhahran 31261
Tel: 966 3 860 3827/6216
Fax: 966 3 860 4277
E-mail: thukair@kfupm.edu.sa
(Also Vice-Chairperson IOCINDIO)

Senegal/Sénégal/Senegal

Head of Delegation

Mr Moustapha THIAM
Ingénieur, Technologie des Pêches
Adjoint du Directeur
Direction des Pêches Maritimes
Ministère de l'Economie Maritime et des
Transports Maritimes Internationaux
B.P. 289, Dakar
Tel: 221 823 01 37
Fax: 221 821 47 58
E-mail: dopm@sentoo.sn

Representative

Mr Mouhamed KONATE
Deuxième Conseiller
Délégation Permanente du Sénégal auprès de
l'UNESCO
1, rue Miollis
Paris 75015

FRANCE
Tel: 33 1 45 68 33 89
Fax: 33 1 43 06 10 55
E-mail: m.konate@unesco.org

Serbia/Serbie/Serbia

Head of Delegation

Ms Tatjana PANAJOVIC-CVETKOVIC
First Secretary
Permanent Delegation of Serbia to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 33 34
Fax: 33 1 40 56 30 59
E-mail: dl.serbie@unesco.org;
t.panajotovic@unesco.org

Seychelles/Seychelles/Seychelles

Head of Delegation

Ms Renette Melissa NICETTE
Third Secretary/Chargé d'Affaires a.i.
Ambassade des Seychelles
51, avenue Mozart
75016 Paris
FRANCE
Tel: 33 1 42 30 57 47
Fax: 33 1 42 30 57 40
E-mail: ambsey@aol.com

Sierra Leone/Sierra Leone/Sierra Leone

Not Represented

Singapore/Singapour/Singapur

Not Represented

Slovenia/Slovénie/Slovenia

Head of Delegation

Professor Vlado MALACIC
Senior Scientist
National Commission of UNESCO
National IOC Committee
National Institute of Biology
Marine Biology Station
Fornece 41
Piran 6330
Tel: 38 6 5671 2904
Fax: 38 6 5671 2902
E-mail: malacic@mbss.org

Solomon Islands/Iles Salomon/Islas Salomón

Not Represented

Somalia/Somalie/Somalia
Not Represented

South Africa/Afrique du Sud/Africa del Sur

Head of Delegation

Dr Ashley Stratton JOHNSON
Director, Dept. Marine & Coastal Management
Foretrust Building, M. Hamerschlag Way
8000 Foreshore
Cape Town 8001
Tel: 27 21 402 33 06
Fax: 27 21 425 69 76
E-mail: ajohnson@deat.gov.za

Spain/Espagne/España

Head of Delegation

Mr J. Luís Valdes SANTURIO
Director, O. de Gijón
Instituto Español de Oceanografía
Ministerio de Educación y Ciencia
Centro Oceanográfico de Gijón
Avda. Príncipe de Asturias, 70 bis
33212 Gijón (Asturias)
Tel: 34 985 30 86 72
Fax: 34 985 32 62 77
E-mail: luis.valdes@gi.ieo.es

Alternate

Mr Gregorio Parrilla BARRERA
Investigador A1
Instituto Español de Oceanografía
Ministerio de Educación y Ciencia
Corazón de María, 8
28002 Madrid
Tel: 34 91 347 36 08
Fax: 34 91 413 55 97
E-mail: Gregorio.parrilla@md.ieo.es

Representative

Ms Elena TEL
Instituto Español de Oceanografía
Ministerio de Educación y Ciencia
Corazón de María, 8
28002 Madrid
Tel: 34 91 347 36 10
E-mail: elena.tel@md.ieo.es

Adviser

Dr Beatriz REGUERA
Researcher, Instituto Español de Oceanografía
Subida a Radiofaro 50-52
Labo Estay, Canido, Vigo, Pontevedra 36378
Tel: 34 986 492 111
Fax: 34 986 498 626
E-mail: beatriz.reguera@vi.ieo.es

Sri Lanka/Sri Lanka/Sri Lanka

Head of Delegation

Ms K.T.R. PRATHAPASINGHE
Director-General
National Aquatic Resources Research &
Development Agency (NARA)
Crow Island, Mattakkuliya
Colombo 15
Tel/Fax: 94 112 521 932
E-mail: dq@nara.ac.lk

Representatives

Dr Kamal K.D. TENNAKOON
Senior Research Officer
Oceanography Division
National Aquatic Resources Research &
Development Agency (NARA)
Crow Island, Mattakuliya
Colombo 15
Tel: 94 112 521 000/008
Fax: 94 112 521 932/524 430
E-mail: tkdkamal@nara.ac.lk

H.E. Mrs C. WAGISWARA
Ambassador & Permanent Delegate
Permanent Delegation of Sri Lanka to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 3030
Fax: 33 1 47 83 2945
E-mail: dl.sri-lanka@unesco.org

Ms Priyanga WICKRAMASINGHE
Second Secretary
Permanent Delegation of Sri Lanka to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 3030
Fax: 33 1 47 83 2945
E-mail: dl.sri-lanka@unesco.org

Sudan/Soudan/Sudán

Head of Delegation

Prof. Dr EL HAG El Tayeb El Tahir
UNESCO Chair in Marine Biology &
Oceanography
Sudan Institute for Natural Sciences
P.O. Box 3045, Khartoum
Tel: 249 912 440 084
Fax: 249 11 77 92 19
E-mail: elhagachag@yahoo.co.uk

Surinam/Suriname/Suriname
Not Represented

Sweden/Suède/Suecia

Head of Delegation

Mr Stig CARLBERG
Coordinator, Marine Environment
Swedish Meteorological & Hydrological
Institute (SMHI)
Nya Varvet 31
SE 426 71 Vastra Frolunda
Tel: 46 11 495 80 00/31 751 89 76
Fax: 46 31 751 8980
E-mail: stig.carlberg@smhi.se

Alternates

Mr Hans DAHLIN
Director, Swedish Meteorological &
Hydrological Institute (SMHI)
European Global Ocean Observing System
(EuroGOOS)
SE-601 76 Norrköping
Tel: 46 11 495 83 00/8305
Fax: 46 11 495 80 01
E-mail: hans.dahlin@smhi.se
(Also representing EuroGOOS)

Switzerland/Suisse/Suiza

Head of Delegation

Ms Ruth OBERHOLZER
Deputy Permanent Delegate
Permanent Delegation of Switzerland to
UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 33 10
Fax: 33 1 43 06 21 39
E-mail: ruth.oberholzer@eda.admin.ch

Alternate

Dr Reto DURLER
Head, Swiss Maritime Navigation Office
Federal Dept. of Foreign Affairs
Navens St. 49
Bâle 4002
Tel: 41 61 270 9120
Fax: 41 61 270 9129
E-mail: reto.durler@eda.admin.ch

**Syrian Arab Republic/République arabe
syrienne/República árabe siria**
Not Represented

Thailand/Thaïlande/Tailandia

Head of Delegation

Mr Nisakorn KOSITRATNA
Director-General
Dept. of Marine & Coastal Resources
92, Soi Phahonyothin 7, Phahonyothin Rd.
Bangkok 10400
Tel: 66 2 298 2640
Fax: 66 2 298 2161
E-mail: nisakorn@dmcr.go.th

Representative

Dr Cherdchinda CHOTIYAPUTTA
Marine & Coastal Resources Management
Specialist
Dept. of Marine & Coastal Resources
92, Phaholyothin 7, Phayathai
Bangkok 10400
Tel/Fax: 66 2 298 26 59
E-mail: cherdch@dmcr.go.th;
cherdche@yahoo.com

Dr Somkiat KHOKIATTIWONG
Phuket Marine Biological Centre
Dept. of Marine & Coastal Resources
51, Sakdhidatb Rd.
Phuket 83000
Tel: 66 76 39 11 28
Fax: 66 76 39 11 27
E-mail: somkiat@e-mail.in.th

Rear Admiral Nakorn TANUWONG
Deputy Director-General
Hydrographic Dept.
222, Rim Tang Rod Fai
Bangkok 10900
Tel: 66 2 513 3319
E-mail: opel4730@yahoo.com

Capt. Chaiwoot NAWIKANJANA
Director, Oceanographic Division
Hydrographic Dept., Royal Thai Navy
Bangkok 10270
Tel: 66 2 47 57 018
E-mail: chaiwootn@yahoo.com

Dr Preeyanuch JARIYAVIDYANONT
Deputy Permanent Delegate
Permanent Delegation of Thailand to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 31 22
E-mail: dl.thailand@unesco.org

Timor-Leste/Timor-Leste/Timor-Leste
Not Represented

Togo/Togo/Togo

Head of Delegation

Dr Adote B. BLIVI
Géomorphologie et Gestion du Littoral
Maître de Conférences
B.P. 1515
Lomé
Tel: 228 221 68 17/222 48 65
Fax: 228 221 85 95/225 87 84
E-mail: a.blivi@odinafrica.net;
cgileul@yahoo.fr

Alternate

Mr Franck N. Kokou KPAYEDO
Premier Conseiller
Délégation Permanente du Togo auprès
l'UNESCO, Ambassade du Togo
8, rue Alfred Roll
75017 Paris
FRANCE
Tel: 33 1 43 80 12 13
Fax: 33 1 43 80 06 05
E-mail: franckkpayedo@yahoo.fr

Tonga/Tonga/Tonga
Not Represented

**Trinidad & Tobago/Trinité-et-Tobago/
Trinidad y Tobago**
Not Represented

Tunisia/Tunisie/Túnez

Head of Delegation

Professor Chérif SAMMARI
Chef, Laboratoire du milieu marin
Institut National des Sciences et Technologies
de la Mer (INSTM)
28, rue 2 Mars 1934
2025 Salammbô
Tel: 216 71 730 420/277 735
Fax: 216 71 732 622
E-mail: cherif.sammari@instm.rnrt.tn

Representatives

Professor Mourad BEDIR
Directeur général, CERTE
Centre de Recherche et des Technologies des
Eaux B.P. 273
2050 Hammam Lif
Tel: 216 71 43 11 22/02 15
Fax: 216 71 43 09 34
E-mail: mourad.bedir@certe.rnrt.tn

Mr Ridha MRABET
Directeur général
Institut National des Sciences et Technologies
de la Mer (INSTM)
28, rue 2 Mars 1934
2035 Salammbô, Tunis
Tel: 216 71 730 420/548
Fax: 216 71 732 622
E-mail: ridha.mrabet@instm.rnrt.tn

Dr Malika BEL HASSEN
Institut National des Sciences et Technologies
de la Mer (INSTM)
28, rue 2 Mars 1934, Carthage
2025 Salammbô, Tunis
Tel: 216 71 730 420
Fax: 216 71 732 622
E-mail: belhassen.malika@instm.inrt.tn
(Also Co-Chairperson IODE)

Turkey/Turquie/Turquia

Head of Delegation

Rear Admiral Mustafa IPTES
Director, Office of Navigation, Hydrography &
Oceanography
34805 Cubuklu, Istanbul
Tel: 90 216 425 82 82
Fax: 90 216 331 05 25
E-mail: director@shodb.gov.tr;
miptes@hotmail.com
Adviser

Capt. Erhan GEZGIN
Chief, Oceanography Division
Office of Navigation, Hydrography &
Oceanography
34805 Cubuklu, Istanbul
Tel: 90 216 322 25 80, Ext. 3300
Fax: 90 216 331 05 25
E-mail: erhan@shodb.gov.tr

Ukraine/Ukraine/Ucrania

Head of Delegation

Professor Valery N. EREMEEV
Director-General, Oceanological Center
Active Member, Ukrainian National Academy of
Sciences
2, Kapitanskaya St.
Sevastopol 99011
Tel: 380 692 54 04 52 / 44 10
Fax: 380 692 55 43 52 / 28 13
E-mail: eremeev@alpha.mhi.iuf.net;
director@ibss.iuf.net
(Also Chairperson BSRC)

**United Arab Emirates/Emirats arabes
unis/Emiratos Arabes Unidos**

Head of Delegation

Mr Feddoul KAMMAH
Permanent Delegation of the United Arab
Emirates to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 27 24
Fax: 33 1 45 66 99 86
E-mail: f.kammah@unesco.org

**United Kingdom of Great Britain &
Northern Ireland/Royaume-Uni de Grande
Bretagne et d'Irlande du Nord/Reino
Unido de Gran Bretaña e Irlanda del Norte**

Head of Delegation

Mr Trevor GUYMER
Inter-Agency Committee on Marine Science &
Technology (IACMST)
National Oceanography Centre Southampton
European Way
Southampton, SO14 3ZH
Tel: 44 23 8059 6789
Fax: 44 23 80 59 62 04
E-mail: thg@noc.soton.ac.uk

Alternate

Mr David PALMER
IACMST
Old Orchard, The Street Ubley
Bristol, Somerset BS40 6P5
Tel: 44 176 462449
E-mail: davepalmer_x@yahoo.co.uk

Representatives

Dr Lindsay PARSON
Project Leader
Law of the Sea Geosciences Group
Southampton Oceanography Centre
University of Southampton & Natural
Environment Research Council
Waterfront Campus, European Way
Southampton SO14 3ZH
Tel: 44 23 8059 6541
Fax: 44 23 8059 6554
E-mail: imp@soc.soton.ac.uk

Dr Lesley J. RICKARDS
British Oceanographic Data Centre (BODC)
Natural Environment Research Council (NERC)
Joseph Proudman Building, 6, Brownlow St.

Liverpool L3 5DA
Tel: 44 151 795 4897
Fax: 44 151 795 4912
E-mail: lir@bodc.ac.uk

**United Republic of Tanzania/République-
Unie de Tanzanie/República Unida de
Tanzania**

Head of Delegation

Dr Alfonse M. DUBI
Marine Technology – Port & Coastal
Engineering
Institute of Marine Sciences
University of Dar es Salaam
P.O. Box 668, Mizingani Rd.
Zanzibar
Tel: 255 24 223 2128/223 0741
Fax: 255 24 223 30 50
E-mail: dubi@ims.udsm.ac.tz
(Also Vice-Chairperson IOC)

Professor Mohammed Shaaban SHEYA
Minister Plenipotentiary
Deputy Permanent Delegate
Permanent Delegation of the United Republic of
Tanzania to UNESCO
13, av. Raymond Poincaré
75016 Paris
FRANCE
Tel: 33 1 53 70 63 66/7/8
Fax: 33 1 47 55 05 46
E-mail: mssheya@hotmail.com;
ambtanzanie@wanadoo.fr

**United States of America/Etats-Unis
d'Amérique/Estados Unidos de América**

Head of Delegation

Dr Richard W. SPINRAD
Assistant Administrator
Oceans & Atmospheric Research, NOAA
SSMC3, Room 11458
1315 East-West Highway
Silver Spring, MD 20910
Tel: 1 301 713 24 58
Fax: 1 301 713 01 63
E-mail: richard.spinrad@noaa.gov

Alternate

Ms Elizabeth J. TIRPAK
Foreign Affairs Officer
Ocean Science Policy & Research Clearances
US Dept. of State, OES/OA Room 5805
2201 C St. NW
Washington DC 20520

Tel: 1 202 647 02 38
Fax: 1 202 647 11 06
E-mail: tirpakej@state.gov

Representatives

Dr Ned CYR
Chief, Marine Ecosystems Division, NOAA
National Marine Fisheries Service
Office of Science & Technology
SSMC III – F/ST7 – Room 12555
1315 East-West Highway
Silver Spring, MD 20910
Tel: 1 301 713 23 63, Ext: 159
Fax: 1 301 713 1875
E-mail: ned.cyr@noaa.gov

Dr David GREEN
NOAA Tsunami Program Manager
1325 East-West Highway
SSMC-2 Room 15426
Silver Spring, MD 20910
Tel: 1 301 713-3557, Ext: 172
Fax: 1 301 713-0173
E-mail: david.green@noaa.gov

Mr Arthur PATERSON
International Affairs Specialist
NOAA/National Ocean Service
1315 East-West Highway, Room 5627
Silver Spring, MD 20910
Tel: 1 301 713 30 78, Ext: 217
Fax: 1 301 713 42 63
E-mail: arthur.e.paterson@noaa.gov

Dr Stephen R. PIOTROWICZ
Deputy-Director
National Office for Integrated & Sustained
Ocean Observations, Ocean US
2300 Clarendon Blvd., Suite 1350
Arlington, VA 22201-3667
Tel: 1 703 588 0850
Fax: 1 703 588 0872
E-mail: s.piotrowicz@ocean.us;
steve.piotrowicz@noaa.gov

Ms Dianne BURGESS
Executive Assistant
Ocean & Atmospheric Research, NOAA
1315 East-West Highway
SSMC3, Room 11532
Silver Spring, MD 20910
Tel: 1 301 713 2458
Fax: 1 301 713 0163
E-mail: Dianne.burgess@noaa.gov

Mr Clement D. LEWSEY
Director, International Program Office
US Dept. of State
NOAA, National Ocean Service

1315 East-West Highway
Silver Spring, MD 20910
Tel: 1 301 713 3078, Ext: 213
Fax: 1 302 713 4263
E-mail: clement.lewsey@noaa.gov
(Also Vice-Chairperson IOCARIBE)

Mr John H. DUNNIGAN
Assistant Administrator
Ocean Services & Coastal Zone Management
US Dept. of Commerce, NOAA
National Ocean Service
1315 East-West Highway, Room 13632
Silver Spring, MD 20910
Tel: 1 301 713 3074
Fax: 1 301 713 4269
E-mail: jack.dunnigan@noaa.gov

Ms Heather ALLEN
International Affairs Specialist
Office of International Affairs, NOAA
14th & Constitution Ave NW
Washington DC 20230
Tel: 1 202 482 2653
E-mail: heather.allen@noaa.gov

Advisers

Mr Rene EPPI
Director, International Activities Office
Office of Oceanic & Atmospheric Research,
NOAA
1315 East-West Highway
SSMC-3, Room 11230
Silver Spring, MD 20910
Tel: 1 301 734 1099
Fax: 1 301 713 1459
E-mail: rene.eppi@noaa.gov

Ms Debbie LARSON
Policy Advisor
US Dept of Commerce, NOAA
National Ocean Service
1315 East-West Highway,
Silver Spring, MD 20910
Tel: 1 301 713 3074
Cell: 1 301 367 0658
Fax: 1 301 713 4269
E-mail: Debbie.larson@noaa.gov

Mr Terry L. SCHAEFER
Program Manager
International Activities Office
US Dept. of Commerce, NOAA
Oceanic & Atmospheric Research
1315 East-West Highway, Room 11359
Silver Spring, MD 20910
Tel: 1 301 734 1187
Fax: 1 301 713 1459
E-mail: terry.schaefer@noaa.gov

Ms. Nancy J. COOPER
First Secretary, Science & Technology
US Mission to UNESCO
12, avenue Gabriel
75008 Paris
FRANCE
Tel: 33 1 45 24 74 56
Fax: 33 1 45 24 74 58
E-mail: coopernj@state.gov

Uruguay/Uruguay/Uruguay
Not Represented

Venezuela/Venezuela/Venezuela

Head of Delegation

Mr Hernán PÉREZ NIETO
Presidente Comisión Nacional de Oceanología
(CNO)
Ministerio de Ciencia y Tecnología
Av. Circunvalación del Sol
Residencias Oriflama
Apto. B-42, Sta. Paula, El Cafetal
Caracas
Tel: 58 212 987 6846
Fax: 58 212 985 4868
E-mail: pereznietoh@cantu.net
(Also Vice-Chairperson IOCARIBE)

Alternates

Mr Salvatore CAMMARATA
Director, Políticas y Estrategias Armada, DHN,
Av. Prof. San Antonio de Los Altos
San Antonio, Los Salias
Minonao
Tel: 58 412 389 5437
Fax: 58 212 555 6557
E-mail: salbacam@canov.net

Mr Marco FERNANDEZ
Ministerio de Relaciones Exteriores
Caracas
Tel: 58 806 4395
Fax: 58 806 4397
E-mail ; mackperro@cantr.net

Ms Ana ROSENSIL
Directora, Dirección de Hidrografía
Observatorio Cajigal
23 de Enero
Caracas Distrito Capital
Tel: 58 212 555 8002
Fax: 58 212 481 8666
E-mail: arosensil@cantv.net

Mr Gustavo MALAVE BUCCE
Presidente, Fundación Venezolana de

Investigaciones Sismológicas (FUNVISIS)
Final Calle Mara, Urb. El Llanito
Aptdo. Postal 76880
Caracas 1070
Tel: 58 212 257 5153/7672/9346/9985
Fax: 58 212 257 9977
E-mail: gmalave@funvisis.gob.ve
(Also Vice-Chairperson ICG/CARIBE-EWS)

Mr Freddy FLORES
Jefe de Centro
Centro de Procesamiento Digital de Imágenes
Instituto de Ingeniería
Carretera Nacional, Hoyo de la Puerta-Baruta
Urb. Monte Elena II
Altos de Sartenejas, Apartado Postal 40.200
Caracas 1040-A
Tel: 58 212 903 4610/903 4661
Fax: 58 212 903 4781
E-mail ; freddyf@fii.org

Mr José A. ARISMENDI V.
Prof. de Investigación y Desarrollo
Centro de Procesamiento Digital de Imágenes
Apartado 40200
Caracas 1040-A
Tel: 58 903 46 60/10
Fax: 58 903 47 81
E-mail: josea@fii.org

Capt. Alberto Quinoga DIAZ
Segundo Commandante de Guardia Costas
Commando de Guardia Costas
Urbanización Jardín Ulanongo
Valencia, Estado Carabobo 2005
Tel: 58 414 401 1999
E-mail: fadrique76@hotmail.com

Advisers

Capt. Jesús JIMENEZ
Jefe, Asuntos Interinstitucionales DHN
Armada Nacional
Observatorio Naval Cagigal
Caracas D.F. 1021
Tel: 58 212 481 8666
Fax: 58 212 481 5472
E-mail: jhidro@dhn.mil.ve

Mr Alberto MONTILLA
Legal Adviser, Venezuelan Navy
Ave. Sector Sibria Biava, Apartamento 15
Pis.1 Res. El Rocío
San Antonio de Los Altos, Estado Miranda
Miranda
Tel: 58 212 373 7906
E-mail: jesmontals@yahoo.com

Capt. Pibernat MORALES
Hydrographic Station Commander "Pampatar"
Final calle Colina de la Caranta
Faro "Punta Ballena"
Pampatar Codigo Postal 6316
E-mail: luispibernat@gmail.com

Mr Mario Alexander LEAL RAMIREZ
Officer, Committee of Venezuelan Navy
Consulate of Venezuela
Le Moulin de Bretigny
28300 Le Gorget, St. Prest. Eure-et-Loir
FRANCE

Viet Nam/Viet Nam/Viet Nam

Head of Delegation

Professor Son Nguyen KHOA
Vice-President, Vietnamese Academy of
Science & Technology (VAST)
18, Hoang Quoc Viet Rd.
Cau Giay, Hanoi
Tel: 84 4 756 17 23
Fax: 84 4 756 81 71
E-mail: nkson@vast.ac.vn

Alternate

Dr Nguyen TAC AN
Chairman, Vietnam National IOC Committee
Vietnam National Commission for UNESCO
Institute of Oceanography
1, Cau Da, Nha Trang city
Tel: 84 58 59 00 36
Fax: 84 58 59 00 34
E-mail: nguyentacan45@yahoo.com

Representatives

Mrs Thi Thuan VU
Senior Official, International Cooperation Dept.
Vietnamese Academy of Science &
Technology (VAST)
18, Hoang Quoc Viet Rd.
Nghia Do Cau Giay, Hanoi
Tel: 84 4 791 1259
Fax: 84 756 756 2764
E-mail: vtthuan@vast.ac.vn

Advisers

Mr Thai VAN TAN
Deputy Director
International Cooperation Dept.
Ministry of Science & Technology (MOST)
39, Tran Hung Dao
Hanoi
Tel: 84 4 943 5376
Fax: 84 4 943 9987

E-mail: vtan@most.gov.vn;
Thaivan_tan@yahoo.com

Mr Lun Truong DE
Ministry of Science & Technology (MOST)
39, Tran Hung Dao
Hanoi
Tel: 84 48 532 298
Fax: 84 494 39733
E-mail: ltd@most.gov.vn

Yemen/Yemen/Yemen

Head of Delegation

H.E. Mr Hamid ALAWADHI
Ambassador & Permanent Delegate
Permanent Delegation of Yemen to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 33 25
Fax: 33 1 45 66 01 51
E-mail: dl.yemen@unesco.org

Alternate

Ms Solaf ALAWADHI
Permanent Delegation of Yemen to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 33 25
Fax: 33 1 45 66 01 51
E-mail: dl.yemen@unesco.org

III. OBSERVERS FROM NON-MEMBER STATES OF THE IOC/OBSERVATEURS D'ETATS NON-MEMBRES DE LA COI/OBSERVADORES DE PAISES NO MIEMBROS DE LA COI

Burundi/Burundi/Burundi

Head of Delegation

H.E. Mr Ihdephone NKERAMIHIGO
Ambassador & Permanent Delegate
Permanent Delegation of Burundi to UNESCO
10-12, rue de l'Orne
75019 Paris
FRANCE
Tel: 33 1 45 20 60 61
Fax: 33 1 45 20 02 54
E-mail: ambabu.paris@wanadoo.fr

Holy See/Saint-Siège/Santa Sede (Vatican)

Head of Delegation

Ms Florence MOTTE
Secretary, Permanent Observer Mission of the
Holy See to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 33 13
Fax: 33 1 47 23 65 44
E-mail: op.saint-siege@unesco.org

Adviser

Mr Francisco BARONI
Permanent Observer Mission of the Holy See
to UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 33 13
Fax: 33 1 47 23 65 44
E-mail: op.saint-siege@unesco.org

Honduras/Honduras/Honduras

Head of Delegation

H.E. Ms Sonia Mendieta de BADAROUX
Ambassador & Permanent Delegate
Permanent Delegation of Honduras to
UNESCO
1, rue Miollis
75015 Paris
FRANCE
Tel: 33 1 45 68 30 65
Fax: 33 1 45 66 08 37
E-mail: dl.hondura@unesco.org
sbadaroux@yahoo.com

**IV. REPRESENTATIVES & OBSERVERS
OF ORGANIZATIONS/ REPRESENTANTS
ET OBSERVATEURS
D'ORGANISATIONS/REPRESENTANTES Y
OBSERVADORES DE ORGANIZACIONES**

A – ICSPRO Agencies

**United Nations Environment Programme/
Programme des Nations Unies pour
l'environnement/Programa de las Naciones
Unidas para el Medio Ambiente (UNEP)**

Mr Nelson Andrade COLMENARES
Coordinator, Caribbean Environment Programme
Regional Coordinating Unit
UNEP-CAR/RCU

14-20 Port Royal St., Kingston
JAMAICA
Tel: 1 876 922 9267 to 9
Fax: 1 876 922 9292
E-mail: nac.uneprcuja@cwjamaica.com

Dr Veerle VANDEWEERD
Coordinator, Global Programme of Action for the
Protection of the Marine Environment from
Land-based Activities —GPA/Head Regional
Seas
Kortenaerkade 1
2518 AX The Hague
The Netherlands
Tel: 31 (0)70 311 4461
Fax: 31 (0)70 345 6648

**World Meteorological
Organization/Organisation Météorologique
Mondiale/Organización Meteorológica
Mundial (WMO)**

Mr Georgi I. KORTCHEV
Director, Applications Programme Dept.
Weather, Climate, Water, WMO
7bis, av. de la Paix
(Case Postale 2300)
1211 Geneva 2
SWITZERLAND
Tel: 41 22 730 84 21
Fax: 41 22 730 81 28
E-mail: gkortchev@wmo.int

Mr Edgard CABRERA
Chief, Ocean Affairs Division
Applications Programme Dept., WMO
7bis, av. de la Paix
(Case Postale 2300)
1211 Geneva 2
SWITZERLAND
Tel: 41 22 730 82 37
Fax: 41 22 730 81 28
E-mail: ecabrera@wmo.int

B – Other Intergovernmental Organizations

**Permanent Commission for the South
Pacific/ Commission permanente du
Pacifique Sud/Comisión Permanente del
Pacífico Sur (CPPS)**

Dr Gonzalo PEREIRA PUCHY
Secretary-General, CPPS
Avda. C.J. Arosemena Km 3
Edif. Inmaral, Primer Piso
Guayaquil
ECUADOR
Tel: 593 4 222 12 02
Fax: 593 4 222 1201
E-mail: subsecre@cpps-int.org

Global Earth Observation System of Systems/Système mondial des systèmes d'observation de la Terre/Sistema Mundial de Sistemas de Observación de la Tierra (GEO)

Vice Admiral Conrad LAUTENBACHER Jr. Co-Chair
Undersecretary for Oceans & Atmosphere/NOAA Administrator
US Dept. of Commerce, Room 5128
14th Street & Constitution Ave NW
Washington DC 20230
Tel: 1 202 482-3436
Fax: 1 202 408 9674
E-mail: conrad.lautenbacher@noaa.gov

Mr Giovanni RUM
Senior Programme Officer
GEO Secretariat
7bis, av. de la Paix
(Case Postale 2300)
CH-1211 Geneva
SWITZERLAND
Tel: 41 22 730 84 52
Fax: 41 22 720 85 20
E-mail: grum@geosec.org

International Hydrographic Bureau/ Bureau hydrographique international/ Oficina Hidrográfica Internacional (IHB)

Mr Hugo GORZIGLIA
Capt. Chilean Navy
Director, International Hydrographic Bureau
4, Quai Antoine 1^{er} (B.P. 445)
MC 98011 Monaco Cedex
MONACO
Tel: 337 93 10 81 00
Fax: 337 93 10 81 40
E-mail: dir2@ihb.mc

International Ocean Institute/ Institut international de l'océan/Instituto Oceánico Internacional (IOI)

Dr Iouri OLIOUNINE
Executive Director, IOI
P.O. Box 3, Gzira GZR 01
MALTA
Tel: 356 34 65 29/28
Fax: 356 34 65 02
E-mail: ioihq@ioihq.org.mt

North Pacific Marine Science Organization/Organisation des sciences de la mer pour le Pacifique Nord/ Organización del Pacífico Norte para las Ciencias del Mar (PICES)

Mr Alexander S. BYCHKOV
Executive Secretary, PICES
C/o Institute of Ocean Sciences
P.O. Box 6000
Sidney, B.C. V8L 4B2
CANADA
Tel: 1 250 363 63 64
Fax: 1 250 363 68 27
E-mail: bychkov@pices.int

C – Non-Governmental Organizations

Commission of the History of Oceanography

Dr Selim MORCOS
28204 Kenton Lane
Santa Clarita, CA 91350
USA
Tel: 1 611 296 1034
E-mail: selimmorx@aol.com

Institute of Marine Engineering, Science & Technology (IMAREST)

Dr Bev MACKENZIE
Manager, Technical Affairs, IMAREST
80, Coleman St.
London EC2R 5BJ
UNITED KINGDOM
Tel: 44 20 7382 26 28
Fax: 44 20 7382 26 68
E-mail: bev.mackenzie@imarest.org

D – Advisory Bodies

IOC Advisory Body of Experts on the Law of the Sea/Organe consultatif d'experts sur le droit de la mer/Organo Consultivo de Expertos sobre el Derecho del Mar (IOC/ABE-LOS)

M. Elie JARMACHE
Chargé de Mission
Secrétariat Général de la Mer
16, bd. Raspail
75007 Paris
Tel: 33 1 53 63 41 58
Fax: 33 1 53 63 41 78
E-mail: elie.jarmache@pm.gouv.fr
(Also representing France)

Scientific Committee on Oceanic Research/Comité scientifique de la recherche océanique/Comité Científico de Investigaciones Oceánicas (SCOR)

Professor Bjørn SUNDBY
President SCOR

University of Quebec, Rimouski & McGill
University
Earth & Planetary Sciences, McGill University
3450 University St.
Montreal, QC H3A 2A7
CANADA
Tel.: 1 514 398 48 83
Fax: 1 514 398 46 80
E-mail: bjorn.sundby@mcgill.ca

Mr Ed URBAN
Executive Director, SCOR
Dept. of Earth & Planetary Sciences
125, Olin Hall, The John Hopkins University
Baltimore, MD 21218
USA
Tel: 1 410 516 4239
Fax: 1 410 516 40 19
E-mail: ed.urban@scor-int.org

**E_A – IOC Primary Subsidiary Bodies
(regional and technical)**

**Intergovernmental Coordination Group for
the Indian Ocean Tsunami Warning and
Mitigation System/Groupe
intergouvernemental de coordination du
Système d'alerte aux tsunamis et de
mitigation dans l'océan Indien/Grupo
Intergubernamental de Coordinación del
Sistema de Alerta contra los Tsunamis y
Atenuación de sus Efectos en el Océano
Índico (ICG/IOTWS)**

Dr Ir. Jan Sopaheluwakan M.Sc.
Deputy Chairman for Earth Sciences
Indonesian Institute of Sciences (LIPI)
Gd. Widya Sarwono Lt. 3
Jl.Jend. Gatot Subroto 10, Jakarta 12710
INDONESIA
Tel: +62 21-5251850
Fax: + 62 21-5260804
Email: jans@lipi.go.id;
jx_hydrogen@yahoo.com

**Intergovernmental Coordination Group for
the Tsunami Early Warning and Mitigation
System in the North Eastern Atlantic, the
Mediterranean and Connected Seas/Groupe
intergouvernemental de coordination du
Système d'alerte rapide aux tsunamis et de
mitigation dans l'Atlantique du Nord-Est, la
Méditerranée et les mers adjacentes/Grupo
Intergubernamental de Coordinación del
Sistema de Alerta Temprana contra los
Tsunamis y Atenuación de sus Efectos en
el Atlántico Nororiental y el Mediterráneo y
Mares Adyacentes (ICG/NEAMTWS)**

Professor Stefano TINTI (Chair)
Department of Physics
University of Bologna
Viale Carlo Berti Pichat, 8
I-40127 Bologna
Italy
Tel. +39 051 2095025
Fax +39 051 2095058
Email: stefano.tinti@unibo.it
(Also representing Italy)

**Intergovernmental Coordination Group for
the Tsunami and other Coastal Hazards
Warning System for the Caribbean Sea and
Adjacent Regions/Groupe
intergouvernemental de coordination du
Système d'alerte aux tsunamis et aux autres
risques côtiers dans la mer des Caraïbes et
les régions adjacentes/Grupo
Intergubernamental de Coordinación del
Sistema de Alerta contra los Tsunamis y
otras Amenazas Costeras en el Caribe y
Regiones Adyacentes (ICG/CARIBE-EWS)**

Mr Gustavo MALAVE BUCCE
Presidente, Fundación Venezolana de
Investigaciones Sismológicas (FUNVISIS)
Final Calle Mara, Urb. El Llanito
Aptdo. Postal 76880
Caracas 1070
Tel: 58 212 257 5153/7672/9346/9985
Fax: 58 212 257 9977
E-mail: gmalave@funvisis.gob.ve
(Also representing Venezuela)

**Intergovernmental Committee for the Global
Ocean Observing System/Comité
intergouvernemental pour le Système
mondial d'observation de l'océan/Comité
Intergubernamental para el Sistema Mundial
de Observación de los Océanos (I-GOOS)**

M. François GERARD
Président du Comité National pour la COI
C/o CGPC-52, Tour Pascal B
92055 La Défense Cedex
Tel: 33 1 40 81 23 88
Cell: 33 1 6 85 07 73 34
E-mail: francoisgerard@equipement.gouv.fr
(Also representing France)

Ms Mary G. ALTALO (Vice-Chairperson)
Director, National Office for Integrated &
Sustained Ocean Observations
Ocean.US
2300 Clarendon Bd., Suite 1350
Arlington, VA 22201-3667
USA

Tel: 1 703 588 0853
Fax: 1 703 588 0872
E-mail: mary.altalo@ocean.us
(Also representing the USA)

Mr Kouadio AFFIAN (Vice-Chairperson)
Directeur, Centre Universitaire de Recherche
et d'Application en Télédétection
Remote Sensing Center for Applied Research,
University of Cocody
22 B.P. 582, Abidjan 22
CÔTE D'IVOIRE
Tel: 225 22 44 52 70
E-mail: k_affian@yahoo.fr

**IOC Regional Committee for the Central
Eastern Atlantic/Comité régional de la COI
pour l'Atlantique du Centre-Est/ Comité
Regional de la COI para el Atlántico
Centrooriental (IOCEA)**

Mr Julius WELLENS-MENSAH (Chair)
Director, Hydrological Services Dept.
P.O. Box MB 501
Accra
GHANA
Tel: 233 21 677 383
Fax: 233 21 677 384
E-mail: hsd@ghana.com
(Also representing Ghana)

**IOC Programme for the Western Indian
Ocean/Comité régional de la COI pour
l'océan indien occidental/Comité Regional
de la COI para el Océano Índico Occidental
(IOCWIO)**

Mr Antonio Mubango HOGUANE (Chairperson)
Oceanographer
Eduardo Mondlane University
University Main Campus, P.O. Box 257
Maputo
MOZAMBIQUE
Tel: 258 149 7153
Fax: 258 149 7733
E-mail: hoguane@yahoo.com.br

**IOC Committee on International
Oceanographic Data and Information
Exchange/ Echange international des
données et de l'information
océanographiques/ Intercambio
Internacional de Datos e Información
Oceanográficos (IODE)**

Mr Greg REED (Co-Chairperson)
Executive Officer
Australian Ocean Data Centre Joint Facility
Dept. of Defence, Australian Govt.
Maritime Headquarters

Wylde St., Potts Point NSW 2011
AUSTRALIA
Tel: 61 2 9359 3141
Fax: 61 2 9359 3120
E-mail: greg@aodc.gov.au
(Also representing Australia)

Dr Malika BEL HASSEN (Co-Chairperson)
Institut National des Sciences et Technologies
de la Mer (INSTM)
28, rue 2 Mars 1934, Carthage
2025 Salammbô, Tunis
TUNISIA
Tel: 216 71 730 420
Fax: 216 71 732 622
E-mail: belhassen.malika@instm.inrt.tn
(Also representing Tunisia)

Dr Lesley J. RICKARDS (Former Chairperson)
British Oceanographic Data Centre (BODC)
Natural Environment Research Council (NERC)
Joseph Proudman Building, 6, Brownlow St.
Liverpool L3 5DA
Tel: 44 151 795 4897
Fax: 44 151 795 4912
E-mail: ljr@bodc.ac.uk
(Also representing UK)

**Intergovernmental Panel on Harmful Algal
Blooms/Groupe intergouvernemental chargé
d'étudier les efflorescences algales
nuisibles/ Panel Intergubernamental sobre
Floraciones de Algas Nocivas (IPHAB)**

Mr Leonardo GUZMAN (Chairperson)
Instituto de Fomento Pesquero
Balmaceda 252, Puerto Montt
Region de Los Lagos
CHILE
Tel: 56 65 342 309
Fax: 56 65 342 398
E-mail: lguzman@ifop.cl

**Joint IOC-WMO Technical Commission for
Oceanography & Marine Meteorology/
Commission technique mixte
d'océanographie et de météorologie
maritime/Comisión Técnica Mixta sobre
Oceanografía y Meteorología Marina (JCOMM)**

Dr Jean-Louis FELLOUS (Co-President)
Programme Coordinator
European Space Agency (ESA)
Earth Observations Coordination Office
8-10, rue Mario Nikis
75015 Paris
FRANCE
Tel: 33 1 53 69 72 03
Fax: 33 1 53 69 72 26
E-mail: Jean-Louis.Fellous@esa.int

IOC Sub-Commission for the Western Pacific/Sous-Commission régionale de la COI pour le Pacifique occidental/ Subcomisión Regional de la COI para el Pacífico Occidental (WESTPAC)

Dr Hyung Tack HUH
Fellow, Agriculture/Fisheries Sciences Div.
Senior Scientist Emeritus
Korean Ocean Research & Development
Institute (KORDI)
National Coordinator, UNDP/GEF YSLME
Project
Korean Academy of Science & Technology
12-41 Bangbae-dong, Seocho-gu
Seoul 137-060
Tel: 82 2 534 5059
E-mail: hthuh@kordi.re.kr
(Also representing the Rep. of Korea)

E_B – IOC Secondary Subsidiary Bodies

IOC Consultative Group on Ocean Mapping/Groupe consultatif de la COI sur la cartographie des océans/Grupo Asesor de la COI sobre Cartografía Oceánica (CGOM)

Dr Gunter GIERMANN (Chairperson)
Offenbachstr. 32
D-53173 Bonn
GERMANY
Tel/Fax: 49 228 35 47 94

GOOS Scientific Steering Committee/Comité directeur scientifique du Système mondial d'observation de l'océan/Comité Científico de Dirección del Sistema Mundial de Observación de los Océanos (GSSC)

Professor John G. FIELD (Chairperson)
Trustee, Plymouth Marine Lab.
Prospect Place, The Hoe
Plymouth, PL1 3DH
UNITED KINGDOM
Tel: 44 27 21 650 3612
E-mail: jgfield@pop.uct.ac.za

F – International Programmes

Global Climate Observing System/ Système mondial d'observation du climat/ Sistema Mundial de Observación del Clima (GCOS)

Mr John ZILLMAN (Chairperson)
7bis, avenue de la Paix
P.O. Box 2300
CH-1211 Geneva 2

SWITZERLAND
Tel: 61 3 966 94250
Fax: 61 3 966 94169
E-mail: j.zillman@bom.gov.au

Global Ocean Data Assimilation Experiment/Expérience mondiale d'assimilation des données océaniques/ Experimento Mundial de Asimilación de Datos Oceánicos (GODAE)

Dr Pierre-Yves LE TRAON (Vice-Chairperson)
IFREMER, Centre de Brest
Plouzané 29280
FRANCE
Tel: 33 2 98 22 43 16

European Global Ocean Observing System/Composante régionale du GOOS pour l'Europe/Componente Regional del GOOS para Europa (EuroGOOS)

Mr Hans DAHLIN
Director, Swedish Meteorological & Hydrological
Institute (SMHI)
European Global Ocean Observing System
(EuroGOOS)
SE-601 76 Norrköping
SWEDEN
Tel: 46 11 495 83 00/8305
Fax: 46 11 495 80 01
E-mail: hans.dahlin@smhi.se
(Also representing Sweden)

Intergovernmental Panel on Climate Change/ Groupe d'experts intergouvernemental sur l'évolution du climat/Grupo Intergubernamental de Expertos sobre los Cambios Climáticos (IPCC)

Professor Robert NICHOLLS
Coastal Engineering
School of Civil Engineering & the Environment
University of Southampton SO17 1BJ
UNITED KINGDOM
Tel: 44 23 8059 4139
E-mail: r.j.nicholls@soton.ac.uk

World Climate Research Programme/ Programme mondial de recherche sur le climat/ Programa Mundial de Investigaciones Climáticas (WCRP)

Dr John CHURCH
Chair, WCRP Joint Scientific Committee
Chief Research Scientist
CSIRO Marine & Atmospheric Research
GPO Box 1538, Hobart
Tasmania 7001

AUSTRALIA

Tel: 61 3 6232 5207
Fax: 61 3 6232 5123
E-mail: john.church@csiro.au

Dr Ann HENDERSON-SELLERS

Director, WCRP, c/o WMO
7bis, av. de la Paix
Case Postale 2300
CH-1211 Geneva 2
SWITZERLAND
Tel: 41 22 730 82 46
Fax: 41 22 730 80 36
E-mail: ahenderson-sellers@wmo.int

Dr Vladimir RYABININ

Senior Scientific Officer
WCRP, c/o WMO
7bis, avenue de la Paix
1211 Geneva 2
SWITZERLAND
Tel.: 41 22 730 84 86
Fax: 41 22 730 80 36
E-mail: vryabinin@wmo.int
Ms Catherine MICHAUT
WCRP Support Unit
Institut Pierre-Simon Laplace (IPSL),
Université Pierre et Marie Curie (UPMC)
4, place Jussieu - Case 101
75252 Paris Cedex 05
FRANCE
Tel: 33 1 44 27 21 82
Fax: 33 1 44 27 21 81
E-mail: catherine.michaut@ipsl.jussieu.fr

Dr Venkatachalam RAMASWAMY

Senior Scientist & Group Leader
Atmospheric Physics & Chemistry Group
Geophysical Fluid Dynamics Lab/NOAA
Princeton University Forrestal Campus
Route 1, P.O. Box 308
Princeton, NJ 08542, USA
Tel: 1 609 452 6510
Fax: 1 609 987 5063
E-mail: v.ramaswamy@noaa.gov
**WCRP – Climate Variability and
Predictability/Variabilité et prévisions
climatiques/Variabilidad y Predictibilidad
del Clima (CLIVAR)**

Dr Howard CATTLE

International CLIVAR Project Office
National Oceanography Centre Southampton
University of Southampton
Waterfront Campus, Southampton SO14 3ZH
UNITED KINGDOM
Tel: 44 2380 596 208
Fax: 44 2380 596 204
E-mail: hyc@noc.soton.ac.uk

G – Keynote Speakers

H. E. Mr Kusmayanto Kadiman
State Minister
Ministry of Research and Technology (RISTEK)
Grduung BP PT II Lt.24, Jl MH Thamrin No. 8
Jakarta 10340
Indonesia
Phone: 6221 31 924 703
Fax: (62-21) 3911789
E-mail: kkadiman@ristek.go.id

Mr Koïchiro Matsuura

Director-General
United Nations Educational, Scientific and
Cultural Organization (UNESCO)
7, Place de Fontenoy
75352 Paris 07 SP
Tel: 33 1 45 68 13 11
E-mail: matsuura@unesco.org

H. - Bruun Memorial Lecture

Professor Dr Leonid A. TIMOKHOV

Director, Dept. of Oceanology
Principal Research Fellow
Arctic & Antarctic Research Institute of
ROSHYDROMET
Otto Schmidt Lab. for Polar & Marine Sciences
38, Bering St.
St. Petersburg 199397
RUSSIAN FEDERATION
Tel: 7 813 352 3179/352 2419
Fax: 7 812 352 2883
E-mail: ltim@aari.nw.ru

I. – Panikkar Memorial Lecture

Dr R.A. Mashelkar FRS,
President, Global Research Alliance,
National Chemical Laboratory (NCL)
Dr Homi Bhabha Road,
Pune 411008,
India
E-mail: ram@ncl.res.in

**V. SECRETARIAT/SECRETARIAT/
SECRETARIA**

Tel: 33 1 45 68 10 00/45 68 39 83
Fax: 33 1 45 68 58 12/10
Tlx: 20446 PARIS
Cbl: UNESCO PARIS/740057 IOCS UC
E-mail: initial.familyname@unesco.org

Executive Secretary

Dr Patricio BERNAL

Executive Secretary's Office

Mr Stefano BELFIORE
Ms Réjane HERVE-SMADJA
Ms Silvia SERMENO
Mr Casey WALTHER
Ms Ksenia YVINEC

Editor

Mr Ray GRIFFITHS

Documentation Office

Mr Patrice BONED
Ms Cigié PONTES

Tsunami Coordination Unit

Mr Bernardo ALIAGA
Mr Peter KOLTERMANN
Ms. Belén MARTIN-MIGUEZ
Ms Sima TAHERI
Mr Dimitri TRAVIN
Mr Ulrich WOLF
Mr Masahiro YAMAMOTO

Ocean Sciences Section

Mr Julian BARBIÈRE
Ms Virginie BONNET
Mr Rodrigo CHOUERI
Ms Sarah COLAUTTI
Ms Raffaella COTTALORDA
Mr Roger DARGAVILLE
Ms Maria HOOD
Ms Christiane LE CONAN
Ms Aurora MATEOS

Ocean Observation and Services

Mr Thorkild AARUP
Mr Justin AHANHANZO
Mr Keith ALVERSON
Mr Jim BAKER
Ms Candyce CLARK
Ms Laurence FERRY
Mr Albert FISCHER
Mrs Irène GAZAGNE
Mr Tom GROSS
Ms Ho Hien LAM
Ms Boram LEE
Mr Peter PISSIERSENS
Ms Aurélie SECHERET
Mr Adrien VANNIER

Capacity-Building

Mr Ehrlich DESA
Mr Joannes BERQUE
Mr Alexei SUZYUMOV

Staff away from Headquarters

Dr Cesar TORO
IOCARIBE Secretariat

Casa del Marques de Valdehoyos
Calle de la Factoría, Centro Cartagena
COLOMBIA
Tel: 57 5 664 6399
Fax: 57 5 660 0407
E-mail: iocaribe@enred.com
c.toro@unesco.org

Mr Henrik ENEVOLDSEN
Project Co-ordinator
Harmful Algae Bloom Programme
IOC Science & Communication Centre on
Harmful Algae
Botanical Institute, University of Copenhagen
Oster Farimagsgade 2 D
1353 Copenhagen K
DENMARK
Tel: 45 33 13 44 46
Fax: 45 33 13 44 47
E-mail: henrike@bot.ku.dk
<http://ioc.unesco.org/hab>

Mr Tony ELLIOT
Head, ICG/IOTWS Secretariat
C/o Bureau of Meteorology
P.O. Box 1370, West Perth
1100 Hay St., WA 6872
AUSTRALIA
Tel: 61 8 9226 0191
Fax: 61 8 9263 2211
E-mail: t.elliott@unesco.org

Dr Nick D'ADAMO
Head, Perth Regional Programme Office
C/o Bureau of Meteorology, 5th Floor
1100 Hay St., West Perth, WA 6005
P.O. Box 1370, West Perth
AUSTRALIA
Tel: 61 8 9226 2899
Fax: 61 8 9263 0599
E-mail: nick.d'adamo@bom.gov.au

Mr Mika ODIDO
ODINAFRICA/IOCWIO Projects Office
UNESCO Nairobi Office
UNON Complex Gigiri Block C
P.O. Box 30592, 00100 Nairobi
KENYA
Tel: 254 20 623830
Fax: 254 20 622750
E-mail: m.odido@unesco.org
m.odido@odinafrica.net

Mr Wenxi ZHU
Project Expert
IOC Regional Secretariat for WESTPAC
c/o Dept. of Marine & Coastal Resources
92, Phaholyothin 7 Rd, Samsennai
Bangkok 10400

THAILAND

Tel: 66 2 2982637/142

Fax: 66 2 2986 313

E-mail: z.wenxi@unescothkk.org

Ms Janice TROTTE

Rio GOOS Office

Directoria de Hidrografia e Navegação

Rua Barão de Jaceguai s/nº

Niteroi CEP 24

24 048 900 Rio de Janeiro

BRAZIL

Tel: 55 21 26 13 80 13

Fax: 55 21 26 13 80 88

E-mail: janice.trotte@terra.com.br

Ms Hester VIOLA

DBCP / SOT Technical Coordinator

JCOMMOPS

8-10, rue Hermès

Parc Technologique du Canal

31526 Ramonville Saint-Agne CEDEX

France

Tel: +33 5 61 39 47 82

Email: viola@jcommops.org

Dr Vladimir VLADYMYROV

Head, IODE Project Office, c/o VLIZ

Flanders Marine Institute

Wandelaarkaaai 7, B-8400 Ostend

BELGIUM

Tel: 32 59 34 21 30

Fax: 32 59 34 21 31

E-mail: v.vladymyrov@unesco.org

ANNEX XI

LIST OF ACRONYMS

4AR	4th Assessment Report (IPCC)
AARI	Arctic and Antarctic Research Institute (Germany-Russian Federation)
ABE-LOS	Advisory Body of Experts on the Law of the Sea (IOC)
ADG	Assistant Director-General (UNESCO)
AoA	Assessment of Assessments
ARGO	GODAE global profiling float project [not an acronym]
ASEAN	Association of South-East Asian Nations
AZNG	Adjusted Zero Nominal Growth [UNESCO budget scenario]
BILKO	UNESCO Project developing training capability for coastal and marine remote sensing (not an acronym)
BlackSeaGOOS	Black Sea Regional GOOS
CAR-CU	Caribbean 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)
CCA	Caribbean Conservation Association
CCO	Colombian Commission for the Ocean
CDIAC	Carbon Dioxide Information Analysis Centre
CIESM	Commission internationale pour l'exploration scientifique de la Méditerranée
CLIMAR	JCOMM Workshop on Advances in Marine Climatology
CLME	Caribbean Large Marine Ecosystem
CORMF	Coastal Research and Monitoring Programme
CPPS	Comisión Permanente del Pacífico Sur [Permanent Commission for the South Pacific]
CTBTO	Commission to the Nuclear Test Ban Treaty Organization
CTIC	Caribbean Tsunami Information Centre
DART	Deep-ocean Assessment and Reporting of Tsunamis
DG	Director-General
DMAC	Data Management and Communication
DR	Draft Resolution
EC	Executive Council
EEZ	Exclusive Economic Zone
ENSO	El Niño–Southern Oscillation
ERFEN	Estudio Regional del Fenómeno El Niño [Regional Study of the Phenomenon known as 'El Niño'] (CPPS)
FAO	Food and Agriculture Organization of the United Nations
FDSN	Federation of Digital Broad-Band Seismograph Networks
FUST	Flanders–UNESCO Trust Fund for Science
GCLME	Guinea Current Large Marine Ecosystem
GCN	GLOSS Core Network (IOC)
GCOS	Global Climate Observing System (WMO–ICSU–IOC–UNEP)
GEBCO	General Bathymetric Chart of the Oceans (IOC–IHO)
GEF	Global Environment Facility (UNDP)
GEO	Group on Earth Observation
GEOHAB	Global Ecology and Oceanography of Harmful Algal Blooms (SCOR–IOC)
GEOSS	Group on Earth Observation System of Systems (GEO)

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)
GODAE	Global Ocean Data Assimilation Experiment
GOHWMS	Global Tsunami and Other Ocean-Related Hazards Early Warning System (IOC)
GOOS	Global Ocean Observing System (IOC–WMO)
GRA	GOOS Regional Alliance (GOOS)
GRAME	Global Reporting and Assessment of the State of the Marine Environment (UN)
GRASP	GOOS Regional Alliance for the Southeast Pacific
GSN	GCOS Surface Network
GSSC	GOOS Scientific Steering Committee
GTOS	Global Terrestrial Observing System (ICSU)
GTS	Global Telecommunication System (WMO)
HAB	Harmful Algal Blooms (IOC)
HFA	Hyogo Framework for Action
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
IFRC	International Federation of Red Cross and Red Crescent Societies
IGBP	International Geosphere–Biosphere Programme (ICSU)
I-GOOS	Intergovernmental Committee for GOOS (IOC–WMO–UNEP)
IGOS	Integrated Global Observing System
IHO	International Hydrological Organization
IHP	International Hydrological Programme (UNESCO–IHO)
IMO	International Maritime Organization (UN)
Ina-GOOS	Indonesian Global Ocean Observing System
Ina-TEWS	Indonesian Tsunami Early Warning System
INGV	Istituto Nazionale di Geofisica e Vulcanologia (Italy)
INOCAR	Instituto Oceanográfico de la Armada (Ecuador)
IOC	Intergovernmental Oceanographic Commission (UNESCO)
IOCEA	IOC Regional Committee for the Central Eastern Atlantic
IODE	International Oceanographic Data and Information Exchange (IOC)
IODM	Indian Ocean Dipole Mode
IOI	International Ocean Institute
IOOS	Integrated Ocean Observing System (USA)
IOTWS	Indian Ocean Tsunami Warning and Mitigation System
IPCC	Intergovernmental Panel on Climate Change (UNEP–WMO)
IPHAB	Intergovernmental Panel on Harmful Algal Blooms (IOC)
IPY	International Polar Year
ISDR	International Strategy for Disaster Reduction (UN)
ITIC	International Tsunami Information Centre (USA–IOC)
IUCN	World Conservation Union [also known as International Union for Conservation of Nature and Natural Resources]
IUGG	International Union for Geodesy and Geophysics
JASL	Joint Archive for Sea Level (USA)
JCOMM	Joint Commission on Oceanography and Marine Meteorology (WMO–IOC)
JCOMMOPS	JCOMM Observing Platform Support
JMA	Japan Meteorological Agency
J-PICO	Joint Panel for Integrated Coastal Observation (GOOS–GTOS)

JSC	Joint Scientific Committee (WCRP)
MAB	Man and the Biosphere programme (UNESCO)
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)
NEPAD	New Partnership for Africa's Development
NGO	Non-governmental organization
NOAA	National Oceanic and Atmospheric Administration (USA)
NODC	National Oceanographic Data Centre (IODE)
OBIS	Ocean Biogeographic Information System (Census of Marine Life)
OCEATLAN	GOOS Regional Alliance for the Upper Southwest and Tropical Atlantic Ocean
ODIN	Oceanographic Data and Information Network (IODE)
ODIN-AFRICA	Oceanographic Data and Information Network for Africa (IODE)
ODIN-BLACKSEA	Oceanographic Data and Information Network for the Black Sea (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-ECET	Oceanographic Data and Information Network for European Countries in Economic Transition
ODIN-WESTPAC	Oceanographic Data and Information Network for the Western Pacific (IODE)
ODP	Ocean Data Portal (IODE)
OLA/DOALOS	Office of Legal Affairs/Division of Ocean Affairs and the Law of the Sea (UN)
OOPC	Ocean Observations Panel for Climate (GCOS–GOOS–WMO)
PEMSEA	Partnerships in Environmental Management for the Seas of East Asia
PICES	North Pacific Marine Sciences Organization
PICO	Panel on Integrated Coastal Observation (GCOS)
POGO	Partnership for Observation of the Global Oceans
PORTS	Physical Oceanographic Real-Time System (USA)
PTWC	Pacific Tsunami Warning Center (USA)
PTWS	Pacific Tsunami Warning and Mitigation System (IOC)
RG	Real Growth [UNESCO budget scenario]
RNODC	Responsible National Oceanographic Data Centre (IODE)
RSB	Regional Subsidiary Body (IOC)
SCAR	Scientific Committee on Antarctic Research (ICSU)
SC-IOCARIBE	IOC Sub-Commission for the Caribbean and Adjacent Regions (IOC)
SCOR	Scientific Committee on Oceanic Research (ICSU)
SISTER	System of Information on Strategies, Tasks and Evaluation of Results (UNESCO)
SOP	Standard operating procedure
TAO	Tropical Atmosphere Ocean project (USA)
TNC	Tsunami National Contact (IOC)
TOWS	Tsunami and Other Hazards Related to Sea-Level Warning and Mitigation System (IOC)
TTR	Training Through Research (UNESCO)
TWFP	Tsunami Warning Focal Point (IOC)
TWS	Tsunami Early Warning System (IOC)
UN	United Nations
UNCED	United Nations Conference on Environment and Development

UNCLOS	United Nations Convention on the Law of the Sea
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNGA	United Nations General Assembly
WB	World Bank
WCRP	World Climate Research Programme
WG	Working Group
WHC	World Heritage Centre (UNESCO)
WIS	WMO Information System
WMO	World Meteorological Organization (UN)
YSLME	Yellow Sea Large Marine Ecosystem
ZNG	Zero Nominal Growth [UNESCO budget scenario]
ZRG	Zero Real Growth [UNESCO budget scenario]

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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

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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, Papetee, 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), Mombassa, 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