

Intergovernmental Oceanographic Commission
Reports of Governing and Major Subsidiary Bodies



**IOC Sub-Commission
for the Caribbean and Adjacent
Regions (IOCARIBE)**

Sixth Session

San José, Costa Rica

26 - 29 April 1999

UNESCO

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1. OPENING

1 The Chairman of IOCARIBE, Dr. Bradford Brown (USA), opened the Session at 09.00 on Monday 26 April 1999, at the Auditorium of the Ciudad Científica of the University of Costa Rica, (Ciudad Universitaria Rodrigo Facio, San Pedro de Montes de Oca).

2 The Executive Secretary of IOC, Dr. Patricio Bernal, on behalf of UNESCO – IOC informed the audience of the recent developments in UN interagency coordination, particularly in the Administrative Coordination Committee (ACC), Sub-Committee for Ocean and Coastal Areas, which he will chair for the next two years. He underlined the need for IOCARIBE and IOC to strengthening relationships with other regional organizations to efficiently fulfill their role.

3 Mr. José Joaquín Chaverri, Director of the Institute of Diplomacy of Costa Rica, who represented the Ministry of Foreign Affairs, welcomed the participants and delegates from Member States and regional organizations.

4 Mr. Gabriel Macaya Trejos, Dean of the University of Costa Rica recalled that it was on this campus where the IOCARIBE Association had its headquarters from 1978 to 1982, before being transformed into the present permanent Sub-Commission. He emphasized the hard work of Dr. Manuel Murillo, Chairman of the experimental Association during that interval and welcomed the return of this meeting to the University after so many years.

5 Mrs. Elizabeth Odio Benito, Vice-President of Costa Rica and Secretary of Environment and Energy, addressed the participants. The Vice-President expressed the satisfaction of her Government for hosting the Sixth IOCARIBE Intergovernmental Session and of the interest of Costa Rica in participating in the marine and coastal activities at the international and regional level. She referred to the recent meetings in New York of the Commission for Sustainable Development after UNCED, and how the approach has evolved since the times of discussing the UN Convention on the Law of the Sea. In concluding, the Vice-President formally declared open the Sixth Intergovernmental Session of IOCARIBE.

2. ADMINISTRATIVE ARRANGEMENTS

2.1 ADOPTION OF THE AGENDA AND TIMETABLE

6 The Provisional Agenda (Doc. SC-IOCARIBE-VI/1 Prov.) and Provisional Timetable (Doc. SC-IOCARIBE-VI/1 Prov. Add.) for this Session were submitted to the delegates. They modified the Provisional Timetable. By request of the Chairman Agenda Item 6 was addressed immediately after Agenda Item 2, to take advantage of the presence of the Executive Secretary of IOC. The delegate of Costa Rica requested to move item 4 after item 6. The Agenda and Timetable were adopted with these modifications.

2.2 DESIGNATION OF RAPORTEUR FOR THE SESSION

7 **The Sub-Commission appointed** Mr. Alvaro Morales and Mr. Luis Villalobos from Costa Rica as Spanish Rapporteurs, and Mr. Noel Jacobs as English Rapporteur.

2.3 CONDUCT OF THE SESSION AND DOCUMENTATION

8 The Acting Regional Secretary for IOCARIBE introduced the Provisional List of Documents (Doc. SC-IOCARIBE-VI/4 Prov.). The basic working document for the Session was the Annotated Provisional Agenda (SC-IOCARIBE-VI/2 Prov) and its Annexes. Information on services available and some details of arrangements for the Session were provided in the Doc. Information & Guidelines for Participants (Doc. SC-IOCARIBE-VI/Inf. 1).

9 The Chairman announced that the Session would work in Plenary as far as possible. However, where deemed necessary, *ad hoc* sessional Drafting Groups might be formed to deal with specific questions arising from particular Agenda Items. These Drafting Groups were to meet simultaneously or after Plenary.

10 The delegates would also take into consideration the guidance of the Board of Officers, who served as the Steering Committee for this Session of the Sub-Commission, to successfully complete the meeting.

3. INTERSESSIONAL REPORT

3.1 REPORT OF THE BOARD OF OFFICERS

11 The Chairman of the Board of Officers, Dr. Bradford Brown, introduced the report on activities carried out by the Board during the inter-sessional period. He acknowledged the hard work of the other members of the Board, Dr. Marco Polo Bernal (Mexico) and Dr. Leonard Nurse (Barbados), and the support received from the Regional Secretariat. The third Vice-Chairman, Capt. Sigfredo Velandia (Colombia), retired from office during the intersessional period.

12 A significant improvement has been the new *modus operandi* of the regional Board of Officers. He pointed out that it is the first time in IOCARIBE that the Officers have worked as a group instead of individuals, as had been customary, ensuing better communication and guidance to the regional Secretariat. The Board met at least once a year in person and by conference call whenever it was necessary during this intersessional period. Reports of those meetings have been circulated both in English and Spanish.

13 He also pointed out that during the intersessional period the Governments of USA, Mexico and Barbados have covered the costs and expenses for their respective Officers, including travel throughout the region to attend meetings of the board.

14 **The Sub-Commission endorsed** the report of the Board, **acknowledged** the governments of USA, Mexico and Barbados for the logistic support provided to their Officers to perform their duties **and encouraged** the new Officers of the Sub-Commission to continue these methods for the following intersessional work.

3.2 REPORT OF THE SECRETARY

15 The Acting Secretary for IOCARIBE introduced the document: Report of the Secretary of IOCARIBE (Doc. SC-IOCARIBE-VI/6 Prov). He divided his Report in two parts: Implementation and Administration.

16 The Secretary regrets that a long inter-sessional period - over three years from December 1995- has been unfavorable for the Sub-Commission's activities and its contribution to IOC Global Programmes, causing some loss of contact by member States. The effective work of the Board of Officers has partially alleviated the deleterious effects of such a long inter-sessional period.

3.2.1 Programme Implementation

17 In reviewing the degree of implementation during this period, the Regional Secretary referred to the mandate included in documents such as:

The IOCARIBE Evaluation 1996
The IOCARIBE Medium Term Strategy 1996-2000
The Short Term Action Plan 1996-1998
The Recommendations from the IOCARIBE-V Session

18 He explained that the lessons and recommendations of the Evaluation 1996 have been taken into account by the regional Secretariat to guide its actions and performance. Additionally, a permanent evaluation has been carried out during the inter-sessional period, for continuity of the process.

19 Progress has been made in recovering the Sub-Commission's visibility to the member States in the region. The organization of the secretariat has improved significantly without increase in the budget. Programme implementation has been successful with regard to the Medium Term Strategy adopted by the Sub-Commission.

20 Attention has been given to the potential of member States in the region, in particular SIDS, to evaluate and plan for their own capacity building in marine sciences. One basic step was the reactivation of the notion of "Country Profiles" in marine science capacity. The preliminary profiles are published and available in the IOCARIBE web site. Continuous updating is needed.

21 The formal appointment of new National Focal Points in many countries has increased their interest, reinforced the networking capacity of the Sub-Commission and its role as an intergovernmental organization. Further campaigning on this issue is needed.

22 Progress has been made in the area of information management. Information is considered the most valuable asset of IOCARIBE, and its proper and more efficient use has become a major target for the Secretariat. Databases containing information for "strategic planning" of cooperation and promotion have continued to build up. The IOCARIBE Yellow Pages have been improved, through a contract with COSTAS, increasing the availability of managerial information useful to IOC and to other regional organizations.

23 With regard to regional projects in marine sciences and services, the Regional Secretary has devised a new model for implementation under current restrictions of staff and budget. Preliminary results demonstrate the viability of the model, but greater support and involvement of participating countries is needed. Decentralization of regional projects has continued, slowly but steadily in this experimental phase, as the new scheme is accepted and better understood in the region.

3.2.2 Administration

24 This part of the Report addresses the following issues: regional office, budget and staff.

25 The space and facilities provided by the host government have been adequate and sufficient. Furthermore, the Government of Colombia approved additional office space in late 1997 to expand the Secretariat by about 30% of its previous area.

26 The budget for running the regional office in Cartagena is comprised mainly by contributions from IOC and the host Government. These funds do not include operational expenses for Project implementation.

27 A sharp reduction of the funds allocated by IOC for running expenses of the regional Secretariat has taken place during the inter-sessional period, from over US\$40,000/year in 1995 and before, to less than \$30,000/year in 1998.

28 On the other hand, the Colombian contribution has increased gradually since 1986 when the office was first established in Cartagena. This contribution has been rendered regularly in compliance with the Headquarters Agreement signed with UNESCO.

29 The professional staff in the Cartagena office was kept at the minimum level. The interim head of the office is a one part-time consultant. The conditions for enabling the Regional Secretariat to leap forward in fulfilling its functions are:

30 Formal appointments of a longer term Senior Regional Secretary -even if under consultant contract- to solve the interim situation existing during the past five years;

31 Appointment of at least one junior professional staff, to take up the administrative routine secretariat workload regularly and when the Senior Secretary is away, liberating his time for programme-related and fund-raising actions.

32 Greater decentralization of functions is required. Activities that are strictly regional are organized frequently from IOC, but it may create duplication and contradicts one of the main rationale for the existence of regional Sub-Commissions. Because of the shortage of staff, and lack of delegated managerial capacity to the regional Secretariat, member States, some donors or other funding organizations are reluctant to contribute to regional programmes.

33 **The Sub-Commission endorsed** the Report of the Secretary **and recommended** to the IOC Assembly and Executive Council, IOC Executive Secretary and Governments of Member States to find real, lasting solutions for the current conditions that restrain the performance of the regional office in Cartagena, in order to obtain full benefits from its existence.

3.3 THE IOCARIBE MANUAL

34 The Acting Regional Secretary introduced the Draft IOCARIBE Manual, a recent compilation of applicable rules and regulations referred to IOC regional subsidiary bodies, adapted for IOCARIBE including some decisions of the Sub-Commission itself. This Manual is considered as a basic guide for operations of the Sub-Commission and a much-needed tool for governments, persons and officials involved with IOCARIBE.

35 The present version of the Draft IOCARIBE Manual contains five chapters, dealing the most important subjects and where a set of rules already exists, either in the IOC Manual or other valid IOC documents. It is printed on loose-leaf pages in a binder to facilitate changes, amendments and additions. The Regional Secretary encouraged delegates to supply inputs and recommendations for the continuous improvement of this important instrument.

36 The Sub-Commission acknowledged the effort undertaken by the regional Secretary to compile the Draft IOCARIBE Manual and decided to further review it. Delegates shall provide comments and suggestions for adoption by mail to the Regional Secretary immediately after this Session.

4. REGIONAL PROJECTS (INCLUDING TEMA COMPONENTS)

4.1 MANAGEMENT SCHEME FOR REGIONAL PROJECTS

37 The Acting Secretary for IOCARIBE explained that under this new conceptual scheme the Regional Projects are regarded as the "production units" for the creation of knowledge, and the entity through which the development of national and regional capacity actually takes place. He emphasized that this could only occur through the participation of member States, their institutions and experts.

38 However, the limited staff and resources available to the IOCARIBE Secretariat makes it increasingly necessary to "decentralize" the implementation, coordination and management (including fund raising) of projects to those most interested. They are the marine scientists and institutions of countries in the region. The role of IOCARIBE is mainly: initiation, facilitation, international coordination and sponsorship.

39 The Acting Regional Secretary introduced the new decentralized model for the execution of regional projects. The scheme includes the creation of a single Cooperative Implementation Network

(CIN) for each project, under the guidance of a selected Steering Group of Experts (SGE) and the leadership of an empowered Regional Project Coordinator (RPC) as “manager” of that Project. These RPCs shall be invested with new and/or enhanced managerial capacities on behalf of IOCARIBE at the regional level.

4.2 IOCARIBE’S OCEAN SCIENCES AND SERVICES PROJECTS

40 Immediately after this introduction, its Regional Project Coordinator (RPC) submitted each individual Project whenever he/she was present. According to the decentralized and separate management scheme, these projects are all in different stages of maturity and at different degrees of implementation and financing. They can be classified as new projects (new proposals) or ongoing projects (those being implemented from some time before). There are also those projects of other organizations, which require a joint action or “liaison” with IOCARIBE.

41 The Sub-Commission was invited to observe the status of current regional projects sponsored or under the auspices of IOCARIBE, to endorse the submitted projects taking into consideration real capacity, ways and means available to the Sub-Commission; and provide guidance on project implementation including major subject areas and priorities, as well as funding and staffing.

4.2.1 IOCARIBE-GOOS (New Project)

42 Dr. Jan Stel introduced the Report and Recommendations of the GOOS Capacity Building Workshop held from 22 to 24 April 1999. The Delegate of Costa Rica recommended that IOCARIBE-VI adopt the GOOS Workshop Report and Recommendations. This was supported by several delegations.

43 It was also decided that the *ad-hoc* Advisory Group and the Steering Committee being proposed in the GOOS Workshop Report should be a subsidiary body of IOCARIBE (thus a secondary subsidiary body of IOC).

44 The Delegate of Cuba suggested that the regional component of GOOS should be named “Wider Caribbean GOOS” reflecting a broader geographical area. The Delegate of Trinidad and Tobago, recalling the discussion held during the Working Group charged with the proposal to create the regional structure of GOOS, supported the view presented in the Workshop report, i.e.: that the name should be Caribbean GOOS.

45 After some lengthy discussion the Chairman charged the Delegates of Colombia, Costa Rica, Cuba and Trinidad and Tobago with the task of drafting the Recommendation that would approve the creation of the GOOS component for the Caribbean and Adjacent Regions, including a name for it. It was recommended that the name IOCARIBE-GOOS was a good choice.

Recommendation IOCARIBE-VI.1 was adopted: IOCARIBE-GOOS Project.

4.2.2 IOCARIBE-GODAR (New Project)

46 Dr. Paul Geerdens of the Netherlands, Regional Project Coordinator (RPC) presented this project. The GODAR project, which now is in operation for over 5 years at global level, is endeavoring to augment the historical oceanographic digital data archives by seeking out and recovering manuscript and ocean data not yet included in the ocean databases accessible to the world research community.

47 In view of the importance of historical ocean and coastal data for research and other activities in the IOCARIBE region, it is proposed to initiate an IOCARIBE-GODAR project. This project will have the following Terms of Reference:

- Identify historical marine and coastal data sets in the IOCARIBE countries,

- Compile and publish an inventory of these data sets on CD-ROM and on Web Site,
- Set priorities for recuperation of data sets taking into account current and on-going activities in the IOCARIBE region,
- Carry out recovery of specific data sets, taking into account the priorities defined and the availability of funding.

48 A Project Plan will be devised by a small team of experts from the IOCARIBE countries, led by an ad-hoc Regional Project Coordinator (Dr. Geerders). The Project Plan will define in more detail the Terms of Reference of the IOCARIBE-GODAR project and its implementation Plan, and will also identify possible funding sources. The team will in principle work by correspondence (e-mail) but will finalize the Project Plan during a short workshop. When funding has been obtained, the team will constitute the Steering Group for the IOCARIBE-GODAR project, guiding its implementation.

49 The Delegate of Cuba suggested that the IOCARIBE-GODAR project should be conducted within the context of Caribbean GOOS. The Delegate of Barbados stated that CEPNET/UNEP is already addressing issues proposed by GODAR and every effort should be made to identify synergies and establish partnerships.

50 **The Sub-Commission supported** the IOCARIBE-GODAR project. **The Sub-Commission thanked** Mr. Geerders for undertaking the coordination of this project and encouraged him to continue.

Recommendation IOCARIBE-VI.2 was adopted: IOCARIBE-GODAR Project.

4.2.3 Hurricane Effects and Mitigation in the IOCARIBE Region (New Project)

51 Mr. Fred Berry, RPC ad hoc and Acting Assistant Secretary of IOCARIBE introduced this discussion paper. He reminded the delegates of the destruction in the Caribbean area caused by the 1998 series of hurricanes. Two hurricanes were most destructive: George and Mitch. It is a proposal for the marine scientific community about what can be done to educate people so as to prevent and mitigate the effects of hurricanes on the coastal zone. He mentioned a recent publication under UNESCO Press "Coping with Beach Erosion" by Dr. Gillian Cambers.

52 The proposal plans to study and educate on hurricane effects on the ocean and coastal zones and on populations and property that may be directly affected. To determine useful data and information that exists, to synthesizing as needed, and to plan research in areas where needed. To compile methods available and needed to reduce harmful and lethal effects of hurricanes in the water and on land, and methods to repair destructive effects.

53 This work will begin by forming a committee of planners from Member States, who will gather data and ideas needed, will compile the results and determine what data and work is needed and how to best communicate this to over constituents. The committee will maintain contact by phone, fax and e-mail. The best we know at this time, there is no coordinated effort to deal with these issues comprehensively, especially with respect to hurricane effects on marine waters and shores. No budget is considered at this beginning phase of project development. A first progress report if planned by early 2000

54 Some delegates expressed their concern for possible overlapping with other committees and organizations already dealing with hurricanes in the region. Among others, the Caribbean Disaster Emergency Response Agency, CDERA, CPREDENEC and the Office of Disaster Preparedness in Jamaica. They recommended an assessment of what is being done in an effort to avoid duplication.

55 The Delegates of France provided information on the Project Océantilles, initiated in 1993 and now almost finished, which is dealing with the oceanographic consequences of hurricanes for

Martinique and Guadeloupe. Oceanilles may be divided in three components: 1) Observation; 2) Forecast; and 3) Coastal management. Further extensions to other islands are possible through cooperation.

56 Other delegates encouraged IOCARIBE to go beyond its present boundaries and participate in regional activities, in particular those related to social problems and needs of the region. The proposal can also be considered as one more support for GOOS future activities.

57 The proposal was **endorsed** by **the Sub-Commission** and the Chairman suggested that ways to further integrate this proposal with regional GOOS be studied. A working group should be created to develop this idea. **The Sub-Commission thanked** Mr. Berry for submitting this important subject.

Recommendation IOCARIBE-VI.3 **was adopted**: Hurricane Effects and Mitigation in the IOCARIBE Region.

4.2.4 Humpback Whales (New Project)

58 Dr. Bradford Brown (USA) and ad hoc RPC presented this project. For this purpose he temporarily delegated the Chairmanship of the meeting to Dr. Leonard Nurse, Vice-Chairman.

59 The current status of humpback whales in the region is unknown. The objectives of this project are: to provide a scientific basis for sound management and conservation of humpback whales in the southeast Caribbean; obtain information on current distribution of humpback whales in the sub-region, with focus on areas of historical harvests; and to appraise their relationship with the rest of the North Atlantic humpback population and identify stock structure.

60 Some delegates expressed their interest and concern for overlapping. Dr. Brown informed that, if it is endorsed by IOCARIBE, it would be submitted to the meeting on whales next week in Grenada, and that in any case it will be done with the consent of the IWC.

61 The Delegate of Dominica expressed his lack of support to the project. The Dominican Republic, the Bahamas, Barbados and other Member States expressed their support to the project based on its scientific merits. All IOCARIBE countries are welcome to participate even if not from the Eastern Caribbean.

62 The Member States of the Sub-commission supported the proposal, with the only reservation expressed by Dominica. The IWC should be informed of the support of the project based on its scientific merits.

Recommendation IOCARIBE-VI.4 **was adopted**: Humpback Whales Research.

4.2.5 Large Marine Ecosystems of the Caribbean, Gulf of Mexico and Pacific Coast of Central America (New and on-going Projects)

63 Dr. Bradford Brown (USA) introduced the projects for the Caribbean and Gulf of Mexico, as ad hoc RPC. He explained that it was a mandate from IOCARIBE-V to formulate an LME project proposal for the Caribbean. It was done in a workshop, but further negotiations forced its division into two LME projects: Caribbean on the one part, and Gulf of Mexico on the other.

64 These LME projects are ongoing activities, and new proposals will be submitted again. **The Sub-Commission endorsed** the continuation of this initiative for the Caribbean and Gulf of Mexico.

65 Dr. Daniel Lluch-Belda of Mexico, *ad hoc* Regional Project Coordinator (RPC) presented a new project proposal for the Pacific Coast of Central America. This LME has been largely neglected, but it is known that it is different from those to the north and south of it: the California Current and the Humboldt Current. The existence of important tuna and tropical shrimp fisheries suggests a high

productivity. The sub-region is subject to considerable stress from coastal alteration, including mangrove clearing, tourism and aquaculture development, heavy shipping traffic, etc.

66 Mexico and Costa Rica emphasized the need for country-commitment to the LME project for the Pacific coast of Central America. Nicaragua expressed satisfaction at having the opportunity to join a project like this. Costa Rica, as well as the Working Group on Harmful Algae Blooms, expressed their support for the project.

67 It was proposed that the Sub-Commission adopt the project, and **the Sub-Commission thanked** Dr. Lluch-Belda for undertaking the leadership of this activity. A recommendation was submitted for this project and the previous two LME proposals.

Recommendation IOCARIBE-VI.5 **was adopted**: IOCARIBE Large Marine Ecosystems (LME) Projects.

4.2.6 IOCARIBE - GLOSS (On-going Project)

68 Dr. George Maul (RPC) reported on progress of this project. He suggests that modern observation systems, although they are very efficient, work because of determination of researchers.

69 During the IOC Workshop on Tsunami Hazards in the Caribbean (May 1996 - St. Johns, USVI) a summary of existing and near-term funded tide gauges in the IOCARIBE region was tabulated. Sponsors include: GEF/OAS, CARICOM; NOAA; the United Kingdom; IOC; UNEP; Smithsonian Institution, Washington DC; and SITD the Sebastian Inlet (Florida) Tax District. It is clear that the direction of the Regional GLOSS needs to be towards modernization and real-time telemetering of data, both oceanographic and meteorological.

70 The IOCARIBE GLOSS Regional Coordinator (Dr. Maul) is acting as a technical expert on the project entitled "Caribbean Planning for Adaptation to Climate Change" (CPACC) funded by the Global Environment Fund through the Organization of American States. The plan includes installing and operating eighteen modern sea-level/weather stations in eleven countries. Although these gauges are limited to CARICOM nations, CPACC will significantly modernize observations especially in the eastern Caribbean, and will act as a model for others to emulate.

71 Other activities involving the IOCARIBE-GLOSS Regional Coordinator include the Joint UNEP/IOC Task Team on Implications of Climatic Change in the Wider Caribbean; the workshop on Small Island Oceanography (1996); INSMAP, the International Symposium on Marine Positioning (1994); the AGU Chapman Conference on Intra-Americas Sea Circulation (1995); and participation in IPCC Working Group II (1996).

72 The approach to understanding climate and sea level variability in the region involves a combination of sustained measurements, analysis of data and numerical model outputs, and application of knowledge to societal problems. Perhaps the key phrase here is sustained. In summary, an observatory system was proposed that uses existing instrumentation, local involvement, education, and participation in a global network of measurement, analysis, and application to immediate and future societal issues.

73 The Delegate of Cuba expressed his protest for the tide gauge placed at Guantánamo Bay, which he believed, should not be placed there, but rather in Siboney (near Havana) and that this protest will be submitted by appropriate channels to IOC and UNEP. Dr. Maul indicated that during meetings of the Group of Experts held to identify the location of tide gauges there was a representative of Cuba, and that first priority was to place gauges where there was no coverage, and second priority was to upgrade existing gauges. One of these sites would be Siboney when funds are available. The Chair stated that necessary consultations on this matter would be conducted with UNEP.

74 **The Sub-Commission recognized** the work done in this project and acknowledges the continuous hard work of the Project Coordinator.

Recommendation IOCARIBE-VI.6 was adopted: Regional Component of the GLOSS Programme.

4.2.7 Intra-Americas Sea TSUNAMI Warning System: Education, Warning, Management and Research (On-going Project)

75 Dr. George Maul (RPC) and Dr. James Lander introduced this on-going project. The objective of the project is the creation of a Tsunami warning system in the region, as described in the Draft Project Proposal of this title, submitted to the IOCARIBE-VI Session. Information was given on 88 Tsunami events in the Caribbean in the last 500 years. Harmful effects on tourism, the economics of the countries and issues of coastal population were also described.

76 Education was highlighted as a basic tool for the process. A workshop was convened in USVI in 1996 and in Puerto Rico in 1997 with a participation of 125 persons. A drafting group met before this Session to finalize the proposal, which if endorsed by the IOCARIBE-VI Session, will be submitted to the International Coordination Group for the Tsunami Warning System in the Pacific of the IOC, at ICG/ITSU-XVII, Seoul, Korea, October 1999. Once the Project is initiated, it will contribute to the Tsunami Warning System in other world areas. Budget estimates have been made, but no request for funding has yet been made.

77 **The Sub-Commission supported** the seeking of resources to develop refined proposals for a coordinated Caribbean Tsunami Warning System, from the Steering Group of Experts and from Member States, which are urged to work through the Steering Group.

78 The Chairman submitted the proposal to a vote and it was unanimously **endorsed**.

Recommendation IOCARIBE-VI.7 was adopted: Tsunami Warning System for the Caribbean.

4.2.8 Harmful Algae Blooms (HAB) in the Caribbean / Algas Nocivas del Caribe (ANCA) (On-Going Project)

79 Mr. Arturo Sierra of Mexico, Regional Project Co-Coordinator, reported on this project. The objective of the project is to determine the occurrence and abundance of harmful algae species within the IOCARIBE region. He pointed out the participation of countries that are not yet members of IOCARIBE, which is a good indicator of strong interest and regional cooperation.

80 This project was initiated at IOCARIBE-V (Barbados, 1995) and supported by the IPHAB IV Panel. A workshop was held in Havana, Cuba (July 1998) with support from IOC and the UNESCO Office in Montevideo, Uruguay (Oceanographer Silvia Mendez). At this workshop a permanent Steering Group was created with participation of experts from five countries (Cuba, Guatemala, Dominican Rep., Venezuela and Mexico). Main problems were identified and three draft project proposals were developed. Fund raising activities have been carried out in the intersessional period.

81 Priority was given to the ciguatera problem and paralyzing toxins. It is very important to detect the impact of ballast waters from ships. It was also suggested that regional participation in the newly launched GEOHAB of IOC-SCOR Programme was necessary.

82 The Chairman recalled that this initiative began as a Recommendation adopted at IOCARIBE-V being implemented in the present intersessional period. It was decided that a draft recommendation be submitted for the continued support of this initiative, and thanked Dr. Sierra for his leadership in this initiative.

Recommendation IOCARIBE-VI.8 was adopted: Harmful Algae in the Caribbean / ANCA.

4.2.9 IBCCA – International Bathymetric Chart of the Caribbean and Gulf of Mexico. (On-going Project)

83 Dr. Jose Luis Frias of Mexico reported on the activities of this project. The objective of the project is to develop Bathymetric charts for the IOCARIBE region, and it is a part of the GEBCO Programme. He explained that two sheets have been printed, out of 17 of the project. Other sheets are in different degrees of compilation and some are in digital format. A CD-ROM containing part of the bathymetric chart of the Caribbean is available.

84 The Chairman congratulated the Project Coordinator for the impressive amount of information compiled and commented on it as an example of coordination and participation of member States. Several delegations expressed their satisfaction with the use of the sheets already published.

85 Several delegations requested that the new incoming Board of Officers address the conspicuous absence of data for the Easter Caribbean under IBCCA.

86 The Delegates of USA and Mexico manifested the usefulness of the two bathymetric charts produced by IBCCA. It was considered necessary to recommend increased funding for speeding up publication.

87 **The Sub-Commission thanked** Dr. Frias for his information **and encouraged** him to continue his important work.

Recommendation IOCARIBE-VI.9 was adopted: International Bathymetric Chart of the Caribbean and Gulf of Mexico. – IBCCA

4.2.10 Highly Migratory and Straddling Stocks (On-going project)

88 Mr. Fred Berry of IOCARIBE presented this project. The objective of this project is to collect and analyze oceanographic data that can be useful to the fisheries of highly migratory stocks.

89 The project was initiated at a workshop organized by IOCARIBE and NOAA/SEFC in Miami (March, 1995) on Fisheries Oceanography of Highly Migratory and Straddling Species in the Intra-Americas Sea, as a response to the perceived need to bring together fishery resources managers, fisheries scientists, species specialists, oceanographers and physical scientists.

90 The workshop was considered an overwhelming success and the precursor to a series of data information exchange venues. Technical representatives from twenty-three countries participated.

91 Mr. Berry elaborated on the hard time he had encountered in compiling outcome of the Workshop Report. Nevertheless, several examples of its application are cited as useful examples on the usage of oceanographic data in fisheries. Furthermore, links established between fisheries scientists and officers and oceanographers has been continued after the workshop.

92 **The Sub-Commission thanked** Mr. Berry for his effort **and strongly recommended** the publication of the Report of this workshop by UNESCO, as well as further pursuing the continuous development and implementation of this regional project.

4.3 IOCARIBE'S SCIENCE PLAN

93 After the presentation of Regional Projects, the Chairman invited constructive comments and suggestions from country delegates. He emphasizes that this is the first time the new model of decentralized Regional Project Coordinators (RPCs) is applied in a Session of IOCARIBE. He

requested the support of country delegates and encouraged the RPCs, who are breaking new grounds, to continue providing their leadership and expertise.

94 **The Sub-Commission endorsed** the innovative scheme for managing scientific projects as an invigorating response to the crisis of staff and resources in the regional Secretariat. The Delegates acknowledged that by means of the Recommendations just adopted for each Regional Project, this intergovernmental Session has provided guidance for their implementation and encourages participation of member States.

95 The Delegate of Costa Rica recalled the commitment of IOCARIBE to scientific research and its associated services. He suggested that there is insufficient participation by member States and proposed a draft recommendation for a strategic plan for the evaluation of research in the IOCARIBE Region. The delegate of Cuba supported this proposal and adds the idea of calling a regional meeting for integration of organizations in the region.

96 The Acting Regional Secretary pointed out that it was not a coincidence that Projects endorsed hereby are all strongly related to the worldwide Programmes of IOC, and simultaneously respond to initiatives born in the region and registered in previous meetings or workshops of IOCARIBE. Through these Regional Projects IOCARIBE fulfils its two-folded goal: (a) Promote global programmes of IOC; and (b) Answer to the interests and needs of its member States.

97 Mr. Steer-Ruiz also recalled that the list of Regional Projects submitted to this Session is not exhaustive. The projects reviewed are mainly those that have been active during the inter-session period and for which their Project leaders are present at this meeting. Other Projects that are not submitted to this Session will continue their work intersessionally and hopefully will be presented at the next IOCARIBE meeting for reporting and/or endorsement.

98 **The Sub-Commission decided** to create an ad hoc Group of Experts for drafting a Science Plan for the region, leading to a new strategy for science contents in Regional Projects. The Science Plan should be complementary to the Medium Term Strategy accomplished in the last inter-sessions period, as well as to the new Medium Term Strategy 1999-2003, which are focused on institutional strengthening, coordination and networking. The Group of Experts should have its first meeting before the end of 1999, and its work should be completed one year later.

99 The Delegate of Mexico offered to host the first meeting of the *ad hoc* Group of Experts for writing the strategic Science Plan. **The Sub-Commission accepted** his offer.

The following experts were invited to constitute the ad hoc Group of experts:

Dr. Hazel McShine (T&T)
Ms. Marilia de Albuquerque (Brasil)
Dr. Clement Lewsey (USA)
Dra. Elia Moreno-Burciaga (Mexico)
Dr. Manuel Murillo (Costa Rica)
Mr. Rafael Steer-Ruiz (Colombia)

100 Other qualified experts could be added, up to a maximum of ten (10) persons. Additionally, the Officers of IOCARIBE are members *ex officio* of the Group.

Recommendation IOCARIBE-VI.10 was adopted: Evaluation and Upgrading of the Scientific Research and Training Component in Regional Projects.

4.4 THE IOCARIBE SYMPOSIUM.

101 At the Fifth IOCARIBE Session (1995) was approved a proposal from the Regional Secretary for carrying out a region-wide Symposium to promote the exchange of information and transfer of

knowledge. It should stimulate debate, identify priorities and raise the profile of marine science and technology. It should also play the role of a “scientific review and planning session” for the science contents of regional projects of the Sub-Commission. The first Symposium was scheduled to take place during the 1998 International Year of the Ocean, but due to several reasons -mainly budgetary- it had to be postponed.

102 The delegates were invited to decide the future of this event and provide guidance on the ways and means for its implementation.

103 Some delegates insisted that the basic idea behind the IOCARIBE Symposium should be kept alive, but warn that the profusion of existing similar events in the region suggests a potential for duplication and waste of resources. Some examples were mentioned, such as GCFI, AMLC, IASI, COLACMAR and several national conferences and symposia.

104 The **Sub-Commission decided** to pursue the concept behind the IOCARIBE Symposium, although not as a single event but through endorsing a series of existing events, in conjunction with selected organizations. The Sub-Commission shall provide financial and organizational support. Those events should jointly fulfill the initial role envisaged for the IOCARIBE Symposium as approved at the IOCARIBE-V Session. Choosing such events shall be a duty of the Board of Officers and must be strongly related to the regional Science Plan to be developed in Recommendation SC-IOCARIBE-VI.10.

5. REGIONAL INSTITUTIONAL FRAMEWORK

5.1 REGIONAL COOPERATION

105 Dr. Patricio Bernal opened this Agenda item and he emphasized the need for regional coordination and expressed concern about the poor condition that exists among regional institutions. He indicated that the IOC is making special efforts to maximize cooperation and the implementation of oceanographic and other scientific marine projects within the region. Synergies with other initiatives in the region must be identified in order to optimize the use of resources that are available to the region. The knowledge is available in the region to answer the needs of society, but the instrument for implementation is missing, and new resources for cooperation must be identified.

106 The Executive Secretary of IOC recalled that global climate phenomena such as El Niño are unequivocally first detected in the oceans and that the global programmes of IOC play a crucial role in this endeavor. Likewise it is fundamental to conduct monitoring of marine pollution from land-based sources, which is the major goal of the UNEP's Global Programme of Action GPA. IOCARIBE can contribute to the accomplishment of the regional tasks within GPA in cooperation with UNEP-CAR/RCU in Jamaica. Dr. Bernal stated that it is imperative to capitalize on existing frameworks and political platforms to fuel the initiatives of the IOC.

107 Dr. Patricio Bernal asked that the VI Intergovernmental Session of IOCARIBE decide on a clear mandate for IOC to address regional cooperation and coordination.

108 The Delegate of Cuba emphasized the need to revisit the role of the many institutions and organizations in the region. He stated that channels of communication between institutions within the Wider Caribbean are poor and overlapping is evident. Dr. García suggested the need for regional institutions to meet and identify common interests and to achieve better communications as a means of strengthening the role of IOCARIBE.

109 The Delegate of Colombia emphasized that for the regional structure to be efficient, internal coordination within individual countries needs to be organized in order to optimize communications. IOC should recognize the National Focal Points as the contact communication channel to national institutions and experts.

110 The Delegate of Costa Rica recalled that CICAR was successful because of commitments of Member States. He stressed that countries' participation should be defined according to their capacity.

111 The Delegate of Panama expressed concern about the fact that many times the agenda of global organizations, such as the UN, is not consistent with the agenda of the region. He said that the bureaucracy of the UN is insensitive to global and regional changes and should be revisited to reflect regional needs. He stated that the UN agencies must do their share to optimize the outputs of regional initiatives. Delegates of Venezuela and USA expressed the need to eliminate overlaps in the mandate of regional institutions and agencies.

112 The Acting Regional Secretary for IOCARIBE, Mr. Rafael Steer-Ruiz, reviewed the complexity of the institutional scenario in the Caribbean and Adjacent Regions, including the Conventions and/or terms of reference for international organizations related to the sea and coasts. He briefly recalled the great number of Inter-Governmental and Non-Governmental Organizations, from global to regional levels, all interacting in the Region, with similar, complementary and/or overlapping missions. However the institutional role and capacity of those organizations is not homogeneous, thus he suggested their links with IOCARIBE must be analyzed case by case.

113 Furthermore Mr. Steer-Ruiz pointed out that most Inter-Governmental Organizations have their mandate stated by usually a Multilateral International Agreement (a Convention or Protocol) duly ratified by regional Member States (i.e., UNEP's Cartagena Convention and Protocols; IMO's Conventions like MARPOL and its Protocols; WMO Conventions and Protocols). These are binding legal instruments that mean a declaration of commitment at the highest governmental level. He recalled that IOC does not have such an instrument and that the adoption of at least a Memorandum of Understanding at the Ministerial level could be an acceptable substitute for strengthening the IOCARIBE Sub-Commission *vis-à-vis* other regional organizations.

114 Finally he reminded delegates of the shortage of staff and funding in the regional IOC office, in addition to the interim status of the IOCARIBE Regional Secretary for the past five years, which hinder the coordination capacity of IOCARIBE with other regional Organizations.

115 Delegates were invited to comment, provide feedback and to take into consideration the information provided. **The Sub-Commission concluded** that IOCARIBE should pursue the creation of an inter-agency unified scientific agenda for the region on marine and coastal issues (the model of IOC for the Mediterranean Sea could be taken in consideration). A meeting should be organized for regional organizations related to marine and coastal issues in the wider Caribbean region in order to clearly identify the role of each one of them, with a view to further define and strengthen the role of IOCARIBE with respect to the other organizations. The current capacity delegated to the IOCARIBE Regional Secretariat for actively coordinate with other organizations in the region is not enough, thus decentralization should be revised and strengthened to successfully implement this decision.

5.2 OTHER ORGANIZATIONS AND PROJECTS

116 The representatives of Organizations cooperating with IOCARIBE were invited to provide information about their programmes, which complement those of IOCARIBE, and about on-going or potential cooperation. They include IGO and NGO, both at the global and regional level. Although most of the Organizations in the Caribbean were invited, not all of them were able to send representatives to this Session.

5.2.1 United Nations Environment Programme – (UNEP) - Caribbean Environment Programme (CEP)

117 The UNEP-CEP Representative, Mr. Timothy Kasten, highlighted the fact that there is no perceived duplication of effort between the activities of UNEP in the region and those being

conducted by other agencies; but he also emphasized that complementarity between UNEP's activities and those of other agencies was difficult to identify. He reminded how CEPPOL, former IOC-UNEP joint project, has not existed as a stand-alone project since 1994. He went on to say that UNEP's activities in the region are focused mainly on the Cartagena Convention and its protocols: 1) Oil Spill Protocol, 2) SPAW Protocol, and 3) Land Based Sources Protocol. However, only the Oil Spill Protocol is in force, but efforts are underway to put the other two into force as they constitute the statutory backbone for UNEP's activities in the region.

118 He informed the delegates that UNEP carried out a project over six pilot countries called CEPNET, with support from Interamerican Development Bank (IDB), which ended in January; UNEP is looking for additional funds to continue. Likewise, UNEP-CEP will initiate a project within the International Coral Reef Initiative (ICR), supported by USA.

119 The Delegate of Costa Rica expressed regret that the CEPPOL Project disappeared after IOC withdrawal, and pointed out that it is crucial to identify and realize complementarities between organizations in the IOCARIBE region.

120 The Delegate of Panama acknowledged the regional Secretariat accomplishments beyond granted capability, and emphasized that countries must do what is necessary to procure change in the bureaucracy of regional institutions, as a key step in achieving cooperation. He recalled that integration is mandatory in the UN system. This point was supported by Cuba, who also suggested that it is necessary to conduct an assessment of the multiple factors that have been plaguing the coordination of regional activities and aggravating the effects of administrative constraints of the regional office.

121 The Acting Regional Secretary for IOCARIBE recalled the obstacles for actually performing coordinating activities. For example, repeatedly it has not been possible for IOCARIBE to attend or send representatives to UNEP's meetings because of staff and funding shortage, losing good opportunities to interact. He further suggested that the IOC Sub-Commission should become the intergovernmental mechanism for facilitating the scientific background for implementation of the Cartagena Convention and its Protocols.

122 The Representative of UNEP further stressed the need for internal coordination that must exist within each country among National Focal Points for the different organizations.

123 **The Sub-Commission decided** that priority should be given to recovering and strengthening cooperation with UNEP-CEP and the Coordination Unit in Jamaica. A favorable occasion will be the meeting for adoption of the Protocol on Land Based Sources, later in 1999. Likewise, IOC should send a delegation to the next intergovernmental meeting of UNEP-CEP.

5.2.2 Centre for Marine Conservation (CMC)

124 The Representative of the CMC, Mr. Edward Yates, thanked IOCARIBE for this invitation and recalled that IOCARIBE and CMC have implemented joint activities for years, related to capacity building, marine pollution, marine debris and beach clean-up.

125 He noted that there are diverse environmental problems in the Caribbean, which are rapidly worsening. These problems include degradation of water quality and habitat and alarming issues of coral reefs and fisheries. The Representative of the CMC recalled the need that Caribbean countries support the implementation of the three major region-wide environmental agreements: 1) the SPAW Protocol which is not in force; 2) the LBS protocol, under completion; and, 3) the designation of the Caribbean as an IMO "Special Area" which is not in force because of the lack of solid waste disposal facilities.

126 CMC suggested that IOCARIBE adopt criteria for project approval that would contain the requirement that all projects include mechanisms for providing research results to policy makers and

citizen groups for specific resource conservation purposes. He proposed that IOCARIBE starts moving beyond the observation level, and creates linkages between scientists and planners and administrators. CMC volunteered to assist this process by sharing its expertise and contacts in legislative drafting, public outreach and capacity building. This expertise was offered in three programme areas: 1) Coastal Zone Management; 2) Water Pollution Control; and 3) Marine Protected Areas & Biological Diversity.

127 The Representative of the CMC also suggested that IOCARIBE establish an NGO Advisory Committee to provide for official involvement by environmental and community organizations. The CMC offered to assist IOCARIBE on issues related to marine debris, marine pollution and marine protected areas. **The Sub-Commission thanked** him for his offer and participation in this Session.

5.2.3 International Ocean Institute (IOI)

128 The Director of the IOC-Costa Rica, Dr. Alejandro Gutierrez, introduced the objectives and activities of the IOI. The International Ocean Institute (IOI) was established at the University of Malta in 1972 and the founder was Professor Elizabeth Mann Borgese. The IOI was established with the assistance of the United Nations Development Programme and its task is to promote education, training and research to enhance the peaceful uses of ocean space and its resources, their management and regulation as well as the protection and conservation of the marine environment.

129 The International Ocean Institute of Costa Rica (Universidad Nacional) is an interdisciplinary operational center for Latin America and the Caribbean of the IOI. Its main goal is the training of all level decision makers involved with coastal and ocean management; from politicians to community leaders, in order to establish a bridge between the scientific community and the decision making community, favoring the formulation and the implementation of ICZM plans.

130 From 1995 to 1998, IOI was supported by UNDP-GEF funds. From then on, several international institutions and donors are supporting IOI work.

131 **The Sub-Commission congratulated** the Director of IOI in Costa Rica **and encouraged** him to continue cooperating with IOCARIBE.

5.2.4 Organization of American States – CPACC Project – Caribbean: Planning for Adaptation to Global Climate Change

132 The Project is funded by the GEF, implemented by the World Bank and executed by the Organization of American States (OAS). A Policy Advisory Committee chaired by CARICOM provides overall guidance for implementation of activities. Dr. Floyd Homer of CPACC presented this project. The overall objective is to support Caribbean countries in preparing to cope with the adverse effects of global climate change, particularly sea level rise, in coastal and marine areas through vulnerability assessment, adaptation planning, and capacity building linked to adaptation planning.

133 Major project components:

- i. Design and Establishment of Sea Level/ Climate Monitoring Network.
- ii. Establishment of Databases and Information Systems.
- ii. Inventory of Coastal Resources and Uses.
- iv. Formulation of a Policy Framework for Integrated Coastal and Marine Management.
- v. Coral Reef Monitoring for Climate Change.
- vi. Coastal Vulnerability and Risk Assessment.
- vii. Economic Valuation of Coastal and Marine Resources.
- viii. Formulation of Economic/Regulatory Proposals.

- ix. Enable the Preparation of National Communications in Response to Commitments to the UNFCCC.

134 Dr. George Maul has been the Liaison between IOCARIBE and CPACC. **The Sub-Commission recognized** the important role of CPACC to IOCARIBE-GOOS and recommended a strengthening in the connection to this project. **The Sub-Commission thanked** Dr. Homer for his presentation.

5.2.5 CARICOM Fisheries Unit (CFU)/CARICOM Fisheries Resource Assessment and Management Programme (CFRAMP)

135 Dr. Noel Jacobs, from CARICOM-CFU/CFRAMP, presented this ongoing project. The CARICOM Fisheries Unit is located in Belize City, Belize and operates as an arm of the CARICOM Secretariat. The CFU presently implements three regional projects:

- i. The CARICOM Fisheries Resource Assessment and Management Programme (CFRAMP).
- ii. The Fisheries Component of the Lome IV Integrated Caribbean Regional Agriculture and Fisheries Development Programme (Cariforum Fisheries Project).
- iii. Strengthening of Fisheries and Biodiversity Management in the ACP Countries (Biodiversity Project).

136 CARICOM Fisheries Resource Assessment and Management Programme - CFRAMP started in 1991. CFRAMP's goal is to promote the management and conservation of the region's fisheries resources to permit exploitation of these on the basis of sustainable yields. The specific purpose of the programme is to enhance the institutional capacity and information base to enable sustainable management of the fisheries. The CFU's areas of future interest and collaboration include the following:

- iv. Collection, analysis and dissemination of physical, chemical and biological oceanographic data of the Caribbean Region.
- v. The definition and establishment of Large Marine Ecosystems and Eco-Regions within the Caribbean Region.
- vi. Training and capacity development for Marine Resource Management.
- vii. Overall information exchange and dissemination.
- viii. Institutional collaboration and support for Integrated Coastal Areas Management (ICAM).
- ix. Promotion of the CARICOM initiative to declare the Caribbean Sea a Special Development area within the context of sustainability.

137 **The Sub-Commission thanked** CARICOM and Dr. Jacobs for his presentation and proposals of ideas for cooperation with IOCARIBE. **The Sub-Commission decided** that the new Board of Officers would work for a stronger liaison with this important project.

5.2.6 The Intra-Americas Sea Initiative (IASI)/CATHALAC

138 Dr. Kevin Leaman (USA), Dr. Maria Concepción Donoso (Panama) and Dr. Christopher Mooers (USA) presented the project.

139 The Intra-Americas Sea Initiative (IASI) is an international effort that initially developed out of the joint efforts of the University of Miami Rosenstiel School of Marine and Atmospheric Science, NOAA Atlantic Oceanographic and Meteorological Laboratory/CIMAS Joint Institute, and the Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC). Recent international scientific and planning meetings have identified three major scientific areas of focus, as well as emphasizing the need for a well-developed observing system. Three primary research areas from the scientific agenda of IASI are: (1) Improved understanding of basic physical processes (these

include the dynamics of the Western Hemisphere Warm Pool and its effects on land falling hurricanes, the variability of mesoscale eddy fields in the Caribbean Sea and Gulf of Mexico and processes such as upwelling), (2) Improved understanding of biological-physical interactions in the IAS, including the intercommunication of separated biological communities through downstream larval transport, and links between time variable circulation and life-cycle histories of various organisms, and (3) Improved understanding of coastal processes and the interconnections between coastal and offshore, remote environments. All of these research problems carry broad implications in the countries of Latin America and the Caribbean. The success of IASI requires the strengthening of the links and communications among scientists, policy makers and “end-users”. Cooperation with IOCARIBE is regarded as essential.

140 CATHALAC is the acronym for Centro del Agua del Trópico Húmedo para América Latina y el Caribe. CATHALAC serves as an administrative focal point for Latin America and the Caribbean in the area of training; research, information and technology transfer in the field of water resources and the environment, with special emphasis on problems and issues related to the land and seas of the humid tropics of the Western Hemisphere. CATHALAC has eight thematic programmes, three of which are implemented in the Wider Caribbean Region, and directly related to the on-going activities and plans of IOCARIBE, namely the programme of Air-Sea-Land Interactions, Small Islands, and Knowledge, Information and Technology Transfer. CATHALAC coordinates the Trade Convergence Climate Complex (TC3), a programme executed by over a hundred researchers of the region. In addition, CATHALAC participates together with the University of Miami and NOAA-AOML in the development and implementation of the Intra-Americas Sea Initiative (IASI).

141 It was pointed out that the Intra-Americas Sea Initiative IASI is an on-going activity, which addresses areas of interest to IOCARIBE, such as larval recruitment, land-ocean-air interaction, and coastal zone issues. The initiative has the participation of a significant number of institutions and experts in the region.

142 Concerns were expressed about the inconvenience of one of the components having the name IAS-GOOS when a new GOOS proposal for the Caribbean is under analysis. After extensive deliberation it was agreed that the IASI proposals are within the scientific and education scope. It was agreed that the new incoming Board of Officers should appoint a liaison to cooperate with the IASI.

5.2.7 IGBP-LOICZ – Land-Ocean Interaction in the Coastal Zone

143 Dr. Hartwig Kremer presented this project. Since 1993 LOICZ, the global Land-Ocean Interaction in the Coastal Zone Programme - one of the core projects of the IGBP - is providing science information on the contribution and response of coastal systems to global change. Central objectives are to model the fluxes of nutrients, trace gases and carbon (incl. CO₂) through the coastal domain, their respective cycles and changes. Through harnessing an array of natural and social science research and recognizing anthropocentric and geocentric driving forces of change LOICZ delivers science information to the global community, which should also prove vital for decision-makers and managers.

144 Due to the characteristic geomorphologic and ecosystem settings (reefs, mangroves, lagoons etc.) along the Caribbean coasts including islands of various sizes dominated by well defined social-economic drivers-pressure-response scenarios; LOICZ seeks to establish a regional project in the IOCARIBE area. The scientific output of ongoing and future regional work related to the LOICZ questions is expected to contribute significantly to the global upscaling. LOICZ is committed to, in the context of the IGBP goal, to generate a better understanding of the total Earth system. A regional scientific synthesis along the leading questions to identify the land based activities (drivers) which perturbate and/or enhance the flow of C, N, P, to the coastal zone, how they influence the cycling of nutrients and carbon and the interaction of these flux changes with the socioeconomic drivers, may certainly be beneficial for the IOCARIBE scientific and user community.

145 To establish the new project LOICZ therefore needs to be linked to the regional work of IOCARIBE, emphasizing the support for the identification of the regional scientific capacities and the enhanced participation of regional scientists in LOICZ related research and global activities.

146 Dr. Kremer explained that IOCARIBE could support calling upon working groups and identifying experts in the region for workshops and meetings, and coordinate joint activities within this project. This is an on-going project with a strong potential for cooperation with IOCARIBE in the region. **The Sub-Commission agreed** that the Board of Officers appoints a liaison for LOICZ.

5.2.8 CARIACO project

147 Dr. Ruben Aparicio (Venezuela) presented this project. The objective of the project is to enhance the actual comprehension about the role of the coastal oceans in the carbon retention by ocean water. The Cariaco Basin, located in the continental shelf of the North-eastern boundary of Venezuela offers a unique chance for observing organic matter fluxes going down from surface water enriched by wind induced upwelling, to undisturbed deep layer due to permanent anoxia below 250 meters depth.

148 The operations for data acquisition begun in November 1995 funded by the NSF (USA) and the CONICYT (Venezuela). The research includes several USA Universities (USF, NYSU, USC) and several institutions in Venezuela (FLASA, UDO, USB, FAV).

149 Dr. Aparicio declared that CARIACO is seeking institutional support from IOCARIBE. **The Sub-Commission considered** that the scientists in Venezuela should be commended for their excellent job. **The Sub-Commission decided** that the new Board of Officers appoints a Liaison to coordinate support for this project.

5.3 UNIFIED AGENDA

150 **The Sub-Commission acknowledged** that not enough cooperation is being carried out between regional organizations despite the efforts made to improve inter-agency collaboration. Among other reasons, there is a lack of incentives and of resources specific for coordination, which discourages agencies to release or share responsibilities. Additionally, there are insufficient staff, budget and delegated capacity to negotiate and cooperate with other regional organizations on a partnership base.

151 An analysis of the current international mechanisms applicable to cooperation and promotion of marine and coastal sciences (main goals of IOCARIBE) in the wider Caribbean region must be undertaken as soon as possible. Steps for developing a unique policy instrument for the IOCARIBE region shall be undertaken. The identification of a unified inter-agency regional scientific Agenda (different from the IOCARIBE Science Plan referred to in Recommendation IOCARIBE-VI.10) should be the first move in this direction.

Recommendation SC-IOCARIBE-VI.11 was adopted: Regional Scientific Agenda.

152 On the other hand, **the Sub-Commission noted with satisfaction** the coordination effort undertaken to bring to the IOCARIBE Session a number of other organizations and ongoing regional projects. However, many were yet not represented in this Session and it should be worthwhile to seek closer links. The new Board of Officers was charged with identifying these initiatives and to appoint a proper Liaison person to follow-up cooperation with each one of them. Among them CARICOMP (Caribbean Coastal marine Productivity) and AGRRA (Atlantic and Gulf Rapid Reef Assessment) should be considered.

Recommendation SC-IOCARIBE-VI.12 was adopted: Liaison with Existing Projects and Initiatives.

6. STRATEGIC PROGRAMMES: 1996 TO DATE

153 The Acting Regional Secretary for IOCARIBE introduced this agenda item, making a review of the IOCARIBE MEDIUM TERM STRATEGY 1996-2000 (Document IOC/INF-1027 22 August 1996). The IOCARIBE Strategy was first approved at the IOCARIBE-V Session (Dec. 1995) and subsequently by the IOC Executive Council and Assembly. This document has been considered by the Board of Officers as a "living document" thus it must be reviewed and updated regularly at each valid opportunity, such as the Intergovernmental Sessions of the Sub-Commission. A new updated version will be submitted in Agenda Item 7.

154 The Acting Regional Secretary informed that the Secretariat efforts are focused on the three Strategic programmes proposed in the IOCARIBE Medium Term Strategy 1996-2000, and they are:

- i. National Marine Policy and Coordination Structure
- ii. National Capacity Building
- iii. Regional Information Management and Networking.

6.1 PROGRAMME 1: NATIONAL MARINE POLICIES AND COORDINATION STRUCTURES - COUNTRY REPORTS

155 This Strategic Programme aims to build on the ability and practice of Member States to formulate their own national plans in marine and coastal science and technology. The goal of this activity is to know the weaknesses and strength related to the institutional structure (networking) and scientific capacity, as well as the real dimension of their problems and needs.

156 During the past intersessional period a series of basic Country Profiles were initiated and updated cyclically when and where new information was available. The latest information provided by countries is published at the IOCARIBE Web site maintained by the Regional Secretariat.

157 The preliminary analysis of the Country Profiles resulted in the introduction of sub-regional "groups" of Member States, as presented in the document "Marine Scientific Capacity and Structure in the Caribbean and Adjacent Regions" published and circulated to the IOC Assembly in June 1997. These sub-regional groups were devised only for the purpose of IOCARIBE coordination of marine scientific activities and do not have any political or legal implication.

158 The Acting Regional Secretary recalled that as IOCARIBE continue to make progress in this effort, a real picture of the region will emerge, and that consequently the true needs of developing States in marine sciences will be identified. IOC and IOCARIBE will be in a better position to conduct the regional cooperation and assist Member States in developing their own marine science policy and capacity.

159 The delegates were invited to present a short updated Country Report on the national structure for inter-institutional coordination within their country. These brief Country Reports conformed to a simple questionnaire circulated in advance by the Regional Secretary, referred to the IOCARIBE Manual's chapter on National Focal Points (NFP) and National Oceanographic Commissions (NOC) or equivalent domestic coordination mechanisms or networks. The complete country reports will be submitted by delegates at the shortest possible time and will be fed into the Country Profiles at the IOCARIBE Web site.

160 The Delegate of France expressed the need to identify one IOCARIBE focal point to represent both Martinique and Guadeloupe and another for French Guyana; and that the same should be applied for other dependant territories in the region.

161 The Delegate of Jamaica recommended the newly formed "Council for Ocean and Coastal Zone Management" as the IOCARIBE Focal Point for Jamaica.

162 The Delegate of Nicaragua requested the assistance of IOCARIBE in the identification and implementation of coastal projects that are of national interest to Nicaragua.

163 The Delegate of Bahamas expressed his country's desire to be included in all future IOCARIBE research projects.

164 **The Sub-Commission reached the following conclusions** as a result of the Country Reports presented by Delegates and subsequent discussion from the floor:

- i. A broad diversity of types and structures of domestic networks for coordinating marine science is detected in the region.
- ii. A noticeable feature is the different location of National Focal Points (NFP) within the countries' governmental structure. While in some countries the NFP is in the Education sector, in others it is located in the Environment, Fisheries, or Science sector, and most of them at different levels in the decision-making hierarchy.
- iii. Furthermore, while in some countries the national network is functional for securing participation of the broader possible number of local institutions, there are countries where it is not, thus leaving some institutions and experts out of the regional system. And still in other member States the lack of internal coordination mechanisms renders useless the activities and projects under IOC and IOCARIBE, especially the TEMA component, since they will never reach the broad local scientific community within those countries.

165 Many delegates expressed their interest in continuing to provide updated information on the Country Profiles, and some inquired of the assistance they could receive from the Regional Secretariat to establish their local coordination structure or network.

166 **The Sub-Commission noted with satisfaction** that the current effort undertaken by the Regional Secretariat has raised the awareness of countries on their needs for planning marine science development. Most probable that is the reason for an unprecedented participation of countries at this Intergovernmental Session. For the first time in IOCARIBE, seventeen (17) Member States and two (2) non-Member States (observers) are represented.

167 **The Sub-Commission encouraged** the continuation of this strategic programme in the New Medium Term Strategy for 1999-2003 (Agenda item 7).

6.2 PROGRAMME 2: BUILDING THE REGIONAL CAPACITY

168 The Chairman of the Sub-Commission Dr. Bradford Brown introduced this Strategic Programme. The IOCARIBE Strategy declared in 1996 "*each regional project must meet specific quantifiable TEMA (Capacity Building) requirements*". Training, Education and Mutual Assistance should be in all activities of the Sub-Commission. The need for a regional TEMA and Capacity Building strategy was stressed, as a framework for the individual components in each regional project, based on the comprehensive global IOC-TEMA Strategy.

169 Dr. Guillermo Garcia, First Vice-Chairman of IOC in charge of the TEMA issues at the global level, gave a background presentation. Dr. Garcia concluded that, instead of a programme by itself, the new TEMA concept should be regarded as an "auditing" system, to verify that all activities and scientific programmes comply with the general framework strategy and objectives.

170 **The Sub-Commission decided** to pursue the new approach to TEMA as an evaluation mechanism. Follow up for implementing this programme should be included in the Short Term Action Plan 2000-2001, to create an Evaluation System for auditing Project's output and impact, create indicators of performance and cost/benefit as for building the marine scientific capacity of the region.

6.3 PROGRAMME 3: REGIONAL INFORMATION MANAGEMENT AND NETWORKING

171 This Strategic Programme is based on the assertion that IOCARIBE must rearrange itself as a regional network structure and must improve communication and information flow among its elements. The networking capacity of the Sub-Commission should be stressed and strengthened, interconnecting users, scientists, managers, politicians and the general public.

172 The Acting Regional Secretary introduced this agenda item. The set of databases constituting the "strategic information" for management of the scientific and technical cooperation in the region was presented to delegates in a handout, called The IOCARIBE Yellow Pages".

173 The **Sub-Commission noted with satisfaction** the endeavour undertaken by the Acting Regional Secretary to develop the potential strength of IOCARIBE as related to information and networking. **The Sub-Commission decided to continue endorsing** the information management strategy as included in the Medium Term Strategy 1999-2003.

7. NEW IOCARIBE MEDIUM TERM STRATEGY: 1999-2003

7.1 STRATEGIC PRINCIPLES AND PROGRAMMES

174 The Acting Secretary for IOCARIBE presented the Document "The New Medium Term Strategy of IOCARIBE" which proposes the goals to be pursued by the Sub-Commission in the near future. On designing this Strategy, new trends of IOC and UNESCO has been taken into consideration. Another important input has been the experience gained by the Board of Officers and the Secretariat in implementing the IOCARIBE Medium Term Strategy 1996-2000, during the past inter-sessional period.

175 He pointed out that this version is based on the previous one, since the Board of Officers declared the Medium Term Strategy as a living document, to be updated and implemented in successive phases, and learning in the process. The Medium Term Strategy has focused on institutional strengthening, coordination and networking. This makes them different from the regional Science Plan, which looks after the scientific content of regional projects.

176 The new Strategy defines the role of IOCARIBE, within the mandate of IOC and UNESCO, with emphasis on its intergovernmental nature. Its strengths are compared to other regional organizations. The IOCARIBE structure is emphasized, focusing on its networking capacity through National Oceanographic Commissions (or networks), and projects Cooperative Implementing Networks. The products of the Sub-Commission are also re-defined based on producers and end-users.

177 Firmly established on these principles, the new Strategy proposes four major Strategic Programmes focused on the main structural elements of the Sub-Commission:

- i. Internal organization and participation of Member States,
- ii. Decentralized management and evaluation of Regional Projects,
- iii. Mobilization and collaboration with users and other organizations (IGO and NGO),
- iv. Strengthening the capacity for Information Management and Networking.

178 Finally the new Strategy identifies the required administrative tools for its successful implementation. They are:

- i. An active Board of Officers,
- ii. A stronger Regional Secretariat,
- iii. Strong National Focal Points
- iv. Empowered Regional Project Coordinators.

179 The delegates were invited to discuss and comment on the draft Strategy, with a view to approve it as the “ navigation chart” for the Sub-Commission, and guidelines for the Board of Officers and the Secretariat during the next intersessional period. **The Sub-Commission adopted** a revised text for the IOCARIBE Medium Term Strategy 1999-2003, which shall be presented to IOC for endorsement and publication.

7.2 MEMORANDUM OF UNDERSTANDING

180 The Acting Secretary for IOCARIBE introduced this agenda item, based on the accepted principle that IOCARIBE must undertake substantial innovations to procure a structure fitted for implementing programmes approved by Member States. Likewise, adjustments are needed in the way Member States participate in IOCARIBE.

181 In the absence of an international Convention or a multilateral agreement, IOCARIBE must seek a high degree of commitment from countries through a correspondingly high-level intergovernmental act. It should in turn enable IOCARIBE to provide a better service back to Member States.

182 The Acting Regional Secretary proposed to the delegates to initiate actions for the adoption of a “Memorandum of Understanding” at the ministerial or appropriate level. Even if not as binding as a Convention, a MoU will certainly ensure a stronger support to the national scientists and institutions, will encourage contributions from Governments, and will make the role of IOCARIBE more visible to them and to other regional organizations. Furthermore, a regional MoU is easier to achieve than an international Convention.

183 The Delegate of Costa Rica expressed his concern about a regional MoU considering that IOC does not have such an instrument at the global level and therefore it may create confusion. The Delegate of Cuba supported the objections. After some consideration the proposal was not adopted.

7.3 SHORT TERM ACTION PLAN AND BUDGET 1999-2001

184 The Acting Secretary recalled Resolution XVII-20 of the IOC Assembly and the Annex, Part I, paragraphs 8 and 9. In accordance with it, the Sub-Commission should produce a forecast of its programme and required resources. He informed the delegates that the Secretariat would draft the Short Term Action Plan and Budget for the coming inter-sessional period, based on decisions taken during this Session, as a reference framework.

185 **The Sub-Commission delegated** this task to the Board of Officers and the Regional Secretary. The draft Action Plan and Budget 1999-2001 (Annex IV to this Report) shall be submitted to the 20th IOC Assembly (June 1999) for endorsement and approval.

8. ELECTION OF BOARD OF OFFICERS

186 The Acting Secretary introduced this item briefly recalling the rules and procedures established by the IOC regulations and the IOCARIBE Manual for the elections of Officers of the Sub-Commission. The Sub-Commission has a Board of Officers consisting of one Chairperson and three Vice-Chairs. The composition of the Board shall seek an equitable representation of the four major sub-regions or groups of countries in the region; i.e.: SIDS Antilles, SIDS Central America; Medium size countries; and Europe and USA (include territories). Officers are elected for one inter-sessional period and are-eligible for a second period only.

187 **The Sub-Commission unanimously re-elected** Dr. Bradford Brown (USA) as Chairman of IOCARIBE for the next inter-sessional period and the Seventh Session of the Sub-Commission.

188 Four candidates were nominated by the following countries: Barbados, Mexico, Costa Rica and Colombia, for three Vice-Chairs, therefore an election was conducted. **The Sub-Commission elected** the following Vice-Chairs:

Dr. Leonard Nurse (Barbados, re-elected)
Ing. Marco Polo Bernal (Mexico, re-elected).
Dr. Jose Vargas (Costa Rica, newly elected)

189 The new Board of Officers thanked the Sub-Commission for the honor invested upon them and vowed to work at the best of their capacity for the benefit of the region and IOCARIBE during the intersessional period. The candidate of Colombia, although not elected, thanked the delegates for those votes given to him and promised he will nevertheless continue to work for IOCARIBE with the same enthusiasm as if he was a member of the Board.

9. DATE AND PLACE OF THE SEVENTH SESSION OF THE SUB-COMMISSION

190 The Acting Regional Secretary recalled that Regional Sub-Commissions of IOC should meet every two years, preferable before the IOC Assembly, to timely submit their Recommendations and budgetary requests to the main governing body of IOC.

191 The **Sub-Commission decided** to keep synchronism with the XXI Assembly of IOC (July 2001), therefore the Seventh IOCARIBE Session should occur not later than April 2001

192 The Delegate of Mexico offered his country to host the Seventh Session of IOCARIBE, subject to confirmation from his government. **The Sub-Commission acknowledged** his offer with appreciation and accepted it.

10. ADOPTION OF SUMMARY REPORT AND RECOMMENDATIONS

193 **The Sub-Commission adopted** the Summary Report and twelve Recommendations from the Sixth Session (Annex II hereto), as reviewed during this Agenda item.

11. THE IOCARIBE AWARD

194 Before closing the Sixth IOCARIBE Session, the Chairman introduced a short but heartening ceremony to deliver the IOCARIBE Award, created by the Fifth IOCARIBE Session (1995) to acknowledge the dedicated and conscientious work for IOCARIBE by individuals, from within and outside the region. *“The Award winners would either have made a significant contribution to solving regional problems through marine scientific research, services and capacity building; or would have made a significant contribution to the fulfillment of IOCARIBE’s objectives through their enthusiastic work in the Sub-Commission” (IOCARIBE Fifth Session Report, Annex IX, December 1995)*

195 Considering the elapsed time of 25 years since the creation of IOCARIBE Association, for the first time in the history of IOCARIBE the Board of Officers granted this Award to the following nominees: Dr. Agustin Ayala (Mexico); Dr. Harry Stewart (USA); Dr. Manuel Murillo (Costa Rica); Dr. Robert Lankford (USA); Dr. Dirk Troost (Netherlands); and Mr. Fred Berry (USA).

196 Dr. Manuel Murillo and Mr. Fred Berry, who were present at the meeting, received the Award and thanked the Sub-Commission for this honor and encouraged other individuals to continue supporting and participating in the IOCARIBE activities. Other nominees shall receive the Award in the next suitable occasion.

12. CLOSURE

197 The Chairman thanked the Government of Costa Rica for the hospitality and excellent facilities provided during the meeting. He thanked also all delegates and participants, local staff, interpreters and supporting personnel. In particular he expressed his appreciation to the Acting Regional Secretary and the IOCARIBE staff who organized this session for their untiring support and professionalism.

198 The Chairman then closed the Sixth Session of IOCARIBE at 18:00 on Thursday 29 April 1999.

ANNEX I

AGENDA

1. **OPENING**
2. **ADMINISTRATIVE ARRANGEMENTS**
3. **INTERSESSIONAL REPORTS OF THE BOARD OF OFFICERS AND SECRETARIAT: IMPLEMENTATION & ADMINISTRATION**
4. **REGIONAL PROJECTS (Including TEMA component and budget).**
 - 4.1 PROJECT MANAGEMENT SCHEME
 - 4.2 OCEAN SCIENCES AND SERVICES PROJECTS
 - 4.3 IOCARIBE SCIENCE PLAN
 - 4.4 THE IOCARIBE SYMPOSIUM
5. **THE REGIONAL INSTITUTIONAL FRAMEWORK**
 - 5.1 REGIONAL COOPERATION
 - 5.2 OTHER ORGANIZATIONS AND PROJECTS
 - 5.3 UNIFIED AGENDA
6. **STRATEGIC PROGRAMMES: 1996-TO DATE**
 - 6.1 NATIONAL MARINE POLICIES AND STRUCTURES
 - 6.2 NATIONAL CAPACITY BUILDING
 - 6.3 REGIONAL INFORMATION MANAGEMENT AND NETWORKING
7. **NEW MEDIUM TERM STRATEGY: 1999-2003**
 - 7.1 NEW STRATEGIC PRINCIPLES AND PROGRAMMES
 - 7.2 INTER-MINISTERIAL MEMORANDUM OF UNDERSTANDING
 - 7.3 SHORT TERM ACTION PLAN AND BUDGET
8. **ELECTION OF BOARD OF OFFICERS**
9. **DATE AND PLACE OF THE SEVENTH SESSION OF THE SUB-COMMISSION**
10. **ADOPTION OF THE SUMMARY REPORT AND RECOMMENDATIONS**
11. **THE IOCARIBE AWARD**
12. **CLOSURE**

ANNEX II

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

Recommendation SC-IOCARIBE-VI.1

New Regional Project:

**ESTABLISHMENT OF THE REGIONAL COMPONENT OF
THE GLOBAL OCEAN OBSERVING SYSTEM (GOOS)**

The IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE),

Recognizing:

- i. the rapid development of the Global Ocean Observing System (GOOS), and its regional components, as a mechanism for forecasting and anticipating marine impacts, and dissemination of oceanographic products,
- ii. the vulnerability of the IOCARIBE region's coastal areas to potential marine-related impacts (such as pollution, sea level rise, climate change, and natural and man-made hazards) and the economic and social implications of those for people whose livelihood depends on coastal resources, including sustainable tourism,
- iii. the wide range of existing marine research and monitoring programmes in the IOCARIBE region, including those co-coordinated by GOOS co-sponsors,
- iv. the Report from the IOCARIBE Users and GOOS Capacity Building Workshop, held in San Jose, Costa Rica, 22-24 April 1999, by this Sub-Commission.

Recommends that:

- i. a Caribbean marine observing system be established, within the overall framework of GOOS, to be called IOCARIBE-GOOS;
- ii. a Steering Committee should be established, consisting of representatives from Member States willing to join IOCARIBE-GOOS;
- iii. the Steering Committee for IOCARIBE-GOOS to be assisted by a Joint *ad hoc* Advisory Group consisting of not more than ten participants, that will, within the time-frame of two years:
 - a) prepare an inventory of what is already being done in the region;
 - b) assess the regional and national requirements for setting up the IOCARIBE-GOOS component;
 - c) develop links with existing relevant organizations, programmes and projects;
 - d) prepare a-10 year strategic plan for the development of IOCARIBE-GOOS; and
 - e) consider mechanisms for gradual and appropriate implementation of pilot-projects to take part in IOCARIBE-GOOS;

Further recommends to all IOCARIBE Member States to support the development of the IOCARIBE-GOOS Regional Project.

Recommendation SC-IOCARIBE-VI.2

New Regional Project:

**IOCARIBE-GODAR PROJECT
(GLOBAL OCEANOGRAPHIC DATA ARCHEOLOGY AND RESCUE)**

The IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE),

Recognizing that integrated management of data and information is crucial for the coastal zone sustainable development,

Recalling that a mandate of IOC Assembly (Seventeenth Session Paris, March 1993) promotes the creation of a global effort to rescue historical ocean and coastal data sets,

Acknowledges the existence of a wealth of information in the IOCARIBE Region still in manuscript form, and often without a backup;

Recommends the implementation of a regional IOCARIBE-GODAR Project following IOC directives for this Global Programme;

Further recommends the creation of a small Working Group from the region, led by a Regional Project Coordinator, to define in detail the terms of reference and its implementation plan as well as to identify possibly funding sources.

Recommendation SC-IOCARIBE-VI.3

New Regional Project:

**HURRICANE EFFECTS AND MITIGATION IN THE
COASTAL ZONES OF THE IOCARIBE REGION**

The IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE)

Considering that the harmful and lethal effects of hurricanes on the coastal zones of the region have recently increased,

Recognizing that at this time there is not coordinated effort to deal with this issue comprehensively, with emphasis on preventive measures in the coastal zones,

Taking note that laymen educative programmes on the subject are reduced and scattered, if any,

Recommends the formation of an *ad hoc* Task Team to gather existing data and information, to analyze and locate the gaps and to plan research in areas where needed;

Further recommends that the Task Team, acting on distance (phone/fax/e-mail) under the leadership of a *pro-tem* Regional Project Coordinator, compiles the available information and produce a preliminary directive report to the Board of Officers of the Sub-Commission, within a 6 month term, with a view to formulate a Regional Project proposal and to identify funding sources.

Recommendation SC-IOCARIBE-VI.4

New Regional Project:

HUMPBACK WHALES RESEARCH

The IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE),

Noting that the Eastern Caribbean Region has been identified as an area where there is a critical lack of information on a regional basis on the abundance and stock relationships of humpback whales,

Resolves to submit to the Scientific Committee of the International Whaling Commission for comment a draft proposal for an investigation of the current distribution and stock origin of humpback whales (*Megaptera Novaeangliae*) in the Southeastern Caribbean region;

Recommends that IOCARIBE, pending the input from the IWC, establishes a small Steering Group of Experts led by a Regional Project Coordinator to convene a meeting to finalize a research plan and formulate a project proposal including funding.

Recommendation SC-IOCARIBE-VI.5

New and ongoing Regional Projects:

LARGE MARINE ECOSYSTEM (LME) PROJECTS

The IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE),

Noting that the Intergovernmental Oceanographic Commission (IOC) supports and endorses the Large Marine Ecosystem (LME) concept for marine monitoring, assessment and resource management,

Noting also the endorsement to Recommendation SC-IOCARIBE-V.4, adopted at Christ Church, Barbados, December 1995, supporting a Caribbean LME monitoring and assessment programme,

Further noting the Recommendation SC-IOCARIBE-V.2, asking for the inclusion of the Pacific coasts of the inter-tropical Americas into IOCARIBE, and the decision on this regard by the Board of Officers of IOCARIBE to create a project in this Pacific Ocean sub-region adjacent to the Caribbean Sea,

Acknowledges with appreciation the progress achieved in the preparation, with financial support from NOAA and IUCN, of a proposal for a monitoring and assessment project for the Caribbean Sea LME, submitted to the GEF for funding;

Agrees to continue supporting and coordinating the ongoing development of project proposals for monitoring and assessment of the Caribbean Sea LME and the Gulf of Mexico LME respectively and their resources, for submission to the GEF by the countries in those sub-regions for funding;

Decides to support and coordinate the development of a new project proposal for monitoring and assessment of the Pacific Coast of Central America LME and its resources, for submission to the GEF by the countries in this sub-region for funding;

Recommends that a small Steering Group of Experts be established, under the leadership of a Regional Project Coordinator, for each one of these LME Projects.

Recommendation SC-IOCARIBE-VI.6

Ongoing Regional Project:

**REGIONAL COMPONENT OF THE GLOSS PROGRAMME
(Global Sea Level Observing System)**

The IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE),

Appreciating the existing IOC programme for the Global Sea Level Observing System (GLOSS),

Recalling recommendation SC-IOCARIBE-V.5 Part C, adopted at its Fifth Session at Christ Church, Barbados, December 1995, calling for continued regional GLOSS development as recommended by the IOCARIBE Group of Experts in Ocean Processes and Climate, and urging OAS-CPACC project to include and support the Regional GLOSS in their work,

Noting with satisfaction the progress achieved in the Regional GLOSS activities during the last intersessional period,

Urges Member States to renew their commitment and support including funding for the Regional GLOSS Project; and

Recommends that the Regional Sub-Commission continue to actively participate in the GLOSS Programme, and expand its activities to the extent that available resources would allow.

Recommendation SC-IOCARIBE-VI.7

Ongoing Regional Project:

TSUNAMI WARNING SYSTEM FOR THE CARIBBEAN

The IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE),

Noting that destructive Tsunamis (tidal waves) are a significant threat to life, infrastructure and development for the coastal regions of all IOCARIBE Members States and that these waves can propagate across the full width of the basins of the region in less than two hours,

Recognizing the continued Tsunami threat presented by the seismically active areas around the Caribbean tectonic plate and by the submarine volcano near Grenada called “Kick ‘em Jenny”,

Noting with satisfaction that in fulfilling Recommendation SC-IOCARIBE-V.5 Part B “Ocean Processes and Climate Change” of the 5th Session of the Sub-Commission (Barbados, December 1995) a Consultation of Tsunami Experts was successfully convened (St. John, US Virgin Islands, May 1996), at which experts from the region and from the Pacific Tsunami Warning System were assembled,

Noting further that this Consultation led to the larger Caribbean Tsunami Workshop (Puerto Rico, June 1997) and to IOCARIBE presentation of the Caribbean Tsunami hazard at a UNEP Natural Hazards Conference (Kingston, Jamaica, October 1996), at ICG/ITSU-XVI (Peru, 1997) and at ICG/ITSU (Hawaii, January 1999),

Acknowledging that projects capable of contributing to a Regional Tsunami Warning System have been initiated by the Seismic Research Unit (SRU) in Trinidad, by the Middle-America Seismograph

Consortium (MIDAS) in Puerto Rico, and by others; and that the CPACC sea-level monitoring project offers the opportunity to increase the efficacy of a system that detects the transit of Tsunamis,

Accepts the Draft Project Proposal of the IOCARIBE Steering Group of Experts on Tsunamis,

Asks that the Steering Group of Experts and the Regional Project Coordinator continue coordinating with SRU, MIDAS and the emergency preparedness organizations of the region (CDERA, Defensa Civil de Puerto Rico, VITEMA, etc.), as well as with the Joint *ad hoc* Advisory Group for IOCARIBE-GOOS;

Urges Member States to support regional collaboration by financial contributions and by communicating directly with the IOCARIBE Tsunami Steering Group on all developments related to Tsunami preparedness as well as warning and education.

Recommendation SC-IOCARIBE-VI.8

Ongoing Regional Project:

HARMFUL ALGAE IN THE CARIBBEAN/ALGAS NOCIVAS DEL CARIBE (ANCA), Regional Component of the IOC/HAB Programme.

The IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE),

Recalling that in the Fifth Session of IOCARIBE (Christ Church, Barbados, December 1995) the Harmful Algae Bloom Project within the Region was declared a priority of the Sub-Commission,

Noting that in compliance with Recommendation SC-IOCARIBE-V.4 Part C, the establishment of an IOCARIBE Regional Project on Harmful Algae was promoted, the Steering Group of Experts has been established and two joint Regional Project Coordinators have been appointed,

Noting with satisfaction the implementation of the IOCARIBE-ANCA Regional Workshop (La Havana, Cuba, June 29-July 1, 1998) supported by IOC, Sida/SAREC and the HAB-FANSA Programme; and the recognition of the state of the problem in the region by Members States,

Further noting the effort of the Steering Group of the ANCA Project to elaborate scientific research proposals to search for funds,

Accepts the report presented by the Regional Project Coordinators of the Project ANCA on activities developed in the intersessional period, and encourages them to continue searching for funds;

Recommends that the IOC continue to support the activities of the Steering Group of Experts, especially regarding TEMA and Capacity Building;

Invites Member States to become involved into the ANCA Project to strengthen the efforts at the region, making contributions to the Regional Project, improving the coverage of activities and developing coordinated monitoring activities within the region;

Also invites other regional organizations and projects with common interests on data and samples to collaborate sharing available information to avoid duplication and overspending on the scarce funds available for monitoring activities.

Recommendation SC-IOCARIBE-VI.9

Ongoing Regional Project:

**INTERNATIONAL BATHYMETRIC CHART OF THE CARIBBEAN
AND GULF OF MEXICO - IBCCA**

The IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE),

Recalling that the primary objectives of IBCCA are the compilation, printing and editing of bathymetric charts covering the region, within the IOC-GEBCO global ocean mapping programme,

Recognizing the satisfactory progress made in the achievement of the above objectives in the IOCARIBE Region by the regional Editorial Board of IBCCA,

Further recognizing that this information will facilitate and enhance the study and prediction of hazards, including storm surge and tsunamis, which pose serious threats to economic activities and human safety in the Region,

Taking note that nine (9) bathymetric map sheets in digital and hard copy format have now been produced by the Principal Editor, INEGI (Instituto Nacional de Estadísticas, Geografía e Informática, de México),

Acknowledges the outstanding efforts by the Principal Editor INEGI and the Regional Project Coordinator, for the work completed up to date and the continuing commitment to the project;

Invites participating Member States to renew their commitment to the IBCCA project;

Invites those participating countries that have not yet fulfilled their agreed obligations to do so as soon as possible, so that all Member States may benefit equally from the valuable outputs of the project; and

Urgently requests the IOC to assist seeking financial support to facilitate the completion of map coverage and the production of IBCCA in CD-ROMs format.

Recommendation SC-IOCARIBE-VI.10

Regional Strategic Programme:

**EVALUATION AND UPGRADING OF THE SCIENTIFIC RESEARCH
AND TRAINING COMPONENT IN THE REGIONAL PROJECTS**

The IOC Sub-commission for the Caribbean and Adjacent Regions (IOCARIBE),

Recognizing:

- i. the role and responsibilities of IOCARIBE in the Caribbean and Adjacent Regions,
- ii. the importance of the process of restructuring, reforming and strengthening of the Sub-Commission achieved subsequent to the IOCARIBE-V Session,
- iii. the urgent need to define a regional research and training programme that responds to the needs of the Member States,

Recommends that:

- i. the formulation of a Strategic Science Plan and Related Services in the medium term (2001-2010) for IOCARIBE, that takes into consideration the priorities and capacities of Member States of the Sub-Commission;
- ii. the creation of an *ad hoc* Group of Experts (which would be called IOCARIBE-1) made up of no more than ten specialists from the region, for the writing of a Strategic Science Plan and Related Services, that should be adopted by the Seventh Session of IOCARIBE;
- iii. the *ad hoc* Group of Experts will focus its work on:
 - a) continuing and enhancing the inventory being built by the Regional Secretariat of IOCARIBE on the scientific research projects under way in the region, including those that are being carried out by Member States with special emphasis on their exclusive economic zones, as well as those being developed by the various international and regional organizations that are active in the Caribbean and adjacent regions;
 - b) likewise, continuing and updating the directory made by the Regional Secretary of IOCARIBE of the scientists and scientific institutions of the region (known as the IOCARIBE "Yellow Pages");
 - c) identifying the regional requirements on scientific research and ocean services;
 - d) preparing a Draft Strategic Science Plan and Related Services for IOCARIBE, for the decade 2001-2010, which must be circulated among Members States six months prior to the Seventh Intergovernmental Session of IOCARIBE, with a view to be adopted by the Sub-Commission;
 - e) considering the mechanisms that IOCARIBE must use to coordinate and gradually enhance the participation of all its Member States in this Strategic Science Plan and Related Services;
 - f) identifying the financial requirements and fund sources for implementing the Strategic Science Plan and Related Services.

Further recommends to all Members States to support the work and to supply the information that the *ad hoc* Group of Experts will require to achieve its goals.

Recommendation SC-IOCARIBE-VI.11

REGIONAL SCIENTIFIC AGENDA

The IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE),

Recognizing the existence of several governmental and non-governmental organizations interested in contributing to the knowledge on the marine and coastal environment of the region,

Recognizing that the main objective of the above is oriented towards the sustainable development of the countries and to contribute to the economic and social welfare of the peoples,

Considering that for the achievement of those purposes it is highly recommendable and necessary to use the human, material and financial regional resources in a rational and efficient manner, focusing mainly on eliminating the duplication of efforts,

Considering the urgent need to improve and increase the level of coordination and integration in science issues and marine and coastal services between all the entities and organizations interested in the Caribbean and Adjacent Regions,

Remembering that all of the above complies with the agreements and principles of the Agenda 21 in general and of its Chapter 17 particularly,

Taking into account the IOCARIBE Strategic Science Plan to be formulated by the *ad hoc* Group of Experts IOCARIBE-1 (See Recommendation SC-IOCARIBE-VI.10) before the next Intergovernmental Session IOCARIBE-VII (in the year 2001),

Recommends to:

- i. call a joint regional Conference with the participation of all organisms and international organizations of the region interested in the marine and coastal issues of the Caribbean and Adjacent Regions, with the purpose of:
 - a) defining ways and means for integration,
 - b) analyze and agree the best mechanisms for co-operation,
 - c) specify the elements and priorities for a scientific programme and integrated services programme;
- ii. initiate contacts with all the organizations and entities interested, with the purpose of inviting them to participate in this effort of regional integration and agree on a common agenda for the meeting;
- iii. carry out all the possible efforts to reach and agree on a "Regional Agenda for Science Issues and Marine and Coastal Services" that reflects the priority needs of the States of the region;

Requests from the Executive Secretary of the Intergovernmental Oceanographic Commission (IOC) to provide the means necessary for this joint regional Conference to be organized and appointed within the next twelve months in the place considered convenient for the purposes of the meeting.

Recommendation SC-IOCARIBE-VI.12

LIAISON WITH EXISTING PROJECTS AND INITIATIVES

Part A

Intra-Americas Sea Initiative (IASI)

The IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE),

Recognizing that:

- i. the Intra-Americas Sea Initiative (IASI) is a multi-national effort developed out of the joint endeavor of the University of Miami, Rosentiel School of Marine and Atmospheric Science, the NOAA Atlantic Oceanographic and Meteorological Laboratory, and the Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC),

- ii. the IASI involves the participation of a wide number of research institutions and experts in the IOCARIBE region, and that many of them are also experts and institutions participating in IOCARIBE scientific research projects,
- iii. the scientific research areas identified by IASI are important to improve the scientific basis for sustainable environmental management in the region, and have been of permanent interest to previous and current IOCARIBE regional projects,

Noting the interest expressed by Member States of IOCARIBE and the IASI Coordination Committee to expand collaborative efforts between IOCARIBE and IASI for improving the scientific understanding of the Caribbean and adjacent regions,

Supports the projects and research areas proposed by IASI and encourages participating scientists to continue expanding this type of activities, bearing in mind the strengthening of the overall scientific capacity in the region;

Recommends to the Board of Officers of the Sub-Commission to establish a liaison between the IASI Coordination Committee and IOCARIBE who shall encourage joint activities and collaboration in ongoing proposals, to optimize fund raising and to avoid duplication of efforts and resources in the region, and seeking further opportunities for co-operation between IOCARIBE and the IAS Initiative;

Further recommends to IOCARIBE Member States to invite and facilitate their scientists to participate in the research opportunities offered by the IASI projects.

Part B

Land Ocean Interaction in the Coastal Zone Project (LOICZ) of IGBP.

The IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE),

Recognizing that:

- i. the LOICZ (Land–Ocean Interaction in the Coastal Zone) is a core project of the International Geosphere-Biosphere Programme (IGBP) that addresses scientific issues and uncertainties associated with changes in the coastal zones and coastal research in various geographical regions around the world,
- ii. the LOICZ typology database is a standard collection of scientific information on biogeochemical, hydrographic, climate and socioeconomic coastal data as well as on coastal basin dynamics which has been identified to closely match the scientific needs of the coastal module of GOOS,
- iii. addressing the IOCARIBE region in a scientific approach along the LOICZ objectives would allow for a considerable scientific contribution to the global synthesis,
- iv. such synthesis will also contribute to the interests and needs of the countries in the IOCARIBE region,

Acknowledges the important role of LOICZ-IGBP regarding coastal zone issues worldwide and its potential for contribution to the interests of IOCARIBE, and particularly for contributing to a coastal GOOS regional module;

Recommends the IOCARIBE Board of Officers to establish a liaison between IOCARIBE and LOICZ-IGBP, who shall promote co-operation and provide advice on related activities, avoid duplication of efforts and facilitate the devising of joint regional proposals.

Part C
CARIACO Project

The IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE),

Recognizing that:

- i. CARIACO (Carbon Retention in a Coastal Ocean) is a project designed to study Global Climate Change by detecting the presence of carbon in the tropical ocean and has established hydrographic time series on a monthly basis located on the coastal margin at the Southeastern boundary of the Caribbean Sea in the continental Shelf of Venezuela, with financial support from USA and Venezuela,
- ii. CARIACO follows the standard protocols as required by JGFOS and results of this project has potential for expanding information and knowledge base on global climate change in the Caribbean and adjacent area,

Recommends that the IOCARIBE Board of Officers establish a liaison to support the programmes and activities of this project.

ANNEX III

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ANNEX IV

IOCARIBE ACTION PLAN AND BUDGET 1999 – 2001

The Action Plan and Budget is divided in two sections:

- First section on implementation of Programmes and Projects. Strategic programmes (Table 1) are treated separately from scientific projects (Table 2).
- Second section deals with running expenses of the regional office and staff (Table3)

1. PROGRAMME IMPLEMENTATION

1.1. STRATEGIC PROGRAMMES (Coordination, promotion and evaluation)

The Strategic Programmes of IOCARIBE are part of the New Medium Term Strategy: 1999-2003, and of the Recommendations approved by the intergovernmental session IOCARIBE-VI. They are essentially cross-sectorial, multi-disciplinary and policy-oriented, overlooking all regional science and service projects.

The IOCARIBE Strategic Programmes relate to the IOC 2000-2001 Main Line of Action (MLA) No.2: “Meeting the needs of Ocean-related Conventions and Programmes”, in particular to: Capacity Building & TEMA; governing bodies and global policy; UNCLOS, UNCED and integrated cooperation; and public awareness

Furthermore, IOCARIBE should devise and implement a procedure for evaluating the output of Regional Projects including performance indicators, impact on the region and cost-benefit analysis. The evaluating system should account for national and international resources (in cash or kind) participating in each Regional Project on scientific research and related services, and/or associated events (workshops, courses, meetings, etc.).

Funds required from IOC for Strategic Programme are normally seed money to initiate in-house, non-delegable activities, and subsequently leverage additional extra-budgetary funds.

1.2 REGIONAL PROJECTS (Science and Services)

Regional Projects contribute to the IOC MLA No.1 “Reducing scientific uncertainties about coastal and oceanic processes”, and fulfill a dual role: a) are regional components of global Science Programmes of IOC; and b) satisfy the requirements and needs of member States in the region.

The Regional Projects of IOCARIBE are each at different stages of evolution, implementation and funding. Under the new decentralized management scheme each one of them is a singular operational unit with its own resources and funds (almost entirely extra-budgetary). Each Regional Project’s budget shall be planned and supervised by the Steering Group of Experts (SGE) and the Regional Project Coordinator (RPC).

NOTE: Funds are not requested from IOC for these types of regional Projects. Extra-budgetary sources, Member States, and other agencies and/or donors should fund these projects. The budget included in Table 2 for regional Project is only a rough estimate of resources, cash and/or in kind.

TABLE 1: BUDGET FOR IOCARIBE STRATEGIC PROGRAMMES (Coordination, Promotion and Evaluation)

	1999			2000			2001		
	IOC RP & TF	Other	Total	IOC RP & TF	Other	Total	IOC RP & TF	Other	Total
Relations with other regional organizations: elaboration of unified Regional Agenda (Rec. SC-IOCARIBE-VI.11)	5,000	10,000	15,000	15,000	30,000	45,000	5,000	10,000	15,000
Strengthening National Marine Policies and internal coordination networks		20,000	20,000	10,000	20,000	30,000	10,000	20,000	30,000
Information Management and Networking	10,000	15,000	25,000	20,000	30,000	50,000	20,000	30,000	50,000
Strategic Science Plan and Related Services (Rec. SC-IOCARIBE-VI.10)	15,000	20,000	35,000	5,000	15,000	20,000			
IOCARIBE Symposium 2000				40,000	70,000	110,000			
Evaluation and accounting of Regional Projects (sciences and services)				15,000	20,000	35,000	15,000	20,000	35,000
Strategic Programmes Total:	30,000	65,000	95,000	105,000	185,000	290,000	50,000	80,000	130,000

TABLE 2: BUDGET FOR IOCARIBE REGIONAL PROJECTS (Sciences & Services)

		1999			2000			2001	
	IOC	Other	Total	IOC	Other	Total	IOC	Other	Total
Regional Science Projects									
OPC – Regional component					125,000	125,000		230,000	230,000
OSLR – Highly Migratory and Straddling Species		5,000	5,000		75,000	75,000		118,000	118,000
HAB- Algas Nocivas del Caribe ANCA					7,000	7,000		25,000	25,000
LME – Caribbean Sea		10,000	10,000		350,000	350,000		1,000,000	1,000,000
LME – Gulf of Mexico		N/A	N/A		N/A	N/A		N/A	N/A
LME – Pacific Coast Central America		5,000	5,000		25,000	25,000		350,000	350,000
OSLR- Western Atlantic Turtle Symposium WATS-III					10,000	10,000		50,000	50,000
OSLR – Marine Mammals: Humpback Whales Research		15,000	15,000		200,000	200,000		250,000	250,000
ICAM – Coast / Beach Dynamics		N/A	N/A		N/A	N/A		N/A	N/A
GIPME – Caribbean Marine Debris Action Plan		N/A	N/A		N/A	N/A		N/A	N/A
ICAM – Hurricane Effects and Mitigation on Coastal Zones		N/A	N/A		N/A	N/A		N/A	N/A
Ocean Services and Operational Observing Systems									
IOCARIBE-GOOS					25,000	25,000		130,000	130,000
GLOSS Regional Component					15,000	15,000		80,000	80,000
IOCARIBE-GODAR		7,000	7,000		45,000	45,000		70,000	70,000
Caribbean Tsunami Warning System		18,000	18,000		25,000	25,000		200,000	200,000
GEBCO – IBCCA		N/A	N/A		N/A	N/A		N/A	N/A
Regional Projects Total:	-	60,000	60,000	-	902,000	902,000	-	2,503,000	2,503,000

TABLE 3: BUDGET FOR IOCARIBE REGIONAL SECRETARIAT (Regular operational costs)

Regional Staff	1999			2000			2001		
	IOC RP & TF	Other	Total	IOC RP & TF	Other	Total	IOC RP & TF	Other	Total
IOC Senior Assistant Secretary for IOCARIBE	48,000		48,000	48,000		48,000	48,000		48,000
IOC Office Secretary/Manager	23,000		23,000	23,000		23,000	23,000		23,000
Assistant regional Acting Secretary & Editor IOCARIBE Newsletter	-	24,000	24,000		24,000	24,000		24,000	24,000
Junior Professional Associated Expert	-				36,000	36,000		36,000	36,000
Sub-Total Staff:	71,000	24,000	95,000	71,000	60,000	131,000	71,000	60,000	131,000
Office Running Expenses									
	-								
IOC Budget (Regular Programme & Trust Fund)	30,000		30,000	30,000		30,000	30,000		30,000
Colombia Contribution	-	30,000	30,000		30,000	30,000		30,000	30,000
Sub-Total running expenses	30,000	30,000	60,000	30,000	30,000	60,000	30,000	30,000	60,000
Regional Secretariat Total:	101,000	54,000	155,000	101,000	90,000	191,000	101,000	90,000	191,000

ANNEX V

STATES & TERRITORIES IN THE CARIBBEAN AND ADJACENT REGIONS
Sorted by Sub-Regional Groups

Gr.		INDEPENDENT STATES	Dependent Territories	Member UNESCO	Member IOC	Member IOCARIBE	Have NOC?
S I D S A N T I L L E S	1	ANTIGUA & BARBUDA		Y	N	N	
	2	BAHAMAS		Y	Y	Y	Y
	3	BARBADOS		Y	Y	Y OB	Y
	4	BELIZE		Y	Y	Y	N
	5	DOMINICA		Y	N	N	
	6	GRENADA		Y	N	N	
	7	GUYANA		Y	Y	Y	N
	8	HAITI		Y	Y	Y	N
	9	JAMAICA		Y	Y EC	Y	Y
	10	ST. KITTS & NEVIS		Y	N	N	
	11	ST. LUCIA		Y	Y	Y	
	12	ST. VINCENT & GRENADINES		Y	N	N	
	13	SURINAME		Y	Y	Y	N
	14	TRINIDAD & TOBAGO		Y	Y	Y	N
S I D S C. A.	1	COSTA RICA		Y	Y EC	Y OB	N
	2	GUATEMALA		Y	Y	Y	N
	3	HONDURAS		Y	N	N	N
	4	NICARAGUA		Y	Y	Y	N
	5	PANAMA		Y	Y	Y	Y
	6	REPUBLICA DOMINICANA		Y	Y	Y	N
M E D I U M	1	BRAZIL		Y	Y VC	Y	
	2	COLOMBIA		Y	Y EC	Y	Y
	3	CUBA		Y	Y EC	Y	Y
	4	MEXICO		Y	Y EC	Y OB	Y
	5	VENEZUELA		Y	Y	Y	Y
E U R O P E & U S A	1	FRANCE:	1- French Guyana 2- Guadeloupe 3- Martinique 4- St. Barthelemy 5- St. Martin (1)	Y	Y EC	Y	Y#
	2	NETHERLANDS:	1- Aruba 2- Netherland Antilles: a) Bonaire b) Curacao c) Saba d) St.Eustasius e) St. Maartin (1)	Y Y* Y*	Y	Y	Y#
	3	UNITED KINGDOM:	1- Anguilla 2- Bermuda 3- British Virgin Is. 4- Cayman Is. 5- Montserrat 6- Turks & Caicos	Y	Y VC	Y	Y#
	4	UNITED STATES:	1- Puerto Rico 2- US Virgin Is.	N	Y EC	Y OB	Y

EC = IOC Executive Council

VC = IOC Vice-Chair

OB = IOCARIBE Board of Officers

Y* = Associate Member to UNESCO

....Y# = Does have a National Oceanographic Commission (NOC), but not in the region.

ANNEX VI

LIST OF ACRONYMS

ACC	Administrative Coordination Committee
ACP	African, Caribbean and Pacific (Countries)
AGRRA	Atlantic and Gulf Rapid Reef Assessment
AGU	American Geophysical Union
ANCA	Algas Nocivas del Caribe
AOML	Atlantic Oceanographic and Meteorological Laboratory (NOAA)
CARICOM	Caribbean Community
CARICOMP	Caribbean Coastal marine Productivity
CATHALAC	Centro del Agua del Trópico Húmedo para América Latina y el Caribe (Water Center for the Humid Tropics of Latin America and the Caribbean)
CDERA	Caribbean Disaster Emergency Response Agency
CEP	Caribbean Environment Programme
CEPPOL	Joint IOC-UNEP Marine Pollution Assessment and Control Programme for the Wider Caribbean Region
CFRAMP	CARICOM Fisheries Resource Assessment and Management Programme
CFU	CARICOM Fisheries Unit
CMC	Center for Marine Conservation
COSTAS	Centro de Estudios para el Desarrollo y Manejo de la Zona Costera
CPACC	Caribbean Planning for Adaptation to Climate Change
CPACC Project	Caribbean: Planning for Adaptation to Global Climate Change
FANSA	IOC Working Group for Harmful Algal Blooms Southamerica/Grupo de trabajo de la COI sobre Floraciones Algaes Nocivas en Sudamérica
GEBCO	General Bathymetric Chart of Oceans
GEF	Global Environment Facility (World Bank-UNEP-UNDP)
GEOHAB	Global Ecology of Harmful Algal Blooms
GLOSS	Global Sea-level Observing System
GODAR	Global Oceanographic Data Archaeology and Rescue Project ()
GOOS	Global Ocean Observing System
GPA	Global Programme of Action [<i>for the Protection of the Marine Environment from Land-based Activities</i>] (UNEP)
HAB	Harmful Algae Blooms
IASI	Intra-Americas Sea Initiative
IBCCA	International Bathymetric Chart of the Caribbean and Gulf of Mexico
ICAM	Integrated Coastal Areas Management
ICG	International Coordination Group
ICSU	International Council for Science
ICZM	Integrated Coastal Zone Management
IDB	Interamerican Development Bank
IGBP	International Geosphere-Biosphere Programme (ICSU)
IMO	International Maritime Organization
INSMAP	International Symposium on Marine Positioning (1994)
IOC	Intergovernmental Oceanographic Commission
IOCARIBE	IOC Sub-Commission for the Caribbean and Adjacent Regions
IODE	International Oceanographic Data and Information Exchange (IOC)
IOI	International Ocean Institute
IPCC	Intergovernmental Panel on Climate Change (WMO-UNEP)
IPHAB	Intergovernmental Panel on Harmful Algal Blooms
ITSU	International Coordination Group for the Tsunami Warning System in the Pacific (IOC)
IWC	International Whaling Commission

JGOFS	Joint Global Ocean Flux Study
LBS	Land Based Sources
LME	Large Marine Ecosystems
LOICZ	Land-Ocean Interaction in the Coastal Zone
MARPOL	Marine Pollution
MoU	Memorandum of Understanding
NGO	Non-Governmental Organization
NOAA	National Oceanic and Atmospheric Administration (USA)
OAS	Organization of American States
OPC	Ocean Processes and Climate
RPC	Regional Project Coordinator
SCOR	Scientific Committee on Oceanic Research (ICSU)
SGE	Steering Group of Experts
SIDS	Small Island Developing States
SITD	Sebastian Inlet (Florida) Tax District
TEMA	Training, Education and Mutual Assistance (IOC)
UN	United Nations
UNCED	United Nations Conference on Environment and Development (Brazil, 1992)
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Convention on Climate Change
USC	University of South California
USF	University of South Florida
USVI	US Virgin Islands
WMO	World Meteorological Organization (UN)