

Intergovernmental Oceanographic Commission

Reports of Meetings of Experts and Equivalent Bodies

IOCARIBE-GOOS Steering Committee

First Meeting
New Orleans, USA
2-3 June 2003

GOOS Report No. 135

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UNESCO 2003

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Abstract

The First Meeting of the IOCARIBE-GOOS Steering Committee was held in New Orleans. USA, June 2-3, 2003. In compliance with approved Recommendation SC-IOCARIBE-VII.1 Annex A and B, and after a nomination process, the IOCARIBE-UNESCO Board of Officers appointed 15 members from Barbados, Bermuda, Colombia, Costa Rica, Cuba, Jamaica, Mexico, Trinidad & Tobago, USA, and Venezuela to conform the IOCARIBE-GOOS Steering Committee. The work of the IOCARIBE-GOOS Steering Committee is based on the work of the former Ad-Hoc Advisory Group for IOCARIBE-GOOS during its mandate from 1999 to 2002. Based in the concept of "The Case for IOCARIBE-GOOS" the Committee developed a General Plan of Actions. Four main topics were outlined for the Plan of Actions: (i) assessment (ii) initial observing system (iii) capacity building and, (iv) coordination and development. The Committee further reviewed the established Terms of Reference for the IOCARIBE-GOOS Steering Committee. The Committee discussed the inclusion of additional members in the Steering Committee. It was agreed that it was best for the Steering Committee to include mainly persons who would be in a position to actively engage in the work of the Committee. The role of the proposed Administrative Officer was discussed and it was agreed that the function would be more technical coordination than administrative. It would require a technical knowledge, possibly at the UN P3 level. It was agreed to rename the position Programme Officer.

(SC-2002/WS/)

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1. OPENING

The First Meeting of the IOCARIBE-GOOS Steering Committee (SC) was held at the Hilton Garden Hotel, New Orleans June 2-3, 2003. The meeting was called to order at 8:45 am. Dr. Cesar Toro, IOC Secretary for IOCARIBE-UNESCO welcomed participants. Participants introduced themselves.

2. ADMINISTRATIVE ARRANGEMENTS

2.1 ADOPTION OF THE AGENDA

The Provisional Agenda for the meeting was revised and adopted by acclamation. The adopted Agenda is included in Annex I.

The List of Participants is included in Annex II.

2.2 DESIGNATION OF RAPPORTEUR FOR THE SESSION

Dr. Robin Mahon was appointed as Rapporteur for the Meeting.

3. IOCARIBE-GOOS OVERVIEW AND BACKGROUND INFORMATION

3.1 STRATEGIC PLAN

The GOOS Strategic Plan was reviewed with the aim of identifying the areas on which the Steering Committee would need to focus. Attention was drawn to the complementary document "General Plan of Actions for the Steering Committee for IOCARIBE GOOS'.

The importance of establishing the national level GOOS committees and getting them working was emphasised.

The need for scientists to be prepared to justify the economic value of their work through costbenefit analyses was emphasised.

Regarding the paragraph in at the end of section 2.3 'Costs and Benefits', it was noted that the PDF-B phase of the LME project could provide that type of information for fisheries and living marine resource aspects of tourism.

It was stressed, as an important function of the SC, the need to ensure that GOOS design principles are maintained in the IOCARIBE GOOS (Section 3.1). It was also agreed that there should be a copy of the Coastal Ocean Observations Panel (COOP) plan on the final CD of documents.

The SC needs to focus on plans for capacity building to ensure the access to GOOS products and their use be accessed and used by a wide range of stakeholders. The role of rapidly changing communication technology is key to this.

With regard to section 4, 'Implementation', the role of interaction of three groups – users, technical experts, researchers – was highlighted.

The need to build on existing structures while working towards improved data collection, storage and dissemination was noted as important. However, the possibility that these structures may not be easily compatible was noted. This should be a consideration when designing national level systems.

An approach to pilot projects that should be considered is to undertake regional projects versus local projects that are transferable. It was noted that failure in a project such as GOOS has serious consequences as it closes doors to future opportunities; failure does not simply mean that things remain as they are.

Designing and overseeing the four elements of a data and information management plan will be a significant role of the SC. The question of data availability at the regional level, due to national level constraints, or unwillingness to make data available, was seen as an issue requiring attention. This was seen to be less of a problem for meteorological data than for oceanographic data, partly due to the fact that countries perceive benefits from contributing their data to regional level meteorological modelling. Even so, there are difficulties with meteorological data. Data belonging to private sector and individual researchers are least accessible. There is the need to emphasise benefits that may be derived by data sharing. On the positive side, perceptions are also changing globally regarding the value of sharing data.

Capacity building should take into consideration other activities e.g. JCOMM Capacity Building Strategy, that are actively being developed at present.

3.2 REGIONAL GOOS ALLIANCES MEETING AND EURO-GOOS MEETING

All regional GOOS came together in Athens last year in conjunction with Euro-GOOS. This provided an opportunity to share IOCARIBE-GOOS Project with other regions, and to explore possible linkages. There is 1.2 M provided by the EU for developing cooperation in ocean observing systems. Funds must be spent on European technology. IOCARIBE is applying for funds from this source to develop and implement IOCARIBE-GOOS.

The absence of National GOOS Committees and/or Focal Points in some Caribbean countries was noted. This raised the question of whether representation in GOOS would be most effectively achieved at national or at sub regional levels. It was noted that for smaller countries representation on technical matters through organisations such as OECS or CARICOM may be more effective. This should not preclude national representation, but could be an additional level. There may even be merit in representation from regional and sub-regional private sector and non-governmental organisations.

The question of how GOOS Focal Points are identified was raised. It was noted that in many countries few people at senior levels would be aware of GOOS.

3.3 STEERING COMMITTEE MEMBERS REPORT

The Universidad Nacional Autónoma of México (UNAM) is establishing a data bank of sea surface temperature information on Mexico's waters taken from NOAA satellites by the Mexican ground station (1996 on). Information on this will be provided to GOOS members in future. This will be contributed to the IOCARIBE GOOS system. There is the need to coordinate formats etc., with IOCARIBE-GOOS. There will also be a link from the IOCARIBE-GOOS page.

Alejandro Gutierrez noted that after Mitch, funds were approved for placement of meteorological stations along the Central American (CA) coast. NOAA, OAS and the Regional

Committee for Hydrological Resources (CRRH) worked on placement and maintenance of these 12 stations. There is a web page and the link will be provided. At the University is the data and quality control centre as well as spare parts for station maintenance. This is an intergovernmental initiative and CRRH will own the equipment. This should help with sustainability of this initiative after NOAA's input is finished.

The Latin American Marine Science Congress (COLACMAR) is having its 10th session in Costa Rica this September 22-26. It is organised under the auspices of ALICMAR by local organisers Universidad Nacional and Universidad de Costa Rica.

In Venezuela, non-observational activities included:

- Conferences (in Spanish) promoting operational oceanography and the fundamentals of GOOS, have been given to key interest audiences for IOCARIBE-GOOS (Navy, academic institutions, environmental agencies, etc.)
- An executive attempt is being developed with the purpose of incorporating the national oil industry (PDVSA) to the Ships of Opportunity and Voluntary Observing Program (SOOP).
- Direct participation in the revision of the legal statements about requirements for foreign research vessels to entry national waters (clearance), initiated by the Foreign Affairs Ministry.
- Participation in the promotion of a Latin American School for Physical Oceanography, on the basis of integrating human resources and institutions of the Caribbean Region, as a response to the historical regional deficit of scientists dedicated to that key discipline.

Observational activities included:

• Two basic programs dealing with the generation of high quality geodynamical data in Venezuela are: (a) the Cariaco Basin hydrostation related to the topic of the Global Carbon Cycle under a bilateral agreement between the NSF (USA) and the FONACIT (Venezuela), combining efforts of several American universities (USF, NYSU, NCU) and Venezuelan institutions (FLASA, UDO), developed since 1997 on a monthly basis; (b) the VENEHMET Project, which integrates all the national institutions with meteorological and hydrological networks. Three Doppler radars will be installed on the coastal margin of Venezuela, during the second part of this year, under the advisory of the National meteorological Service of Australia. This installation will let VENEHMET Program begin with the data acquisition Phase and so become the National Institute of Hydrology and Meteorology in the next year.

Bermuda Biological Station (private incorporated in NY) is having its 100-year anniversary. It has a large number of relevant activities. The Ministry of Environment outlawed antifouling paints in 1989. Outlawing of paint with TBT was not completely successful because there is an additive that can be put in regular paint. New additives are being examined and some are being banned. In particular Irgarol 1051 (atrizine herbicide) that inhibits coral photosynthesis. The Ministry is also working on white paper on Fisheries and Marine Resources. It hosted workshop on biodiversity on strategies and action plans for biodiversity. Small BBS workshop in September 2003 on development of tools for rapid assessment of marine pollution and especially biomarkers for marine pollution.

Barbados is working on the composition of its GOOS Steering Committee. Also Barbados is regional coordinator for International Oceanographic Data Information and Exchange (IODE) and is having a national meeting on it. CZMU is also getting designated as the national ocean data centre (NODC) for Barbados and is conducting an inventory of data and information. This includes hardware for data management and training in its use. AS regional coordinator, Barbados has been

promoting similar activities in other Caribbean countries. Under ODINCARSA, this data may be linked through Ocean Portal to global datasets.

Cariscience is promoting regional science. As part of their activities later this year Dr. Lorna Inniss will contribute information on GOOS and IODE. As part of the GPA funds are being sought for water quality monitoring in the region. This will be part of regional workshop on chemical and biological information that will be funded by Scandinavian countries.

IOCARIBE is continuing to develop its Caribbean Large Marine Ecosystem Project which has been submitted to the Global Environmental Facility (GEF) for pipeline entry for funding. If approved it will begin with the a project development phase (Pdf-B) activity of about 18 months duration that will prepare the full project that will be at least 10 years duration in two phases.

The University of the West Indies (UWI) is the main research and tertiary training institution for its 15 member countries (CARICOM countries). These are among the smallest countries in the Caribbean and consequently those with the least technical capacity in oceanography. Therefore, it was noted that UWI could play a role in facilitating the participation of its member countries in GOOS. At the same time UWI has limited capacity in ocean sciences, and could itself benefit from capacity building in that area to better enable it to serve its member countries. This would be consistent with recent activities at UWI to improve coordination and networking among the three campuses (Barbados, Jamaica, Trinidad).

White Water to Blue Water (WW2BW) is an initiative led by the US State Department and NOAA to create partnerships in the Wider Caribbean Region. There is still a lack of clarity of where this initiative will lead. However, this is seen as providing the opportunity for groups with clear plans for regional level proposals to develop their initiatives, to include the full range of regional stakeholders and to gain support of the donors who will be present.

4. IOCARIBE-GOOS STEERING COMMITTEE

4.1 MEMBERSHIP

Dr. Cesar Toro explained the guidelines for appointment and work of members of the IOCARIBE-GOOS Steering Committee.

Participants expressed their regret at hearing that Ms Hazel M^cShine had decided to step down, and urged the Chairman to encourage her to reconsider.

It was noted that there are still several positions on the SC to be filled. This was deliberate in order to leave some scope to include organisational members and also to ensure that the range of skills was appropriate to its mandate. One consideration in the criteria for inclusion in the SC is the extent of the individual's commitment. The inclusion of senior persons who can be supportive, or assist with acquisition of funding was proposed and considered to be a good idea. However, such persons are often over committed and unable to participate at the required level. It was agreed that it was best for the SC to include mainly persons who would be in a position to actively engage in the work of the SC.

Possible additional members for the Steering Committee were discussed. It was considered to be desirable to engage the tourism sector, either through the Caribbean Tourism Organisation (CTO) or the Caribbean Hotel and Tourism Association (CHTA). Other private sector interests would be the insurance industry. Membership from the International Maritime Organisation (IMO) was also considered. The desirability of having a SC member from the French Departments was

noted. If possible, a person from a relevant agency, such as IFREMER or METEOSAT would be best. The possibility of including an NGO was discussed with the aim of developing links to alternative funding sources and/or to provide links into coastal communities. Avina Foundation, The Ocean Conservancy, and The Nature Conservancy were noted as extraregional organisations. The Caribbean Conservation was noted as a regional NGO with coastal community links. Regional institutions were also considered as possible candidates. The desirability of having extra-regional country members on the SC was discussed.

It was agreed that SC members would provide suggestions for additional SC members to the Secretariat by June 13th. From these suggestions, according to the guidelines, the Co-Chairs and the IOCARIBE Secretary would prepare a short-list for consideration by the SC.

The list of the IOCARIBE-GOOS Steering Committee appointed members is included in Annex III to this report.

4.2 TERMS OF REFERENCE AND GUIDELINES

It was agreed that Steering Committee members would receive a formal letter on IOCARIBE letterhead indicating that they have been appointed to the SC.

Possible additional members for the Steering Committee were discussed. It was considered to be desirable to engage the tourism sector, either through the Caribbean Tourism Organisation (CTO) or the Caribbean Hotel and Tourism Association (CHTA). Other private sector interests would be the insurance industry. Membership from the International Maritime Organisation (IMO) was also considered. The desirability of having a SC member from the French Departments was noted. If possible, a person from a relevant agency, such as IFREMER or METEOSAT would be best. The possibility of including an NGO was discussed with the aim of developing links to alternative funding sources and/or to provide links into coastal communities. Avina Foundation, The Ocean Conservancy, and The Nature Conservancy were noted as extraregional organisations. The Caribbean Conservation was noted as a regional NGO with coastal community links. Regional institutions were also considered as possible candidates. The desirability of having extra-regional country members on the SC was discussed.

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The list of the IOCARIBE-GOOS Steering Committee appointed members is included in Annex III to this report.

5. DESIGN OF IMPLEMENTATION PLAN 2003-2004

The group then reviewed the document "General Plan of Actions for the Steering Committee for IOCARIBE-GOOS" and recognised that the tasks therein fall into four blocks of activities. The time-frame for implementation was discussed. There is a 10 year horizon for global GOOS. Med-GOOS and Euro-GOOS are ahead in the process and may provide indicators of how to approach implementation.

The point was also raised that there may be ongoing processes that can inform the GOOS process. Examples are the CARSEA project of the Millennium Ecosystem Assessment and the Global International Waters Assessment (GIWA).

Various ways of acquiring user scenarios were discussed. This could also be achieved by targeting user groups in meetings in the region. An early task would be to list these groups. There is also the possibility of establishing a crosscutting group for the WW2BW session that would seek input on oceanographic information needs with regard to various sectors. In considering scenarios it is necessary to keep in mind the focus on how oceanographic data and information can improve the lives of stakeholders.

The group recognised that although it was necessary to consult with user groups regarding their needs, there are several cases in which the potential benefits are well known and can be demonstrated.

Regarding the way forward, there is the question of whether the group should move forward with a broad comprehensive approach to determining needs for oceanographic information products or by focusing on a small number of clear initiatives to demonstrate value. However, we should is the need to bear in mind that the aim is to establish a single ocean observing system.

The approach to the overall set of task needs to be phased. Step one is to identify the existing systems and capability. Then to determine what gaps exist in the system in order to deliver the needed outputs. Then to put a time frame on the plan.

The tasks in the general plan of action were organised into four groups:

- Assessment;
- Initial observing system;
- Capacity Building;
- Programme Coordination and Development.

The implementation of each of these groups tasks was seen as a separate project that would require its own coordination and resources.

The revised, grouped, Plan of Action was circulated. Discussions focussed on identifying teams of individuals who would be prepared to take the lead in implementing action items or groups of action items.

It was agreed that in each team there should be representation from both the English speaking and Spanish speaking countries. It was understood that the role of the team would be to develop an approach to the activities that identified: what was to be done, the outputs, the time frame and the resources needed.

'Assessment' activities will be led by Artemio Gallegos, John Charlery, Luc St. Pierre, and Tom Sleeter.

The 'Initial observing system' activities will be led by Doug Wilson, Lorna Inniss and Roberto Perez, C. DeSouza. It was agreed that this team would examine the CPACC, RONMAC, MACCC project activities. The initial observing system will address data and information management activities

'Capacity building' will be led by Alejandro Gutierrez, Robin Mahon and Ruben Aparicio. Attempts will be made to engage persons from RSMAS IASI. The overall GOOS report on capacity building was noted as a source of information.

'Programme Coordination and Development' activities will be led by Guillermo Garcia and Cesar Toro.

The role of the proposed Administrative Officer was discussed and it was agreed that the function would be more technical coordination than administrative. It would require a technical knowledge, possibly at the UN P3 level. It was agreed to rename the position Programme Officer.

In this group the need for a newsletter was discussed and it was agreed that a small email communication that included links to the website was best. All such products would be in Spanish and English, some smaller products would also be provided in French. Doug Wilson noted that he was prepared to go ahead with a website, by acquiring the domain name IOCARIBE-GOOS.org and finding a host site. The need for a Spanish version of the website was discussed and it was noted that the cost of translating and updating the Spanish website would be small. This could be undertaken by and institution such as the Universidad Nacional of Costa Rica, providing some funds were available.

Groups will produce their initial plans by December 1st. Interim reports will be provided to IOCARIBE bi-monthly (August 1st, October 1st). Final proposals will be due by the time of the WW2BW meeting in March 2004.

The need to develop proposals in a consistent format was discussed and it was agreed that it was desirable to do this. Logical Framework Analysis was discussed as one possible tool for proposal formulation. Robin Mahon agreed to provide the group with information on Logical Framework Analysis.

The adopted General Plan of Action for the Steering Committee for IOCARIBE-GOOS is included in Annex IV.

6. DATES AND PLACE FOR THE NEXT MEETING

The IOCARIBE-GOOS Steering Committee agreed that the most appropriate time to have the next session of the Steering Committee would be February 2004. Isla Margarita, Venezuela, was proposed as the location for the next meeting and SC members agreed.

7. ADOPTION OF THE SUMMARY REPORT

The IOCARIBE-GOOS Steering Committee approved the Draft Summary Report. The final version will be published as a GOOS Report in the IOC Series Reports of Meetings and Equivalent Bodies.

8. CLOSURE

Before concluding this agenda item Mr. Douglas Wilson, IOCARIBE-GOOS Co-Chair and Mr. Cesar Toro, IOC Secretary for IOCARIBE-UNESCO invited participants to participate in the Second IOCARIBE-GOOS Conference on a Regional Observing System for the Caribbean Sea and Gulf of Mexico to be held on June 4 at Room 297 in the framework of the TOS/OI Americas 2003.

The Agenda for the Conference is included in Annex V.

Mr. Cesar Toro, IOC Secretary for IOCARIBE-UNESCO thanked all participants for attending, and closed the Meeting at 18:00 on 3 June 2003.

ANNEX I

AGENDA

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2. ADMINISTRATIVE ARRANGEMENTS

- 2.1 ADOPTION OF THE AGENDA
- 2.2 DESIGNATION OF RAPPORTEUR FOR THE SESSION
- 2.3 CONDUCT OF THE SESSION, TIMETABLE AND DOCUMENTATION

3. IOCARIBE-GOOS OVERVIEW AND BACKGROUND INFORMATION

- 3.1 THE CASE FOR IOCARIBE-GOOS
- 3.2 IOCARIBE-GOOS STRATEGIC PLAN
- 3.3 REGIONAL GOOS ALLIANCES MEETING (ATHENS-12-2002). EUROGOOS MEETING
- 3.4 STEERING COMMITTEE MEMBERS REPORT

4. IOCARIBE-GOOS STEERING COMMITTEE

- 4.1 MEMBERSHIP
- 4.2 TERMS OF REFERENCE AND GUIDELINES
- 4.3 RESPONSIBILITIES AND GENERAL PLAN OF ACTIONS

5. DESIGN OF IMPLEMENTATION PLAN 2003 – 2004

6. REQUIREMENTS FOR ON-GOING AND FUTURE ACTIVITIES

- 6.1 OBSERVATIONAL CAPACITIES IN THE REGION
- 6.2 DATA AND INFORMATION MANAGEMENT
- 6.3 CAPACITY BUILDING ACTIVITIES
- 6.4 IOCARIBE-GOOS SUPPORT AND ADMINISTRATION
- 6.5 DETERMINATION OF USERS SCENARIOS AND CONCEPT DEVELOPMENT PROJECTS

7. DATES AND PLACE FOR THE NEXT MEETING

8. ADOPTION OF THE SUMMARY REPORT

- 9. CLOSURE
- 10. INFORMAL PRESENTATIONS BY and DISCUSSIONS WITH CONFERENCE SPEAKERS

ANNEX II

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ANNEX III

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ANNEX IV

GENERAL PLAN OF ACTION FOR THE STEERING COMMITTEE FOR IOCARIBE-GOOS

Bearing in mind the content of "The case for IOCARIBE-GOOS. Strategic Plan" the Steering Committee must:

ASSESSMENT

A. GALLEGOS

J. CHARLERY

T. SLEETER

L. ST-PIERRE

- 1. carry out a survey among the marine-related communities of the participating IOCARIBE Member States (i) to construct an appropriate set of user scenarios, and (ii) to determine what end-products and services are required by the user community.
- 2. For selected cases, evaluate the costs and benefits of implementing IOCARIBE-GOOS for discrete user sectors (e.g. tourism, offshore industry, fishing).
- 3. develop an inventory of existing activities relevant to IOCARIBE-GOOS including: (i) operational systems and programmes; (ii) organisations; (iii) scientific programmes; (iv) services and products; (v) commercial interests; and (vi) training and capacity building.

INITIAL OBSERVING SYSTEM

D. WILSON

L. INNISS

R. PEREZ

G. DE SOUZA

D. GOMEZ

R. BEACH

- 4. establish an integrated Initial Observing System building on existing national and sub-national level observing systems,
- 5. prepare an engineering and design analysis to integrate the various existing and planned ocean observations and provide for the future adaptability of the system.
- 6. organise data management among the IOCARIBE-GOOS Initial Observing System elements, to improve data collection, storage, exchange and dissemination, building on existing structures, and exploiting the proposed Ocean Data and Information Network for the Caribbean and South America (ODINCARSA).
- 7. identify key gaps in the existing observing systems, and make plans to fill them.
- 8. develop and implement concept-demonstration projects that will contribute to the long-term health and stability of IOCARIBE-GOOS

IOC-IUCN-NOAA/LME-V/3
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CAPACITY BUILDING
A. GUTIERREZ – R. MAHON
R. APARICIO

- 9. establish an appropriate capacity building programme, building initially on existing and planned capacity building activities.
- 10. encourage the development of National GOOS Co-ordinating Committees and appropriate national GOOS focal points in IOCARIBE Member States.

PROGRAMME CO-ORDINATION AND DEVELOPMENT

G. GARCIA

H. PINEDA

C. TORO

- 11. devise an Implementation Plan that meets both the advice from the GOOS advisory panels and the needs of the region. DRAFT = DECEMBER 2003; FINAL VERSION = MARCH 2004
- 12. take full advantage of the creation of JCOMM to bring together meteorologists and oceanographers to design IOCARIBE-GOOS in such a way as to extract the maximum benefit from JCOMM as an implementation mechanism for GOOS.
- 13. work to ensure not only the effectiveness and efficiency of the observing system, but also its sustainability for the long term.
- 14. ensure that GOOS design principles and principles of involvement are maintained within IOCARIBE-GOOS activities.
- 15. develop appropriate synergies with global and programmes having activities in the region.
- 16. hold a regional applications-oriented science conference (like the biennial Operational Oceanography conferences of EuroGOOS or the science conferences of WESTPAC), to bring the community together behind the development of IOCARIBE-GOOS including a regional workshop on concept-demonstration projects. Beginning 2005 (Follow on WW2BW)
- 17. develop the case for establishing and funding an Programme Officer to supply the Secretariat support required for implementing IOCARIBE-GOOS.
- 18. solicit external funding from potential sponsors (with the secretariats of IOCARIBE and IOC) to implement aspects of the work programme.
- 19. Co-ordinate with the GOOS Steering Committee Advisory Panels on scientific and technical developments.
- 20. develop appropriate marketing and communications strategies including a web site and newsletter for IOCARIBE-GOOS.

ANNEX V

AGENDA

SECOND IOCARIBE-GOOS CONFERENCE ON A REGIONAL OCEAN OBSERVING SYSTEM FOR THE CARIBBEAN SEA AND GULF OF MEXICO

IOCARIBE-GOOS at TOS / OI Americas 2003, Second Conference

- **14:00** IOCARIBE-GOOS Summary and Strategic Plan Doug Wilson, NOAA and Guillermo García, Acuario Nacional, Cuba
- **14:15** National GOOS Coordination: OCEAN US. Eric Lindstrom, NASA / OCEAN US.
- **14:35** EUROPEAN GOOS Regional Alliances Cesar Toro / Silvana Vallerga, I-GOOS
- **14:50** Existing Observing Systems: SECAOS Chris Mooers, UM/RSMAS
- **15:10** Existing Observing Systems: GCOOS Worth Nowlin, TAMU / Paul Moersdorf, NOAA
- **15:30** Capacity Building US White Water to Blue Water Initiative Dick Wilbur / Liz Tirpak, U.S. State Department
- **15:50** Data and Information Management Landry Bernard, NOAA
- **16:10** Coastal Modeling Alan Blumberg, Stevens Inst. Tech.
- **16:30** SEAKEEPERS Rod Zika, UM/RSMAS
- **16:50** Regional Models Gregg Jacobs, NRL
- **17:10** The Caribbean Large Marine Ecosystem Project Robin Mahon, University of the West Indies, Barbados
- **17:30** Operational Coral Reef Monitoring Pedro Alcolado, Instituto de Oceanología, Cuba

ANNEX VI

LIST OF ACRONYMS AND ABBREVIATIONS

CARICOM Caribbean Community

CHTA Caribbean Hotel and Tourism Association

COOP Coastal Ocean Observations Panel

COLACMAR Latin American Marine Science Congress

CTO Caribbean Tourism Organization
CZMU Coastal Zone Management Unit

EURO-GOOS European GOOS

GEF Global Environmental Facility

GIWA Global International Waters Assessment

GOOS Global Ocean Observing System

IFREMER Institut français de recherche pour l'exploitation de la mer

IOC Intergovernmental Oceanographic Commission

IOCARIBE IOC Sub-Commission for the Caribbean and Adjacent Regions IOCARIBE-GOOS IOC Sub-Commission for the Caribbean and Adjacent Regions

GOOS

IODE Data Information and Exchange Program

JCOMM Joint WMO/IOC Technical Commission for Oceanography and

Marine Meteorology

IMO International Maritime Organization

Med-GOOS Mediterranean GOOS

METEOSAT ESA Geostationary Meteorological Satellite

NGO Non-Governmental Organizations
NODC National Oceanographic Data Center
NSF National Science Foundation (USA)

ODINCARSA Ocean Data and Information Network for the Caribbean and South

America

PEMEX Empresa de Petróleos Mexicanos

SC Steering Committee

SOOP Voluntary Observing Program

TORs Terms of Reference United Nations

UNAM Universidad Nacional Autónoma de México

NOAA National Oceanographic and Atmospheric Administration

OAS Organization of American States

UNESCO United Nations Educational, Scientific and Cultural Organization

USO Universidad de Oriente (Venezuela)

UWI University of West Indies

WW2BW White Water to Blue Water Initiative