Intergovernmental Oceanographic Commission
Reports of Governing and Major Subsidiary Bodies

IOC-WMO-UNEP Committee for the Global Ocean Observing System (I-GOOS-VII)

Seventh Session
4–7 April 2005
Paris, France

and

Extraordinary Session
20 June 2005
Paris, France

GOOS Report No. 145 **UNESCO**

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Original: English*

ABSTRACT

The Intergovernmental Committee for GOOS met in Paris from 4 to 7 April 2005. It reviewed the state of GOOS planning and implementation at the global level through reports from the GOOS Scientific Steering Committee, the Ocean Observations Panel for Climate and the Coastal Ocean Observations Panel, and the Joint Technical Committee for Oceanography and Marine Meteorology. Reports on regional and national GOOS activities were also provided. The committee reviewed the outcome of the 3rd Earth Observation Summit and the committee decided to seek formal recognition of GOOS in the Global Earth Observation System of Systems' 10-year Implementation Plan as the key component of ocean observations. The Committee reviewed the work programme and budget for the GOOS Project Office. It recognized the financial constraints and lack of human resources at the GPO and urged IOC Member States to increase their financial contribution to the GOOS Project Office. The Committee decided to postpone the election of the I-GOOS board to an extraordinary session to be held in the afternoon of 20 June 2005 in Paris. The Summary Report of the extraordinary session is included herein as a supplement. The current board continued to serve until the extraordinary session.

(SC-2005/CONF.205/CLD.1)

* An executive summary of this report is also available in French, Spanish and Russian as document IOC-WMO-UNEP/I-GOOS-VII/3s (http://unesdoc.unesco.org/ulis/cgi-bin/ulis.pl?database=ged&req=2&look=all&no=139511).

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1. OPENING

1 The Chairwoman of I-GOOS, Silvana Vallerga, called the session to order at 09:00 h on Monday, 4 April 2005. She called upon the Executive Secretary IOC, Patricio Bernal, to address the Committee.

2 The Executive Secretary made three main points.

3 First, he emphasized the importance of the GOOS programme within IOC and highlighted the achievements obtained at the open-ocean level and noted that plans are now being developed for the coastal module.

4 Second, the Committee should, he believed, attempt to answer two key questions:

(i) Who pays for GOOS?

(ii) Who benefits from GOOS? These are not easy questions. The Member States have expressed considerable interest in the establishment and long-term operation of ocean-observing systems, but have not securely backed the interest with the necessary funding and infrastructural development. One of the first IOC ocean-observing systems was the International Tsunami Warning System in the Pacific (ITSU); it has been going for some forty years, yet is proving financially harder and harder to maintain, the more so if the desired "24/7" service is to be achieved. The Data Buoy Co-operation Panel (DBCP) is another such example; initially, its programme was widely doubted, but there are now some 3,600 buoys operating in the world ocean. Although IOC and WMO act through the concerted action of their Member States, this action is a huge undertaking, for which the Member States have not collectively weighed the financial, infrastructural and human-resource implications. Very few national public institutions today offer a 24/7 service.

5 Third, the IOC, as a body of UNESCO, in particular, and a component of the UN system, has been operating for the past few years on a zero-growth budget basis which is now obliging the Executive Secretary to reduce the IOC Regular Programme Funds by 20%, in order to maintain what is already a less than sufficient staffing level. In view of such difficulties, it is now clear that the Member States and the Secretariat must seriously seek new sources and forms for funding the services, such as ITSU and DBCP, and other key IOC programmes; otherwise, the objectives set by the Member States will not be reached in the future. The current success of GOOS is not a guarantee of success hereafter.

6 The Chairwoman invited the Representative of WMO, as a co-sponsoring organization of I-GOOS, to speak briefly on behalf of WMO. The Representative, on behalf of the Secretary-General of WMO, welcomed the participants. He said he agreed with the views of the Executive Secretary; moreover, WMO considers its co-operation with IOC and UNEP as essential for the success of GOOS and JCOMM.

2. ADMINISTRATIVE ARRANGEMENTS

2.1 ADOPTION OF THE AGENDA

7 **The Committee amended** the Provisional Agenda **and adopted** it, as modified, as the Agenda for the session. It is given in Annex I.

2.2 DESIGNATION OF A RAPPORTEUR

8 **The Committee designated** Geoff Brundrit (South Africa) Rapporteur for the session, under IOC Rule of Procedure No. 25(3).

2.3 CONDUCT OF THE SESSION

9 The new Director of the GOOS Project Office (GPO), Keith Alverson, introduced himself and wished the Committee a successful session. He also announced the working hours and other arrangements for the session.

10 The Chairwoman invited the Committee to determine the need to establish sessional working groups to deal with particular items.

11 **The Committee created**: a Nominations Committee under the Chairmanship of François Gérard (France) to oversee the election of the Officers of I-GOOS (see agenda item 15); a Sessional Working Group on Programme and Budget under the Chairmanship of Rodrigo Nuñez (Chile) to draw up the GOOS Programme of Work and Budget for 2006–2007 (see agenda item 13.2); an open-ended Sessional Working Group chaired by China to provide a succinct description of the proposed organization and the linkages between the various GOOS regional bodies and the IOC itself (see agenda item 7).

3. REPORT OF THE CHAIRPERSON

12 The Chairwoman reported on progress in the intersessional activities of concern to the Committee. GOOS had four main goals in 2002–2005: (i) transfer research prototypes into operational mode; (ii) learn from regional experience; (iii) build capacity and co-operation; (iv) address operations in EEZs. The strategy is twofold: specific initiatives and funding for each goal; improve efficiency and efficacy (creation of I-GOOS Board for Intersessional Work; ad hoc Working Groups). The following initiatives were taken with respect to each goal: for goal (i), support of the GSSC and pilot projects (GODAE a good example); for goal (ii), Regional Fora and a proposal of a GOOS Regional Council; for goal (iii), the GRA Network Development (GRAND) project funded by the EC, the establishment of specific networks for the Mediterranean (MAMA), the Baltic Sea (PAPA) and the Black Sea (ARENA); and for goal (iv), definition of the scientific and technical requirements of GOOS in relation to UNCLOS and co-operation between I-GOOS and IOC/ABE/LOS.

13 The Executive Secretary thanked the Chairwoman of I-GOOS for her hard work in promoting GOOS. He stressed, however, that there is a need to review the role of GOOS Regional Alliances in the permanent operations of GOOS. The Alliances differ according to region, some (e.g. MedGOOS, EuroGOOS) are composed of national institutions; others have been formed by the Member States of a particular region (e.g. NEAR-GOOS). One (for Western Australia) is purely national. It is therefore essential to define the relationships at the two levels: GRAs, basically at the sub-intergovernmental level; and the Member States themselves, at the governmental level. This is especially important because the institutions participating in a GRA usually do not represent all the Member States in a given region.

14 **The Committee noted** that the questions raised by the Executive Secretary will be considered under agenda item 7.4.

4. STATUS OF GOOS PLANNING

4.1 THE GOOS SCIENTIFIC STEERING COMMITTEE

15 The Chairman of the GOOS Scientific Steering Committee (GSSC), John Field, reported on its activities in the intersessional period. The Committee met in Melbourne in 2005. It believed that GOOS was at a crossroad: the passage from research to implementation. The draft Implementation Strategy as developed by the Coastal Ocean Observations Panel, which was accepted by the GSSC, is a specific manifestation. Because of severe financial constraints a possibility of incorporating the Coastal Ocean Observations Panel into the GSSC is under study, but will require the addition of coastal-zone experts to the GSSC. The report of the Chairperson of COOP is referred to under agenda item 4.3, below. He highlighted plans for global coastal pilot projects, such as a coastal CODAE and a global chlorophyll monitoring project; the latter could bring the observation of biological parameters into GOOS for the first time. The Chair of GSSC expressed the view that the GRAs will be essential for development and implementation of the Coastal Module of GOOS in collaboration with JCOMM. The Chair of GSSC also suggested thinking in terms of indicators of various environmental problems and to deduce from these indicators the needed measurements; e.g. marine pollution, degradation of fish stocks.

16 **The Committee, having considered** the report of the Chairman of the GSSC, **questioned** whether the JCOMM, presently as a physical oceanographic and marine meteorological body, was the appropriate mechanism to deal with biological variables. **It noted** that JCOMM could adjust its scope as pilot projects demonstrated the value of different kinds of observations and move towards becoming operational.

4.2 THE OPEN OCEAN: OOPC

17 The Chairwoman invited the Technical Secretary of the Ocean Observations Panel for Climate, Albert Fischer, to provide a progress report on the activities of the OOPC. Speaking on behalf of the Chairman of the Ocean Observations Panel for Climate, the Technical Secretary reviewed the Panel's Terms of Reference. Its main aims are to facilitate the delivery of data and information products for climate forecasting, assessment and research, and the advocated global observing system also serves as the foundation for global operational oceanography. The global ocean observing system is based on sustained global coverage by satellite and by composite in situ surface and subsurface networks, backed by work on standards, data systems and ocean products. During the intersessional period, OOPC has: contributed to the 2nd GCOS Adequacy Report and the Implementation Plan; demonstrated the usefulness of GODAE; coordinated ocean/climate analysis/reanalysis in co-operation with CLIVAR, CLiC and WCRP; and interacted with POGO, ICES and PICES. The OOPC is also involved in the design of measurement of carbon and other non-physical parameters impacting climate. OOPC also recommended: the creation of an Arctic GRA (see agenda item 7.6); and a move towards the design of real-time transmission of data, the development of metadata systems and quality control. OOPC is co-operating with natural-hazard warning systems.

18 **The Committee, having considered** the report of the Technical Secretary, **noted** the difficulty of identifying actual end-users or user groups that benefit from GOOS and GODAE. **It also noted** that there will be a PIRATA review late in 2005 and that OOPC has a role to play in that regard. **It suggested** that the regional approach may prove beneficial in assessing the real users, with a view to answering the question Who benefits from GOOS? It recognized that only a few organizations are actually capable of effectively exploiting the large data stream from GOOS. The GODAE second symposium demonstrated that some private companies are,

however, exploiting the data stream to deliver specific products to a wide variety of clients. The development of this incipient market needs to be monitored.

4.3 THE COASTAL OCEAN: COOP

19 The Chairwoman invited the Co-Chairman of the GOOS Coastal Ocean Observations Panel, Thomas Malone, to report on the Panel's activities in the intersessional period. As articulated in its ToRs (http://ioc.unesco.org/goos/coop_tr.htm), the Coastal Module of GOOS is to address six goals: (i) improve safety and efficiency of marine operations; (ii) forecast and mitigate effects of natural hazards more effectively; (iii) improve prediction of climate changes and their effects; (iv) reduce public health risks; (v) protect and restore coastal marine ecosystems more effectively; and (vi) sustain living marine resources. Since the Panel was established in 2000, COOP completed the integrated design plan (GOOS Report No. 125; http://ioc.unesco.org/goos/docs/GOOS_125_COOP_Plan.pdf) and an implementation strategy (I-GOOS-VII/9; http://ioc.unesco.org/goos/ig7/COOP-implem-23-02-05.pdf). The COOP Design Plan calls for the establishment of regional and national coastal-ocean observing systems (COOSs) worldwide and, through this process, the development of a global coastal network (GCN). The establishment of the COOSs has begun. Coordinated development of regional coastal-ocean observing systems (RCOOSs) worldwide is a major focus of the COOP Implementation Strategy. RCOOSs are being designed and implemented to meet national and regional priorities for data and information on coastal ocean and estuarine systems. In the process, it is important that they contribute to the building of the GCN. The GCN measures and manages a small set of common variables required by most regions, establishes a sparse network or reference and sentinel stations, establishes common standards and protocols, and links basin and coastal scales of variability.

20 The Implementation Strategy comprises seven elements: governance, measurements, data management, modelling and analysis, capacity building, pilot projects (e.g., MILAC, CODAE, surface chlorophyll mapping), and system performance. The GCN should be developed through two parallel and mutually dependent processes:

(i) incorporation of existing global programmes (e.g., satellite remote sensing, GLOSS, GCRMN) and

(ii) networking or scaling up elements developed by GRAs and national GOOS Programmes (e.g., the CPR programme). Nation's and international bodies supported by nations are the primary implementers. Given these realities, it is clear that a mechanism is needed to promote coordinated development of GRAs worldwide. Such a mechanism must interface effectively with existing planning, oversight and implementation bodies, including IGOOS, JCOMM, GEOSS, GTOS and GCOS. Support for this activity should come from participating countries and GRAs directly. Regionally, National GOOS Programmes and GRAs provide mechanisms to promote partnerships with existing regional efforts, especially LME Programmes and Regional Seas Conventions, and to facilitate engagement of user groups in the design, operation and improvement of coastal GOOS.

21 The GSSC, in its last meeting in Melbourne, endorsed the COOP Implementation Strategy and made the following high-priority recommendations:

(i) Form a global network of GRAs and National GOOS Programmes to guide and promote coordinated and sustained development of GRAs and the Global Coastal Network worldwide;

(ii) Implement high-priority pilot projects (including MILAC, development of common standards and protocols for ocean-colour products, coupling of shelf and deep-ocean models, a coastal data-assimilation experiment (CODAE); and

(iii) For I-GOOS to seek expressions of interest from Member States and GRAs in the execution of these high-priority pilot projects. The strategy was completed following extensive review by 25 external reviewers and an external editor, and I-GOOS endorsement was requested.

22 **The Committee commended** Tom Malone and COOP on the very comprehensive Implementation Strategy COOP had produced.

23 Since some delegations questioned the role of the GOOS Regional Council in relation to the existing GOOS governing bodies and the IOC governing bodies, **the Committee requested** an open-ended sessional working group chaired by China to provide a succinct description of the proposed organization and the linkages between the various bodies (this matter was further addressed under agenda item 7).

24 Following the discussion of the COOP report that was submitted to I-GOOS for the endorsement of the Implementation Strategy for the Coastal Module of GOOS, **the Committee decided** to postpone a final decision till the Extraordinary Session on 20 June 2005. **It agreed** that the Strategy is a good one but is in need of minor revision. **The Committee requested** the I-GOOS Board to review and revise the Implementation Strategy as necessary and to ensure consistency with the decisions and recommendations of the Committee's present session. **It also agreed** to present the revised Draft Strategy to the 23rd Session of the IOC Assembly, for information.

5. THE 3rd EARTH OBSERVATION SUMMIT

25 The IOC Executive Secretary, Patricio Bernal, reported on the 3rd Earth Observation Summit (Brussels, 13–16 February 2005) and on the work of the ad hoc intergovernmental Group on Earth Observations (GEO). The first (Washington, DC, 30 July–2 August 2003) and the second (Tokyo, 25 April 2004) Earth Observation Summits made remarkable efforts, through GEO, to develop a comprehensive, coordinated, and sustained Global Earth Observation System of Systems (GEOSS), built on existing observing systems, with a view to understanding and addressing global environmental and economic challenges. This initiative aims for high-level visibility and targets governmental decision-makers.

26 The third Earth Observation Summit endorsed the 10-year Implementation Plan for GEOSS and established GEO as a new international organization. During a transition period until the end of 2005, the GEO is planning the establishment of its [new] Secretariat in WMO, designate a governing body (Executive Committee) and subsidiary bodies to take those steps necessary to implement GEOSS in accordance with its Implementation Plan. As of April 2005, 55 countries 40 international/intergovernmental organizations and programmes are participating, or have participated, in this important initiative.

27 **The Committee emphasized** that each component of earth observation should be represented in a balanced way, and that the GOOS should be formally recognized clearly in the

GEOSS 10-Year Implementation Plan as the key component of ocean observation. To this end, **the Committee considered** that the execution of the 10-Year Implementation Plan through the annual work plan is where GOOS must be developed as an essential element of the GEOSS without losing its identity as a major programme of IOC, jointly sponsored by WMO, UNEP and ICSU.

28 **The Committee agreed** to the statement (in Annex IV hereto) to GEO on this question. **It thanked** John Field and his drafting group for preparing the statement **and asked** the IOC Executive Secretary to address this statement to the new GEO at its First Session (Geneva, May 2005).

29 **It endorsed** the concept of GEOSS **and expressed** its support for the 10-Year Implementation Plan.

6. GOOS IMPLEMENTATION AT THE GLOBAL LEVEL: REPORT OF JCOMM

30 On behalf of the Co-president of the Joint WMO–IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM), the Representative of WMO, Edgard Cabrera, reported on the activities of JCOMM and their significance for the ongoing implementation of GOOS. JCOMM is generally satisfied with the progress in the four programme areas (Service, Observations, Data Management and Capacity-Building), he especially highlighted activities and plans for:

(i) calling on Members/Member States to increase their investment in the global observing system, especially taking into account the fact that the drifting buoy array will be the first component of the global observing system to be completed;

(ii) a joint data-management strategy with IODE and WMO, with special emphasis on free and open exchange of data;

(iii) a strengthened joint JCOMM–GOOS Capacity-Building Coordination Group, as well as a cooperative capacity-building work plan with the IOC;

(iv) involvement in a number of crosscutting activities, including GEOSS, a multi-hazard marine warning system, with GCOS as an agent of implementation;

(v) interaction with the user-community in the development of ocean products and services;

(vi) a possible Coastal Data Assimilation Experiment (CODAE);

(vii) a mechanism to address the problems of VOS/SOOP telecommunication costs and the physical safety of ships; and

(viii) pilot projects involving non-physical parameters in the coastal module of GOOS.

31 Mr Cabrera also discussed plans for the upcoming JCOMM-II, scheduled to be held in Halifax, Canada (19–27 September 2005), and welcomed the active participation of GOOS in the session.

32 **The Committee supported** the plans and activities of JCOMM to meet the implementation requirements of GOOS. **It endorsed** the GSSC recommendations that JCOMM:

(i) incorporate the coordinated implementation of the physical variables of the coastal module of GOOS into its work programme;

(ii) prepare options for the inclusion of relevant "non-physical" common variables, products and services;

(iii) consider modalities of interaction between the JCOMM global implementation and the various regional implementation mechanisms; and

(iv) establish a fully integrated JCOMM–GOOS Capacity-Building Coordination Group.

7. GOOS IMPLEMENTATION AT THE REGIONAL LEVEL

7.1 REPORT ON THE 2nd GOOS REGIONAL FORUM

33 The Chairwoman presented the outcomes of the 2nd Regional GOOS Forum. It was held in Nadi, Fiji, 7–9 February 2004; all the GOOS Regional Alliances participated. A Pacific Island Conference on Oceanography was held conjointly. The objectives of the Regional Fora are to: bring all GOOS Regional Alliances together to benefit from each other's achievements; share experience; create a sense of community among the GRAs; and ensure a harmonious development of GOOS. The specific objectives of the 2nd Forum were to: evaluate the GRAs' progress since the 1st Forum (Athens, 2002); launch the GRA Network Development (GRAND) project; present GOOS activity in the Pacific Islands; raise awareness of GOOS in the Pacific Ocean region; learn about the planning for Coastal GOOS; plan the next step for the GRAs.

34 The Chairwoman stressed the importance of answering the question "Why monitor?" She gave as a good example the black-lip pearl oyster industry on Manihiki Atoll in the Pacific. The lagoon is being monitored for some basic parameters (e.g. photosynthetically active radiation, chlorophyll and dissolved oxygen) in a search for meaningful relationships among them. The Forum also reviewed a number of activities in various regions.

35 In the Pacific Ocean, the RV *Mirai* of the Japanese Marine Science and Technology Centre (JAMSTEC) carried out a cruise under the Blue Earth for Global Expedition 2003 programme.

36 In the Indian Ocean, 19 organizations from 11 countries signed the Indian Ocean GOOS MoU. Many activities are in place to contribute to the core elements of the ocean-observing systems and to GOOS pilot projects (notably Argo).

37 In the Caribbean, institutions from 29 countries are working together. Certain lessons have been learned:

(i) regional growth needs committed champions of GOOS throughout the region;

(ii) resources are needed to educate key individuals in the operations and benefits of GOOS, but there is also a need for demonstrable products to sell;

(iii) progress would be hastened by the availability of a dedicated secretariat for IOCARIBE-GOOS;

(iv) although well-intentioned, volunteers cannot commit necessary resources to organizational tasks, such as communications and fund-raising.

38 There are, however, some impediments to progress:

- in most Member States, there is insufficient capacity in marine and coastal science and services, and in only few are there any operational marine agencies or institutions;
- there is still a lack of confidence in the usefulness of the system as a tool for sustainable environmental and economic development;
- in most countries, there are severe budget limitations to develop observational networks;
- the larger States often show a lack of commitment to initial organization;
- there is often lack of political will.

39 In the Mediterranean, MedGOOS, with 31 institutions from all the 22 Mediterranean countries, is implementing the EC-funded project MAMA —Mediterranean network to Assess and upgrade Monitoring and forecasting Activity in the basin. Personnel have been trained at top-level institutions, the analysis of the impact of the marine sector on the GNP has been completed, the major sector identified, and the capacity-building actions identified.

40 In the Black Sea, there is a similar Regional Capacity-Building and Networking Programme to Upgrade Monitoring and Forecasting Activity in the Black Sea Basin (ARENA) and many observations and forecasting activities are in place.

41 In Europe, EuroGOOS is proving very active and has established a number of working groups to address specific issues; they have lead to numerous pilot and pre-operational projects.

42 In the continental USA, potential components of a US Integrated Ocean-Observing System (IOOS) have been identified.

43 In the Far East, NEAR-GOOS was established in 1993 by China, Japan, Republic of Korea and the Russian Federation under IOC/WESTPAC. It has recently adopted a strategic plan for its second phase which includes sub-regional projects, such as the Yellow Sea Ocean-Observing System.

44 In the South West Atlantic 17 institutions (including hydrographic offices, scientific agencies and university institutions) from Brazil, Uruguay and Argentina signed a letter of intent during a meeting in Rio de Janeiro (14-16 March 2005) to form a Regional Alliance for the Upper Southwest and Tropical Atlantic (OCEATLAN).

45 In the south-east Pacific, GRASP brings together the navies of Colombia, Ecuador, Peru and Chile with other institutions from the USA. The strength is the excellent co-ordination of the navies and the presence of a clear need to monitor ocean variability in connection to the region's major environmental threat (ENSO).

46 In south-east Asia, SEAGOOS has been recently established by Cambodia, China, Philippines, Indonesia, Australia, Singapore, Malaysia, Thailand, Myanmar and Viet Nam.

47 **The Committee welcomed** the report; **it decided** that the 3rd Forum would be held in Africa, with place and dates still to be determined (pending organization of another, back-to-back meeting), but likely to be in November 2006.

7.2 PROPOSAL FOR A GOOS REGIONAL COUNCIL

48 The Chairwoman of I-GOOS presented a proposal for the creation of a GOOS Regional Council as recommended by the 2nd GOOS Regional Forum. There are now 13 GOOS Regional Alliances. The empowerment will be funded by nations, regional bodies (e.g. European Union) and global aid agencies. However, to ensure the necessary funding, the GRAs must make a convincing case on how and how much it will cost to improve local marine services by exploiting the Global Ocean Observing System. The case must be: simple, explain how it will be done, show how it will work in different regions, state the results of successful trials, and deal with the economics. The preparation of the case should involve all stakeholders: I-GOOS vis-à-vis all Member States; GSSC vis-à-vis the scientific community; all the GRAs *vis-à-vis* their respective stakeholders.

49 The declaration of the GOOS Regional Forum on the Regional Council stated that the Forum has showcased the many activities in the GRAs. It has recognized that improving the functionality of GOOS critically depends on the coordinated development of the GRAs. The Forum decided that a formal decision-making body representing the interest of the GRAs was needed. The proposed GOOS Regional Council could be such a body.

50 The Forum agreed that the proposed GRC's mission would be to improve local marine environmental services by exploiting the Global Ocean Observing System; its membership would be the Chairpersons of the GOOS Regional Alliances. Its chair and secretariat would be elected among the GRA chairpersons and the Chairperson's institution would support the secretariat. It would pursue its mission with a five-year forward look and would manage the implementation of the regional strategy. The GRC would be expected to meet once a year, back-to-back with the I-GOOS and with the GOOS Regional Forum. It would report to the IOC through the I-GOOS Chairperson.

51 The Committee noted that the Executive Council, at its 37th Session (June 2004), had taken note of the initiative of the GRAs to establish a GOOS Regional Council (GRC), but had also emphasized its own need for more information on the role of the GRC, its Terms of Reference, its functions within the structure of GOOS, and GPO resource implications. The Executive Council called on I-GOOS to submit the required information to the IOC Assembly for consideration at its 23rd Session (June 2005).

52 **The Committee recognized** the importance of the regions in implementing GOOS, particularly its coastal component. However, following considerable discussion, there was no agreement on setting up a new coordinating structure for the GOOS Regional Alliances including the idea of a GOOS Regional Council. **The Committee also accepted** the concern expressed by some Member States about how to participate in a GRC if a Member State was not a member of a GRA. **The Committee agreed** that, in order to keep costs to a minimum, existing structures should be used. Several Member States stated that a closer link between the Chairpersons/Directors/Executive Secretaries of the GRAs and I-GOOS was needed and **therefore advocated** that meetings of the Chairpersons should be held in conjunction with those of I-GOOS. It was further suggested that a meeting of the Chairpersons should also take place at the GOOS Regional Fora. Representatives of the GRAs at I-GOOS should have observer status.

53 **The Committee furthermore noted** that there was also a need to deal with the revisions of ToRs for the I-GOOS, GSSC and GPO as solicited by Circular Letter No. 2147 from the IOC Executive Secretary in response to Resolution EC-XXXVII.6 (Review of the Structure of the Global Ocean Observing System (GOOS)), and the report from the Sessional Working Group established under agenda item 4.3, before considering a proposal for the creation of a GRC.

54 **The Committee**, recognizing the existence of competent regional bodies, with some of which IOC had signed Memorandums of Understanding on co-operation in ocean science, service and observing programmes, and the fact that the IOC (as well as the co-sponsoring agencies, WMO and UNEP) is an intergovernmental organization, **accepted** that the relationship between the Committee (intergovernmental) and the GRAs (not intergovernmental) needed clarification, especially on the subsidiary status of GRAs with respect to the intergovernmental governance provided by IOC and I-GOOS.

7.3 GOOS REGIONAL ALLIANCES NETWORK DEVELOPMENT (GRAND)

55 The Chairwoman of I-GOOS reported on the progress of the European Union-funded project on GOOS Regional Alliances Network Development, GRAND. The Project's main purposes are to: assess the present situation; build a team of regional experts; design a sustainable training scheme; and to develop a coherent regional strategy.

56 The Chairwoman presented the draft of the content and the main points of the regional strategy for the GRAs prepared by GRAND. The chapters of the publication will be:

1. Operational oceanography;
2. Challenge;
3. GOOS;
4. Technology;
5. Regional approach;
6. Funding;
7. GRAND Strategy.

57 The principal points are: how to optimise local benefits from the investment in the global observing system, analyse technical problems and solutions; the need for a regional approach; trials in the regions; implementation by the GRAs working together. The draft of the regional strategy developed under GRAND was submitted to I-GOOS at this time for information only. The final version will be published early 2006.

58 **The Committee, having considered** the developments under the EC project, **thanked** the Chairwoman for bringing these developments to its attention.

7.4 GOOS PILOT PROJECTS

7.4.1 Update on PIRATA

59 Mrs Janice Trotte reported on progress in the implementation of the Pilot Research Array in the Tropical Atlantic (PIRATA). She reported that the Tenth Session of the PIRATA Scientific Steering Group (SSG) took place in Fortaleza, Ceará (Brazil), 14–16 December 2005, at the kind invitation of the State Foundation for Meteorology and Hydrological Resources (FUNCEME). A PIRATA review will be carried out in 2005, with the engagement of CLIVAR and OOPC. It will also take into consideration the experience from the Indian Ocean, which has involved CLIVAR and GOOS to the greatest extent possible, and from the experience of the Indian Ocean GRA. The Southwest Extension (SWE) proposed by Brazil was formally accepted by the PIRATA SSG and the deployment of three buoys will be carried out in 2005. A Southeast Extension (SEE) has also been proposed by South Africa, now pending budget allocation. All data sets are made available at the PIRATA site on the experimental GOOS Regional Alliance

web page (http://goos.io.usp.br) which also holds records of data from other projects in the region, such as the International South Atlantic Buoy Programme (ISABP), and Argo in the near future.

60 A report of the Atlantic Operations Working Group (AOWG) has laid the foundation for long-range planning of ship time for PIRATA and which could equally benefit other projects requiring ship time to be implemented.

61 She finally informed the Committee that Dr Antonio Divino Moura (National Institute for Meteorology, Brazil) has been elected PIRATA Chairperson and Dr Bernard Bourles (IRD, France) as Vice-Chair for the next two years.

62 All the PIRATA data sets are available for downloading from the PIRATA website, which is now also part of an experimental GOOS Regional Alliance web page where data from other projects are available (http://goos.io.usp.br).

63 **The Committee welcomed** the information on progress in the PIRATA project. **It commended** the proposed PIRATA Review to take place in 2005. **It noted** that, with respect to the proposed SE Extension, the Benguela LME project has overall responsibility for all environmental aspects; this project therefore involves also Angola and Namibia, as well as South Africa. **It considered** that PIRATA SE could make a useful contribution to the Benguela Current LME project.

7.4.2 The Australian Integrated Ocean-Observing System (AusIOOS)

64 Australia provided a presentation on an initiative to develop an Australian Integrated Ocean Observing System (AusIOOS). The rationale for ocean observations for Australia includes impacts of climate variability and change, sustainable exploitation of marine resources, growing population pressures on the coast, safe and efficient maritime operations, national security and marine ecosystem monitoring. Efforts were outlined to quantify the socio-economic value of ocean observations, and position the requirements within the national policy framework. Steps were detailed to plan and advocate the requirements for an AusIOOS, including the development of a strategic plan for consideration by the Australian Government.

65 The implementation of an integrated observing system in Australia is dependent on the further development of existing, strong alliances and collaboration, both nationally and internationally. The value of Regional GOOS Alliances, such as IOGOOS and the supporting IOC Regional Office in Perth, in helping to coordinate regional activities, was highlighted. The need was noted for sustained and expanded ocean observations in support of a new national capacity in ocean forecasting called BLUElink, which is being developed for implementation in 2007.

66 **The Committee welcomed** the information on the development of AusIOOS; **it noted** that this project attempts to cut across departmental and other governmental boundaries to concentrate resources on specified objectives, and that it was proving of interest to a number of Member States.

7.5 ARCTIC GOOS PROPOSAL

67 The Representative of EuroGOOS, Hans Dahlin, presented the proposal. The members of EuroGOOS (30 European institutions) have expressed an interest in creating an Arctic GOOS Regional Alliance.

68 **The Committee noted** this interest and the fact that some Member States not actually bordering the Arctic might also be interested. **It invited** EuroGOOS to consult with existing Arctic coordinating bodies and nations and to submit a formal proposal to I-GOOS at a future meeting.

69 While not related to agenda item 7.5, China asked (as Chairperson of the Sessional Working Group set up under agenda 4.3) that the report state that: Some Member States expressed concern about forming a global network of GRAs and national GOOS programmes to guide and promote the coordinated and sustained development of GRAs, as this would potentially entail a redundant parallel structure to I-GOOS.

8. GOOS IMPLEMENTATION AT THE NATIONAL LEVEL

70 The GPO Technical Secretary, Albert Fischer, reviewed the implementation of GOOS activities at the national level. About 20 national GOOS reports were submitted in advance of the present session. The level of implementation of the GOOS global ocean coverage has been reasonably satisfactory, ranging from 42% (for repeat hydrography, carbon inventory) to 85% (from drifting surface buoys; Argo is at about 50%). Although some 66 countries are participating in some way, only a small number account for the majority of the system. To reach 100% implementation by 2010, it is clear that considerable additional investment in the system will be necessary. There is a wide variety of reported national activities contributing to GOOS: coastal moorings; coastal hydrography; chemical, biological measurements; related research activities. Data are often publicly available in a large variety of formats and sources, but there is no systematic tracking of these efforts at the GPO. An even wider variety of analysis efforts and products are reported; the satellite products are mainly to meet regional or national priorities. Regional analysis products are also being derived from other observations. Nevertheless, there is no systematic monitoring of this at GPO. So there are important questions to be addressed: Are these observations and products adequately coordinated at the regional/national level? Is there appropriate engagement of developing nations in the use of ocean data? There is a need to improve national reporting for the purpose of international monitoring and coordination. We still cannot answer the simple question: How is a GOOS national contact point designated?

71 We must keep in mind some difficulties for national participation in GOOS: there are often fiscal constraints; government awareness of the benefits of GOOS is often low. Also, the transition from research mode to sustained operational mode requires new approaches by countries; including increased regional and international cooperation.

72 **The Committee noted** the following questions to be answered to improve national involvement in GOOS:

(i) How to engage satellite operators, so as to emphasize the importance of continuity in key ocean satellite observations?

(ii) How to advocate the substantial additional national investments needed for 100% implementation of the open-ocean module by 2010?

(iii) How to ensure that GOOS data are used to best effect?

(iv) Is the wide range of reported ocean observations and products (coastal GOOS) adequately coordinated at the regional/national level?

(v) Are developing nations appropriately engaged in the use of ocean data and products?

(vi) How are GOOS national contact points designated?

(vii) How to best engage national governments to improve awareness of the benefits of ocean observations and products? And how to improve financing at the national and regional levels?

(viii) How to promote transition from research-mode programme funding to operational-mode funding?

(ix) Is intergovernmental coordination adequately funded?

73 **It called** on the Member States, to address the questions, as appropriate, with a view to improving, where necessary, the implementation of GOOS at the national level.

9. PROVISION OF ADVICE TO IOC/ABE-LOS ON OCEANOGRAPHIC DATA ACQUISITION IN THE CONTEXT OF UNCLOS

74 The Vice-Chairman of I-GOOS, Rodrigo Nuñez, provided a progress report on the work of the IOC/ABE-LOS sub-group on collection of oceanographic data in the context of UNCLOS. The sub-group had addressed five matters:

(i) definition of the type of oceanographic data to be considered;

(ii) where and by which means these data are going to be collected;

(iii) the importance of the data for a wide range of users, including the scientific community;

(iv) what are the difficulties, if any, hindering the collection of data?

(v) the appropriate legal framework that could be required to be set up taking into account the first four points.

75 He also underlined the importance of Resolution XXII-6 regarding the IOC data-exchange policy and invited the Committee to express its opinion on the document, bearing in mind that it is only a draft to be discussed a week later at IOC/ABE-LOS V, in Buenos Aires, Argentina.

76 The I-GOOS Vice-Chairman also presented the new publication on the Criteria and Guidelines on the Transfer of Marine Technology, a result of the Advisory Body of Experts on the Law of the Sea, and invited the delegates to disseminate this publication within their respective institutions.

77 **The Committee thanked** IOC/ABE-LOS for its hard work, recognizing the potential benefits to the international community.

10. DATA AND INFORMATION MANAGEMENT

78 The Chairwoman of IODE, Lesley Rickards, reported on progress within IODE and GOSIC.

79 She first recalled the main objectives of the IODE Programme. The challenge now for IODE is to meet the changing needs of the community arising from changes in technology, user needs and capacity of science programmes, and to raise awareness of IODE capabilities. So far, IODE has consisted of a collection of separate centres with a wide variety of remits, skills and data; it has focused on quality control, data archival and dissemination. It is mainly concerned with: delayed-mode operations (i.e. weeks to years); physical oceanographic data (e.g. temperature, salinity). IODE has primarily a centralized data centre architecture; it comprises NODCs, RNODCs and WDCs, which sometimes work together in groups for individual projects**.**

80 Now IODE is aiming at: easy access to all types of marine data (and information) on an appropriate time scale; delayed-mode and real-time data; management of chemical, biological and coastal data, in addition to physical data; utilizing new technology (e.g. XML, web services, etc.); a virtual or distributed data centre; on-line data (data also available on CD-ROM/DVD); being product- and service-oriented; maintaining data stewardship expertise; and achieving end-to-end data management.

81 IODE underwent its first review in its 40 years of existence. Some initial recommendations of the Review were to: streamline operations; develop a more distributed system in each country, with the NODC as the focus; encourage Steering Groups with clearly defined goals; ensure that a better quality of data is made available; provide scientific services and products in collaboration with appropriate experts; and encourage the appointment of IODE national coordinators where there are still none.

82 The IODE Chair outlined several IODE activities of relevance to GOOS including: the pilot projects of the joint JCOMM–IODE Expert Team on Data Management Practices; marine XML developments; the Global Ocean Surface Underway Data (GOSUD) pilot project; the activities of the Group of Experts on Biological and Chemical Data Management Practices and capacity-building —in particular ODINAFRICA and the development of ODIMeX, a new training package building on the success of OdinTeacher.

83 Regarding IODE–GOOS cooperation, IODE centres are already an integral part of GOOS (and involved with ARGO, GLOSS, etc.) IODE can assist with capacity building through, for example, OceanTeacher, and by making operational data available to developing countries. There are overlapping and complementary interests among GOOS, JCOMM and IODE, and IODE looks forward to close cooperation with GOOS in the future.

84 The IODE Project Office will open on 25 April 2005, immediately prior to IODE-XVIII, in the city of Ostend (Belgium), with the support of the Government of Flanders.

85 The role of GOSIC is to: be a central source of information for the three global observing systems, by providing particulars on observing requirements, operational data systems, and access procedures for finding and obtaining data and products of the global observing systems; provide users with the ability to search for and identify relevant data, including their availability, data processing status, location(s), and accessibility; provide users with metadata sufficient to determine whether data meet their requirements in terms of content, coverage, and quality; provide access to an integrating overview of the management and development of the global observing systems programmes, including such things as observing requirements, standards and terms of reference of the panels and expert teams.

86 The development of GOSIC underwent two three-year phases and is now in a final phase of implementation. The system was developed by the University of Delaware, with funding provided by NOAA and NASA. GOSIC's overview and direction is the responsibility of the

Steering Committee for GCOS, GOOS, and GTOS. It has undergone two reviews; the Second Review of GOSIC was generally positive; it was meeting its terms of reference and is performing a necessary service, with a now much improved website which facilitates access to significant amounts of information about global observing systems and data sets. GOSIC provides an integrating overview of the three observing systems. A considerable effort is being given to the problem of GOOS data tracking. And it has provided support for the development of the Pacific Islands Global Climate Observing System (PI-GCOS).

87 Now that it has reached the end of its implementation phase, GOSIC is seeking an appropriate host centre (an operational agency) for long-term operation; staff of NOAA's NCDC and of the University of Delaware are exploring this possibility.

88 **The Committee welcomed** the updating on IODE and GOSIC.

11. CAPACITY-BUILDING ACTIVITIES

89 The Head of the IOC Capacity-Building and TEMA Section, Ehrlich Desa, reported on the IOC, GOOS and JCOMM capacity-building activities relevant to the development of GOOS. He presented an overview of the basic elements of the IOC Principles and Strategy for Capacity-building and the associated Implementation Plan. There are many similarities in the capacity-building elements in the documentation of JCOMM, GOOS, COOP and GEOSS. The IOC Strategy includes most of the training elements of JCOMM and GOOS. The Implementation Plan interventions showed a bias in science in favour of Integrated Coastal Area Management, including benthic systems, ecosystem dynamics and modelling. In operational oceanography, awareness and use of GOOS products for regional projects and as mitigation against marine hazards were classified as important, whereas capacity-building schemes, such as education and research, pilot programme proposals for funding agencies, leadership programmes for heads of organizations and team-building were the interventions most requested.

90 Chairpersons of the IOC regional bodies took an active interest in listing the interventions for their respective regions, ensuring that the diversity of regional needs was reflected in the interventions. Those Member States not represented through IOC regions could be accommodated through agreements between IOC and recognized bodies in their regions. Whilst focussing on regions, care also needs to be exercised in ensuring that the global perspective of GOOS is maintained.

91 To gauge the progress in capacity building, a baseline study should first be carried out to estimate existing capacities in countries. This will allow efforts in capacity building to be assessed biennially and reported to the Assembly. Capacity-building interventions would also benefit from the consultancy on best practices and further by avoiding those methods that had proved unproductive in the past.

92 **The Committee expressed** its appreciation of both the documents presented **and called on** the Member States to support them when they are presented to the Assembly at its 23rd Session.

93 **The Committee requested** that the next GPO Director's report contain information about GOOS capacity-building activities.

12. LIAISON AND INTEGRATION (GCOS)

94 The Chairman of GCOS, Paul Mason," presented the report on GCOS. This System brings together the atmospheric, terrestrial and oceanic domains, working closely with the UN Framework Convention on Climate Change (UNFCCC) with GOOS providing the ocean module for GCOS. The Second Adequacy Report (Report GCOS-82) noted that the ocean climate observing is not in a position to meet all UNFCCC goals. The 2nd GCOS Adequacy Report provided the rationale for the observational needs of the UNFCCC; it assessed progress since the 1st Report, and identified needed improvements to present observing systems. GCOS then, with wide input from the scientific observations and climate communities, developed an Implementation Plan (Report GCOS-92). The observation strategy comprises: an optimal balance between satellite and *in situ* data; ensuring sustainability of the data; using all available data to achieve a cost-effective global observing system; maintaining a global coverage; a sustained generation of products; and strengthened agents for implementation. Climate is recognized as one of nine societal benefit areas by the GEO, and GCOS as a component of GEOSS. The GCOS essential climate variables (ECV) are identified and key actions for each are determined. GCOS is ensuring appropriate co-operation with relevant agencies and, for the oceans, IOC (in specific consultation with GOOS and JCOMM). Through the adequacy report the Conference of the Parties asked GCOS for an implementation plan to deal with deficiencies which they have accepted and are asking for regular reports on its implementation.

95 **The Committee welcomed** the 2nd GCOS Adequacy Report and the Implementation Plan **and supported** the actions suggested for JCOMM.

13. GOOS ADMINISTRATION

13.1 REPORT OF THE GOOS PROJECT OFFICE

96 The Director of the GOOS Project Office (GPO) introduced the agenda items 13.1 and 13.2 together. He first presented his report on the activities of the GPO since the last session of I-GOOS. He recalled that GOOS was established some 10 years ago and has had good success in planning the governance structures and the development of observing strategies. The new challenge facing GOOS is to move from the planning phase to implementation, so that further success will require changes in the way the GPO works.

97 The budget and human resources made available to the GPO are inadequate with respect to the tasks demanded of it; moreover, these resources are rapidly decreasing. The situation is therefore clearly unsustainable. The Director made a number of suggestions, including the possibility of increasing the resources made available to the GPO or of decreasing the workload. He invited the Committee to suggest concrete mechanisms by which the GPO could best serve as a strong intergovernmental support mechanism for GOOS.

98 **The Committee welcomed** the Director GPO's report **and recognized** the reality of the financial constraints and lack of human resources at the GPO. **The Committee also stressed** the economic benefits that GOOS will bring to Member States through the provision of ocean services and products.

99 **The Committee also recalled** the importance of GOOS for data, services and product provision and exchange. **It recognized** that there is an urgent need to reinforce the GOOS Project Office by a judicious increase in staff to fulfil the objectives fixed for GOOS which is a flagship programme of IOC. **The Committee agreed** that it should demonstrate leadership in fund-raising and resource mobilization and seek the IOC Member States action to engage with

their respective Permanent Delegates to UNESCO to make sure that IOC receives adequate resources for GOOS from the UNESCO regular budget.

100 **The Committee also noted** that the Indian Ocean tsunami of December 2004, which affected the countries of the Indian Ocean, has stirred GOOS to prepare itself to meet the challenge of establishing multi-hazard observing systems.

101 **The Committee pointed out** that it is important for IOC to use, among other mechanisms, the existing regional structures to support the development of GOOS. **The Committee confirmed** its interest in the development with existing regional programmes, such as the UNEP Regional Seas and the Large Marine Ecosystems programmes. **It encouraged** IOC, jointly with the key partners, such as UNEP and WMO, to undertake the Global Marine Environment Assessment as a follow-up to the WSSD.

102 **The Committee stressed** that, with the emergence of new major initiatives, such as GEO and GEOSS, there is an urgent need for I-GOOS and GOOS to link up with these new intergovernmental mechanisms, with a view to mobilizing governments and resources to support observing systems.

103 **The Committed stressed** its view that the GOOS Regional Alliances (GRA) are meant to play a key role in the implementation of GOOS at the regional level. The GRAs will reinforce the activities of the GPO because they might be in a better position to leverage resources, including funding from the regions for the implementation of GOOS. The GRAs should therefore be considered as vital bodies for GOOS, so there is a need to have both the GRAs and the I-GOOS in place to serve the development of GOOS. **The Committee considered**, however, that the appropriate mechanisms of communication should be properly established between the GRAs and the I-GOOS.

104 **The Committee stressed** the need to raise the Member States' awareness of the need to participate in I-GOOS. Therefore **the Committee decided** that the report of the Director GPO should be attached to the Summary Report (Annex V and VI) of the present session for discussion at the IOC Assembly in June 2005, since it contains many issues that require the decision of the Assembly. **It recalled** that the GOOS Review Report recommended a number of Actions on which a progress report should also be presented to the next IOC Assembly.

13.2 WORK PROGRAMME AND BUDGET

105 The Director of the GOOS Project Office presented his proposed programme of work and budget for the GOOS Project Office for the year 2005 and provided an outline of the 2006–2007 budget foreseen under UNESCO's next biennial programme.

106 Unlike previous reports, only those resources available for use specifically by the GPO were presented. Funds for other GOOS-related activities, such as certain activities for JCOMM, have not been included. This change was made in an attempt to account more clearly for the resources actually available for expenditure by the GPO for GOOS.

107 **The Committee approved** the recommendation of the Sessional Working Group on programme and budget that the programme and budget for 2005 should be proposed to the IOC Assembly for adoption, taking into account the following considerations:

(i) The total regular programme IOC Operational Observing Section (OOS) was $582 K per year in 2004 and 2005. For the years 2006 and 2007 the budget is expected to decrease to $454 K per year;

(ii) An allocation of $179 K per year to meet IOC's obligation to run the JCOMM II meeting in Halifax is required in 2005, leaving only $143 K to cover all the other activities carried out by the GPO;

(iii) The GPO Director should present to the I-GOOS Board a detailed proposal to consolidate the GSSC/COOP to reduce costs, by the end of April 2005;

(iv) The I-GOOS Board will explore ways of funding the costs of GOOS staffing from different sources of funding [IOC, Member States];

(v) An intersessional working group has been formed to propose ways of increasing the extra budgetary funding of the GPO. The WG should identify specific proposals and actions to secure additional funding;

(vi) The I-GOOS Chairperson should send a letter to all Member States requesting funds to support the specific GOOS activities.

108 **The Committee welcomed** the report, recognizing especially the Director's frankness in his analysis of the human-resource and budgetary disparity with the workload imposed on the GPO.

109 **The Committee urged** the IOC Member States to increase their financial contribution to the GOOS Project Office.

110 **The Committee recognized** the importance and success of JCOMM as an implementation mechanism for GOOS **and requested** the Member States to seek additional sources of funding to be directly devoted to JCOMM.

13.3 GPO COMMUNICATION AND INFORMATION

111 The Director of GOOS Project Office introduced this item. He pointed out that earmarked funds are allocated to develop various means of communication to promote the GOOS activities, including a website for GOOS, posters and pamphlets.

112 **The Committee welcomed** the plans and efforts of the Director GPO to give more visibility to GOOS activities and success, **and recommended** that such efforts be pursued.

14. I-GOOS ACTIONS

14.1 I-GOOS ACTIONS IN 2003–2005

113 Thorkild Aarup reviewed progress on agreed actions for 2003–2005. **The Committee noted** that most of the actions from I-GOOS-VI had been achieved. A few remaining actions will be carried forward to the actions for 2005–2007. **The Committee acknowledged** the high implementation rate in the transition between GPO Directors in 2004.

14.2 ACTIONS FOR 2005–2007

114 The list of actions is presented in Annex VII.

15. ELECTION OF CHAIRPERSON AND VICE-CHAIRPERSONS

115 The Chair of the Nomination Committee reported that, although three candidates were available, it was preferable to widen the representation on the board. Therefore the Nomination Committee recommended an increase in the number of I-GOOS Vice-Chairpersons from two to a maximum of four and postponed the election to an extraordinary session of I-GOOS to be held immediately prior to the 23rd IOC Assembly.

116 **The Committee decided** to follow the recommendations of the Nomination Committee. Nominations for the I-GOOS Board should be sent to the IOC Executive Secretary no later than 20 May 2005. A CV of the candidate and a formal endorsement letter from the respective national representatives to IOC should be provided.

16. ADOPTION OF THE REPORT OF THE 7th SESSION

117 **The Committee considered** the Draft Summary Report of the session, prepared by the GPO and reviewed by the Rapporteur, **and adopted** it, as amended by the Committee, prior to the closure of the present session.

17. NEXT SESSION OF THE IOC–WMO–UNEP COMMITTEE FOR GOOS (I-GOOS-VIII)

118 **The Committee decided** to hold an Extraordinary session on the afternoon of 20 June 2005 in Paris, to consider:

(i) the final version of the COOP Implementation Strategy, with a view to its submission to the 23rd Session of the IOC Assembly, for information;

(ii) an increase in the number of the Committee's Vice-Chairpersons.

18. CLOSURE OF THE SESSION

119 The Chairwoman closed the Seventh Session of I-GOOS at 15:50 on Thursday 7 April 2005.

SUPPLEMENT

IOC-WMO-UNEP/I-GOOS-Ext./3

Extraordinary Session of the Intergovernmental Committee for GOOS, Paris, 20 June 2005 – Summary Report

Abstract

The Intergovernmental Committee for GOOS met in an extraordinary session in Paris on 20 June 2005. It elected the I-GOOS Board. The Implementation Strategy for the Coastal Module of the Global Ocean Observing System was approved. A report on the GOOS Regional Alliance in the tropical and Southwest Atlantic, OceAtlan, was provided.

Summary Report

1. OPENING

1 The Chairwoman of I-GOOS, Silvana Vallerga, called the extraordinary session to order at 14:00 h on Monday, 20 June 2005. She reviewed the agenda and the agenda was adopted.

2. ELECTION

2 François Gérard (France) was **elected** Chair, and Mary Altalo (USA) and Shaohua Lin (China) were **elected** Vice-Chairpersons

3. THE REVISED IMPLEMENTATION PLAN FOR THE COASTAL MODULE OF GOOS

3 Dr Tom Malone, Co-Chair of the Coastal Ocean Observations Panel reported on this item.

4 He reminded that the COOP implementation plan had been presented to I-GOOS VII and that I-GOOS had been asked to consider endorsement of the plan. I-GOOS VII had decided to postpone a final decision concerning endorsement till the Extraordinary Session on 20 June 2005. **It agreed** that the Strategy is a good one but was in need of minor revision. Notably that the plan should reflect the decisions taken at I-GOOS VII namely:

(i) I-GOOS VII decided that the proposed follow on panel to COOP - The Panel for Observation of the Coastal Ocean (POCO) would not be established. Rather the GSSC would take on the tasks of providing implementation advice for the coastal module of GOOS.

(ii) I-GOOS VII decided that the proposed GOOS Regional Council would not be established.

5 Following I-GOOS VII the technical secretary of COOP, Thorkild Aarup, had in consultation with the I-GOOS board, the IOC Executive Secretary, and the Co-Chairs of COOP,

made the following substantive editorial changes to the Implementation Plan text presented to I-GOOS VII:

(a) All references to POCO had been removed.

(b) The recommendation to form POCO has been changed to recommend that the GOOS Scientific Steering Committee take on these functions and that the GSSC be expanded to include the required areas of coastal expertise and given the authority to include experts as needed.

(c) All references to a "global body of GOOS Regional Alliances" or the "GOOS Regional Council" had been replaced with "a mechanism is needed to ensure that GRAs and national GOOS programmes as a group will guide development of the Global Coastal Network" and "GOOS Regional Alliances as a group".

6 Minor non-substantive changes had been made concerning spelling, lay-out, update of a table provided by the IGOS Coastal Theme (Table 3.1), the GSC has been changed to the GSSC. Also the IOC Executive Secretary had provided a preface to the document dedicating the plan to the many that lost their lives in the 26 December 2004 tsunami.

7 With the changes as reported by Tom Malone the Committee **adopted** "An Implementation Strategy for the Coastal Module of the Global Ocean Observing System" to be published as GOOS Report No 148 and IOC/INF-1217.

4. OCEATLAN

8 Janice Trotte provided a short presentation for information only on the formation of a GOOS Regional Alliance in the tropical and southwestern Atlantic (OCEATLAN). A letter of intent to form this GRA had been signed by 19 marine scientific and technical institutions in three South American countries Argentina, Brazil and Uruguay. OCEATLAN plans to focus on collaborative projects under programmes such as PIRATA, ARGO, DBCP, SOP, and GLOSS.

9 **The Committee thanked** Janice Trotte for the presentation and **took note** of the establishment of OCEATLAN.

5. ANY OTHER BUSINESS

10 **The Committee thanked** warmly the outgoing Chairwoman and the outgoing Vice-Chairpersons Rodrigo Nuñez (Chile) and Guillermo Garcia Montero (Cuba).

11 The meeting was closed at 19:30.

ANNEX I

AGENDA

1 OPENING

2 ADMINISTRATIVE ARRANGEMENTS
- 2.1 ADOPTION OF THE AGENDA
- 2.2 DESIGNATION OF A RAPPORTEUR
- 2.3 CONDUCT OF THE SESSION

3 REPORT OF THE CHAIRPERSON

4 STATUS OF GOOS PLANNING
- 4.1 THE GOOS SCIENTIFIC STEERING COMMITTEE
- 4.2 THE OPEN OCEAN: OOPC
- 4.3 THE COASTAL OCEAN: COOP

5 THE 3rd EARTH OBSERVATION SUMMIT

6 GOOS IMPLEMENTATION AT THE GLOBAL LEVEL: REPORT OF JCOMM

7 GOOS IMPLEMENTATION AT THE REGIONAL LEVEL
- 7.1 REPORT OF THE 2nd GOOS REGIONAL FORUM
- 7.2 PROPOSAL FOR A GOOS REGIONAL COUNCIL
- 7.3 GOOS REGIONAL ALLIANCES NETWORK DEVELOPMENT (GRAND)
- 7.4 GOOS PILOT PROJECTS
  - **7.4.1 Update on PIRATA**
  - **7.4.2 The Australian Integrated Ocean-Observing System (AusIOOS)**
- 7.5 ARCTIC GOOS PROPOSAL

8 GOOS IMPLEMENTATION AT THE NATIONAL LEVEL

9 PROVISION OF ADVICE TO IOC/ABE-LOS ON OCEANOGRAPHIC DATA ACQUISITION IN THE CONTEXT OF UNCLOS

10 DATA AND INFORMATION MANAGEMENT

11 CAPACITY-BUILDING ACTIVITIES

12 LIAISON AND INTEGRATION (GCOS)

13 GOOS ADMINISTRATION
- 13.1 REPORT OF THE GOOS PROJECT OFFICE
- 13.2 WORK PROGRAMME AND BUDGET
- 13.3 GPO COMMUNICATION AND INFORMATION

14 I-GOOS ACTIONS
- 14.1 I-GOOS ACTIONS 2003–2005
- 14.2 I-GOOS ACTIONS 2005–2007

15 ELECTION OF CHAIRPERSON AND VICE-CHAIRPERSONS

16 ADOPTION OF THE REPORT OF THE 7th SESSION

17 NEXT SESSION OF THE IOC–WMO–UNEP COMMITTEE FOR GOOS (I-GOOS-VIII)

18 CLOSURE OF THE SESSION

ANNEX II

LIST OF DOCUMENTS

Document Code	Title	Agenda items	Languages available
WORKING DOCUMENTS			
I-GOOS-VII/1 prov.	Provisional Agenda	all	E F S R
I-GOOS-VII/1 add. prov.	Provisional Timetable	all	E only
I-GOOS-VII/2 prov.	Annotated Provisional Agenda	2.1	E F S R
I-GOOS-VII/3 prov.	Draft Summary Report of the Session	all	E only
I-GOOS-VII/4 prov.	Provisional List of Documents	all	E only
I-GOOS-VII/5 prov.	Provisional List of Participants		E only
I-GOOS-VII/6	Report of the GOOS Scientific Steering Committee	4.1	E only
I-GOOS-VII/7	Report of the Ocean Observations Panel for Climate	4.2	E only
I-GOOS-VII/8	Communiqué from the GSSC on Priority Actions for Consideration by I-GOOS-VII concerning implementation of key elements of the coastal module of GOOS	4.3	E only
I-GOOS-VII/9	An Implementation Strategy for the Coastal Module of the Global Ocean Observing System	4.3	E only
I-GOOS-VII/10	Report on the Third Earth Observation Summit: - Resolution of the Third Earth Observation Summit - Communiqué Relating to Support for Tsunami and Multi-Hazard Warming Systems within the Context of the Global Earth Observation System of Systems (GEOSS) - The Global Earth Observation System of Systems (GEOSS) 10-year Implementation Plan (Summary) - Global Earth Observation System of Systems (GEOSS) 10-year Implementation Plan Reference Document	5	E only
I-GOOS-VII/11	JCOMM MAN-IV Report	6	E only
I-GOOS-VII/12	Report on the Second GOOS Regional Forum, Fiji (GOOS Report No.139)	7.1	E only

I-GOOS-VII/13	Proposal for a GOOS Regional Council	7.2	Not produced
I-GOOS-VII/14	Report on the GOOS Regional Alliances	7.3	Not produced
I-GOOS-VII/15	A Draft Regional Strategy for GOOS Regional Alliances	7.3.1	Not produced
I-GOOS-VII/16	GOOS Pilot Projects	7.5	Not produced
I-GOOS-VII/17	National GOOS Reports	8	E only
I-GOOS-VII/18	Progress Report on the Work of ABE-LOS Sub-group on Collection of Oceanographic Data	9	E F
I-GOOS-VII/19	Report on GOSIC Report on IODE	10	E only
I-GOOS-VII/20	Executive Summary of Principles and Strategy for Capacity-Building at IOC	11	E only
I-GOOS-VII/21	Progress Made Towards Implementing the Initial Ocean Climate Observing System	12	E only
I-GOOS-VII/22	Report of the GOOS Project Office	13.1, 13.2, 13.3	E only
	GPO Work Plan and Budget 2006–2007		E only
INFORMATION AND OTHER REFERENCE DOCUMENTS			
Joint IOC-WMO-UNEP Circular Letter No.2126 of 28 September 2004: invitation to I-GOOS-VII	Seventh Session of the IOC–WMO–UNEP Committee for Global Ocean Observing System (I-GOOS-VII), Paris, 4–7 April 2005		E F S R
Joint IOC-WMO-UNEP Circular Letter No.2128 of 8 November 2004	Report on national implementation and planning activities relating to GOOS		E F S R
GCOS-82 ES	GCOS Second Adequacy Report Executive Summary		E only
GCOS-92ES	GCOS Implementation Plan Executive Summary		E only
GCOS-92	GCOS Implementation Plan		E only
GCOS-95, GOOS-143, WCRP-17/04	Report of the 9th Session of the Joint GCOS-GOOS-WCRP Ocean Observations Panel for Climate (OOPC), Southampton, UK, June 2004		E only

ANNEX III

LIST OF PARTICIPANTS

I. I-GOOS BOARD

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ANNEX IV

STATEMENT BY THE INTERGOVERNMENTAL IOC–WMO–UNEP COMMITTEE FOR GOOS (I-GOOS)

The ocean interests of 129 Member States are represented by the Intergovernmental Oceanographic Commission (IOC) of UNESCO. These countries are responsible for operation of the Global Ocean Observing System (GOOS). The Seventh Session of the Committee for the Global Ocean Observing System (I-GOOS VII) notes the resolution of the 3rd Earth Observation Summit in Brussels in February 2005 and strongly supports the 10-Year Implementation Plan of the Global Earth Observation System of Systems (GEOSS). GOOS is aimed at delivery of the same nine benefits to society as GEOSS. GOOS provides the ocean and coastal components of the Global Earth Observation System of Systems. GOOS has been represented at all meetings of the GEO process and it is now requested that GOOS be formally recognized as providing the marine components of GEOSS.

ANNEX V

GOOS PROJECT OFFICE DIRECTOR'S REPORT TO I-GOOS VII

K. Alverson

GOOS has been in existence for over a decade. During this time the activities overseen by the GOOS Project Office (GPO) have primarily consisted of developing observing strategies, plans and governance structures. The most important challenge now facing GOOS is the transition from making plans to supporting the international cooperation required to develop and maintain an operational observing system.

The GPO has extremely limited, and rapidly decreasing, financial and human resources. The number and difficulty of tasks being carried out by the GPO is far beyond its capacity given the resources available.

The financial and staffing situations in the GPO are unsatisfactory and unsustainable.

This situation has been highlighted in earlier reports to the GSSC, I-GOOS, the IOC Assembly and Executive Council with little impact. In fact, quite to the contrary, subsequent to previous reports resources available have decreased and tasks have increased.

I-GOOS Member States are urgently requested to help solve this crisis. Possibilities include increasing the resources made available to the GPO or decreasing the workload.

I-GOOS Member States are urgently requested to suggest concrete mechanisms by which I-GOOS can best serve as a strong intergovernmental support mechanism for GOOS.

MEETINGS ORGANIZED AND ATTENDED:
Meetings organized and attended in 2004 and 2005 are listed on the GOOS web page at http://ioc.unesco.org/goos/Calendars/calend04.htm
and
http://ioc.unesco.org/goos/Calendars/calend05.htm, respectively.

GOOS REPORTS PUBLISHED IN 2004:
Please see http://ioc.unesco.org/goos/docs/doclist.htm

ANNEX VI

GPO WORK PLAN AND BUDGET 2006–2007

FINANCIAL AND STAFF RESOURCES AVAILABLE TO THE GOOS PROJECT OFFICE IN 2004

Unlike in previous Director's reports, resources available to the Operational Oceanography Section at IOC are not uniformly attributed to the GPO in this report. This change is made in an attempt to account more clearly for the resources actually available under the guidance of I-GOOS. For example, financial and human resources that fall under the jurisdiction of JCOMM intergovernmental, management, governance and oversight structures are listed briefly for informational purposes, but are not considered GPO resources. Also, extra-budgetary funds that are received by GPO only to be sent out again to finance specific activities, even if these activities fall within the remit of GOOS, are not listed as contributing to GPO resources since the GPO and I-GOOS have no control over the use of these funds. Another example pertains to funding used to pay for contractees and secondees. Previously these resources were double-counted as comprising both financial and staff contributions, now they appear only as staff. It is hoped that as a result of these accounting changes, the limited resources actually available to the GPO are more transparent.

Finances

The Regular Programme funds provided by UNESCO for the GPO in 2004 was $323,000 and in 2005 will be $143,000. These sums do not include funds used for payment of contracted staff or JCOMM (these are shown for transparency and completeness, but are unavailable as discretionary funding to support GOOS activities). In 2005, as compared to 2004, a large ($180k) increase in funding budgeted for JCOMM was required in order to meet IOC's obligation to run the JCOMM-II congress meeting in Halifax. The expected regular budget allocation to GOOS for the 2006–2007 biennium is expected to be approximately 550k ($275k per year).

A suggested breakdown of the next biennium budget, endorsed by the GOOS Scientific Steering Committee (GSSC), is provided below. Member States are invited to comment on this suggestion and provide advice on what specific activities being carried out in 2004–2005 should be cut in order to balance the budget for the next biennium.

The regular programme budgeting of GPO funds, in thousands of US dollars:

Actions for 2004–2005	2004	2005	Actions for 2006–2007	2006	2007
Overall GOOS Design and Policy	68	68	Secretariat	30	30
Coastal GOOS Observations and Design	37	37	Outreach and Communications	50	50
GOOS Regional Development	218	38	Liaising	65	65
			Programmes and Activities	40	40
			Guidance and Governance	90	90
Sub-total	**323**	**143**		**275**	**275**
Staff paid using contracts	139	139		0	0
JCOMM, including the JCOMM II	120	300		179	179
Grand-total	**582**	**582**		**454**	**454**

Some of the spending within the actions is listed below:
Secretariat: hardware, software, subscriptions, IOC shared costs, …
Outreach and Communications: publications, website, …
Liaising: IGOS, GTOS, GCOS, CEOS, ICES, PICES, POGO, CGMS, IPY, SCOR, WMO, UNEP, ICSU, GEOSS, IOC/UNESCO, JCOMM, IOC regional bodies, LME, …
Programmes and Activities: pilot projects, workshops, contributions to programmes, contributions to regional efforts, …
Guidance and Governance: IOC assembly, I-GOOS, GSSC, GRF, OOPC, COOP, …

A breakdown of actual spending in 2004 by category, provided by the IOC financial officer based on UNESCO accounting records, is:

2004 EXPENDITURE UNDER REGULAR PROGRAMME ALLOCATION BREAKDOWN BY OBJECT OF EXPENDITURE

MLA 2 - ACTIVITY 1	
G/L Account Label	Expenditures
Staff members mission costs - Air tickets	11200
Staff members mission costs - Per Diem	13924
Staff members mission costs - Surface tickets	3471
Staff members mission costs - Taxes	16
Staff members mission costs - Other travel costs	58
STAFF MISSIONS	**28669**
Consultant fees	22864
Consultants - insurance	110
CONSULTANTS FEES	**22974**
Travels Consultants - lump sum	13846
CONSULTANTS TRAVEL	**13846**
Air Tickets Participants	15781
Air Tickets individuals and others	5120
Per Diem - Participants	34654
Per Diems individuals and others	4810
MEETINGS (TRAVEL AND DSA)	**60365**
Office furniture purchases	0
Office equipment purchases	510
Printing, reproduction purchases	0
Computer licences costs	0
Hardware purchases	1601
OFFICE RUNNING EXPENSES	**2111**
Evaluation studies	8402
External research contracts	30350
External organization of seminars, meetings & other	10925
Receptions costs	262
Other financial contributions	10000
Other charges and commissions	196
CONTRACTS	**60136**
TOTAL	**188100**

MLA 2 - ACTIVITY 2	
G/L Account Label	Expenditures
Staff members mission costs - Air tickets	2903
Staff members mission costs - Per Diem	2286
Staff members mission costs - Surface tickets	304
STAFF MISSIONS	**5492**
Consultant fees	147062
Consultants - insurance	385
CONSULTANTS FEES	**147447**
Travels Consultants - lump sum	9874
CONSULTANTS FEES	**9874**
Supernumeraries & temporaries appointments repl P	4045
Supernumeraries & temporaries social charges	10
TEMPORARY ASSISTANCE	**4055**
Air Tickets Participants	39567
Air Tickets individuals and others	2237
DSA - Participants	7460
Per diem individuals and others	1190
MEETINGS (TRAVEL AND DSA)	**50454**
Other office supplies purchases	79
Office equipment purchases	2207
Computer licences costs	311
Hardware purchases	2854
Postal/Express freight services	5276
Equipment & furniture maintenance & repairs	143
OFFICE RUNNING EXPENSES	**10869**
External translation contracts	2589
Evaluation studies	5340
Surveys management contracts	9000
External research contracts	575
External organization of seminars, meetings & other	51101
Other financial contributions	3000
Other training costs	2722
Other charges and commissions	20
CONTRACTS	**74347**
TOTAL	**302538**

Extrabudgetary resources received in 2004 for discretionary use by the GPO to GOOS activities:

FAO	$12,000	Annual COOP sponsorship contribution.
ICSU*	$20,000	Annual GOOS sponsorship contribution
UNEP	$20,000	Annual GOOS sponsorship contribution.
WMO	$19,273	Annual GOOS sponsorship contribution.
UK (NERC)	$18,000	Member State contribution for GOOS.
USA (SD)	$50,000	Member State contribution for GOOS communications.
USA (ONR)	$10,000	Member State contribution for COOP
Total	**$149,273**	

* ICSU financial contributions to GOOS cease as of 12/2004.

Note that, as in the past, substantial additional extrabudgetary funds were applied for, obtained, and processed by the GPO staff. However, funds that donors have earmarked to various GOOS-related activities around the world are not available to the GPO and thus are not included here. Nonetheless, such fund-raising activities are certainly an important activity of the GPO staff.

Personnel
The GOOS secretariat human resources in 2004 are listed below as professional (P) and general staff (G) posts in units of person-years (PY). In 2004 the GPO lost the services of Colin Summerhayes to retirement, and Kazu Hashimoto to the decision of the Japanese government not to continue the secondment of a Junior Professional Officer to the GPO. Additions to the staff were Albert Fischer supported through extrabudgetary US funding and the new director, Keith Alverson.

UNESCO Regular Programme-Funded (RPF) Staff at GPO (Paris): currently 2.4 PY
0.2P Colin Summerhayes*/Keith Alverson+, Director (25% time),
0.5P Thorkild Aarup, Professional (50% time for GOOS)
1.0G Ho Hien Lam, Secretary (100% time for GOOS)
0.5G Pam Coghlan, Secretary (50% time for GOOS)
0.2G Irene Gazagne, Clerk (20% time for GOOS website)

Contracted Staff at GPO (Paris) funded by UNESCO RPF: currently 0.5 PY
0.5P Justin Ahanhanzo, Professional (50% time for GOOS)

Staff at GPO (Paris) funded from extra budgetary sources: currently 0.7 PY
0.7P Albert Fischer, Professional (USA, 70% for OOPC and communications)
0.8P Kazu Hashimoto, Professional (Japan, 100%, 10 months for NEAR-GOOS and WESTPAC) [secondment ended 31 October 2004]

Contracted Staff outside Paris funded by UNESCO RPF: currently 1.5 PY
1.0P Bill Erb, Professional (100%, Perth Office)
0.5P Jance Trotte, Professional (50%, Rio Office)

* retired 1 April 2004
+ started 1 August 2004

The human resources available to the GPO are extremely limited and dropping rapidly, due primarily to clearer separation of GPO and JCOMM staff resources, but also real losses of seconded staff. The updated table from last year's report is shown below. Early indications are that GOOS

should expect a drastic reduction in UNESCO Regular Programme funding, and thus further decreases in staffing, in 2006.

*GSC-VIII = 9 staff; **5.1 person-years on GOOS (3.6 person-years at HQ)**
GSC-VII = 16 staff available; **10.4 man years on GOOS (5.6 man years at HQ)**
GSC-VI = 18 staff available; **10.2 man years on GOOS (4.8 man years at HQ)**
GSC-V = 16 staff available; **9.7 man years on GOOS**
GSC-IV = 17 staff available; **10.1 man years on GOOS**
GSC-III = 13 staff available; **8.7 man-years on GOOS**
GSC-II= 11 staff available; **7.2 man years on GOOS**
GSC-I = 11 staff available; **7.5 man years on GOOS (6.3 man years at HQ)**

**As of GSC-VIII, IOC staff responsible to JCOMM governance and guidance bodies are not counted as working for the GPO.*

ANNEX VII

LIST OF ACTIONS

Actions/recommendations carried forward from the I-GOOS-VI (2003–2005)				
Ref.	**Subject**	**Action/Recommendation proposed**	**Responsible**	**Target Date**
9.2 para 97	Preparing for JCOMM-II	Request the GSSC "intersessional Working Group to develop GOOS inputs to JCOMM-II" to report on that topic to the I-GOOS Board and take account of the latter's suggestions as necessary.	I-GOOS Chair	Ongoing
10.2 para 140	IOCARIBE-GOOS	Work with UNEP to determine what products the Regional Seas Programme requires and what GOOS may be able to deliver that could also be useful.	IOCARIBE-GOOS	Ongoing
Actions/recommendations from the I-GOOS-VII (2005–2007)				
Ref.	**Subject**	**Action/Recommendation proposed**	**Responsible**	**Target Date**
4.3 para 24	I-GOOS endorsement of Implementation Strategy Plan for the coastal module of GOOS	I-GOOS Board to review and revise Implementation Strategy as necessary and present revised plan at the I-GOOS EXT-I (June 2005)	I-GOOS Board	I-GOOS EXT-I
5 para 28	Formal Recognition of GOOS in GEOSS Implementation Plan	I-GOOS statement (Annex IV) to be addressed by the IOC Executive Secretary to the GEO at its First Session	IOC Executive Secretary	May 2005
6 para 31	JCOMM	Recommend to the IOC Assembly that JCOMM: (i) incorporate the coordinated implementation of the physical variables of the coastal module of GOOS into its work programme; (ii) prepare options for the inclusion of relevant "non-physical" common variables, products and services; (iii) consider modalities of interaction between the JCOMM global implementation and the various regional implementation mechanisms; and	I-GOOS Chair	IOC 23rd Assembly

Actions/recommendations carried forward from the I-GOOS-VI (2003–2005)				
Ref.	**Subject**	**Action/Recommendation proposed**	**Responsible**	**Target Date**
		(iv) establish a fully integrated JCOMM–GOOS Capacity-Building Coordination Group		
7.1 para 44	GOOS Regional Forum	Determine exact date and place for the 3rd GOOS Regional Forum to be held in Africa in November 2006	I-GOOS Board & GPO Director	With immediate effect
7.2 para 49	Meeting of GRA chairs	Consider a meeting of GRA Chairs in conjunction with next regular I-GOOS meeting	I-GOOS Board	Before I-GOOS VIII
7.5 para 64	Arctic GOOS proposal	EuroGOOS to consult with existing Arctic coordinating bodies and nations and to submit a formal proposal for an Arctic GRA	EuroGOOS	
9 para 73	ABE-LOS	Rodrigo Nuñez to represent I-GOOS at the ABE-LOS meeting 11–15 April 2005 Argentina		With immediate effect
11 para 90	GOOS Capacity Building Activities	GPO Director to report to I-GOOS on GOOS Capacity-Building Activities	GPO Director	I-GOOS VIII
13.1 para 96	Reinforce the GPO and increase staffing at the GPO	I-GOOS to fund-raise and mobilize resources for GOOS and the GPO	I-GOOS Board	With immediate effect
13.1 para 101	Raise Member States' awareness of the need to participate in I-GOOS	Include the reports of the GPO Director in the Summary Report of I-GOOS VII and the I-GOOS Chairperson's report to the 23 IOC Assembly	GPO, I-GOOS Chair	With immediate effect
13.2 para 104	Consolidation of GSSC and COOP	GPO director to present to the I-GOOS Board a detailed proposal to consolidate GSSC/COOP to reduce costs	GPO Director	End of April 2005
13.2 para 104	GPO staffing	I-GOOS Board to explore ways of funding the costs of GOOS staffing from different sources of funding	I-GOOS Board	With immediate effect

Actions/recommendations carried forward from the I-GOOS-VI (2003–2005)				
Ref.	**Subject**	**Action/Recommendation proposed**	**Responsible**	**Target Date**
13.2 para 104	Extra budgetary resources for the GPO	Establish an intersessional working group to propose ways of increasing extra budgetary funding of the GPO	I-GOOS Board	With immediate effect
13.2 para 104	Support of specific GOOS activities	I-GOOS Chairperson to send a letter to all IOC Member States requesting funds to support specific GOOS activities	I-GOOS Chair	With immediate effect
13.2 para 106	GOOS Work Programme and Budget	Urge Member States to increase their financial contribution to the GOOS project Office	I-GOOS Chairperson	23rd Assembly
13.2 para 107	JCOMM	Request Member States to seek additional sources of funding to be devoted to JCOMM	I-GOOS Chairperson	23rd Assembly
13.3 para 109	GPO communication and information	GPO Director to give more visibility to GOOS		
15 para 113	Elections of I-GOOS Board	Expansion of I-GOOS Board from two Vice-Chairpersons to a maximum of four Vice-Chairpersons, and postponement of elections of Board to I-GOOS-EXT-1; Nominations of candidates for the I-GOOS Board to be sent to the IOC Secretariat by 20 May 2005.	GPO to send invitation letter for an extraordinary session of I-GOOS.	I-GOOS-EXT-1

ANNEX VIII

LIST OF ACRONYMS

ABE-LOS	Advisory Body of Experts on the Law of the Sea (IOC)
AOWG	Atlantic Operations Working Group (PIRATA)
ARENA	A Regional Capacity-building and Networking Programme to Upgrade Monitoring and Forecasting Activity in the Black Sea
Argo	GODAE Global Profiling Floats project (not an acronym)
CEOS	Committee on Earth Observing Satellites
CliC	Climate and Cryosphere Project (WCRP)
CLIVAR	The Programme on the Variability of the Coupled Ocean–Atmosphere System and Climate Prediction (WCRP)
CODAE	Coastal Ocean Data Assimilation Experiment (GOOS)
COOP	Coastal Ocean Observations Panel (GOOS)
COOS	Coastal Ocean Observing System (GOOS)
COP-10	10th Conference of the Parties (to the UNFCCC)
CPR	Continuous plankton recorder
DBCP	Data Buoy Co-operation Panel (JCOMM)
EC	European Commission
ECV	Environmental climate variable
EEZ	Exclusive Economic Zone
ENSO	El Niño and the Southern Oscillation
EU	European Union
EuroGOOS	European Programme for the Global Ocean Observing System (GOOS)
FAO	Food and Agricultural Organization of the United Nations
FUNCEME	State Foundation for Meteorological and Hydrological Resources (Brazil)
GCN	Global Coastal Network (GOOS)
GCOS	Global Climate Observing System (WMO–ICSU–IOC–UNEP)
GCRMN	Global Coral Reef Monitoring Network
GEO	Group on Earth Observations
GEOSS	Global Earth Observation System of Systems
GLOSS	Global Sea-Level Observing System (JCOMM)
GNP	Gross National Product
GODAE	Global Ocean Data Assimilation Experiment (IOC)
GOOS	Global Ocean Observing System (IOC–WMO–UNEP–ICSU)
GOSIC	Global Observing System Information Centre (IODE)
GOSUD	Global Ocean Surface Underway Data
GPO	GOOS Project Office
GRA	GOOS Regional Alliance
GRAND	GOOS Regional Alliance Network Development (EU-funded project)
GRASP	GOOS Regional Alliance in the South Pacific
GRC	GOOS Regional Council
GSSC	GOOS Scientific Steering Committee [ex GOOS Steering Committee]
GTOS	Global Terrestrial Observing System (ICSU)
ICES	International Council for the Exploration of the Sea
ICSU	International Council for Science
I-GOOS	IOC–WMO–UNEP Committee for the Global Ocean Observing System
IGOS	Integrated Global Observing Strategy
IOC	Intergovernmental Oceanographic Commission (UNESCO)
IODE	International Oceanographic Data and Information Exchange (IOC)
IOGOOS	Indian Ocean GOOS (Regional Alliance)

IOOS	Integrated Ocean-Observing System
IPCC	Intergovernmental Panel on Climate Change (WMO–UNEP)
IPY	International Polar Year (ICSU)
ISABP	International South Atlantic Buoy Programme
ITSU	International Co-ordination Group for the Tsunami Warning System in the Pacific (IOC)
JAMSTEC	Japan Marine Scientific and Technology Centre
JCOMM	Joint WMO–IOC Technical Commission on Oceanography and Marine Meteorology
LME	Large marine ecosystem
MAMA	Mediterranean Network to Assess and Upgrade the Monitoring and Forecasting Activity in the Basin
MedGOOS	Mediterranean GOOS
MILAC	Marine Impacts on Lowland Agriculture and Coastal Resources
MoU	Memorandum of Understanding
NASA	National Aeronautics and Space Administration (USA)
NCDC	National Climatic Data Center (NOAA)
NEAR-GOOS	North-East Asian GOOS Regional Alliance
NOAA	National Oceanic and Atmospheric Administration (USA)
NODC	National Oceanographic Data Centre (IOC)
OCEATLAN	Regional Alliance for the Upper Southwest and Tropical Atlantic
ODINAfrica	Ocean Data and Information Network in Africa
OOPC	Ocean Observation Panel for Climate (GOOS)
PAPA	Programme for a Baltic Network to Assess and Upgrade an Operational Observing and Forecasting System in the Region
PICES	The North Pacific Marine Science Organization
PI-GOOS	Pacific Islands Global Ocean Observing System (GOOS)
PIRATA	Pilot Research Moored Array in the Tropical Atlantic
POGO	Partnership for Observations of the Global Ocean
RCOOS	Regional Coastal Ocean Observing System (GOOS)
RNODC	Responsible NODC (IOC)
SEAGOOS	South East Asia GOOS Regional Alliance
SCOR	Scientific Committee on Oceanic Research (ICSU)
SOOP	Ship-of-Opportunity Programme (JCOMM)
SOPAC	South Pacific Applied Geoscience Commission
SSG	Scientific Steering Group
SST	Sea-surface temperature
TEMA	Training, Education and Mutual Assistance in Marine Sciences (IOC)
ToRs	Terms of Reference
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
VOS	Voluntary Observing System (JCOMM)
WCRP	World Climate Research Programme (WMO–ICSU–IOC)
WDC	World Data Centre (ICSU)
WESTPAC	IOC Sub-Commission for the Western Pacific
WMO	World Meteorological Organization
WSSD	World Summit on Sustainable Development
XBT	Expendable bathythermograph
XML	Extensible mark-up language

In this Series *Languages*

Reports of Governing and Major Subsidiary Bodies, which was initiated at the beginning of 1984, the reports of the following meetings have already been issued:

1.	Eleventh Session of the Working Committee on international Oceanographic Data Exchange	E, F, S, R
2.	Seventeenth Session of the Executive Council	E , F, S, R,Ar
3.	Fourth Session of the Working Committee for Training, Education and Mutual Assistance	E, F, S, R
4.	Fifth Session of the Working Committee for the Global Investigation of Pollution in the Marine Environment	E, F, S, R
5.	First Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions	E, F, S
6.	Third Session of the *ad hoc* Task team to Study the Implications, for the Commission, of the UN Convention on the Law of the Sea and the New Ocean Regime	E, F, S, R
7.	First Session of the Programme Group on Ocean Processes and Climate	E, F, S, R
8.	Eighteenth Session of the Executive Council	E, F, S, R, Ar
9.	Thirteenth Session of the Assembly	E, F, S, R, Ar
10.	Tenth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific	
11.	Nineteenth Session of the Executive Council, Paris, 1986	E, F, S, R, Ar
12.	Sixth Session of the IOC Scientific Committee for the Global Investigation of Pollution in the Marine Environment	E, F, S
13.	Twelfth Session of the IOC Working Committee on International Oceanographic Data Exchange	E, F, S, R
14.	Second Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions, Havana, 1986	E, F, S
15.	First Session of the IOC Regional Committee for the Central Eastern Atlantic, Praia, 1987	E, F, S
16.	Second Session of the IOC Programme Group on Ocean Processes and Climate	E, F, S
17.	Twentieth Session of the Executive Council, Paris, 1987	E, F, S, R, Ar
18.	Fourteenth Session of the Assembly, Paris, 1987	E, F, S, R, Ar
19.	Fifth Session of the IOC Regional Committee for the Southern Ocean	E, F, S, R
20.	Eleventh Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Beijing, 1987	E, F, S, R
21.	Second Session of the IOC Regional Committee for the Co-operative Investigation in the North and Central Western Indian Ocean, Arusha, 1987	E, F
22.	Fourth Session of the IOC Regional Committee for the Western Pacific, Bangkok, 1987	E only
23.	Twenty-first Session of the Executive Council, Paris, 1988	E, F, S, R
24.	Twenty-second Session of the Executive Council, Paris, 1989	E, F, S, R
25.	Fifteenth Session of the Assembly, Paris, 1989	E, F, S, R
26.	Third Session of the IOC Committee on Ocean Processes and Climate, Paris, 1989	E, F, S, R
27.	Twelfth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Novosibirski, 1989	E, F, S, R
28.	Third Session of the Sub-Commission for the Caribbean and Adjacent Regions, Caracas, 1989	E, S
29.	First Session of the IOC Sub-Commission for the Western Pacific, Hangzhou, 1990	E only
30.	Fifth Session of the IOC Regional Committee for the Western Pacific, Hangzhou, 1990	E only
31.	Twenty-third Session of the Executive Council, Paris, 1990	E, F, S, R
32.	Thirteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange, New York, 1990	E only
33.	Seventh Session of the IOC Committee for the Global Investigation of Pollution in the Marine Environment, Paris, 1991	E, F, S, R
34.	Fifth Session of the IOC Committee for Training, Education and Mutual Assistance in Marine Sciences, Paris, 1991	E, F, S, R
35.	Fourth Session of the IOC Committee on Ocean Processes and Climate, Paris, 1991	E, F, S, R
36.	Twenty-fourth Session of the Executive Council, Paris, 1991	E, F, S, R
37.	Sixteenth Session of the Assembly, Paris, 1991	E, F, S, R, Ar
38.	Thirteenth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Baja California, 1991	E, F, S, R
39.	Second Session of the IOC-WMO Intergovernmental WOCE Panel, Paris, 1992	E only
40.	Twenty-fifth Session of the Executive Council, Paris, 1992	E, F, S, R
41.	Fifth Session of the IOC Committee on Ocean Processes and Climate, Paris, 1992	E, F, S, R
42.	Second Session of the IOC Regional Committee for the Central Eastern Atlantic, Lagos, 1990	E, F
43.	First Session of the Joint IOC-UNEP Intergovernmental Panel for the Global Investigation of Pollution in the Marine Environment, Paris, 1992	E, F, S, R
44.	First Session of the IOC-FAO Intergovernmental Panel on Harmful Algal Blooms, Paris, 1992	E, F, S
45.	Fourteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Paris, 1992	E, F, S, R
46.	Third Session of the IOC Regional Committee for the Co-operative Investigation in the North and Central Western Indian Ocean, Vascoas, 1992	E, F
47.	Second Session of the IOC Sub-Commission for the Western Pacific, Bangkok, 1993	E only
48.	Fourth Session of the IOC Sub-Cornmission for the Caribbean and Adjacent Regions, Veracruz, 1992	E, S
49.	Third Session of the IOC Regional Committee for the Central Eastern Atlantic, Dakar, 1993	E, F
50.	First Session of the IOC Committee for the Global Ocean Observing System, Paris, 1993	E, F, S, R
51.	Twenty-sixth Session of the Executive Council, Paris, 1993	E, F, S, R
52.	Seventeenth Session of the Assembly, Paris, 1993	E, F, S, R
53.	Fourteenth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Tokyo, 1993	E, F, S, R
54.	Second Session of the IOC-FAO Intergovernmental Panel on Harmful Algal Blooms, Paris, 1993	E, F, S
55.	Twenty-seventh Session of the Executive Council, Paris, 1994	E, F, S, R
56.	First Planning Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Melbourne, 1994	E, F, S, R
57.	Eighth Session of the IOC-UNEP-IMO Committee for the Global Investigation of Pollution in the Marine Environment, San José, Costa Rica, 1994	E, F, S
58.	Twenty-eighth Session of the Executive Council, Paris, 1995	E, F, S, R
59.	Eighteenth Session of the Assembly, Paris, 1995	E, F, S, R
60.	Second Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 1995	E, F, S, R

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61.	Third Session of the IOC-WMO Intergovernmental WOCE Panel, Paris, 1995	E only
62.	Fifteenth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Papetee, 1995	E, F, S, R
63.	Third Session of the IOC-FAO Intergovernmental Panel on Harmful Algal Blooms, Paris, 1995	E, F, S
64.	Fifteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange	E, F, S, R
65.	Second Planning Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 1995	E only
66.	Third Session of the IOC Sub-Commission for the Western Pacific, Tokyo, 1996	E only
67.	Fifth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions, Christ Church, 1995	E, S
68.	Intergovernmental Meeting on the IOC Black Sea Regional Programme in Marine Sciences and Services	E, R
69.	Fourth Session of the IOC Regional Committee for the Central Eastern Atlantic, Las Palmas, 1995	E, F, S
70.	Twenty-ninth Session of the Executive Council, Paris, 1996	E, F, S, R
71.	Sixth Session for the IOC Regional Committee for the Southern Ocean and the First Southern Ocean Forum, Bremerhaven, 1996	E, F, S,
72.	IOC Black Sea Regional Committee, First Session, Varna, 1996	E, R
73.	IOC Regional Committee for the Co-operative Investigation in the North and Central Western Indian Ocean, Fourth Session, Mombasa, 1997	E, F
74.	Nineteenth Session of the Assembly, Paris, 1997	E, F, S, R
75.	Third Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 1997	E, F, S, R
76.	Thirtieth Session of the Executive Council, Paris, 1997	E, F, S, R
77.	Second Session of the IOC Regional Committee for the Central Indian Ocean, Goa, 1996	E only
78.	Sixteenth Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific, Lima, 1997	E, F, S, R
79.	Thirty-first Session of the Executive Council, Paris, 1998	E, F, S, R
80.	Thirty-second Session of the Executive Council, Paris, 1999	E, F, S, R
81.	Second Session of the IOC Black Sea Regional Committee, Istanbul, 1999	E only
82.	Twentieth Session of the Assembly, Paris, 1999	E, F, S, R
83.	Fourth Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 1999	E, F, S, R
84.	Seventeenth Session of the International Coordination Group for the Tsunami Warning System in the Pacific, Seoul, 1999	E, F, S, R
85.	Fourth Session of the IOC Sub-Commission for the Western Pacific, Seoul, 1999	E only
86.	Thirty-third Session of the Executive Council, Paris, 2000	E, F, S, R
87.	Thirty-fourth Session of the Executive Council, Paris, 2001	E, F, S, R
88.	Extraordinary Session of the Executive Council, Paris, 2001	E, F, S, R
89.	Sixth Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions, San José, 1999	E only
90.	Twenty-first Session of the Assembly, Paris, 2001	E, F, S, R
91.	Thirty-fifth Session of the Executive Council, Paris, 2002	E, F, S, R
92.	Sixteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Lisbon, 2000	E, F, S, R
93.	Eighteenth Session of the International Coordination Group for the Tsunami Warning System in the Pacific, Cartagena, 2001	E, F, S, R
94.	Fifth Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 2001	E, F, S, R
95.	Seventh Session of the IOC Sub-commission for the Caribbean and Adjacent Regions (IOCARIBE), Mexico, 2002	E, S
96.	Fifth Session of the IOC Sub-Commission for the Western Pacific, Australia, 2002	E only
97.	Thirty-sixth Session of the Executive Council, Paris, 2003	E, F, S, R
98.	Twenty-second Session of the Assembly, Paris, 2003	E, F, S, R
99.	Fifth Session of the IOC Regional Committee for the Co-operative Investigation in the North and Central Western Indian Ocean, Kenya, 2002 (* Executive Summary available separately in E, F, S & R)	E*
100.	Sixth Session of the IOC Intergovernmental Panel on Harmful Algal Blooms, St. Petersburg (USA), 2002 (* Executive Summary available separately in E, F, S & R)	E*
101.	Seventeenth Session of the IOC Committee on International Oceanographic Data and Information Exchange, Paris, 2003 (* Executive Summary available separately in E, F, S & R)	E*
102.	Sixth Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 2003 (* Executive Summary available separately in E, F, S & R)	E*
103.	Nineteenth Session of the International Coordination Group for the Tsunami Warning System in the Pacific, Wellington, New Zealand, 2003 (* Executive Summary available separately in E, F, S & R)	E*
104.	Third Session of the IOC Regional Committee for the Central Indian Ocean, Tehran, Islamic Republic of Iran, 21-23 February 2000	E only
105.	Thirty-seventh Session of the Executive Council, Paris, 2004	E, F, S, R
106.	Seventh Session of the IOC-WMO-UNEP Committee for the Global Ocean Observing System, Paris, 2005 (* Executive Summary available separately in E, F, S & R); and Extraordinary Session, Paris, 20 June 2005	E*