Intergovernmental Oceanographic Commission
Reports of Governing and Major Subsidiary Bodies



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

Eighth Session

13 - 16 June 2007
Paris, France

GOOS Report No. 165 **UNESCO**

Intergovernmental Oceanographic Commission
Reports of Governing and Major Subsidiary Bodies

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

Eighth Session

13 – 16 June 2007
Paris, France

GOOS Report No. 165

UNESCO 2007

IOC-WMO-UNEP/IGOOS-VIII/3
Paris, June 2007
Original: English*

ABSTRACT

The 8th session of the Intergovernmental Committee for GOOS (Paris, France, from 13-16 June 2006), reviewed the progress of GOOS over the past biennium and discussed implementation and sustainability strategies, and reviewed the GOOS National Reports; it decided to continue to improve national reporting to provide information needed to argue for improving national commitments for sustainability. The Committee also reviewed Regional GOOS Implementation and noted the role of GRAs in developing countries and the need for a GOOS Regional Council. The Committee reviewed the GOOS capacity-building programmes and recognized the need to work with UNESCO and IOC Capacity Building programmes. The Committee reviewed the interactions of GOOS with the GEO-GEOSS programmes. I-GOOS stressed the importance of continued involvement and leadership in the GEO development. The Committee reviewed the status of ABE-LOS actions on behalf of GOOS. The Committee elected an I-GOOS Chairperson and Vice-Chairpersons to serve for the 2008-2009 biennium.

(SC-2007/……)

* Translated into French, Spanish and Russian.

TABLE OF CONTENTS

ANNEXES

1. OPENING AND WELCOME

1.1 INTRODUCTIONS

The Chairman of the Intergovernmental Committee for the Global Ocean Observing System, François Gérard, opened the session and welcomed the participants.

The Executive Secretary of the IOC, Partricio Bernal, welcomed the participants to UNESCO on behalf of the IOC and delivered a summary of the purposes of GOOS and the responsibilities of the session of I-GOOS. In 1987, GOOS was first discussed by the IOC's Technical Committee for Ocean Processes and Climate and endorsed by the IOC and WMO in 1989. The IOC was assigned the extremely ambitious mission to establish a permanent system of observations of ocean properties with the goal of expanding to an integrated view of the biogeochemistry of the oceans and eventually to remove the uncertainty surrounding the issues of climate change. Now the Intergovernmental Committee acts on the behalf of the Member States, with the power and mandate to develop and sustain GOOS.

The Open-Ocean Module of GOOS is advancing rapidly, thanks largely to the efforts of only a few of the Member States, those most able to contribute financial and technical resources to the programme. The Argo system is the most visible aspect of GOOS and has the most impact on public awareness of GOOS. But Argo is today a research programme. Its sustainability is not secure. Countries have not committed to a sustainable funding mechanism to guarantee ten years of support. This panel needs to chart the way forward to make GOOS a sustained system for a variety of users. It is not acceptable to leave it to these wealthy countries alone. To guarantee a system under the UN that is a single, inclusive system with open and free exchange of data, every country must have a stake in building and sustaining GOOS. The tsunami warning network has demonstrated this path toward universal ownership; it was built with the affected coastal States, assuring that all States have access to the data. The difficulty of this ambition can be seen in the successes of the European programmes which are demonstrating integrating activities in instrument support and data sharing. The successes are not being accomplished with such ease in other parts of the world owing to a lack of access to sufficient resources. Expensive technological resources and infrastructure may be lacking, but there are many more ways that countries can participate in GOOS. These are the challenges for I-GOOS, to build a sustainable system by engaging universal participation through universal commitments.

2. ADMINISTRATIVE ARRANGEMENTS

- I-GOOS-VIII Provisional Timetable (Document GOOS-VIII/4 prov.)

Participation in the I-GOOS-VIII was through a formal accreditation scheme. Signed letters designating countries were received from all member states attending. A quorum sheet was circulated daily for signatures.

2.1 ADOPTION OF THE AGENDA

- Provisional Agenda (Document GOOS-VIII/1 prov.)
- I-GOOS-VIII Provisional Action Paper (Document GOOS-VIII/17 prov)

The Chairman proposed a revised Provisional Agenda, consisting of reordering of the items and the addition of a presentation by the representative of ABE-LOS. The Committee adopted the Revised Provisional Agenda as the Agenda of the 8th Session; it is in Annex I.

2.2 DESIGNATION OF RAPPORTEUR

Guillermo Garcia-Montero (Cuba) was designated Raporteur of I-GOOS-VIII.

2.3 CONDUCT OF THE SESSION AND FORMATION OF WORKING GROUPS

The Committee decided to form a sessional Nominations Committee to oversee the election of the new officers of I-GOOS. Alfonse Dubi (Tanzania) was nominated and seconded, and agreed to serve as Chairman of the Nominations Committee.

3. REPORTS

3.1 REPORT OF THE I-GOOS CHAIRPERSON

- Report of the I-GOOS Chairman on I-GOOS Activities since 2005 (Document GOOS-VIII/8)

The Chairman delivered an assessment of activities since the 7th Session of I-GOOS (Paris 2005). At its 23rd Session, the IOC Assembly, by resolution XXIII-5, revised the Terms of Reference for the I-GOOS and GSSC. I-GOOS has, *inter alia*, the overall responsibility for formulation of policy, principles and strategy, and for planning and coordination of GOOS. GSSC has, inter alia, the responsibility to provide scientific and technical advice to I-GOOS. JCOMM coordinates GOOS implementation by the Member States. Amongst JCOMM elements, GLOSS is responsible for sea level. Under the terms of reference in the Annex to Resolution XXIII-5, the I-GOOS Board is composed of a Chairperson and four Vice-Chairpersons. The current I-GOOS Board is composed of the Chairman, François Gérard, and four Vice-Chairpersons: Ms Mary Altalo (USA), Ms Shaohua Lin (China), Dr Affian Kouadio (Côte d'Ivoire) and Admiral Hector Soldi (Peru); the Chairperson of the GSSC is Dr John Field (South Africa).

The Chairman recalled that IOC Resolution XXIII-8 encouraged the ABE-LOS and I-GOOS to cooperate in developing guidelines for the deployment of ocean data gathering floats. The ABE-LOS guidelines with respect to buoys and floats in EEZs are of great interest to a large number of the I-GOOS participants. He presented the I-GOOS recommendation for clear and simple rules governing the deployment of ARGO floats and XBTs to the 6th Meeting of ABE-LOS (Malaga, Spain, 3-7 April 2006). The I-GOOS advice on guidelines was forwarded to the 7th Meeting of ABE-LOS (Libreville, Gabon, 19-23 March 2007). The XBT issue was delayed for consideration at a later stage, perhaps at the 24th Session of the IOC Assembly.

By Resolution XXIII-15, the IOC Assembly created an *ad hoc* Working Group to prepare a framework for a global tsunami and other ocean-related hazards early-warning system; it invited Member States and Chairpersons of relevant IOC subsidiary bodies to participate in this *ad hoc* Working Group. The framework for this (GOHWMS) gives GOOS, through GLOSS, a coordinating role with respect to observing sea level and, through JCOMM, in forecasting and information dissemination systems.

3.2 REPORT OF THE GSSC CHAIRPERSON

- Report of the GSSC Chair (Document GOOS-VIII/16)

The Chairman then invited the Chairman of the GSSC, Dr John Field (South Africa), to present a view of the GOOS and the role of the GSSC in its development. GOOS was conceived as one system which would provide six societal benefits concerning climate change, marine operations, natural hazards, public health risks, ecosystems, and living marine resources. The GSSC has served these goals by working for integration of Coastal and Open-Ocean modules of GOOS by creating the Panel for Integrated Coastal Observations (PICO) as a coastal counterpart to the Ocean Observing Panel for Climate (OOPC), establishing the chlorophyll pilot study, ChlorOGIN, and designing outreach activities across GOOS. The GOOS integrated design plan recommends a multi-scale hierarchy of observations joining the Coastal and Open-Ocean modules of GOOS. Within this system the GRA's provide policy organization of the implementation bodies, the Regional Ocean Observation Systems. The Global Coastal Network has developed a set of provisional common variables and sentinel stations to enable global integration of the GRA's.

The GSSC Chairperson summarized several GSSC recommendations to I-GOOS: (i) Establish a GOOS Regional Council; (ii) Work with sponsors to establish Joint Panel for Integrated Coastal Observations (J-PICO); (iii) Facilitate the development of a standard set of routine underway measurements by research vessels; (iv) Obtain national commitments to support GOOS Regional Alliances (GRAs); (v) Encourage partnerships between GRAs and regional programmes.

The Chairman invited Ed Harrison, Chairman OOPC, Ed Harrison, to deliver a brief report on the Ocean Observations Panel for Climate (joint panel of GSSC). The OOPC emphasizes that users of the GOOS observations find much greater value in derived products, Ocean Information for Society. Answers are needed to basic questions such as "What just happened?", "When did it happen?" and "Where?" The observation system is the unglamorous base of all other ocean products. Although research and product delivery are the selling point of the GOOS, but insufficient attention has been paid to them. The initial GOOS system is based on research needs and has received research funding. We need to understand that this is a fundamental problem in achieving sustainable funding for GOOS. Only through the demonstration and delivery of ocean information through product delivery can GOOS move forward. Specific examples of the Sea Level rise issue and the need for an observation programme demonstrate the need and acceptability of this approach to delivery of ocean information. The GOOS programme can be sold locally by emphasizing how global environment affects local processes.

Interventions

Côte d'Ivoire: Was very pleased to hear reports that clearly show that as far as oceanography is concerned we need all the information we can obtain. But the coastal areas of Africa are not well populated in data. High quality hardware is needed in the least industrialized countries. Local information is needed to improve global forecasting. Coastal destruction is visible and of concrete importance to people and politicians in developing countries and can thus motivate coastal measurement programmes in these countries.

Spain: In Spain there are bodies that are aware of the need for observations. What factor is missing that can act as a catalyst to turn these concerns into action? There needs to be a specialization in the universities which trains professionals in operational oceanography systems.

Japan: GOOS is rising in its status and visibility, however many people ask "what is GOOS?" The reports gave many clarifying answers. GOOS suffers a shortage of funds for research, travel and exchange of information. ARGO does good work in the distribution of information, but even they are experiencing a shortage of funds. The GOOS documentation system is good, however we might rely too much on electronic systems, and thus miss some information.

Australia: There are many aspects of GOOS of which we should be very proud, especially in contrast to 10 years ago. The terms of reference for GSSC specifies that GSSC should be providing scientific and technical advice, whereas regional efforts are in the I-GOOS terms of reference. There is no reference to the idea that the GSSC should be involved in GRA structures. But I-GOOS does have the mandate to support GRAs, which are a source of science initiatives, but do not confine themselves to observations. GRAs build capacity through research. GOOS can be seen as a long list of scientific aspirations, but it should also respond to societal needs. The creation of J-PICO should be function of the GSSC and not tasked to I-GOOS and the assembly. GOOS sustainability will depend upon presenting a case for the need in terms of costs and benefits, i.e. a business plan. A strong business plan effectively replaces a plea for dollars, and justifies the expenditure of governments for the necessary national infrastructure.

India: Sustainability of the system of environmental satellites is in doubt. There are plans for 5-7 years. GOOS requires a commitment for 30-40 years. How can GOOS or IOC help guarantee 40 years? The need for observations is not always communicated to all countries. It is necessary to identify the products derived from the observations. More information is required about the *in-situ* coastal 'core variable data' and how it is to be made available to international databases.

Tanzania: How can ownership of the GRAs and the ROOS be ensured? Argo profilers in the western Indian Ocean are lacking. GOOS should take action to ensure that there is information for that area of the world.

UK: In some member states 'climate' and 'marine' policies are fragmented among different departments, thereby impeding progress for OOPC. From UK, for example, the contribution to GOOS has historically come from the research community with limited interaction with the political community. UK policy has been based on a conception of GOOS as a research product. UK is committed to environmental and marine assessment strategies. In the UK, GOOS should be embedded in the marine monitoring networks. We suffer in the marine community from not having an equivalent of the Framework convention on Climate Change, and such an agreement might be a benefit. UK supports the partnership being developed between GRA's and LMEs and other regional programmes.

Dominican Republic: The recent development of beach tourism has led to a shift of demographic density toward the coast, requiring actions to ensure better quality of coastal life. GOOS should highlight development of positive aspects of coastal regions, not just hazards and emergencies.

Cuba: The Caribbean demonstrates the need for and strength of links between regional alliances/programmes and global GOOS. IOCARIBE is playing a major role in ecosystem work. To enhance awareness in governments and society, GOOS must take advantage of opportunities, which may, regrettably, present themselves in the form of tragedy, such as tsunamis and hurricanes. In Cuba, hurricane Ivan in 2005 mobilized the whole country, and keenly increased awareness of need to improve observation systems. This is the strong language that communicates with governments and politicians.

USA: GOOS needs a specific set of action items to clarify GOOS goals. GOOS should not submit a shopping list of activities to the IOC Assembly. Resolution IOC XX-6 (notification procedure for Argo) says 'financial implications none' but the Argo programme has actually cost more than a million dollars so far, and is facing a critical need for support. We need to focus on infrastructure issues that can be funded by delegates to the IOC assembly.

I-GOOS Chairman François Gérard summarized by noting that we have to emphasize successes, such as Argo, GODAE and activities. The secretariat should collect successes. It might be true that everyone is convinced that observations are necessary, but I-GOOS must communicate up through ministerial levels through the IOC Assembly and to the ministers gathering for the GEO Ministerial Meeting in South Africa, Nov. 2007. GOOS must be demonstrated to be a common property of all the states. Regional GOOS and associated capacity building and training in operational oceanography is an effort to move forward on common ownership. GOOS should be a bridge between science and operations, international and national. National committees for GOOS are needed with a commitment to the future convention on oceans which could help the development of GOOS. We must turn observations into information. Most work has been in observations, now we need to emphasize information products and move forward with specific cases making the argument that GOOS is necessary to climate and, more importantly, to coastal managers, that GOOS is necessary to day-to-day life in coastal areas.

The Chairman introduced the two action items and requested a decision concerning endorsement. Member states and the Chairman pointed out that Action 1 implies interaction with the IOC and therefore cannot be acted upon by the I-GOOS alone. The item is important because the science community makes routine observations from underway R.V.s and that sometimes obtaining bilateral permission in national waters is difficult. A standard set of measurements declared by I-GOOS would facilitate the passage of research vessels through waters without need of bilateral agreements. I-GOOS can begin work on the technical aspects – what is the standard suite of measurements following what protocols and then go to ABE-LOS with legal aspects, possibly in the context of an ocean convention that has been discussed at the IOC Assembly. Member States and the Chairman agreed that the issue is best treated by ABE-LOS and by the creation of an IOC convention on oceanographic cooperation. For these reasons the additional agenda item of a presentation by ABE-LOS was scheduled for June 14.

Decision 2 was agreed upon, with the recognition that encouraging partnerships between GRAs and regional programmes will be the mandate of the GOOS Regional Council, if it is endorsed later.

Decision 1: I-GOOS will commission a study of the technical aspects related to a standard set of routine underway measurements (such as sea surface temperature and current measurements) taken by research vessels in coastal waters for storage in international databases. This will then be presented to ABE-LOS for advice on legal aspects.

Decision 2: The I-GOOS encourages partnerships between GOOS Regional Alliances and other regional programmes such as Large Marine Ecosystem projects and Regional Seas Conventions.

3.3 REVIEW OF PAST I-GOOS ACTIONS

- Review of past actions (Document GOOS-VIII/15)

The GOOS project office (GPO) director, Keith Alverson, summarized the review of past action items, noting that all are indicated as done or closed without completion. Action items referring to increasing the visibility of GOOS are ongoing and include preparations for the GEO Ministerial Meeting in South Africa in November 2007. Japan inquired as to the I-GOOS-VII action item 3 to "establish a fully integrated JCOMM-GOOS Capacity Building Coordination Group". The secretariat informed the participants that JCOMM had indeed agreed to combine their CB activities at JCOMM-II in Halifax. It was agreed to postpone its discussion of the Japanese inquiry till agenda item 7 of the present session.

3.4 TERMS OF REFERENCE FOR THE I-GOOS BOARD

- Terms of reference for the I-GOOS Board (Document GOOS-VIII/9)

The GPO director presented Document 9 'the Terms of Reference for the I-GOOS Board' noting that it is necessary for the I-GOOS to endorse the terms of reference because the Board is not an additional executive body, but rather a subsidiary body of I-GOOS. The Board's meetings can be consulted on the GOOS web site. The Committee questioned the need for and expense of requiring biannual meetings of the board. The method of dissolution of the board was also questioned.

In the opinion of the Chairman, the I-GOOS Board is a useful working group with an accepted mandate to continue work during the intersessional period. It would not be possible for the Board to conduct its business exclusively by email. It must carry out programmes and serve as a source of advice to other groups in the intersessional period. By combining board meetings with other related meetings there may be fewer additional meetings. The Chairman of I-GOOS agreed to take out the paragraph about intersessional meetings. The terms of reference will require the Board to meet twice during intersessional periods. It was agreed that the draft Terms of Reference be amended by removal of the final paragraph and all but the first sentence of the third-to-last paragraph. The adopted Terms of Reference are in Annex VII.

Decision 3: The I-GOOS approves the Terms of Reference for the I-GOOS Board as amended by the plenary

4. GLOBAL GOOS IMPLEMENTATION AND SUSTAINABILITY

- Implementation of GOOS through Member State Contributions (Document GOOS-VIII/7)
- GOOS National Reports 2007 (On-Line: http://www.ioc-goos.org/GOOSNatRep2007)
- Electronic template for national reporting to I-GOOS-VIII (ibid)

The Chairman invited Albert Fischer, of the IOC Secretariat, and James Baker, consultant to IOC GOOS, to provide reports on Global GOOS Implementation and Sustainability.

Albert Fischer reviewed the 2007 national reporting process for I-GOOS, which included a synthesis of accomplishments of the Open Ocean module of GOOS in cooperation with IOC programmes, notably with IODE, with JCOMM and with GCOS. The Open Ocean module implementation plan defines essential climate variables of the system and thus lends itself to numerical quantification. The *in-situ* networks are monitored by JCOMM-OPS which reports 58% completion of the initial target goals as of May 2007. The

Committee on Earth Observation Satellites reports concerns for the future continuity of many of the satellite derived data streams important to the GOOS Open Ocean module. A large part of the observing system hardware and data handling capacity is contributed by a small number of countries. Derived data products and services such as GODAE, GHRSST, CLIVAR and those of JCOMM, have been developed, taking advantage of existing data management tools. The majority of the system is maintained by ear-marked funding sources from a small number of countries. A sustainable system requires continued commitments by Member states.

James Baker reviewed and synthesized the reports provided by member states and received using an electronic reporting template. As of 13th June, 2007 the secretariat had received responses from 18 countries. Global GOOS has grown well over the past years and has many success stories, but continued level funding or decreased funding will not allow completion of the system or sustain maintenance requirements. The regional and coastal module was described in the questionnaire responses largely in narrative form. The development of the regional programmes and the Coastal module seems plagued by lack of funds and funding continuity, poor coordination and lack of trained personnel. IOC commitments to coastal GOOS cannot grow as most are level-funded or earmarked. Data management and derived products and services have been successful and needs are growing. However a better connection between open ocean properties and local environmental concerns is needed to strengthen user support for the GOOS programmes. Several countries express strong support for regional coordination which is most helpful in strengthening capacity building in developing countries. In conclusion I-GOOS can help by focusing on regional development, increasing human resources and funding.

The discussion that followed was summarized by a committee consisting of the Chairman of I-GOOS, the Rapporteur, Argentina, Australia, Canada, Spain and UK. The report and resultant action items follow.

4.1 NATIONAL CONTRIBUTIONS TO THE GOOS

Member States participated in a revised national reporting process that contributed to an assessment of existing and planned contributions to GOOS, with a view to establishing and sustaining substantial new support for the international facilitation, coordination, and promotion of the observing system. Eighteen replies had been received at the time of I-GOOS-VIII and, though this did not cover all Member States participating in the establishment, operation and exploitation of the system, it did represent over 95% of the effort.

Progress with observation networks has been substantial, in some cases spectacular, over the last decade, mostly in the open-ocean/climate area. The national reports reveal:

- An Argo initiative that has grown from nothing ten years ago to an array approaching the initial target of 3000 floats, or ~ 100,000 temperature and salinity profiles per year;
- Regional tropical mooring arrays, underpinning seasonal prediction systems;
- Sea Surface Temperature, surface topography, wind and ocean color measurements from space, and now supporting applications from weather prediction to climate change;
- An extensive sea level network for climate and coastal applications, now being enhanced for tsunami warnings; and
- A growing investment in coastal networks, including coastal radar and moorings.

There is evidence investment in the climate area is beginning to plateau, while that in coastal networks is slowly responding to the GOOS plans. Though support for coordination of this effort falls well short of Member State expectations, it should also be noted that JCOMM is only six years old and provides evidence of a community that is able to rationalize and re-focus in response to the challenge.

Data management infrastructure appears to have responded well to the GOOS challenge and the reports indicated that nations are treating investment in this area as a fundamental aspect of the development of the observing system. The community has moved from an era of archives and proprietary data to one of rapid, efficient and largely unrestricted real-time exchange in a remarkably short time – essentially a decade.

The reports indicated a steady increase in products and services, though this in all likelihood under sells the actual progress. For example,

- Sea level, SST and ocean thermal observations were fundamental to the 4th Assessment Report of the IPCC and now represent a core capability for climate change assessments;
- There now exist at least six prototype or operational ocean prediction systems, assimilating GOOS in situ and remote data in real-time, and delivering benefits across a broad range of sectors;
- A new class of blended SST products has emerged, impacting a number of user sectors;
- Integrated products, derived from assimilating/fusing of data from a range of platforms, are the norm rather than the exception.

The specifics of such progress, and proper characterization of the "market place" for GOOS, did not emerge clearly from the reports and remains a substantial challenge.

The emergence of GOOS Regional Alliances, sometimes through established IOC mechanisms, and sometimes as fresh mechanisms, is evidence of a growing interest in regional and coastal aspects of GOOS. Developing countries are to a large extent looking to these mechanisms, plus dedicated and focused capacity building to derive value from participation in GOOS. A number of interventions highlighted the limitation of the national reports in terms of developing country needs and participation – there has been progress in terms of the GOOS culture, but more is needed to enable mutually beneficial participation and true engagement.

A common theme through the assessment of the reports is that the benefits and potential impact of developing robust ocean observing infrastructure remains largely unacknowledged at the level of Governments and through the potential user community in general. Targeted communication and "marketing" has been highlighted a number of times in recent years and remains a priority. Without a stronger and more coherent user pull and advocacy, increased investment beyond that attracted to research will be difficult to win.

The attention given to funding as a barrier to progress is revealing in that it suggests nations are still mostly operating in a "propose-and-fund" mode rather than in one where investment and gain is following productivity and impact. The lack of a mechanism to link support for coordination to the growth in extent and complexity of the observing system remains a concern to many. Under developed cooperation and effective coordination, at all levels from national to global, is seen as an impediment to progress. All these factors impact sustainability.

In many cases, national imperatives override international and intergovernmental aspirations. Present mechanisms are not well equipped to catch either the real total investment in and impact of the observing system networks, nor to properly reveal the spill-over benefits for coordination and overall capability building.

There is an opportunity for nations to work together more closely in the advocacy of enhanced observing infrastructure, particularly in coastal regions. The priority given to creating communication material is a good initial step.

Action 4.1. The Member States, through the I-GOOS Board, and with the assistance of the GPO, to develop a mechanism to regularize national reporting and make routine the gathering of information on observation networks. The need is most pressing in the area of coastal networks.

Action 4.2. The I-GOOS Board, through the GSSC and the GPO, to develop a "Summary for Policy Makers" of major achievements in GOOS over the last decade and the outlines of the business for additional participation and investment.

Action 4.3. GRAs to develop a synopsis of observation networks, products and capacity development ("GRA Reports"), beginning from the National Reports, but enhanced to better represent regional engagement and plans for regional development, particularly with respect to coastal systems and products and involvement in pilot projects.

Action 4.4. The I-GOOS chair, in his reporting to the 24th IOC Assembly, to highlight the significant progress in the development of the system and the several major impact areas (e.g., IPCC 4AR). Highlight emerging trends, e.g. in hazards and the impacts of, and adaptation to climate change.

Decision 4: The I-GOOS agreed to continue national reporting of quantitative and qualitative participation in GOOS in the form of "living document", with a simplified template.

Decision 5: The I-GOOS noted, based on the national reports, that funding will not be sufficient to complete the Open Ocean module of GOOS to design specification by the goal date 2012, and that increased investment by countries in the ocean observing systems will need to be supported by arguments of national benefit, at a national or regional level.

5. REGIONAL GOOS IMPLEMENTATION

5.1 REPORT ON THE 3rd GOOS REGIONAL FORUM

- Third GOOS Regional Forum Report (Document GOOS-159)

The IOC Technical Secretary for GOOS Africa, Justin Ahanhanzo, provided a brief summary of the third Forum of the GOOS Regional Alliances (Cape Town, South Africa, 14-17 November 2006). The Third Forum was organized by the Marine Research (MA-RE) Institute of the University of Cape Town, and hosted by GOOS-AFRICA in cooperation with the African Large Marine Ecosystem (LME) programmes. The timing and venue of the Forum were conceived to allow GRAs to benefit from three relevant Pan-African meetings that occurred in Cape Town immediately before the Forum: (i) Pan-African LMEs/GOOS-AFRICA Leadership Workshop on Operational Oceanography and Remote Sensing in Africa, 6-10 November 2006; (ii) The Second Pan-African LMEs Forum, 13 November 2006; and (iii) the UNESCO Bilko Steering Committee meeting.

The GOOS Regional Forum brought all of the GRAs together and provided an opportunity to exchange information on lessons learned and best practices, to coordinate the development of Coastal Regional Ocean Observing Systems as part of GOOS, to identify capacity building needs, and to identify funding priorities and sources of funding.

Some of the major developments since the second Forum had been the completion of the initial planning efforts of the Coastal Module of GOOS (i.e. (i) The Integrated Strategic Design Plan for the Coastal Module of GOOS (GOOS Report No 125); (ii) An Implementation Strategy for the Coastal Module of GOOS (GOOS Report No 148); and (iii) The IGOS Coastal Theme Report (2006)). Successful global development of GRAs is considered critical to successful implementation of the Coastal Module of GOOS. In this regard, the Implementation Strategy also points out that currently no mechanism exists to achieve the following: (i) Enable GRAs to guide and participate in the development of a Global Coastal Network (as recommended in the design plans for the Coastal Module of GOOS) that meets their needs as a whole; (ii) Coordinate implementation of the coastal module globally to enable interoperability among GRAs for data acquisition, exchange and analysis; and (iii) Facilitate collaboration among other regional activities with common interests and interoperability among these programmes and GRAs for data acquisition, exchange and analysis.

The Forum discussed the further development of governance mechanisms needed to implement the coastal module of GOOS including mechanisms for linking up all GOOS Regional Alliances together as one GOOS family beyond the diversity of their respective needs, priorities and specificities. The Forum made recommendations on: (i) potential governance mechanisms for a coordinated development of the Global Coastal Network of the Coastal Module of GOOS in view of the recommendations laid out in design plans for the coastal module; (ii) GOOS Regional Alliance–Large Marine Ecosystem Partnerships; (iii) the role of GRAs in the implementation the GEO Coastal Zone Community of Practice and in the development of Integrated Systems for Multi-hazard Disaster Warning Systems; and (iv) how to address the challenges GRAs face concerning system sustainability, communication and outreach, partnership building, capacity-building and funding.

GRASP will host the Fourth Forum in 2008. More information about the Third GOOS Regional Forum is available in GOOS Report No 159.

5.2 PROPOSAL TO FORM A GOOS REGIONAL COUNCIL

- Proposal for the Governance of the GOOS Regional Alliances (Document GOOS-VIII/10)
- GOOS Regional Council (GRC) - Proposed Terms of Reference (Document GOOS-VIII/11)

The Chairman of I-GOOS, François Gérard, introduced this item.

The idea of developing GOOS on a regional basis goes back to the beginning of the programme. The establishment of the first regional alliance, NEAR-GOOS, was accepted by IOC in 1994 as a pilot project for the implementation of GOOS in the framework of WESTPAC, a subsidiary regional body of the IOC. Ten GRAs now exist.

While the notion of GRAs appeared in 1998 alongside the Principles in the GOOS Prospectus, it was only from 2001 and onwards, under Ms Silvana Vallerga's chairpersonship that more systematic work was done to specify what the GRAs should be, their organization and their role in the implementation of GOOS. It was at that time that the series of GOOS Regional Forums was launched, the first taking place in Athens (Greece) in 2002, the second in Nadi (Fiji) in 2004 and the third in Cape Town (South Africa) in 2006.

These activities advanced the regional GOOS implementation framework further. In 2003, I-GOOS adopted a GOOS Regional Policy and recognized nine Regional Alliances, a fact noted by the IOC Assembly at its 22nd Session (Paris, 24 June – 4 July, 2003).

The 2nd GOOS Regional Forum concluded that establishing and improving the functionality and capacity of GOOS critically depends on the coordinated development of GRAs that contribute to and benefit from the global ocean observing system. The Forum determined that a formal decision-making body, representing the interests of the GRAs was needed. The GOOS Regional Forum agreed to form a GOOS Regional Council to act as an executive body for the GRAs (see declaration in GOOS Report No 139 Annex IV).

At I-GOOS-VII (Paris, France, 4-7 April 2005), it was proposed to establish the GOOS Regional Council as a formal body under I-GOOS. However, I-GOOS-VII did not agree to formally constitute a GRC and but did agree that the relationship between I-GOOS (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 WMO through I-GOOS.

Discussions about the formal status of the GRC *vis-á-vis* I-GOOS have continued since I-GOOS-VII. These discussions have take place in the light of the Implementation Strategy for the Coastal Module of GOOS, adopted in 2005, the work of the JCOMM-GSSC-GRA Task Team set up by the GSC in March 2006, and the deliberations during the third GOOS Regional Forum. Based on these discussions the I-GOOS Board proposed to constitute the GOOS Regional Council as a group of experts under I-GOOS.

Many Member States agreed with the concept of a GRC. Several emphasized the need to respect the important development of GOOS that takes place at the regional level and stressed that the contributions, particularly to the coastal module of GOOS, ultimately reflect what national and regional observing needs are. As such the organizational framework (incl. JCOMM and I-GOOS) needs to be adapted to the wishes of the regions and member states, rather than be a top down planning exercise.

A few Member States suggested that performance metrics be established for the GRAs. Australia stated that performance measures should be applied internally.

China and Russia stressed the need to preserve the intergovernmental nature of GOOS for effectiveness and to avoid duplication of effort. China also stressed that if the GRC is a formal mechanism to represent GRAs it should comply with the established decision making system and procedures within IOC.

Portugal emphasized that the GRC should be considered in the context of (i) the future of IOC (to be debated at the 24th IOC Assembly (19-28 June 2007, Paris); and (ii) the existing regional IOC bodies. Portugal expressed reservation concerning possible non-governmental representation in an intergovernmental body, as could be foreseen if the proposed GRC were a Group of Experts under I-GOOS. Portugal reiterated a suggestion to establish a joint commission co-sponsored by IOC, UNEP and eventually FAO, with a view to facilitating the implementation of the Coastal module of GOOS, which cover matters dealing with environmental degradation, toxic micro-algae, biodiversity and living resources.

Member States suggested amendments to the GRC Terms of Reference. Paragraph 6 should remove reference to the third GRA Forum. Item (i)-6 should read "*Organize GOOS Regional Forum in partnership with GOOS Project Office of IOC/UNESCO. …*". Item (i)-8 should state that I-GOOS, not GSSC, should take charge of elaboration of performance metrics. Item (v) Funding should read "*… support representation of GRAs from developing country Member States of I-GOOS at meetings of the GRC.*". Amended GRC Terms of Reference are in Annex VIII.

The Committee noted the formation of a GOOS Regional Council at the 2nd GOOS Regional Forum.

The Committee also noted that in the accreditation by I-GOOS of particularly GRAs that are not strictly inter-governmental, direct or indirect governmental approval of the GRA will nevertheless have to be taken into consideration.

5.3 PROPOSAL TO RECOGNIZE NEW GOOS REGIONAL ALLIANCES

- Proposal for the Governance of the GOOS Regional Alliances (Document GOOS-VIII/10)
- GOOS Regional Policy (Document GOOS-VIII/12)

Javier Valladeres (Argentina) gave a presentation of the Regional Alliance in Oceanography for the Upper Southwest and Tropical Atlantic (OCEATLAN), created by a LETTER OF INTENT signed on 15 March 2005 by 21 institutions from Argentina, Brazil and Uruguay.

OCEATLAN is based on existing activities and the alliance conforms to the GOOS principles and practices endorsed by co-sponsoring organizations of GOOS. Geographical range and envisaged activities do not overlap with other Regional Alliances.

A management structure is in place, a Steering Group, formed by the Heads of the Argentinian, Brazilian and Uruguayan Hydrographic Services, acting as Chair, First and Second Vice-Chairman, as well as an Executive Committee, composed of representatives of participating institutions from these three countries and once adopted an Action Plan that can deliver a regional ocean observing system (ROOS);

The objective of OCEATLAN is to promote initiatives towards the establishment of an integrated system of observations and applications that can facilitate the development of oceanography in the region, both at the scientific and operational levels.

Javier Valladares presented some of the present activities under OCEATLAN that contribute to PIRATA, GLOSS, ISABP, MOVAR/ ARGO, ANTARES and IODE – ODINCARSA.

Some of the achievements so far include (i) sharing of limited resources, with respect to logistics of operations at sea; (ii) exchange of information and personnel in several activities; (iii) improved transfer of technology between the partners involved in the network; (iv) increased real time observations and information in the region.

OCEATLAN notified the GSSC-VIII, I-GOOS VII and IOC Assembly XXIII, 2005 about its existence. More information of OCEATLAN is available at http://www.oceatlan.org.

Hector Soldi gave a brief presentation of the GOOS Regional Alliance for the Southeast Pacific (GRASP).

GRASP was created on 31 May 2003 by a group of research institutions from Chile, Colombia, Ecuador, and Peru to promote, apply and coordinate relevant aspects of the Global Ocean Observation System (GOOS) for the Southeast Pacific Region. These institutions have been developing and improving regional capacities to implement operational oceanography in the Southeast Pacific Region.

The objectives of GRASP are to strengthen the Operational Oceanography and Meteorology in the South East Pacific region in order to: (i) Enhance the Early Warning for marine hazards in the region, reducing social and economical impacts; (ii) Improve the monitoring, understanding and environmental management of the Humboldt Current Ecosystem and, (iii) to contribute with sustainable and Integrated Coastal Management in the region.

Some of the achievements so far include (i) nine regionally coordinated cruises between 1998-2006; (ii) regional coordination of a buoy and sea level network; (iii) an *ad hoc* expert group working on a strategic plan for GRASP; and (iv) inventorying marine observations as part of the ODINCARSA project.

More information on GRASP is available at http://cpps-int.org/spanish/cientifico/grasp.htm.

Hans Dahlin provided a progress report on the developments in the proposed formation of a GOOS Regional Alliance for the Arctic.

EuroGOOS has for several years had a task team on the Arctic. The team produced a planning report "*The Arctic Ocean and the need for an Arctic GOOS*" which laid out a case for Arctic GOOS (EuroGOOS Report No. 22). At I-GOOS-VII (Paris, 4-7 April 2005) EuroGOOS presented a proposal to form an Arctic GOOS Regional Alliance. I-GOOS-VII noted the proposal and invited EuroGOOS to consult with existing Arctic coordinating bodies and nations and to submit a formal proposal to I-GOOS at a future meeting. Following the I-GOOS-VII the EuroGOOS Arctic Task Team carried out further consultations with relevant agencies and coordinating bodies with an interest in the Arctic. At the time of I-GOOS-VIII a Memorandum of Understanding had been developed. The MoU is open to interested partner agencies that bring their own resources to underpin observing activities in the region. Hans Dahlin informed I-GOOS that 10 agencies are ready to sign while non-European partner agencies are considering signing. He suggested that the I-GOOS Board take the lead in convening the further discussions on the possible formation of an Arctic GRA.

A few countries expressed support for the formation of the proposed Arctic GRA to promote and coordinate observing and other related activities undertaken by many organizations. However, Russia considered it premature to form an Arctic GRA. Russia supports efforts toward an Arctic observation capability focused on implementation of measures relating to the International Polar Year (IPY), cooperation within the framework of the Arctic Council, the Barents Euro-Arctic Region Council (BEAC), the International Arctic Buoy Programme, and other ongoing programmes. Russia wanted the question of the creation of an Arctic-GOOS to be examined following the acquisition of experience and results from the activities of the International Polar Year.

Canada and USA supported the proposal that I-GOOS convene an intergovernmental Arctic GOOS Regional Alliance foundation meeting and that relevant organizations such as IASC and AOSB also be invited.

The Committee noted that some countries supported for the formation of an Arctic GRA, while the Russian Federation found it premature. The Committee **stressed the need** to proceed in a cautious way.

Decision 6: The Committee decided to convene an intergovernmental Arctic GOOS meeting in 2008 and requested the I-GOOS board to take on this task in collaboration with the GPO.

5.4 FORMATION BY GSSC OF A COASTAL ADVISORY GROUP (PICO)

The Chairman of the GSSC, John Field, informed the Committee that the GSSC, in line with its terms of reference as set out in IOC Resolution XXIII-5, had established a technical advisory group - the Panel for Integrated Coastal Observation (PICO). This advisory group would be to provide general scientific and technical advice to the GSSC concerning the implementation of the coastal module of GOOS. The cost for the advisory group – PICO will be cost neutral as the GSSC plans to reduce its own size accordingly.

The Committee noted the formation of PICO under the GSSC and **noted** that at a later stage this Panel might develop into a joint panel with GTOS or broaden its co-sponsorship or linkage with the GEO Coastal Zone Community of Practice.

Portugal saw PICO as a first step and reiterated its position that a joint commission (parallel with JCOMM) co-sponsored by IOC, UNEP and eventually FAO be set up to take on the implementation of the Coastal module of GOOS.

5.4.1 GRAND

Aldo Drago provided an overview of the now finished project "GOOS Regional Alliances Network Development" (GRAND) which was supported under the European Commission 6th Framework Programme.

A large number of GRAs participated as partners in this project. Some of the main achievements of the project were (i) an assessment of GOOS implementation in the regions (including inventory of local observing assets and needs); (ii) web-based survey result summaries; (iii) high level workshops for GRA managers on advanced technology including application of the Virtual Ecology Workbench (see http://www.virtualecology.org/); and (iv) and the production of a draft GOOS Regional Prospectus as a contribution to the design of GOOS. More information about the GRAND project and its achievements is available at http://www.grandproject.org/index.asp.

The Committee thanked Silvana Vallerga, former Chairwoman of I-GOOS, for her efforts in developing GRAND and leading the project. The Committee **noted** that some of the tools developed under GRAND, notably the inventory of regional observing activities, could serve as a useful basis for more comprehensive regional inventories. The Committee **proposed** that the GRC consider the use of these tools and the possible further refinement of these components.

5.5 REGIONAL GOOS IMPLEMENTATION DECISIONS

Decision 7: I-GOOS recognized ten existing GRAs, in accordance with GOOS principles and the GOOS Regional Policy. (EuroGOOS, MedGOOS, Black Sea GOOS, NEARGOOS, Pacific Islands GOOS, Indian Ocean GOOS, IOCARIBE GOOS, GOOS-Africa, US GOOS, SEAGOOS).

Decision 8: The I-GOOS recognized the formation by the GRAs of the GOOS Regional Council, and accepted the Terms of Reference as amended.

Decision 9: The I-GOOS requested all recognized GRAs to nominate a representative to serve on the GOOS Regional Council (GRC).

Decision 10: The I-GOOS noted that the I-GOOS Chair may invite the Chairperson of the GRC to the I-GOOS Board.

Decision 11: I-GOOS recognized OCEATLAN and GRASP as GOOS Regional Alliances.

Decision 12: I-GOOS Board will take the responsibility to coordinate and promote actions towards the establishment of an Arctic GOOS regional alliance, to take place before the 41st Session of the IOC Executive Council in June 2008.

Decision 13: I-GOOS welcomed the results of the independent review of the Rio GOOS office.

Decision 14: The I-GOOS Board will investigate how to follow on from the work of GRAND through the GOOS regional council.

Decision 15: I-GOOS noted that PICO was set up as a subsidiary advisory body to GSSC. I-GOOS recognizes this as a first step toward a future joint sponsored panel.

6. PROGRAMME AND BUDGET

6.1 REPORT OF THE GPO SECRETARIAT DIRECTOR

- Report of the GPO Secretariat Director on Programme and Budget (Document GOOS-VIII/13)

The Director of the GOOS Project Office (GPO) introduced the budget and programme document to the session. The Chairman emphasized that the GOOS budget is set in the framework of the UNESCO General Conference. **The Committee noted** that the IOC 34C/5 2008-09 budget derives from UNESCO changes in programmatic structures which attempt to map budgets against impacts. The GPO budget should not dictate secretariat functions, but should leave secretariat flexibility to respond to changing needs, internal and external.

Decision 16: I-GOOS decided that the regular budget staff line, which represents three contracted staff members either based in the regions or with regional support remits, constitutes a major support for GOOS regional activities and shall remain unchanged. For the remaining budget lines I-GOOS decided to leave the secretariat flexibility to adjust in response to internal (for example decisions of groups such as the I-GOOS) and external actions.

The Chairman invited Dr. James Baker, consultant to IOC, to report on the Implementation of GOOS through Member State Contributions (Doc. I-GOOS-VIII/7). Extra-budgetary support requests were presented for numerous programmes and projects, which will not be able to go forward without new support from Member States. An important task is to assign priorities and find new ways to support these activities. Several member states reported sources for extra-budgetary funding were constrained by internal pressures and needs. Where possible these needs can be aligned with GOOS and extra-budgetary support made available. It was noted that funding infrastructure and broad concepts like GOOS via extra-budgetary funds is difficult. The US noted the extreme need to find sustainable support for infrastructure needs of Argo. Russia offered that the Russian fleet could contribute ship time in support. Enormous contributions are being made by member states, in support of observing systems, which do not appear in either the regular budget or extra-budgetary funds accounted for by the GPO secretariat.

7. CAPACITY BUILDING

- Report on Capacity Building in Africa (Document I-GOOS-VIII/14)

Kouadio Affian, Directeur du CURAT Université de Cocody Abidjan, reported on Capacity Building in Africa. The issue for African capacity building is not how to create capacity, but rather how to reinforce or bolster existing resources. Reinforcing ocean management capabilities requires training young people in local institutions with equipment and resources with which they will continue to work. IOC programmes supporting capacity development are growing in industrial countries, but the same programmes fail to grow in Africa. This could be because in Africa oceanography is directed to exploitation of natural resources, predominately fisheries research. For most other fields of marine sciences there is little coordination or even communication between universities, research laboratories or government agencies. Successful capacity building must supply the equipment and trainers in place, build government and local

agency support of those facilities and enforce the political will to sustain capacity building.

The Chairman invited the Head of the IOC Capacity Development Section, Ehrlich Desa, to comment on the subject. The basic principles of capacity building are well agreed. Interventions should be effective and sustainable if they are to continue. IOC capacity development has addressed institutional strengthening by targeting institute directors, programme leaders and scientists and adhering to their institutional priorities. The greatest successes in the past year have been in East Africa. There were about 35 institutes and 55 directors of different types of institutions involved. Africa demonstrates that resources are available all over the world, and in fact, local resources are more reliably present than the international resources. After the first leadership programme, the second one was subscribed with 50% or more paying their own way. Three more workshops on modelling and data were held in three countries all paid by the institutes themselves, with no cost to IOC. There is interest if the alignment is done well and projects are taking off when we follow the basic principles with care and creativity.

The Committee noted that African capacity building is a necessity if GOOS is to achieve its worldwide ambitions. Capacity building to strengthen GOOS operational goals is appropriate, but far from the only purpose. Africa will be its own driver, with a self-driven attitude and mindset, and a strategic plan. The training offered to Africa should be multidisciplinary, in order to permit the efficient national, sub-regional or regional uptake of oceanographic research capabilities, conforming with the declaration of the Heads of States of the countries bordering the Gulf of Guinea. Improved access to cutting-edge technology, especially in the fields of remote sensing and GIS are priorities for future African capacity building. GOOS and the IOC must assure that various IOC and UN programmes, e.g. JCOMM, IODE, UNEP, and regional subsidiary bodies of IOC, should cooperate in capacity building and avoid internecine competition for funding sources. I-GOOS should have an action plan for capacity building which will require a study of existing capacity building resources and programmes to evaluate GOOS capacity building coverage and successes and to delineate opportunities for cooperation with other IOC and UN programmes.

Decision 17: I-GOOS will pursue integration of GOOS Capacity Building with UNESCO programmes by working through the IOC Capacity Building Programme.

8. ADDITIONAL REPORTS

8.1 GOOS WITHIN GEOSS

The Chairman invited Dr. James Baker to introduce the topic of GOOS within GEOSS. The Group on Earth Observations, GEO, includes 69 member countries, the European Commission, and 46 participating organizations working together to establish a Global Earth Observation System of Systems, GEOSS. GEOSS focuses on access and sharing of earth observation data and products and has designated GOOS as the ocean component of GEOSS. The GEO 2007-2009 work plan explicitly describes GEO tasks to be led by IOC, namely Tsunami Early Warning Systems, GOOS and the Argo array. Other GEO tasks include interactions with Census of Marine Life, DIVERSITAS, CEOS Constellations Concept, International Polar Year, and Pilot Communities of Practice. A major focus of GEO is on coastal zone issues where it will interact with GSSC and PICO. GEO's early progress and plans for implementation will be put before the GEO Ministerial Summit, Cape Town, South Africa, 30 November 2007. GOOS issues of system sustainability, satellite continuity, data exchange priorities and the IOC/PICO leadership in Coastal Zone planning should be brought before the GEO Ministerial Summit.

The I-GOOS member states identified a need for greater interaction with the GEO community by increasing GOOS visibility and clarifying the GOOS mission. GEO is a mechanism to be used to help assure continuity of satellite observation systems and their integration into warning systems through increased coordination with the Committee on Earth Observation Satellites (CEOS). For GOOS to continue to be the main ocean body of GEO we need more visibility, with a strong statement of positive accomplishment and capability. While the GOOS has been represented to GEO by POGO in the past a more direct involvement should be emphasized. The GEO Ministerial Summit will be targeted by GOOS for outreach efforts with an article contribution to the GEO Ministerial Summit publication. The stance of the IOC and GOOS toward to GEO should be made more explicit through an IOC assembly statement.

James Baker again emphasized that GOOS is preparing a strong presence for the GEO Ministerial Summit in Cape Town. The GSSC is helping to organize contributions by POGO, PICO, JCOMMOPS, GPO, GOOS Africa and Coastal GOOS to present GOOS in a united front. Several movies and other materials are being prepared. Examples of success stories and the form of a united message could still be contributed by the member states.

The Chairman concluded by noting that GOOS is well placed as the main component of ocean GEOSS and a leader of a task. The organization of the GOOS member states and coastal practitioners' network is of great value to GEO. Coastal developments will increase in importance to GEO. The GEO data dissemination networks, GEONETCAST and others should be integrated into GOOS planning. These messages will be taken to the IOC assembly.

<u>Decision 18</u>: I-GOOS stressed the importance of the continued promotion of GOOS as the ocean component of GEOSS, its leadership role in open ocean and coastal planning, and emphasized the need for: (i) continuity, sustainability, and for the development of *in-situ* and satellite instruments; (ii) access to real-time in-situ data for hazard monitoring; (iii) data exchange, particularly satellite data.

8.2 REPORT ON THE IOC ADVISORY BODY OF EXPERTS ON THE LAW OF THE SEA

- Document IOC/ABE-LOS-VII/6, Libreville, Gabon (2007)- Secretariat´s Report

The Chairman invited Mr. Elie Jarmache, Chairman of IOC/ABE-LOS, to summarize the progress of ABE-LOS in the establishment of a legal framework for operational and research marine data collection in the context of the UN Law of the Sea. The ABE-LOS is a subsidiary body of the IOC. The working group has been tasked to design a legal framework for oceanographic data collection throughout the world within the UN Law of the Sea. These negotiations are marked by the discussion of terms and definitions for objects and actions like "specific means", "Vessels", "operational", "research". A definition list about ocean data and parameters was drawn up with the collaboration of scientific colleagues. Operational oceanography is not research oceanography and so requires new guiding principles to channel this into the UNCLOS. Drifting platforms and deployed platforms were defined, and the question of hydrography lines left till a later date. The work continues, at a slow pace. It is very important that there are no spontaneous emergences of initiatives for the LOS. We need minimal codes to be shared by the ocean community to facilitate the use of and access to the data and technology within well designed and well conceived legal mechanisms.

The committee encouraged Member States to cooperate and contribute to the ABE-LOS efforts. The IOC developments in LOC issues crosses many programmes, but must not be dealt with separately. The Argo agreements appear to be separate, but there is a need to tackle operational oceanography in its entirety.

8.3 REPORT ON COOPERATION WITH GOOS FROM WMO FIFTEENTH CONGRESS

The Chairman invited a report from the WMO on its interactions with I-GOOS. It was noted that WMO is very involved with I-GOOS through JCOMM and other shared observation system needs. The purpose of the Marine Meteorology and Oceanography Programme (MMOP) is the provision of data, information and services in support of activities in the marine environment. The JCOMM is a concrete sign of cooperation between oceanographers and meteorologists. The WMO as a co-sponsor of I-GOOS, supports GOOS activities in money, staff and logistics (e.g. SOT-4) mainly through JCOMM related actions. The WMO fifteenth Congress endorsed continued interaction with the IOC and GOOS activities in particular the coordinated activities of the international tsunami warning systems. The WMO congress urged continuity and transition of research systems to operational status. WMO assures I-GOOS of the continued commitment of WMO to support its activities under IOC-WMO-UNEP I-GOOS Committee for the Global Ocean Observing System. Therefore, the WMO, as a cosponsor agency, is strongly encouraging active participation of all respective I-GOOS Members in the work of the JCOMM.

The I-GOOS expressed concern that integration with WMO priorities must not jeopardize the balance of GOOS between climate-scale and regional or coastal issues. JCOMM is a joint WMO–IOC body. The Committee thanked the WMO for their continued sponsorship of GOOS.

9. ELECTIONS TO THE I-GOOS BOARD FOR 2007-2009

A Nominations Committee was formed at the start of the I-GOOS-VIII; it was chaired by Professor Dubi (Tanzania) and included members from Argentina, Canada, Spain, and the UK.

In accordance with the Terms of Reference for the I-GOOS, in IOC Resolution XXIII-5, the Board of I-GOOS consists of the Chairperson and the four Vice-Chairpersons of I-GOOS.

The Nominations Committee had received six nominations for the bBard. They were:

Mr François Gérard (France) for Chairperson

Prof Kouadio Affian, (Côte d'Ivoire) for Vice-Chairperson
Dr Mary Altalo (USA) for Vice-Chairperson
Dr Shao Lin (China) for Vice-Chairperson
Admiral Hector Soldi (Peru) for Vice-Chairperson
Professor Aida Boutros Tadros (Egypt) for Vice-Chairperson

The Nominations Committee examined the nominations received and found they were valid and in accordance with the IOC rules of procedure.

On Thursday 14 June 2007, Professor Dubi received a letter from the Ambassador of the permanent delegation of Egypt to UNESCO, informing him that Egypt had withdrawn the candidature of Professor Tadros for the board of I-GOOS.

Mr François Gérard was elected as Chairman of I-GOOS by acclamation. Furthermore Professor Kouadio Affian, Dr Mary Altalo, Dr Shao Lin and Admiral Hector Soldi were elected Vice-Chairpersons of I-GOOS by acclamation.

10. ADOPTION OF ACTION ITEMS AND DECISIONS FOR INCLUSION IN THE REPORT OF THE 8TH SESSION

The Committee considered the Draft Summary of Action Items of the present session, prepared by the GPO and reviewed by the Rapporteur. The Committee **objected** to the lack of a full report of the session and **prepared** a resolution for submission to the 24th Session of the IOC Assembly stating the main outcomes of the present session and requesting action by the IOC assembly. The draft resolution was debated

and accepted by the session; it is in Annex VI.

11. ANY OTHER BUSINESS

11.1 NEXT SESSION OF I-GOOS (I-GOOS-IX)

The Committee decided to hold its 9th Session in Paris during the week preceeding the 25th Session of the IOC Assembly which will begin 16th June 2009.

12. CLOSURE OF THE SESSION

The Chairman closed the 8th Session of I-GOOS at 17:30 on Friday 15 June 2007.

ANNEX I

AGENDA

1. OPENING AND WELCOME

1.1 INTRODUCTIONS

2. ADMINISTRATIVE ARRANGEMENTS

2.1 ADOPTION OF THE AGENDA

2.2 DESIGNATION OF RAPPORTEUR

2.3 CONDUCT OF THE SESSION AND FORMATION OF WORKING GROUPS

3. REPORTS

3.1 REPORT OF THE I-GOOS CHAIRPERSON

3.2 REPORT OF THE GSSC CHAIRPERSON

3.3 REVIEW OF PAST I-GOOS ACTIONS

3.4 TERMS OF REFERENCE FOR THE I-GOOS BOARD

4. GLOBAL GOOS IMPLEMENTATION AND SUSTAINABILITY

4.1 NATIONAL CONTRIBUTIONS TO THE GOOS

5. REGIONAL GOOS IMPLEMENTATION

5.1 REPORT ON THE 3rd GOOS REGIONAL FORUM

5.2 PROPOSAL TO FORM A GOOS REGIONAL COUNCIL

5.3 PROPOSAL TO RECOGNIZE NEW GOOS REGIONAL ALLIANCES

5.4 FORMATION BY GSSC OF A COASTAL ADVISORY GROUP (PICO)
5.4.1 GRAND

5.5 REGIONAL GOOS IMPLEMENTATION DECISIONS

6. PROGRAMME AND BUDGET

6.1 REPORT OF THE GPO SECRETARIAT DIRECTOR

7. CAPACITY BUILDING

8. ADDITIONAL REPORTS

8.1 GOOS WITHIN GEOSS

8.2 REPORT ON THE IOC ADVISORY BODY OF EXPERTS ON THE LAW OF THE SEA

8.3 REPORT ON COOPERATION WITH GOOS FROM WMO FIFTEENTH CONGRESS

9. ELECTIONS TO THE I-GOOS BOARD FOR 2007-2009

10. ADOPTION OF ACTION ITEMS AND DECISIONS FOR INCLUSION IN THE REPORT OF THE 8TH SESSION

11. ANY OTHER BUSINESS

11.1 NEXT SESSION OF I-GOOS (I-GOOS-IX)

12. CLOSURE OF THE SESSION

ANNEX II

LIST OF ACTIONS AND DECISIONS

***Decision 1*:** **I-GOOS will commission a study of the technical aspects related to a standard set of routine underway measurements (such as sea surface temperature and current measurements) taken by research vessels in coastal waters for storage in international databases. This will then be presented to ABE-LOS for advice on legal aspects.**

***Decision 2*:** **The I-GOOS encourages partnerships between GOOS Regional Alliances and other regional programmes such as Large Marine Ecosystem projects and Regional Seas Conventions.**

***Decision 3*:** **The I-GOOS approves the Terms of Reference for the I-GOOS Board as amended by the plenary.**

Action 4.1. The Member States, through the I-GOOS Board, and with the assistance of the GPO, to develop a mechanism to regularize national reporting and make routine the gathering of information on observation networks. The need is most pressing in the area of coastal networks.

Action 4.2. The I-GOOS Board, through the GSSC and the GPO, to develop a "Summary for Policy Makers" of major achievements in GOOS over the last decade and the outlines of the business for additional participation and investment.

Action 4.3. GRAs to develop a synopsis of observation networks, products and capacity development ("GRA Reports"), beginning from the National Reports, but enhanced to better represent regional engagement and plans for regional development, particularly with respect to coastal systems and products and involvement in pilot projects.

Action 4.4. (For the 24th Assembly). Highlight the significant progress in the development of the system and the several major impact areas (e.g., IPCC 4AR). Highlight emerging trends, e.g. in hazards and the impacts of, and adaptation to climate change.

***Decision 4*:** **The I-GOOS agreed to continue national reporting of quantitative and qualitative participation in GOOS in the form of "living document", with a simplified template.**

***Decision 5*:** **The I-GOOS noted, based on the national reports, that funding will not be sufficient to complete the global module of GOOS to design specification by the goal date 2012, and that increased investment by nations in the ocean observing systems will need to be supported by arguments of national benefit, at a national or regional level.**

***Decision 6*:** **The Committee decided to convene an intergovernmental Arctic GOOS meeting in 2008 and requested the I-GOOS board to take on this task in collaboration with the GPO.**

***Decision 7*:** **I-GOOS recognized ten existing GRAs, in accordance with GOOS principles and the GOOS Regional Policy. (EuroGOOS, MedGOOS, Black Sea GOOS, NEAR GOOS, Pacific Islands GOOS, Indian Ocean GOOS, IOCARIBE GOOS, GOOS-AFRICA, US GOOS, SEAGOOS).**

***Decision 8*:** **The I-GOOS recognized the formation by the GRAs of the GOOS Regional Council and accepted the Terms of Reference as amended by the plenary.**

Decision 9: **The I-GOOS requested all recognized GRAs nominate a representative to serve on the GOOS Regional Council (GRC).**

Decision 10: **The I-GOOS noted that the I-GOOS Chair may invite the Chairperson of the GRC to the I-GOOS Board.**

Decision 11: **I-GOOS recognized OCEATLAN and GRASP as Regional Alliances.**

Decision 12: **I-GOOS board will take the responsibility to coordinate and promote actions towards the establishment of an Arctic GOOS regional alliance, to take place before the next meeting of the IOC Executive Council in June 2008.**

Decision 13: **I-GOOS welcomed the results of the independent review of the Rio GOOS office.**

Decision 14: **The GOOS board will investigate how to follow on from the work of GRAND through th GOOS regional council.**

Decision 15: **I-GOOS noted that PICO was set up as a subsidiary advisory body to GSSC. I-GOOS recognizes this is a first step toward a future joint sponsorship toward a joint panel.**

Decision 16: **I-GOOS decided that the regular budget staff line, which represents three contracted staff members either based in the regions or with regional support remits, constitutes a major support for GOOS regional activities and shall remain unchanged. For the remaining budget lines I-GOOS decided to leave the secretariat flexibility to adjust in response to internal (for example decisions of groups such as the I-GOOS) and external actions/pressures/drivers.**

Decision 17: **I-GOOS will pursue integration of GOOS Capacity Building with UNESCO programmes by working through the IOC Capacity Building Programme.**

Decision 18: **I-GOOS stressed the importance of the continued promotion of GOOS as the ocean component of GEOSS, its leadership role in open ocean and coastal planning, and emphasized the need for: (i) continuity, sustainability, and for the development of *in-situ* and satellite instruments; (ii) access to real-time *in-situ* data for hazard monitoring; (iii) data exchange, particularly satellite data.**

ANNEX III

TERMS OF REFERENCE
I-GOOS BOARD

The I-GOOS Board was established in 2005 by IOC resolution XXIII-5. The Board is not a subsidiary body of the IOC in its own right. Rather it "*serves to provide guidance and advice on the implementation of the decisions of I-GOOS to the Chair during the inter-sessional period*". Any and all substantive decisions or actions taken by the Board are taken on behalf of the Intergovernmental Committee for GOOS (I-GOOS). Inter-sessional decisions of the Board are considered final and become decisions of record, unless otherwise directed by I-GOOS, at the next full I-GOOS meeting.

The I-GOOS Board will:

(i) Provide a fast and flexible inter-sessional decision making mechanism on behalf of I-GOOS for the use of the Chair and the GPO director.

(ii) Provide guidance and advice on the implementation of the decisions of I-GOOS to the Chair and GPO during I-GOOS inter-sessional periods.

(iii) Support and aid the chair in providing leadership during I-GOOS sessions.

The I-GOOS Board consists of the chair and four vice-chairs of I-GOOS as well as the chair of the GOOS Scientific Steering Committee (GSSC) as an ex-officio member. The director of the GOOS Project Office (GPO) or his designee serves as technical secretary for the group. Experts may be invited as observers as necessary. Planning, organization and secretarial support for meetings of the Board are provided by the staff of the GOOS project office (GPO). An information document summarizing decisions of the Board will be distributed electronically to I-GOOS members and sponsor agencies after each meeting and tabled as a background document at subsequent I-GOOS meetings.

The group meets at least twice per inter-sessional period.

Invitation to the meeting of this group will be by formal letter signed by the Executive Secretary of the IOC and mailed by the GPO three months before the date of the meeting. A quorum, consisting of four of the six members plus the technical secretary, is required to hold a meeting of the Board. The GPO Director may consult the Board by email and such decisions are considered valid if a quorum is in favor.

ANNEX IV

TERMS OF REFERENCE
GOOS REGIONAL COUNCIL (GRC)

Rationale

The XXII[nd] IOC Assembly instructed the I-GOOS Committee to support the activities of the GOOS Regional Alliances (GRAs) with the following wording:

'*..it may prove appropriate for the Forum to evolve into a more advanced mechanism…to strengthen the interaction between and the collective ability of GRA's to contribute to the… of the system'.*

Based on this recommendation, the Third Forum of the GRAs, held from 14-17 November, 2006 at the University of Cape Town, recognized the need for:

- a unified voice for global coordination, and
- a mechanism to promote exchange of information and technologies,

in order to improve national, regional and global marine environmental services as a major contribution to the Global Ocean Observing System.

The **GOOS Regional Council (GRC)** will support the activities of the GOOS Regional Alliances (GRAs). The proposal to form a GRC was considered and endorsed in principle, pending agreement on Terms of Reference, at I-GOOS VIII in June 2007, by the I-GOOS board at their 2[nd] session held on the 18[th] of November 2006 in Cape Town, South Africa and by the GOOS Scientific Steering Committee (GSSC) at their 10[th] meeting, held from 13-16 March 2007 in Seoul, Korea.

(i) The GRC will:

1. Identify the most appropriate means to address the collective needs of GRAs, and represent the interests of GRAs within the I-GOOS;

2. Provide advice to I-GOOS and serve as a conduit for actions and recommendations from I-GOOS to the GRAs;

3. Co-ordinate among the Regional Alliances in order to increase sharing of experiences and technological know-how for the regional implementation of GOOS;

4. Establish priorities for implementing the GOOS Coastal Network;

5. Enable interoperability among the Regional Ocean Observing Systems (ROOS);

6. Organize GOOS Regional Fora in partnership with the GOOS Project Office of IOC/UNESCO. These meetings should discuss, among other things, the scientific and technological advances relevant to operational oceanography;

7. Advise I-GOOS on consideration of candidatures for recognition as new regional alliances;

8. Provide aid and advice to I-GOOS on performance assessments of ROOS in collaboration with GSSC.

(ii) Modus operandi

1. Decide its modus operandi to pursue its mission with a rolling 5 year forward-looking programme;

2. Meet once every two years, alongside, the I-GOOS meeting.;

3. Report to the I-GOOS and liaise with the GSSC on scientific and technical matters.

(iii) Membership

The GOOS Regional Council (**GRC**) will be composed of representatives of the GRAs. The GRAs are those that have been recognized by the I-GOOS and endorsed by the IOC Assembly or Executive Council. New potential GRAs may be invited to attend a GRC Meeting as observers.

Each GRA may be represented in the GRC by one or more elected members. However, when it comes to the vote, there will be only one voice per GRA.

(iv) Chair

The Chairperson of the **GRC** will be elected by the GRC members for a two year term. The Chairperson will serve no more than two terms.

The **GRC** Chair may participate in the meetings of the I-GOOS Board at the invitation of the President of I-GOOS..

(iv) Secretary

The GRA holding the rotating chairmanship will host the GRC secretariat and provide the Technical Secretary of the **GRC**.

(v) Funding

The **GRC** will be funded by the GRAs, and the GRC Secretariat by its host institution. The GOOS project office will seek extrabudgetary funding to support representation of GRAs from developing country Member States at meetings of the GRC.

ANNEX V

I-GOOS RESOLUTION APPROVED BY THE 24TH IOC ASSEMBLY

IOC **Resolution XXIV-7**
PROGRAMME OF ACTION FOR GOOS

The Intergovernmental Oceanographic Commission,

Recalling:

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

Noting:

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

Further noting:

(i) The encouraging information emerging from the National Reports to I-GOOS-VIII,
(ii) The considerable achievements of the climate module of GOOS, and the many challenges that remain; and the emergence of progress with the coastal module,
(iii) The adoption by JCOMM of the ocean component of the GCOS implementation plan (GCOS-92), the climate component of GOOS, as its initial implementation goal for ocean observations.
(iv) The GOOS Regional Alliances constitute a GOOS regional council to advise I-GOOS regarding their collective needs,
(vi) The recognition, by I-GOOS-VIII, of the Regional Alliance in Oceanography for the Upper Southwest and Tropical Atlantic (OCEATLAN) 1, as an agreement among institutions, and the GOOS Regional Alliance for the Southeast Pacific (GRASP), in the framework of CPPS (Comisión Permanente del Pacifico Sur/Permanent Commission of the South Pacific), as new GOOS Regional Alliances, and
(vii) The establishment, by the GSSC-X, of the Group of Experts on Integrated Ocean Observation (PICO) as an expert group for coastal observation,

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

Having considered the executive summary report arising from I-GOOS-VIII (IOC WMOUNEP/GOOS-VIII/3s);

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

1. Sustainability
   (i) To achieve and sustain the climate module of GOOS at its initial design specification, with the goal of a performance review by 2012;
   (ii) To facilitate implementation of the coastal module of GOOS, through concerted actions with the IOC Regional Subsidiary Bodies, GOOS Regional Alliances, and pilot projects, as appropriate;
   (iii) To seek sustained commitments to essential ocean and coastal remote sensing data streams through GEOSS, the Committee on Earth Observation Satellites (CEOS) and the Coordination Group for Meteorological Satellites (CGMS);
   (iv) To develop plans and commitments to build and sustain ocean observation networks in the polar regions as a legacy of International Polar Year activities while taking into account the importance of preservation of these environments;
   (v) To contribute to the IOC Medium-term Strategy through the development and synthesis of consolidated datasets for monitoring climate change, detecting and understanding impacts, conducting marine assessments, following and predicting changes in the coastal environment including pollution, and the support of mitigation and timely warning of hazards.

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

3. Funding

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

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

ANNEX VI

LIST OF PARTICIPANTS

I. I-GOOS BOARD

I-GOOS Chairperson

Mr François GÉRARD
Président Comité National Français pour la COI
Chairman I-GOOS
CGPC-S2, Tour Pascal B
92055 La Défense Cédex
France
Tel: (33 1) 4081 2388
Cell: (33 6) 8507 7334
Email: francois.gerard@equipement.gouv.fr
francois.gerard@meteo.fr
(I-GOOS Chair Candidate)

I-GOOS Vice-Chairpersons

Prof Kouadio AFFIAN
Director of CURAT
22 BP 582 Abidjan 22
Côte D'Ivoire
Tel: (225) 22 44 52 70
Fax: (225) 22 44 52 70
Email: k.affian@yahoo.fr
(also representing Côte d'Ivoire)

Ms Mary ALTALO
The National Office for Integrated and Sustained Ocean Observations
Suite 1350
2300 Clarendon Boulevard
Arlington VA 22201-3667
United States
Email: m.altalo@ocean.us

Almirante Hector SOLDI
Presidente del Directorio
Oceanography/Fisheries
Av. Laguna Grande 1291
Casa Nro 6
Urb. Las Lagunas de la Molina - La Molina
Lima 12
Peru
Tel: (51 1) 368 3166
Fax: (51 1) 368 3266
Email: presidencia@imarpe.gob.pe
(also representing Peru)

GSSC Chairperson

Prof. John G. FIELD
Marine Research Institute
University of Cape Town,
P Bag X 3
7701 Rondebosch
South Africa
Tel: (27 21) 650 3612
Fax: (27 21) 650 3301 or 689 6115 (personal)
Email: jgfield@pop.uct.ac.za

GPO Director

Dr Keith ALVERSON
Director, Global Ocean Observing System
Head of Section, IOC/UNESCO
1 rue Miollis
75732 Paris Cedex 15
France
Tel: (33 (0) 1) 45 68 40 42
Fax: (33 (0) 1) 45 68 58 13
Email : k.alverson@unesco.org

II. PARTICIPANTS FROM MEMBER STATES

ARGENTINA

Lic. Ariel Hernán TROISI
Director
Centro Argentino de Datos Oceanográficos
Servicio de Hidrografía Naval
Av. Montes de Oca 2124
C1270ABV Buenos Aires
Argentina
Tel/Fax: (54 11) 4303 2240
Email: atroisi@hidro.gov.ar

Dr Javier VALLADARES
Servicio de Hidrografia Naval
Avenida Montes de Oca 2124
1271 - Buenos Aires
Argentina
Tel: (54 11) 4301 0061/67
Fax: (54 11) 4301 0061/67
Email: jvalladares@hidro.gov.ar

AUSTRALIA

Mr Neville Ross SMITH
Chief Scientist, Research
Bureau of Meteorology (BMRC)
700 Collins Street Docklands
GPO Box 1289
Melbourne, Victoria 3001
Australia
Tel: (61 03) 9669 4434
Fax: (61 03) 9669 4660
Email: N.Smith@bom.gov.au

BELGIUM

Dr Georges PICHOT
Management Unit of the North Sea
Mathematical Models
Gulledelle, 100
B-1200 Brussels
Belgium
Tel: (32 2) 773 21 22
Fax: (32 2) 770 69 72
Email: G.Pichot@mumm.ac.be

BRAZIL

Mrs Daniela ARRUDA BENJAMIN
Second Secretary
Permanent Delegation of Brazil to UNESCO
1 rue Miollis75732 Paris Cedex 15
Tel: (33 1) 45 68 29 01
Fax: (33 1) 4783 28 40
Email : dl_brasil@unesco.org

Capt Carlos Alberto PEGAS FERREIRA
Director, Brazilian Navy Hydrographic Center
Rua Barão Jaceguai, s/n
CEP - 24048-900 - Niterói
Brazil
Tel: (55 21) 2189-3010
Fax: (55 21) 2189-3105
Email: pegas@chm.mar.mil.br

CAMEROON

Dr Pierre Ricard NJIKE NGAHA
Chef de Cellule de suivi au Secrétariat
Cameroon
Tel: (237) 222 29 45/223 54 67
Email: pr.njike@yahoo.fr

CANADA

Dr Savithri (Savi) NARAYANAN
Canadian Hydrographic Service, Fisheries & Oceans
615 Booth Street
Ottawa
Ontario, K1A 0E6
Canada
Tel: (1 613) 995 4422
Fax: (1 613) 947 4369
Email: narayanans@dfo-mpo.gc.ca
narayanans@dfo-mpo.gc.ca

Dr E. Michael CHADWICK
Regional DirectorOceans and Science Branch
Fisheries and Oceans Canada
Gulf Fisheries Centre
343 Université Avenue
P.O. Box 5030
Moncton, New Brunswick
Canada
Tel : (1 506) 851 6206
Fax (1 506) 851 2387
E-mail: chadwickm@dfo-mpo.gc.ca

CHINA

Ms Lin GAO
Department of Marine Environmental Protection
State Oceanic Administration (SOA)
1, Fuxingmenwai Avenue
Beijing 100860
P.R. China
Tel/Fax: (86 10) 6804 7644
Email: yb@soa.gov.cn
gaolinchina@163.com

Mr Zhi CHEN
National Marine Environmental Forecasting Center
State Oceanic Administration (SOA)
1, Fuxingmenwai Avenue
Beijing 100860
China
P.R. China
Tel: (86 10) 6217 3598
Fax: (86 10) 6217 3620
Email: chenzhi@nmefc.gov.cn

COLOMBIA

Lt Cder Rafael Ricardo TORRES PARRA
Oceanography Area Coordinator
Centro de Investigaciones Oceanograficas
e Hidrograficas
Isla Manzanillo
Cartagena de Indias
D. T. y C.
Colombia
Tel: (57) 315 7 54 14 10
E-mail: rtorres@cioh.org.co

Mr Julian REYNA
Comisión Colombiana del Océano (CCO)
Carrera 54 No. 26-50 piso 4
(Edificio DIMAR) CAN
Transversal 41 # 26-50
Bogotá D.C.
Colombia
Tel: (571) 2220436/2220421
Fax: (571) 2220416
Email: seco@cco.gov.co

CÔTE D'IVOIRE

Prof Kouadio AFFIAN
Director of CURAT
22 BP 582 Abidjan 22
Côte d'Ivoire
Tel: (225) 22 44 52 70
Fax: (225) 22 44 52 70
Email: k_affian@yahoo.fr
(also representing I-GOOS Vice-Chair)

CUBA

Dr Guillermo GARCIA-MONTERO
Director, Acuario Nacional
Avenida 1ra y Calle 60, Miramar
Playa, Ciudad de la Habana
Cuba
Tel: (537) 203 6401 al 06
Fax: (537) 2092737
Email: guillermog@acuarionacional.cu
ggarcia@ama.cu
(also representing IOCARIBE-GOOS)

CZECH REPUBLIC

Mr Viliam VATRT
Member of the Czech IOC Committee
Military Office of Geography & Hydrometeorology
Dobruska
Czech Republic
Tel/Fax: (420 2) 6712 6827
Email: Klara_Quasnitzova@env.cz

DOMINICAN REPUBLIC

Mr Carlos MICHELEN NAMNUM
Ambassador
Director de la Comision Nacional de
Oceanografia de Esta Cancilleria
Dominican Republic

Ms Cristina DIAZ
Permanent Delegation of Dominican Republic
to UNESCO
UNESCO House
Bureau MS1.56
1, rue Miollis
75732 Paris Cedex 15
Tel: (33.1) 45 68 27 10
Fax: (33.1) 42 73 24 66
Email: de.rep-dominicaine@unesco.org

FRANCE

Mr Serge ALLAIN
France

Mrs Sabine ARNAULT
LODYC
UMR 7617 CNRS/IRD/Université Pierre-
et-Marie-Curie
UPMC Tour 14-2ème case 100
4 place Jussieu
75252 Paris Cedex 05
France
Tel : (33) (0)1 44 27 49 71
Fax : (33) (0)1 44 27 38 05
Email : Sabine.Arnault@lodyc.jussieu.fr

Mr Joël HOFFMAN
Directeur des Etudes / Directeur R&D et Ingénierie
Météo France
42, Avenue Gaspard Coriolis
31000 Toulouse
France
Tel : (33 5) 61 07 90 90
Fax : (33 5) 61 07 96 30
Email : Joel.Hoffman@meteo.fr

Mrs Hélène SEKUTOWICZ-LE BRIGANT
Délégation permanente de la France
auprès de l'UNESCO
Bureau M8.14
1, rue Miollis
75732 Paris Cedex 15
France
Tel : (33) (0)1 45 68 35 47
Email : dl.france@unesco.org

Mr Patrick VINCENT
Secrétaire du Comité des Directeurs
D'Organismes
Institut français de recherche pour l'exploitation
de la mer
Technopolis 40
155 rue Jean-Jacques Rousseau
92138 Issy-les-Moulineaux
France
Tel: (33 (0)1 46 48 22 16
Email: patrick.vincent@ifremer.fr

GERMANY

Dr Hartmut HEINRICH
Head of the Physics Department
Bundesamt fuer Seeschiffahrt und Hydrographie
(Federal Maritime and Hydrographic Agency)
Bernhard-Nocht Straße 78
20359 Hamburg
Germany
Tel: (49 40) 3190-3510
Fax: (49 40) 3190-5000
Email: hartmut.heinrich@bsh.de

GREECE

Dr Kostas NITTIS
Hellenic Centre for Marine Research
46.7 Km, Athens-Sounio Ave.
19013 Attica
Greece
Tel: (30 2) 2910-76400
Fax: (30 2) 2910-76323
Email: knittis@ath.hemr.gr

Dr Emmanouil GOUNARIS
Ministry of Foreign Affairs
Academias 3
Athens
Greece
Email: d01@mfa.gr

INDIA

Dr Sailesh NAYAK
Group Director, Marine and Water Resources
Indian National Centre for Ocean Information
Ser vices "Ocean Valley"
P.B. 21, IDA, Jeedimetla P.O.
Hyderabad 500055
India
Tel: (91 40) 2389 5000
Fax: (91 40) 2389 5001
Email**:** director@incois.gov.in
(also representing IOGOOS)

INDONESIA

Dr Ridwan DJAMALUDDIN
Director
Marine Survey technology
Agency for technology Assessment & Application
(BPTT)
Indonesian Institute of Sciences
Jl. Jenderal Gatot Subroto No. 10
Jakarta 12710
Indonesia

Dr Aryo HANGGONO
Agency for Marine and Fishery Research
Department of Marine Affairs and Fishery
Indonesian Institute of Sciences
Jl. Jenderal Gatot Subroto No. 10
Jakarta 12710
Indonesia

ITALY

Mr Giuseppe MANZELLA
ENEA
P.O. Box 214
19100 La spezia
Italy
Tel: (39 0187) 978 215
Fax: (39 0187) 978 273

JAPAN

Mr Kazuhiro KITAZAWA
Advisor to the Director
Planning Department
Japan Agency for Marine-Earth Science and
Technology (JAMSTEC)
2-15 Natsushirna-cho, Yokosuka, 237-0061
Japan
Tel: (81-(0)46) 867 9191
Fax: (81-(0)46) 867 9195
Email: kitazawa@jarnstec.go.jp

MALTA

Dr Aldo DRAGO
Co-ordinator, Marine Resources Network
Malta Council for Science and Technology
112, West Street
Valletta VLT 12
Tel: (356) 2144 0972
Mob: (356) 9983 2830
Email: aldo-drago@um.edu.mt

MAURITIUS

Dr Mitrasen BHIKAJEE
Director
France Centre, Victoria Avenue,
Quatre Bornes
Mauritius
Tel: (230) 427 4432
Fax: (230) 427 4433
Email: bhikajee@moi.intnet.mu

MONACO

Mr Michel BOISSON
Secrétaire général du Centre Scientifique
de Monaco
16 bld de Seine – Villa Girasole
Monaco MC 9800
Tel : (377) 98 98 85 96
Fax : (377) 98 98 86 74
Email : mboisson@gouv.mc

NORWAY

Mr Harald LOENG
Head of Research Group
Institute of Marine Research
Postboks 1870 Nordnes
5817 Bergen
Norway
Tel: (47) 55 23 84 66
Fax: (47) 55 23 86 87
Email: harald.loeng@imr.no

PERU

Almirante Hector SOLDI
Presidente del Directorio
Oceanography/Fisheries
Av. Laguna Grande 1291, Casa Nro 6
Urb. Las Lagunas de la Molina - La Molina
Lima 12
Peru
Tel: (51 1) 368 3166
Fax: (51 1) 368 3266
Email: presidencia@imarpe.gob.pe
(also representing I-GOOS Vice-Chair)

Mr Edwin ZAGARA-VALDIVIA
72/74 Avenue Docteur Arnold Netter
75012 Paris
France
Tel: (33.1) 46 28 19 91
Mob: 06 87 42 59 15 (Mob)
Email: agsenavfor@yahoo.com

Dr Alfredo PICASSO DE OYAGUE
Science Counseller
Peruvian Delegation to UNESCO
B.P. 338.16
75767 Paris Cedex 16
France
Email: apicasso@club-internet.fr

PORTUGAL

Prof. Mario RUIVO
Chairman of the Portuguese Committee
for the IOC
Av. Infante Santo, 42-4
1350-179 Lisboa
Portugal
Tel.: (351)21 390 4330
Fax: (351)21 395 2212
Email: cointersec.presid@fct.mct.pt

Prof. Isabel AMBAR
Director
Instituto de Oceanografia
Faculdade de Ciencias
University of Lisbon
Lisbon 1700-049
Portugal
Tel: (351 21) 750 0080
Fax: (351 21) 750 0009
Email: iambar@fc.ul.pt

Cder Carlos Ventura SOARES
Technical Director
Instituto Hidrografico
Rua Das Trinas, 49
1249-093 Lisbon
Portugal
Tel : (351 210) 943 000
Fax : (351 210) 943 299
Email: ventura.soares@hidrografico.pt

Ms Teresa RIBEIRO DA SILVA SALADO
Attachée
Délégation permanente du Portugal
auprès de l'UNESCO
1, rue Miollis
75735 Paris Cedex 15
France
Tel : (33 1) 45 68 30 58
Email : t.salado@unesco.org

ROMANIA

Dr Viorel MALCIU
Senior scientist
National Institute for Marine Research & Development
B-dul Mamaia Nr. 300
RO-900581 Constanta 3
Romania
Tel: (0241) 547644
Fax: (0241) 831274
Email: incdmct@datanet.ro

RUSSIAN FEDERATION

Mr Valeriy MARTYSCHENKO
Deputy Director of Marine Activities
ROSHYDROMET
12, Novovagan'kovsky Street
Moscow, 123995
Russian Federation
Tel: (7 095) 252 55 04/252 94 84/255 24 34
Fax: (7 095) 255 20 90
Email: seadep@mcc.mecom.ru
aamu@mecom.ru

Dr Sergey PRIAMIKOV
Head, International Cooperation Department
ROSHYDROMET Arctic and & Antarctic Research Institute
12, Novovagan'kovsky Street
Moscow, 123995
Russian Federation
Tel: (7 095) 252 55 04/252 94 84/255 24 34
Fax: (7 095) 255 20 90
Email: spriamikov@mecom.ru

SENEGAL

Mr Mouhamed KONATE
Deuxième Conseiller
Délégation permanente du Sénégal
auprès de l'UNESCO
Bureau MS 251
1, rue Miollis
75732 Paris Cedex 15
France
Tel : (33 1) 45 68 33 89
Fax: (33 1) 43 06 10 55
Email: m.konate@unesco.org

SPAIN

Dr Gregorio PARRILLA
Investigador A1
Instituto Español de Oceanografía
Corazón de María, 8
28002 Madrid
Spain
Tel: (34 91) 347 3608
Fax: (34 91) 413 5597
Email: gregorio.parrilla@md.ieo.es

SRI LANKA

Mrs Priyanga WICKRAMASINGHE
Second Secretary
Permanent Delegation of Sri Lanka to UNESCO
Office M2.08/10
1, rue Miollis
75732 Paris Cedex 15
France
Tel : (33 1) 45 68 30 30
Fax: (33 1) 47 83 29 45
Email: dl.sri-lanka@unesco.org

SWEDEN

Mr Hans DAHLIN
EuroGOOS Director
Swedish Meteorological and Hydrological Institute
Folkborgsvägen 1
SE-601 76 Norrköping
Sweden
Tel: (46 11) 495 80 00
Fax: (46 11) 495 80 01
Email: hans.dahlin@smhi.se
(also representing EuroGOOS)

TANZANIA (United Republic of)

Dr Alphonse DUBI
Director
University of Dar es Salaam
Institute of Marine Sciences
Mizingani Rd
P.O. Box 668 ZANZIBAR
Tanzania
Tel.: (255 24) 223 2128 (Direct)
(255 24) 223 0741 (General)
(255 24) 223 4175 (Residence)
Mo: (255) 754 462 417
(255) 786 198 740
Fax: (255 24) 223 3050
Email: dubi@ims.udsm.ac.tz

TUNISIA

Mr Cherif SAMMARI
Professor
National Institute of Marine Sciences and Technologies (INSTM)
28 rue 2 mars 1934
2025 Salammbô
Tunisia
Tél: (216 71) 730 420
Fax: (216 71) 732 622
Email: cherif.sammari@instm.rnrt.tn

UNITED KINGDOM

Mr Trevor GUYMER
Head of Inter-Agency Committee on Marine Science and Technology
IACMST Secretariat
National Oceanography Centre, Southampton
Empress Dock
Southampton SO14 3ZH
United Kingdom
Tel: (44 23) 8059 6789
Fax: (44 23) 8059 6204
Email: iacmst@noc.soton.ac.uk

Dr Jane HAWKRIDGE
Marine Monitoring Officer
Marine Habitats Team
Joint Nature Conservation Committee
Monkstone House
City Road
Peterborough PE1 1JY
United Kingdom
Tel: (+44 1733) 86 68 23
Fax: (+44 1733) 55 59 48
Email: jane.hawkridge@jncc.gov.uk

Dr Ralph RAYNER
Marine Information Alliance
Institute of Marine Engineering, Science and Technology
80 Coleman Street
London EC2R 5BJ
United Kingdom
Tel: (446 1285) 810 475
Fax: (446 1285) 810 505
Email: Ralph@ralphrayner.com

Mr Jon TURTON
UK Argo Programme Manager
Hadley Centre
The Met Office
FitzRoy Road
Exeter EX1 3BP
United Kingdom
Email: Jon.turton@metoffice.com

UNITED STATES OF AMERICA

Dr Stephen R. PIOTROWICZ
Deputy Director
National Office for Integrated and Sustained Ocean Observations Ocean.US
USA
Tel: (1 703) 588 0850
Email: Steve.Piotrowicz@noaa.gov

Dr John A. CALDER
Director
Arctic Research Program
National Oceanic & Atmospheric Administration (NOAA)
Climate Program Office R/CPO
1315 East west Hwy, Room 12104
Silver spring, MD 20910
USA
Tel: (1 301) 734 1207
Fax: (1 301) 713 0520
Email: John.Calder@noaa.gov

I. GOOS REGIONAL REPRESENTATIVES

Dr Hans DAHLIN
EuroGOOS Director
SMHI, Folkborgsvägen 1
601 76 Norrköping
Sweden
Tel: (46 11) 495 80 00
Fax: (46 11) 495 80 01
Email: hans.dahlin@smhi.se
(also representing Sweden)

Dr Guillermo GARCÍA MONTERO
IOCARIBE-GOOS Co-Chair
Avenida 1ra y Calle 60, Miramar
Playa, Ciudad de la Habana
Cuba
Tel: (53 7) 203 6401al 06
Fax: (53 7) 209 2737
Email: ggarcia@ama.cu
guillermog@acuarionacional.cu
(also representing Cuba)

Dr Shailesh NAYAK
IOGOOS
Indian National Centre for Ocean Information System
P.B. 21, Jeedimetla P.O.
Hyderabad
500055 India
Tel: (91 40) 2389 5010
Fax: (91 40) 2389 5001
E-mail: director@incois.gov.in
(also representing India)

Dr Ed HARRISON
OOPC Chair
NOAA/PMEL/OCRD
7600 Sand Point Way NE
Seattle, WA 98115
USA
Tel: (1 206) 526 6225
Fax: (1 206) 526 6744
E-mail: D.E.Harrison@noaa.gov

IV. SECRETARIATS

Intergovernmental Oceanographic Commission (IOC) of UNESCO
1, rue Miollis
75732 Paris Cedex 15
France
Tel: (33 (0)1) 45 68 39 84
Fax: (33 (0)1) 45 68 58 10

STAFF AT HEADQUARTERS

Dr Patricio BERNAL
Executive Secretary
Tel: (33 (0)1) 45 68 39 83
Email: p.bernal@unesco.org

GOOS Project Office
Fax: (33 (0)1) 45 68 58 13/12

Dr Keith ALVERSON
Director
Tel: (33 (0)1) 45 68 40 42
Email: k.alverson@unesco.org

Dr Thorkild AARUP
Tel: (33 (0)1) 45 68 40 19
Email: t.aarup@unesco.org

Mr Justin AHANHANZO
Tel: (33 (0)1) 45 68 36 41
Email: j.ahanhanzo@unesco.org

Dr James BAKER
Tel: (33 (0)1) 45 68 39 72
Email: j.baker@unesco.org

Ms Candyce CLARK
Tel: (33 (0)1) 45 68 39 89
Email: c.clark@unesco.org

Mr Albert FISCHER
Tel: (33 (0)1) 45 68 40 40
Email: a.fischer@unesco.org

Dr Thomas GROSS
Tel: (33 (0)1 45 68 39 92
Email: t.gross@unesco.org

Ms Boram LEE
Tel : (33 (0)1) 45 68 39 88
Email: b.lee@unesco.org

Mr Peter PISSIERSSENS
Tel: (33 (0)1) 45 68 40 46
Email: p.pissierssens@unesco.org

Secretariat GOOS Project Office

Ms Laurence FERRY
Tel: (33 (0)1) 45 68 40 22
Email: l.ferry@unesco.org

Ms Pamela COGHLAN
Tel : (33 (0)1) 45 68 39 76
Email: p.coghlan@unesco.org

Ms Irène GAZAGNE
Tel: (33 (0)1) 45 68 40 24
Email: i.gazagne@unesco.org

Ms Ho Hien LAM
Tel: (33 (0)1) 45 68 39 81
Email: hh.lam@unesco.org

Mr Adrien VANNIER
Tel: (33 (0)1) 45 68
Email: a.vannier@unesco.org

STAFF AWAY FROM HEADQUARTERS

Mr Nick D'ADAMO
Head, Perth Regional Programme Office of the
Intergovernmental Oceanographic Commission
(IOC) of UNESCO
c/o Bureau of Meteorology
5th floor, 1100 Hay Street
(corner of Harvest Tce)
West Perth 6005
Western Australia.
Tel: (61 8) 9226 2899 or
(61 8) 9263 2222 (reception)
Fax: (61 8) 9226 0599
Email: nick.d'adamo@bom.gov.au

Ms Janice ROMAGUERA TROTTE
Head, IOC Rio de Janeiro Regional
Programme Office
Diretoria de Hidrografia e Navegação
Rua Barão de Jaceguai, s/no.
CEP - 24048-900 - Niterói
Brazil
Tel: (55 21) 2613 8013
Fax: (55 21) 2613 8088
Email: janice.trotte@terra.com.br

World Meteorological Organisation (WMO)

Mr Edgard CABRERA
Chief, OCA Division
World Meteorological Organization (WMO)
7 bis, rue de la Paix
Case postale No 2300
CH-1211 Genève 2
Switzerland
Tel: (41 (0) 22) 730 82 37
Fax: (41 (0) 22) 730 81 28
Email: ecabrera@wmo.int

Dr Georgi I. KORTCHEV
Director
Applications Programme Department
World Meteorological Organization (WMO)
7 bis, rue de la Paix
Case postale No 2300
CH-1211 Genève 2
Switzerland
Tel: (41 (0) 22) 730 82 21
Fax: (41 (0) 22) 730 81 28
Email: gkortchev@wmo.int

United Nations Environment Programme (UNEP)

Dr E. salif DIOP
Head, Ecosystem Section
Division of early Warning and Assessment
United Nations Environment Programme (UNEP)
P.O. Box 30551 (00100)
Nairobi
Kenya
Tel: (254 20) 762 2015
Fax: (254 20) 762 2798
Email: salif.diop@unep.org

V. UNABLE TO ATTEND

Dr Fernando RaúL COLOMB
Investigador Principal de la Misión SAC-D
Comisión Nacional de Actividades Espaciales Av.
Paseo Colón 751
Buenos Aires 1063
Argentina
Tel : (54) 4331 0074
Email: rcolomb@conae.gov.ar

Dr Adi KELLERMANN
ICES-IOC SGGOOS
Head of Science Programme
International Council for the Exploration of the Sea
H.-C. Andersens Boulevard 44-46
1553 Copenhagen V
Denmark
Tel: (45) 3338 6700
(45) 3338 6714 (dir)
Mob : (45) 2229 5857
Fax: (45) 3393 4215
E-mail: adi@ices.dk

Dr Thomas ROSSWALL
Executive Director
International Council for Science (ICSU)
51 Bld de Montmorency
75016 Paris
France

Dr Takashi YOSHIDA
Chairman of the IOC/WESTPAC
Coordinating Committee for NEAR-GOOS
Forecaster, Office of Marine Prediction
Marine Division
Climate and Marine Department
Japan Meteorological Agency
1-3-4 Otema-chi, Chiyoda-ku
Tokyo 100-8122
Japan
Tel: (81 3) 3212 8341 (ext 5128)
Fax: (81 3) 3211 3047
E-mail: tyoshida@met.kishou.go.jp

Prof Dr Aida BOTROS TADROS
National Institute of Oceanography & Fisheries, Kyat
16, Mourtada Bash St.
Alexandria
Egypt
Tel: (203) 480 7140/38
Fax : (203) 480 1174
Email : BT_AIDA@yahoo.com

ANNEX VII

LIST OF DOCUMENTS*

Document Code	Title	Agenda items	Lang.
	WORKING DOCUMENTS		
I-GOOS-VIII/1 prov.	Provisional Agenda	All	E/F/S/R
I-GOOS-VIII/2	Annotated Provisional Agenda (on line only)	All	E only
I-GOOS-VIII/3	Summary Report of the Session (*to be prepared during or after the Session*)	All	E/F/S/R
I-GOOS-VIII/4	Provisional Timetable	All	E only
I-GOOS-VIII/5	Provisional list of Documents (*this document*)	All	E only
I-GOOS-VIII/6	List of Participants	All	E only
I-GOOS-VIII/7	Implementation of GOOS through Member State Contributions	4	E/F/S/R
I-GOOS-VIII/8	Report of the I-GOOS Chair	3.1	E/F/S/R
I-GOOS-VIII/9	I-GOOS Board Terms of Reference	4.1	E/F/S/R
I-GOOS-VIII/10	Proposal to form a GOOS Regional Council	5.2	E/F/S/R
I-GOOS-VIII/11	GOOS Regional Council Proposed Terms of reference	5.2	E/F/S/R
I-GOOS-VIII/12	GOOS Regional Policy	5.3	E only
I-GOOS-VIII/13	Report of the GPO Secretariat Director on Program and Budget	6.1	E/F/S/R
I-GOOS-VIII/14	Report on Capacity Building in Africa	7	E/F/S/R
I-GOOS-VIII/15	Review of past actions	3.3	E only
I-GOOS-VIII/16	Report of the GSSC Chair	3.2	E/F/S/R
I-GOOS-VIII/17	Provisional Action Paper	All	E/F/S/R
	BACKGROUND DOCUMENTS		
	National reporting to I-GOOS-VIII (template)	4	E only
	Third GOOS Regional Forum Report (GOOS Report No.159)	5.3	E only
	I-GOOS-VII and GOOS-X1 Report (GOOS Report No.145)	All	E/F/S/R
	I-GOOS Board-I Report (GOOS Report No.153)	3.1	E only
	I-GOOS Board-II Report (GOOS Report No.156)	3.1	E only
	I-GOOS Chair Circular Letter 1	3.1	E/F
	I-GOOS Chair Circular Letter 2	3.1	E/F
	I-GOOS Chair Circular Letter 3	3.1	E/F
	GSSC-X Report (GOOS Report No.161)	3.2	E only
	An Implementation Strategy for the Coastal Module of GOOS (GOOS Report No.148)	-	E only
	Implementation Plan for the Global Observing System for Climate in support of the UNFCCC (GCOS Report No.92)	-	E only
	Report of the Joint JCOMM-GSSC-GRA ad hoc Task team	-	E only
	OTHER DOCUMENTS		
	IOC Circular Letter No.2199	-	E/F/S/R
	Joint IOC-WMO-UNEP Circular Letter No.2220	-	E/F/S/R
	Invitation to Seminar on GEOSS and Global Change	-	E only
	Draft Resolution from I-GOOS-VIII	-	E/F/S/R
	I-GOOS-VIII Executive Summary by the Chair for IOC-XXIV	-	E/F/S/R

* This list is for reference only. No stocks of these documents are maintained. Electronic copies are available at http://www.ioc-goos.org/igoos8

ANNEX VIII

LIST OF ACRONYMS

ABE-LOS	IOC Advisory Body of Experts on the Law of the Sea
BEAC	Barents Euro-Arctic Regional Council
CEOS	Committee on Earth Observation Satellites
CGMS	Coordination Group for Meteorological Satellites
CLIVAR	Climate Variability and Predictability, a programme of WCRP
COOP	Coastal Ocean Observations Panel
CPPS	Permanent Commission for the South Pacific
CURAT	Centre Universitaire de Recherche et d'Application en Télédétection
CZCP	Coastal Zone Community of Practice
DIVERSITAS	International Programme of Biodiversity Science
EEZ	Exclusive Economic Zone
EuroGOOS	European Global Ocean Observing System
FAO	Food and Agriculture Organization of the United Nations
GCN	Global Coastal Network
GCOS	Global Climate Observing System (WMO, IOC, UNEP, ICSU)
GEF	Global Environment Fund (WB-UNEP-UNDP)
GEO	Global Earth Observations
GEONETCAST	Global network of satellite based data dissemination systems
GEOSS	Global Earth Observation System of Systems
GHRSST	Global High-Resolution Sea Surface Temperature Pilot Project
GIS	Geographical Information System
GLOSS	Global Sea Level Observing System
GODAE	Global Ocean Data Assimilation Experiment
GOOS	Global Ocean Observing System
GOOS-AFRICA	Global Ocean Observing System for Africa
GPO	GOOS Project Office
GRA	GOOS Regional Alliance
GRAND	GOOS Regional Alliance Network Development (EU)
GRASP	GOOS Regional Alliance for the Southeast Pacific
GRC	GOOS Regional Council
GSSC	GOOS Scientific Steering Committee
GTOS	Global Terrestrial Observing System (FAO, WMO, UNESCO, ICSU)
IARC	International Arctic Research Center
IASC	International Arctic Science Committee
ICSU	International Council for Science
I-GOOS	Intergovernmental Committee for the Global Ocean Observing System
IOC	Intergovernmental Oceanographic Commission (UNESCO)
IOCARIBE	IOC Sub-Commission for the Caribbean and Adjacent Regions
IOCARIBE-GOOS	Global Ocean Observing System for IOCARIBE
IODE	International Oceanographic Data and Information Exchange
IOGOOS	Indian Ocean Global Ocean Observing System
IOTWS	Indian Ocean Tsunami Warning and Mitigation System
IPCC	Intergovernmental Panel on Climate Change
IPY	International Polar Year
ISABP	International South Atlantic Buoy Programme
JCOMM	Joint Commission on Oceanography and Marine Meteorology (WMO-IOC)
JPICO	Joint Panel for Integrated Coastal Observations
LME	Large Marine Ecosystem
MedGOOS	Mediterranean Global Ocean Observing System
MOVAR	MOnitoramento da VAriabilidade Regional
NEARGOOS	North-East Asian Regional - GOOS
NEPAD	New Partnership for Africa's Development
OCEANIBSA	Inter-regional Alliance for Oceanography and Antarctic Research initiative jointly

	developed by Brazil, India and South Africa
OCEATLAN	Regional Alliance in Oceanography for the Upper Southwest and Tropical Atlantic
ODIN	Oceanographic Data and Information Network
ODINAfrica	Oceanographic Data and Information Network for Africa
ODINCARSA	Oceanographic Data and Information Network for the IOCARIBE and South America
OOPC	Ocean Observations Panel for Climate
PICO	Panel for Integrated Coastal Observations
PI-GOOS	Pacific Islands Global Ocean Observing System
PIRATA	Pilot Research Moored Array in the Tropical Atlantic
POGO	Partnership for Observation of the Global Ocean
ROOS	Regional Ocean Observing System
RSP	Regional Seas Programme (UNEP)
SEAGOOS	South East Asia Global Ocean Observing System
SST	Sea Surface Temperature
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
US-GOOS	United States Global Ocean Observing System
WAGOOS	West Australian Global Ocean Observing System
WESTPAC	IOC Sub-Commission for the Western Pacific
WMO	World Meteorological Organization
XBT	eXpendable BathyThermograph