

STATUS OF GOOS REGIONAL ALLIANCES

September 2002

(Submitted by IOC)

Summary and purpose of document

To inform CGMS Members of the status of GOOS
Regional Alliances up to September 2002

ACTION PROPOSED

CGMS Members to note and comment, as appropriate, on the status of the GOOS Regional Alliances.

DISCUSSION

The following text is an update of the summary provided in the I-GOOS V meeting report (June 2001 available at <http://ioc.unesco.org/goos/docs/GOOS_110_IG5_rpt.pdf>.

I. GRA ACTIVITIES

Indian Ocean GOOS

1. An initial Indian Ocean GOOS strategy was prepared in consultation with contacts throughout the region and discussed at a workshop in Perth in November 2000, on 'Sustained Observations for Climate in the Indian Ocean'. The strategy recognized that the Indian Ocean is grossly under-sampled. There is a considerable need for observations of major but poorly understood phenomena, such as the Indian Ocean Dipole, in the Indian Ocean. There is also a lack of capacity in the region to carry out large scale ocean observing and forecasting efforts. The strategy is directed at identifying the user needs, the observational requirements, the existing subsystems, the gaps in coverage, the present technical capacity, and the capacity building needs. The strategy encourages the involvement in the Indian Ocean of Member States from outside the region but which are capable of and willing to make available data from observing programmes.
2. An IO-GOOS consultative meeting took place in New Delhi in November 2001, hosted by India's National Institute of Oceanography. Principal representatives of 11 agencies from Australia, India, Kenya, Malaysia, Mauritius, Seychelles, South Africa and IOC participated. A Development Committee (IOGOOS-DC), chaired by India was set up and the Indian National Centre for Ocean Information Services (INCOIS) serves as initial secretariat of IOGOOS-DC.
3. The first formal IOGOOS will be held in Mauritius in November 2002. An MoU is expected to be signed which will formally establish an IOGOOS Regional Alliance to foster co-operation towards the development and strengthening of operational oceanography in the Indian Ocean. A series of workshops concerning open ocean and coastal ocean observation needs will take place in connection with this meeting and are expected to lead to some pilot projects.
4. Further information is available at: <<http://ns2.incois.gov.in/iogoos/>>
5. The Western Indian Ocean Marine Applications Project (WIOMAP) is another Indian Ocean activity which contributes to GOOS in the region. This project involves East African and western Indian Ocean island nations, and maps onto the IOCs Regional Committee for the Central and Western Indian ocean (IOCINCWIO). The co-proposers include: Comoros, France, Kenya, Mauritius, Mozambique, Reunion, Seychelles, South Africa, and Tanzania. The project aims to enhance coastal meteorological infrastructure and associated communication technology, and marine support activities to improve weather and marine resource predictions for the tropical West Indian Ocean and its monsoon circulation system. Much of the aim is to build regional capacity building to monitor and predict coastal impacts. A proposal has been written to attract funding for 5 years 2002-2006 (\$2.3 Million). It aims to extend human capacity through formal training; enhance communication infrastructure, expand the marine meteorological observing network, and improve management of project and product delivery. The proposal is expected to receive final endorsement at the IOGOOS meeting after which it will be submitted to various funding bodies.

GOOS-AFRICA

6. The first meeting of the GOOS-AFRICA Committee took place at Maputo in July 1998. Attendees at the Mozambique meeting included: Algeria, Benin, Cameroon, Chad, Congo, Côte d'Ivoire, Egypt, Gabon, Ghana, Guinea, Kenya, Mauritius, Morocco, Mozambique, Nigeria, Senegal, South Africa, Tunisia, Zambia, Zimbabwe. Priorities agreed at ministerial level were: (i)

enhancing sea-level measurements; (ii) enhancing access to and training in the interpretation and use of remotely sensed data from satellites; (iii) expanding the network of National Ocean Data Centres; and (iv) enhancing electronic communication and exchange of data. The latter two items are being addressed through the IOC's ODINAFRICA Project. The first two will be addressed through a GOOS-AFRICA workshop planned for Nairobi in November 2001. Like the MedGOOS meeting in Rabat in November 1999, the objective of the workshop was to draft a proposal that could be addressed to funding agencies under the umbrella of the post-PACSIOM African Process (held in connection with the WSSD), through which funding will be made available to address the priorities identified at the July 1998 meeting in Maputo. The early indications from the African Process meeting suggests that some of the components in GOOS Africa should be recast within the framework of African LMEs. In parallel, the GOOS-AFRICA need for remote sensing has been used to underpin a funding proposal to UNESCO, which won \$400,000 for a 2-year project on capacity building related to the use of remote sensing in Africa, and education about the ways in which this data could be used in coastal regions.

7. More information is available at: <<http://ioc.unesco.org/goos/Africa/AFRIGOOS.htm>>

NEAR-GOOS

8. The North-East Asian Region GOOS Coordinating Committee is a subsidiary body of the IOC's Regional Sub-commission for the western Pacific (WESTPAC). Consequently it is intergovernmental in character, with members appointed by Member States from China, Japan, Korea, and Russian Federation. In terms of UNEP's Regional Seas programmes it maps onto the Northwest Pacific Action Plan (NOWPAP). NEAR-GOOS has had three significant achievements. First was the establishment of an operational data sharing system through which there had been a significant increase in data sharing between national and regional databases via the Internet. Users are able to access the system free of charge, and a high level of interest was manifest from the 2000 visits per month on the central database. Second is the establishment of an annual training course on data and information management. And third is the development of several NEAR-GOOS research projects, especially in Japan and Korea.

9. NEAR-GOOS is developing a medium strategic plan for the 2002-2007, which will consider how to broaden NEAR-GOOS activities away from the successful base of data sharing and towards the incorporation of biological and chemical data on the one hand, and the development of forecasting capabilities on the other hand, so as to aid sustainable development. Both developments should attract more users. Both may require changes to the composition of the Coordinating Committee to broaden the range of agencies involved as members. To this end, the Coordinating Committee agreed to: (i) the establishment of two working groups charged with the elaboration of detailed and comprehensive project documents that highlight concrete steps toward establishing an observation and data management capacity, and an data assimilation, modelling and forecasting capacity respectively; (ii) to set in motion a parallel process to draw up a strategic plan that will build on the discussion paper discussed at the previous CC-meeting; and (iii) to enlist the support of interested scientists to elaborate specific fundable proposals for pertinent elements of a NEAR-GOOS initial observing system.

10. To take forward the forecasting initiative, a NEAR-GOOS ocean environmental forecasting workshop was held as part of the WESTPAC international scientific symposium in Seoul in August 2001. This meeting was co-sponsored by the regional Pacific marine science and fisheries organization, PICES. NEAR-GOOS has been working closely with NOWPAP reflecting the interest in taking on more environmental variables, so as to broaden the product range.

11. NEAR-GOOS VII will take place in October 2002. The meeting will finalise the NEARGOOS 2002-2007 strategic plan, and decide on new working mechanisms for the Coordinating Committee. An observer delegation from DPR Korea, and an observer from NOWPAP are expected to participate.

12. More information on NEAR-GOOS is available at:
<http://ioc.unesco.org/goos/NearGOOS/neargoos.htm>

SEA-GOOS (South-East Asia GOOS)

13. A SEA-GOOS Workshop took place at the WESTPAC Scientific Meeting, Seoul, August 2001. The focus for the workshop was on sub-regional projects targeting the interests of small groups of neighbouring states in particular sea areas within the SEA-GOOS region, such as the Gulf of Thailand for example. Some of the suggested projects focus on forecasting typhoons, droughts, or the timing of onset of the monsoon. This approach may help to avoid the geopolitical problems likely to emerge in the creation of an overarching SEA-GOOS embracing all ocean areas. It is also noted that many countries in the region do not have national oceanographic data centres which hampers regional GOOS developments.

14. Within this area several countries have been brought together by WMO and the IOC to develop a project proposal to ASEAN organization for funding a South-east Asia Centre for Atmospheric and Marine Prediction (SEACAMP). The attendees at the initial SEACAMP meeting included: Australia, Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam.

15. UNEP's East Asian Seas Coordination Unit is interested in cooperating with IOC in the development of SEA-GOOS. In this context, US\$32 million has been invested in a South China Sea project funded by the Global Environmental Facility (GEF) of the World Bank, which provides a platform on which to think of building the initial elements of a regional GOOS.

PacificGOOS

16. PacificGOOS is based on a Memorandum of Understanding (MoU) between the IOC and the South Pacific Geosciences Commission (SOPAC) representing all South West Pacific island states, including Australia and New Zealand, and therefore has the character of an intergovernmental organization. Attendees at the initial PacificGOOS meeting in February 1998 included representatives from Australia, Cook Islands, Fiji, Niue, New Caledonia, Palau, Papua New Guinea, Samoa, Solomon Islands, and Tonga, as well as France, Netherlands, UK and USA. PacificGOOS maps onto UNEP's South Pacific Region Environment Programme, SPREP, which is part of the Regional Seas Programme.

17. PacificGOOS has organized two workshops, the most recent being in Apia in August 2000, where four pilot projects were initiated. The PacificGOOS Steering Committee has commissioned a consultant to draft a Strategic Plan <<http://ioc.unesco.org/goos/GSC5/PacificGOOS%20Strategy%20Feb%2002.pdf>>. The draft plan suggests the following actions and projects for the Interim Pacific GOOS: (i) Establish Pacific GOOS Association; (ii) Define the contribution of the North Pacific Marine Science Organisation (PiCTs) contribution to GODAE; (iii) Awareness raising of PiCTs needs for GOOS data; (iv) Develop project design documents for the three coastal GOOS pilot projects identified by participants who attended the Pacific Regional coastal GOOS workshop convened in Samoa in August 2000 [Coastal water quality; Mariculture development of pearls and seaweed; and Coral Reef Health of Tourism Dive Sites]; (v) Identify GOOS data and products for oceanic fisheries; (vi) filling "knowledge gaps" in existing regional "GOOS-type" projects.

18. The IOC Regional Programme Office, Perth, is assisting in the development of PacificGOOS, with the help of an ad hoc Secretariat provided by SOPAC. Both PacificGOOS and SOPAC are helping to facilitate the implementation of the Argo float project in the region. Furthermore they have assisted with the launch of the SEREAD project.

S.E. Pacific GOOS activities

19. IOC has a Memorandum of Understanding (MoU) with the Permanent Commission for the South Pacific (CPPS), the body set up to facilitate marine science interactions and cooperation between the nations of Chile, Colombia, Ecuador, and Peru.

20. The CPPS is the Regional Coordinator for part of UNEP's Regional Seas Programme, the Plan of Action for the Protection of the Marine Environment and Coastal Areas of the South East Pacific, which falls under the Lima Convention.

21. I-GOOS-IV has recognized that increased cooperation between IOC and CPPS would be beneficial to both organizations, particularly with regard to the development of GOOS in the region, and decided to explore the possibility that the CPPS agreement with IOC be complemented by a special arrangement, specifying the contribution of CPPS to GOOS development, including national CPPS contributions. This was endorsed by the IOC Assembly in Resolution IOC-XX-10, which called on the Director of the GOOS Project Office or his representative to liaise with an appropriate delegate of the CPPS, together to stimulate the development of GOOS in the southeastern Pacific, using the mechanism offered by the existence of the Joint IOC/WMO/CPPS Working Group on El Nino. Ultimately the intention is to develop a regional southeast Pacific observing system based on the GOOS design and following GOOS principles. An Annex had been drafted to add to the IOC-CPPS MoU, so as to cover the proposed interactions in the context of GOOS as required by the Resolution, and is now being considered by the CPPS.

22. The former Coastal GOOS Panel had proposed as part of the Coastal GOOS design plan a pilot project along the west coast of South America to collect information from buoys and tide gauges so as to monitor the transfer of major central pacific events down the South American coast, as the basis for forecasting local oceanographic effects on the environment.

23. Peru and Chile have informed that their coastal waters are now becoming instrumented with oceanographic platforms that could form the basis for a regional GOOS. A common Peru-Chile sea-level network is developing under the aegis of the CPPS, following GOOS principles.

EuroGOOS

24. EuroGOOS is a self-funded association of 31 agencies from 16 countries, that were signatory to a binding MoU between themselves. The countries involved are: Belgium, Denmark, Finland, France, Germany, Greece, Italy, Ireland, Netherlands, Norway, Poland, Russian Federation, Spain, Sweden, Turkey, and the UK. EuroGOOS has made substantial progress toward, and exceeded, the goals set out in its original plan. New plans are being developed for the next decade. These included an expanded list of forecast variables, including nutrients, water quality, and ecosystem parameters, as well as significant improvements in operational oceanographic models and services. To take forward the development of biological and ecological observing systems, models and forecasts, EuroGOOS has held a bio-ecological workshop jointly with ICES.

25. The EuroGOOS Regional Task Teams continue their development. Operational oceanographic systems (OOS) has emerged, the first being the Baltic OOS (BOOS), which also serves the needs of the Helsinki Commission (HELCOM). A similar OOS has been established for the Northwest shelf. The Northwest shelf OOS (NOOS) will include coverage of the North Sea. EuroGOOS has co-sponsored with ICES and the Oslo-Paris Commission (OSPAR) a workshop in Bergen (September 2001) to consider an ecosystem-based approach to environmental and fisheries management in the North Sea, to enable environmental and fisheries organizations to capitalize on the development of NOOS. MoUs have been signed for both BOOS and NOOS. The Mediterranean Forecasting System Pilot Project, MFSP, had a successful test period, and its successor, MFSTEP, has achieved EC funding. Developments in the Atlantic continue and focus on the European contributions to GODAE and ARGO (i.e. CORIOLIS, MERCATOR, FOAM,

GYROSCOPE, and DIADEM-TOPAZ). The EuroGOOS Arctic Task Team held a planning workshop in May 2001, and formulated a policy focussing on the Nordic Seas between Norway and Greenland, and ice processes and under-ice phenomena in the broader Arctic Ocean.

26. Some EuroGOOS data products are available on the Internet home pages of the members or the regional task teams (for the Baltic, Northwest Shelf, Mediterranean, Arctic, and Atlantic). EuroGOOS has developed a data policy. EuroGOOS has also developed with EUMETSAT a policy for European satellite missions in support of ocean data collection. EuroGOOS has also developed a link to regional hydrographic offices so as to assure the supply of appropriate bathymetric data for ocean models.

27. EuroGOOS has recently started the project European Directory of the Initial Ocean Observing System, EDIOS. This project aims to produce an extensive and detailed metadatabase on ocean observations made by European countries. The metadatabase will be a web-based inventory serving different users and will be used in the identification of a European station network contribution to GOOS, and defining the availability of observed data in relation to the EuroGOOS Data Policy.

28. The third EuroGOOS Conference will be held in Athens, Greece, 3-6 December 2002. The mission of the conference is to show the progress of operational oceanography during the past three years on a European and a global scale, to identify gaps in the current observing, nowcasting and forecasting capacity, and to advise on the next steps towards efficient marine environmental predictions. The conference will host a number of side events such as the Operational Forecasting Cluster Meeting of the European Commission DG – Research and the GOOS Regional Forum (see later).

29. EuroGOOS partners have attracted substantial funds for operational oceanography from the EU research programmes (MAST and FP5). Some of the most recent funded projects include MAMA, PAPA and ARENA, which give support to the co-ordination of operational activities from all coastal states and continued development of operational oceanography in the Mediterranean, the Baltic Sea and the Black Sea respectively. As FP5 is winding down, preparations have been under way for the 6th Framework Programme which will be launched in November 2002. FP6 will encourage and support large integrated efforts that will be more autonomous in relation to the EU Commission in how to achieve the expected results and deliveries. Also the FP6 will be open to wider participation from outside the EU community.

30. The EuroGOOS Office was transferred on 1 January 2002 from the Southampton Oceanography Centre to the Swedish Meteorological and Hydrological Institute, SMHI, Norrköping, Sweden. The new Director is Hans Dahlin and Siân Petersson is the EuroGOOS Assistant.

31. More information on EuroGOOS is available at: www.eurogoos.org.

MedGOOS

32. MedGOOS, is, like EuroGOOS, an association of agencies. Agencies from many Mediterranean countries are now signatory to a binding MoU to develop and implement observing systems in the Mediterranean. In addition almost all Mediterranean countries participated in the MedGOOS meeting in Rabat in November 1999, and are partners in the European Commission EC research proposal that emerged from it, including: Albania, Algeria, Bosnia, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Montenegro, Morocco, Palestine Authority, Slovenia, Syria, Spain, Tunisia, Turkey. A MedGOOS Secretariat has been developed in Malta, hosted by the International Ocean Institute, Malta, and supported with funds from MedGOOS patrons.

33. The current focus of MedGOOS is on the implementation of the first MedGOOS project 'Mediterranean network to Assess and Upgrade Monitoring and Forecasting Activities in the Basin' (MAMA), which was funded by the EC for 2.3 Million Euros. MAMA has the following objectives:

- To build the basin-wide network for ocean monitoring and forecasting, linking all the Mediterranean countries, broadening and strengthening the existing observing systems;
- To identify the gaps in the monitoring systems in the region and in the capability to measure, model and forecast the ecosystems, taking stock of current research, training and development projects and other initiatives;
- To build capacities for expertise in the setting up and running of observing platforms, in managing data, in modelling and forecasting the ecosystem;
- To design the initial observing and forecasting system, inter-comparing experiences and standardizing practices, towards the coordinated upgrading of the observing and forecasting capabilities in all Mediterranean countries;
- To raise awareness of the benefits of ocean forecasting at local, regional and global scales, involving stakeholders, and disseminate MAMA results and products.

These objectives will be met through the achievement of eight work packages.

34. The MAMA proposal has successfully served as a generic template for similar proposals submitted by other GRAs (i.e. PAPA for BOOS and ARENA for Black Sea GOOS).

35. More information is available at:
<<http://ioc.unesco.org/goos/MedGOOS/medgoos.htm>>
,<http://www.ifremer.fr/mama/>>

Black Sea-GOOS

36. Like NEAR-GOOS and IOCARIBE-GOOS, Black Sea GOOS is organized under the aegis of an IOC regional body – the Black Sea Regional Committee, and therefore could be considered to have an intergovernmental character. It had first been identified as a pilot project of that Committee by the IOC in June 1995, in Resolution IOC.XVIII-17. However, the first Black Sea GOOS meeting did not take place until October 1999, in Albena, Bulgaria, where a start was made on identifying needs and customers. In addition some strategic planning for operational oceanography had been done for example in producing the BlackMARS document. At the second meeting of Black Sea GOOS (Poti, Georgia, May 2001) a draft MoU covering the constitution and management of Black Sea GOOS was approved. Black Sea GOOS will foster the development of operational oceanography in the Black Sea region, capitalizing on existing subsystems, and adopting best practice from elsewhere, especially using advice from EuroGOOS and from the MedGOOS. A draft strategy and implementation plan has been developed to achieve this aim, to identify the present observing systems, to fill gaps, to exploit ferry lines as repeat sections, to promote the building of an appropriate infrastructure (including institutions, instruments and equipment), and to build capacity. Black Sea GOOS developed an EU FP5 proposal "A Regional Capacity Building and Networking Programme to Upgrade Monitoring and Forecasting Activity in the Black Sea Basin – ARENA" which has been selected for funding. ARENA is expected to start in the 1st quarter of 2003.

37. More information is available at:
<http://www.ims.metu.edu.tr/Black_Sea_GOOS/>

IOCARIBE-GOOS

38. IOCARIBE-GOOS was a subsidiary body of the IOC's Regional Sub-commission for the wider Caribbean region (IOCARIBE), and is hence intergovernmental in character, with members appointed by Member States. Attendees at the first IOCARIBE-GOOS meeting in Costa Rica in April 1999 included: Barbados, Belize, Brazil, Colombia, Costa Rica, Cuba, Martinique, Guatemala, Mexico, Netherlands, Puerto Rico, Trinidad and Tobago, UK, USA, and Venezuela. An ad hoc Advisory Group for IOCARIBE-GOOS had been formed to lay the groundwork for the development of IOCARIBE-GOOS. Members of the advisory group came from: Barbados, Costa Rica, Cuba, Mexico, Trinidad and Tobago, USA, and Venezuela. IOCARIBE-GOOS maps onto UNEP's regional seas environment programme for the Caribbean, which meets the needs of the Cartagena Convention.

39. The third session of the ad hoc advisory group for IOCARIBE-GOOS was held in Miami, USA. (April 2001), to develop the draft chapters of the strategic plan for IOCARIBE-GOOS. Part of this exercise involved developing Inventory of Existing Systems (via IOCARIBE-GOOS Secretariat, NOAA, Miami). Plans were being made to hold a regional workshop to develop pilot programmes (Late 2001/Early 2002). A first draft of a Strategic Plan has been completed.

40. The advisory group organized a 'Caribbean Sea and Gulf of Mexico Regional GOOS Symposium' as a contribution to the Oceanology International (OI) 2001 Americas meeting, which was held on April 4th in association with the group's third session. The symposium was well attended and considerable interest was shown by participants in the development of IOCARIBE-GOOS. It is intended to publish the papers from this meeting in an appropriate journal.

41. More information is available at:
<<http://ioc.unesco.org/goos/carigoos.htm>>

SW Atlantic GOOS

42. A regional GOOS office has been set up in Rio (Brazil) with the charge of developing a GRA for the SW Atlantic. The main activities of the office are currently focused on the PIRATA project. A meeting is planned for the 1st half of 2003 to discuss developments of a SW Atlantic coastal observation network.

The International Council for the Exploration of the Sea (ICES) and GOOS

43. ICES encompass some 2000 scientists working through around 200 institutes in 19 member countries. These organizations have been collecting oceanographic information as well as information on living resources, for 100 years, and all of it could be useful to GOOS. ICES has a number of expert science committees and advisory groups covering matters of interest to GOOS. The science committees are responsible for developing new approaches and technologies that may be useful to GOOS. The advisory bodies help ICES to provide scientific advice to ministers.

44. Because of its interest in the potential of GOOS for meeting ICES needs, and to explore how ICES and GOOS might interact, ICES had formed a Steering Group on GOOS in 1997. At the I-GOOS IV it had been recommended that this group be jointly sponsored by the IOC, so as to ensure that it got the most appropriate advice on GOOS through the IOC. EuroGOOS and the GPO are members of the Group, the ICES-IOC Steering Group on GOOS, which held its first meeting in Southampton in October 2000. The Southampton meeting agreed to hold a workshop in Bergen in September 2001 on operational oceanography for support of an ecosystem-based approach to the management of fisheries focusing on the North Sea. This meeting recommended that an ICES/EuroGOOS North Sea Ecosystem Pilot Project (NORSEPP). A draft implementation plan has been developed for this project <<http://www.ices.dk/reports/occ/2002/pgnsp02.pdf>>. An associated project proposal will be submitted to the EU FP6 program.

45. ICES also contributes hydrographic/chemical data from the International Bottom Trawl Survey (IBTS) of the North Sea as part of the GOOS-IOS. It is considering how to make available other IBTS such data from the margins of Ireland, France, Spain and Portugal.

46. More information is available at:
<<http://www.ices.dk/iceswork/wgdetail.asp?wg=SGGOOS>>

II. REGIONAL GOOS POLICY

47. I-GOOS IV (1999) called for the development of a policy governing the regional development of GOOS. A draft policy was presented to I-GOOS V "REGIONAL POLICY FOR GOOS" (http://ioc.unesco.org/goos/IG5/IG5_10_RegPol.pdf). At I-GOOS V (2001) an intersessional working group was established to build on this document and further develop the regional policy, with the intent that it should not be too prescriptive. The intention is that I-GOOS should be able to recognize new regional groups, encourage support of regional groups, ensure appropriate vertical coordination with central GOOS bodies, and encourage coordination horizontally between regional groups.

III. GOOS REGIONAL FORUM

48. I-GOOS V decided that it would be useful to have the regional bodies come together once every two years, between formal I-GOOS meetings, among other things to explore common problems, to exchange ideas, and to learn from best practice. This could be seen as a federation of the regional alliances, and may help to cement and enhance GOOS developments globally. The first such regional forum will be held in Athens in connection with the EuroGOOS conference in December 2003. The Forum will take place on December 2 and December 6, 2002).

IV. SUMMARY

49. Creation of regional GOOS bodies has substantially increased the number of Member States engaged in GOOS. This is happening through three complementary mechanisms: (i) creation of subsidiary bodies within the intergovernmental structure of the IOC (NEAR-GOOS, IOCARIBE-GOOS, Black Sea GOOS, WIOMAP); (ii) creation of regional groups within alternative intergovernmental structures operating on behalf of IOC (PacificGOOS in SOPAC); and (iii) creation of regional associations (EuroGOOS, MedGOOS) in areas where there was no formal IOC structure. All groups are related closely to the regional intergovernmental structures of UNEP's Regional Seas Programme and its Conventions and Action Plans, or to pre-existing Conventions (EuroGOOS and OSPARCOM).