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INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

INFORMATION DOCUMENT

IOC CONTRIBUTION TO UNESCO PRIORITY AFRICA

Overarching objective 2:

**Mobilizing science knowledge and policy for sustainable development
for the biennium 2008–2009**

Summary: The Intergovernmental Oceanographic Commission (IOC) of UNESCO implements activities in Africa through global programmes in coordination with regional subsidiary bodies (IOCEA—Central Eastern Atlantic Ocean Region; and IOCWIO—Western Indian Ocean Region). A high level of implementation of IOC activities in all sections took place in Africa during the 2008–2009 (34 C/5) biennium, and is projected to continue in the current biennium (35 C/5: 2010–2011). The activities, results, and budgets for the last biennium and those proposed for the current biennium are summarized in the report.

The **Capacity Building Section** coordinated regional leadership, proposal-writing, and team-building workshops in IOCEA and IOCWIO, attended by institutional directors and scientists. Training was also undertaken in the use of Decision Support Tools (DSTs) for coastal management, resulting in 7 projects implemented in IOCWIO – one of which is an EU funded project in Tanzania addressing sustainable coastal livelihoods through participatory management. Training in IOCWIO also took place through COASTMAP-IO, covering inundation mapping, and natural disasters risk assessment and management. Support to African ministers and negotiators in preparation for the Climate Change Conference (COP15) included expert advice and documents at meetings before the conference, and coordination of a team of African experts at COP15. In the current biennium, management plans and best practices guidelines using DSTs will be produced through the EU funded coastal management project in Zanzibar, Tanzania. Further DSTs training will take place in IOCEA, and the COASTMAP-IO project will continue with on the job training for scientists in IOCWIO in bathymetry mapping.

The 4-year project **Adaptation to Climate Change in Coastal areas of West Africa (ACCC)** was initiated by the **Ocean Science Section** of IOC. The project contributes to better understanding and management of shoreline change, induced by climate variability, in the five participating countries (Cape Verde, Gambia, Guinea Bissau, Mauritania and Senegal). The project focuses on implementing measures to strengthen the resilience of vulnerable communities to the impacts of climate change on coastal resources. Results during the biennium included training of experts on mangrove and dune restoration, and training on climate change in coastal zones. In North Africa, the section also initiated the network “Harmful Algae in North Africa”, and trainings in marine bio-toxins.

Activities lead by the Ocean Observation Section of IOC include the International Oceanographic Data and Information Exchange programme (IODE) project: The Ocean Data and Information Network for Africa (ODINAFRICA), the Global Ocean Observation Systems in Africa (GOOS-AFRICA), the Global Sea Level Observation System (GLOSS), the Joint Commission for Marine Meteorology and Oceanography (JCOMM), and the ARGO Project Office in Toulouse. In the last biennium, ODINAFRICA-III included 40 institutions from 25 countries. Results include development and training on: (i) a network of National Oceanographic Data and Information Centres; (ii) the African Marine Atlas; (iii) OceanDocs African e-repository, and (iv) the sea level network. The development of the African Sea Level Network included establishment of 15 stations, also contributing to the Global Ocean Observing System in Africa (GOOS-AFRICA). GOOS-AFRICA supports national, regional and international networks such as GEO, and GCOS for Climate Change.

GOOS-AFRICA empowered national and regional capacity in assisting with the establishment of UNESCO Chairs with Regional Master and Ph. D. programmes in Oceanography including the UNESCO Chair in Mathematical Physics and Applications at the University of Abomey Calavi in Benin involving public and private partnership support, notably with TOTAL. Through the GEONETCast/DevCoCast project, GOOS-AFRICA supports the installation of EUMETSAT receiving stations in Tanzania, Ghana, Senegal, Namibia, Sudan and Eritrea. A number of African landlocked countries are included in the project from Climate Change perspective. In addition, GOOS-AFRICA formed a consortium with a number of European research and education institutions. This Consortium has developed a proposal to promote European-African Marine Network (EAMNet) which was submitted to and received the European Commission support under the Framework Programme 7 for fellowships, curriculum development and research activities within selected African universities and research institutes in marine sciences and operational oceanography.

The African member states in the Intergovernmental Coordination Group ICG of the Indian Ocean Tsunami Warning and Mitigation System (IOTWS) and in the Intergovernmental Coordination Group ICG for the Tsunami Early Warning and Mitigation System in the North-eastern Atlantic, the Mediterranean and Connected Seas (NEAMTWS) have intensified their

participation in the respective ICGs. Special emphasis of the **Tsunami Unit**, which coordinates the support of the ICGs, is being given to enhance the national seismic and sea level networks, improve technical communication and national coordination mechanisms. At present the IOC data policy on the access and delivery of operational sea level data is being implemented.

1. IOC REGIONAL SUBSIDIARY BODIES

- Supporting IOCEA \$25,000 (RP - decentralized)

Preparations for IOCEA-VII commences, funds carried forward to March 2010 when the session was held.

- Supporting IOCWIO \$40,000 (RP - decentralized)

Coordination of IOC activities in the WIO region, particularly Capacity Development and ODINAFRICA. Seventh session of the IOC's Regional Committee for the Western Indian Ocean held 19 – 22 July 2008, Mombasa, Kenya and attended by representatives of 7 (Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Tanzania) of the 10 member states from the region.

ONE UN ACTIVITY:

- IOC Technical Mission to Senegal
on Marine Protected Areas, March 2009 \$20,000 (RP)

Programs of the IOC and their relevance for Senegal presented to high officials. Marine Protected Areas (MPAs) sites in Senegal were visited and a report on their management was produced

2. IOC-CD: CAPACITY DEVELOPMENT

- Associate Expert in Nairobi \$240,000 (of which RP \$55,000)

The Associate Expert provided support for IOCWIO Capacity Development initiatives

- Third Advanced Leadership workshop for Heads of Marine related institutions and senior role models for the Western Indian Ocean Region, Maputo, Mozambique, 10–14 April 2008 \$50,000 (ExB)

Countries concerned: Mozambique (participants from Comoros, Kenya, Madagascar, Mauritius, Tanzania, Cameroon, China, Ghana, Nigeria)

The workshop, attended by 27 participants was the last in a series of leadership workshops in region. Leaders and senior role players were provided with training empowering them with the skills to identify, collaborate, plan and implement change in the institutes and make them more sustainable and better serve their National stakeholders.

- Partnering Congolese Authorities and Scientists in the Development of the Congo Regional Initiative on Managing the Impacts of Coastal Erosion, Loango, Congo, 6–10 October 2008 \$20,000 (ExB)

Countries concerned: Congo (participants from Cote d'Ivoire, Ghana, Cameroon, RDC, Gabon)

The workshop brought together coastal dwellers and community representatives, traditional chiefs, ministry representatives and 2 Ministers, and Congolese, regional and international scientists to map the way forward for a regionally coordinated approach to managing coastal erosion in Central Africa

- Applied National Hydrodynamic Modelling in the Western Indian Ocean Region, Nairobi, Kenya
24 November–5 December 2008 \$15,000 (RP)

Countries concerned: Kenya (participants from Seychelles, Madagascar, Mozambique, Rwanda, Tanzania)
17 participants attended this workshop. Draft models developed for 8 pilot sites in the 6 countries, with identified management issues to be addressed. This included collation of data required for modelling at all sites.
- Empowering Non-State Actors (NSAs) in Tanzania to Plan for Sustainable Coastal Livelihood using Decision Support Tools \$85,000 (ExB)

Countries concerned: Tanzania
The project is funded through the EU's Regional Programme for the Sustainable Management of the Coastal Zones of the Countries of the Indian Ocean (ReCoMaP). The project runs for two years and in 2009 activities included: collection of data; development of a hydrodynamic model; presentation of a scientific report on the hydrodynamics of the Jambiani Coast, Zanzibar; a training workshop involving 10 participants concerning the preparation of hydrodynamic models; stakeholder analysis addressing issues of coastal livelihoods at the site; and "Training of Trainers" from NGOs, government departments and institutions on participatory management and stakeholder analysis methodologies. Trainers then in-turn led the project stakeholder workshop with 38 local participants.
- Implementation of five (5) hydrodynamic modeling projects in the IOCWIO region addressing stakeholder needs in Kenya (2), Mozambique (2), and Seychelles (1) \$60,000 (ExB)

Countries concerned: Kenya, Mozambique, and Seychelles
Sites where models were developed by institutions, addressing coastal management issues, were:

 - Kenya: Malindi - sea level rise and flooding (Kenya Meteorological Department - KMD)
 - Kenya: Shimonzi - fisheries habitats (Kenya Marine and Fisheries Institutes – KMFRI)
 - Mozambique: Bon Sinais - water quality (University of Eduardo Mondlane School of Marine and Coastal Sciences - UEM/ National Institute for Hydrography and Navigation - INAHINA)
 - Mozambique: Beira - dredging and sediments (INAHINA/UEM)
 - Seychelles: Fisheries habitats (Seychelles Fisheries Authority – SFA)
 - Tanzania: Zanzibar – Coastal erosion (Institute of Marine Science - IMS)

Workshops undertaken included:

 - Hydrodynamic Modelling for Stakeholders of the WIO Region – 1st workshop: development of projects from Mozambique, Quelimane, Mozambique, August 31 – September 5, 2009
 - Hydrodynamic Modelling for Stakeholders of the WIO Region – 2nd workshop: development of projects from Kenya and Seychelles, Mombasa, Kenya, 7–12 September, 2009
- Developing Capacity for modelling based Decision Support Tools for Coastal Management in Central Africa
23 – 27 November 2009, Kribi, Cameroon \$35,000 (ExB)

Countries concerned: Cameroon (participants from Angola, Congo, Cameroon DR Congo, and Gabon)
13 participants were trained in modelling. 1 portable tide gauge installed in the port of Kribi, with Cameroonian experts trained to use it. 1 GPS-echosounder left each for Cameroun, Congo, Gabon, for use by Central African scientists to survey coastal bathymetry.
- Technical support to the African Union Commission for Enhancing the African science input in climate negotiations and climate adaptation \$50,000 (ExB)

Countries concerned: Experts from Kenya, Mozambique, South Africa and Tunisia
In the lead up to the Climate Change Conference (COP15), the African Union Commission, with support of UNESCO/IOC and a network of marine institutions, highlighted the increasing costs attributed to climate change impacts on the coastal zones of Africa – presented and discussed during consecutive AMCEN meetings in both Nairobi and Addis in preparation for COP15. Subsequently, support was provided to African ministers and negotiators in preparation for the

Climate Change Conference (December 7-18, 2009). This included expert advice and documents at meetings before the conference, and coordination of a team of African experts at COP15.

- **COAST-MAP-IO. Enhancing capacity to map coastal hazards in the Indian Ocean region** \$220,000 (ExB)

 Training was provided in (1) tsunami modelling, inundation mapping and remote sensing, (2) advanced hydrographic survey, (3) GIS and inundation mapping, (4) multibeam hydrography (2), (5) project development and fundraising, (6) risk-assessment (2), and (7) bathymetric processing techniques for coastal data. In each of these 9 courses 1-2 participants from 6 African countries participated
- **Support for UNESCO/IOC Chair in Marine Sciences and Oceanography at the University Eduardo Mondlane** \$5,000 (RP)

Countries concerned: Mozambique
 Contribution to the development of a hydrodynamic model to support resource and environment management. Collected CTD data, historical bathymetric data, historical meteo data (winds, runoff), tides from global were used by students, disclosed the circulation pattern of the region, and used for setting model grids

3. IOC-OSS: OCEAN SCIENCE

- **Assessment of Assessments** \$15,000 (10,000 RP; 5,000 ExB)

 As part of the efforts to establish a process under the UN to assess the state of the marine environment, IOC working together with UNEP has implemented an assessment of assessments (AoA), which provides a critical review of existing global and regional assessments including regional reports for the following regions: 06-Eastern African Seas, 07-Mediterranean, 13-Red Sea and Gulf of Aden and 20-Western African Seas.

 A set of recommendations for building a global mechanism for keeping the oceans was evaluated, building on existing regional and national mechanisms. The final report will be submitted to the 64th UN General Assembly for its consideration.
- **Harmful Algal Blooms** \$30,000 (ExB)

 The IOC Intergovernmental Panel on Harmful Algal Blooms has a good representation of African member states as follows: Morocco, Namibia, Tunisia, Egypt, Nigeria, Seychelles and Togo. A training course on marine bio-toxins (X Curso IOC-AECID-IEO sobre Biotoxinas Marinas) was organised at the Centro Oceanográfico de Vigo, Spain, 9-25 September 2009, with participation from Angola and Tunisia.

 With the support of IOC, HAB programme has developed a network in Africa 'Harmful Algae in North Africa, HANA'. The IOC-HANA network aims at improving scientific knowledge of the physical, biogeochemical and physiological factors governing harmful algal occurrences in the region and exchange of information through regular working groups. Fifteen (15) experts from Egypt, Tunisia, Algeria, Mauritania and Morocco met from 7-9 November 2009 in Alexandria, Egypt to discuss HAB problems in the HANA region and facilitate monitoring and management programme for phytoplankton, phytotoxins and sea food safety in all countries of the region.
- **Adaptation to climate and coastal change in West Africa (ACCC)** \$370,000 (340,000 ExB; 30,000 RP)

 The ACCC project was funded by the Strategic Priority on Adaptation and focuses on implementing measures to strengthen the resilience of vulnerable communities to the impacts of climate change on coastal resources. The African countries involved are Cape Verde, Gambia, Guinea Bissau, Mauritania and Senegal. The experience of UNDP, in close collaboration with UNESCO/IOC, is guiding the implementation of this project through a set of nationally and regionally executed activities. At the moment the countries are in the process of developing their National Activity Frameworks through consultations with national and local stakeholders. This includes confirmation of the project site, defining the scope and activities at the site, the preparation of indicative budget for these activities, and the definition of baselines and indicators; followed by Inception meetings. The activities in 2008-2009 included:

- Inception Workshop of the GEF-UNDP-IOC/UNESCO Project on Adaptation to Climate Change in Coastal Zones of West Africa (ACCC Project) - \$25,000 (\$5,000 from RP)
The project work plan and budget was approved, partnership identified, and national and regional project teams formed.
- Establishment and operations of IOC Project Unit at the UNESCO Dakar Office and hiring of Coordinator - \$145,000 ExB)
The project office provides effective coordination and execution mechanism for the project.
- ACCC Training Workshop on Climate Change and Coastal Zones, 23-25 April 2009, Dakar, Senegal - \$20,000 (ExB)
32 participants from the 5 countries have been trained and a total of 19 trainers were involved.
- ACCC Training Workshop on Mangrove Restoration
27–30 April, Saly, Senegal - \$20,000 (ExB)
- ACCC Training Workshop on Reforestation Techniques for Coastal Dunes, 13–16 June 2009, Nouakchott, Mauritania - \$20,000 (ExB)
- ACCC Coordinator's Participation in African Union Ministerial Meeting on Climate Change (May 2009, Nairobi, Kenya), 3rd World Climate Conference (September 2009, Geneva, Switzerland), and UNFCCC CoP, (December 2009, Copenhagen, Denmark)
- \$15,000 (\$5,000 from RP)
Increased visibility for ACCC, and publication of paper in Climate Sense book
- 2nd ACCC Steering Committee meeting Banjul, The Gambia, November 2009 - \$25,000 (\$5,000 from RP)
The work plan and budgets were revised, past achievements reviewed, and execution mechanisms improved.

4. IOC-OOS: OCEAN OBSERVATIONS

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|---|---|
| • Temporary position for GOOS-Africa | \$200,000 (of which RP 80,000) |
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| • An Integrated Ocean Observation and Services Network for Africa
ODINAFRICA-III | \$292,000 (2008) (ExB)
\$34,000 (2009) (ExB) |
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Each of the participating institutions developed a suite of data and information products that have been quality controlled, merged and availed through the project website (www.odinafrica.org). These include: library catalogues, catalogues of national data sets and data sources (meta databases), directories of marine and freshwater professionals, directories of marine related institutions and their profiles, marine data archives and marine biodiversity databases. These are also from NODC websites (www.nodc-countryname.org e.g. www.nodc-senegal.org). Training was provided on a wide range of topics such as data and information management, development of e-repositories, websites development, application of remote sensing and GIS to coastal management, marine biodiversity data management, modeling; end to end data management; and Sea level data analysis and interpretation.

In collaboration with the Global Sea Level Observation System (GLOSS) new tide gauges were installed in Cameroon, Congo, Djibouti, Egypt, Ghana, and Mauritania. The installation of Global Navigations Satellite Systems – GNSS receivers at the sea level stations in Takoradi (Ghana), and Inhambane and Pemba (Mozambique) provides the connection between the horizontal and the vertical datum at these locations. This brings the total number of tide gauges installed along the African coastline to more than 40. Information on the network is available on the African Sea Level Network website (www.iode.org/glossafrica), while the data from 22 of the stations can be accessed near-real time at <http://www.ioc-sealevelmonitoring.org/>.

The African Marine Atlas developed in collaboration with the African Coelecanthe Project (ACEP), and the United Nations Environment Programme provides access to maps, images, data and information to a wide range of users. The static website (<http://omap.africanmarineatlas.net>) contains over 800 downloadable data products derived from the fields of marine geo-sphere, hydrosphere, atmosphere, biosphere, geopolitical and the human socio-economic dimensions. The mapserver demonstration site (<http://www.africanmarineatlas.net>) has been developed by the atlas team as a training exercise, and a data dissemination tool through which several data layers can be viewed.

ODINAFRICA also assisted participating Member States to catalogue their marine libraries. In addition the ODINAFRICA project created the OpenScienceDirectory project (<http://www.opensciencedirectory.net>) (in collaboration with the University of Hasselt, Belgium and EBSCO). This is a search tool for open access journals and journals in special programmes in developing countries. In June 2009 the OpenScienceDirectory provided access to over 13,000 scientific.

A special publication on the accomplishments of the ODINAFRICA-III project ("The African Oceans and Coasts") was published. It improved awareness of marine issues in the countries participating in ODINAFRICA

- Development of an easy to install deployment package of an electronic repository of Marine science publications from/about Africa

\$12,000 (2008) and \$7,000 (2009) (ExB)

Through OceanDocs (<http://www.oceandocs.net>) publications from scientists in the participating countries are made available on-line in full-text, thereby reaching thousands of peers around the world. In 2008, 82,617 online publications from African authors were thus downloaded; in 2009 (January-June) a total of 78,000 were downloaded

- Maintenance/Leveling assistance for ODINAFRICA installed sea level gauges

\$32,000 (2008) (ExB)

In collaboration with GLOSS, support was provided for the maintenance and levelling of the new tide gauges installed by ODINAFRICA in Cameroon, Congo, Djibouti, Egypt, Ghana, and Mauritania.

- Workshop on assessment of ocean data and information requirements for Coastal Management, 30 March – 2 April 2009, Oostende, Belgium

\$90,000 (ExB)

The workshop was attended by the Heads of institutions participating in ODINAFRICA-IV and assessed the ocean data and information requirements for coastal management as a basis for developing the implementation plan for ODINAFRICA-IV

- Integrated Data and Information Products and Services for the Management of Oceans & Coastal Zones in Africa (ODINAFRICA-IV)

\$94,000 (ExB)

The implementation of ODINAFRICA-IV commenced in 2009. Activities implemented include assessment of capacities of national institutions, meeting of the ODINAFRICA Coastal and Marine Atlases task team to plan for the development of atlases and related mapping activities, and meetings of ODINAFRICA Regional Coordinators for BCLME and GCLME regions,

- IODE Support for African experts to participate in various meetings and workshops

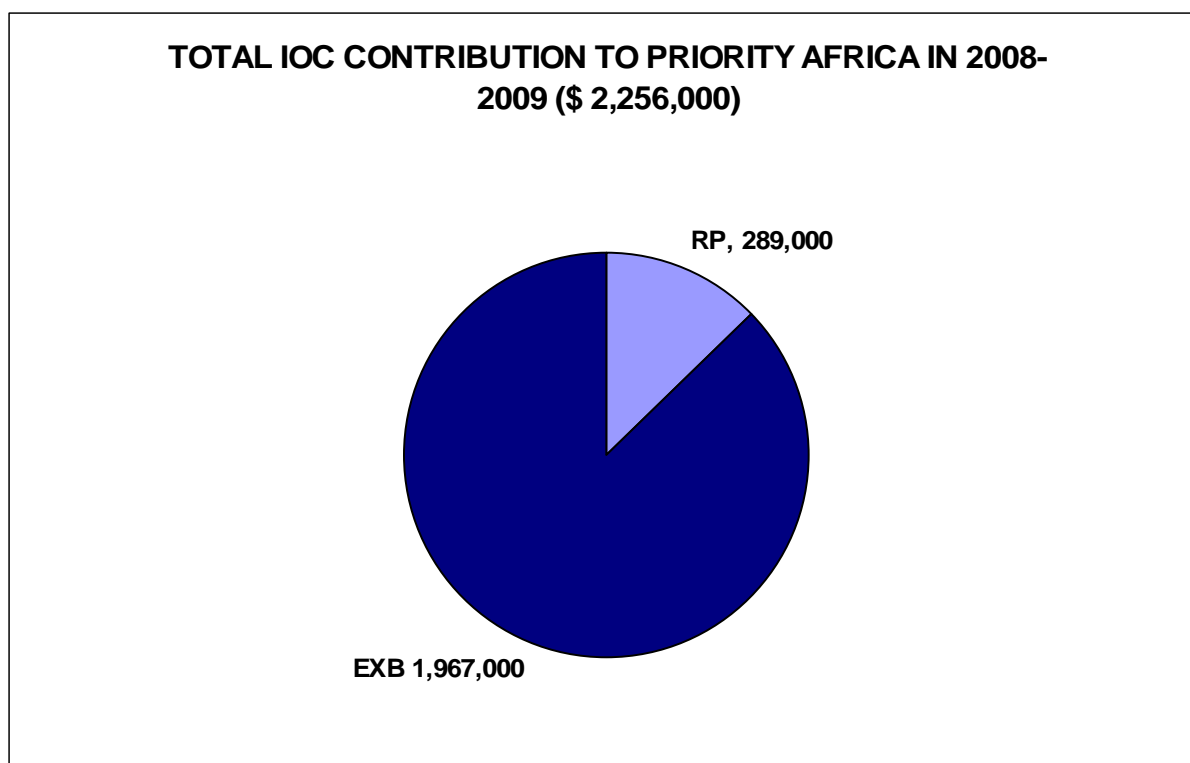
50,000\$ (of which 4,000\$ from RP) (2008)

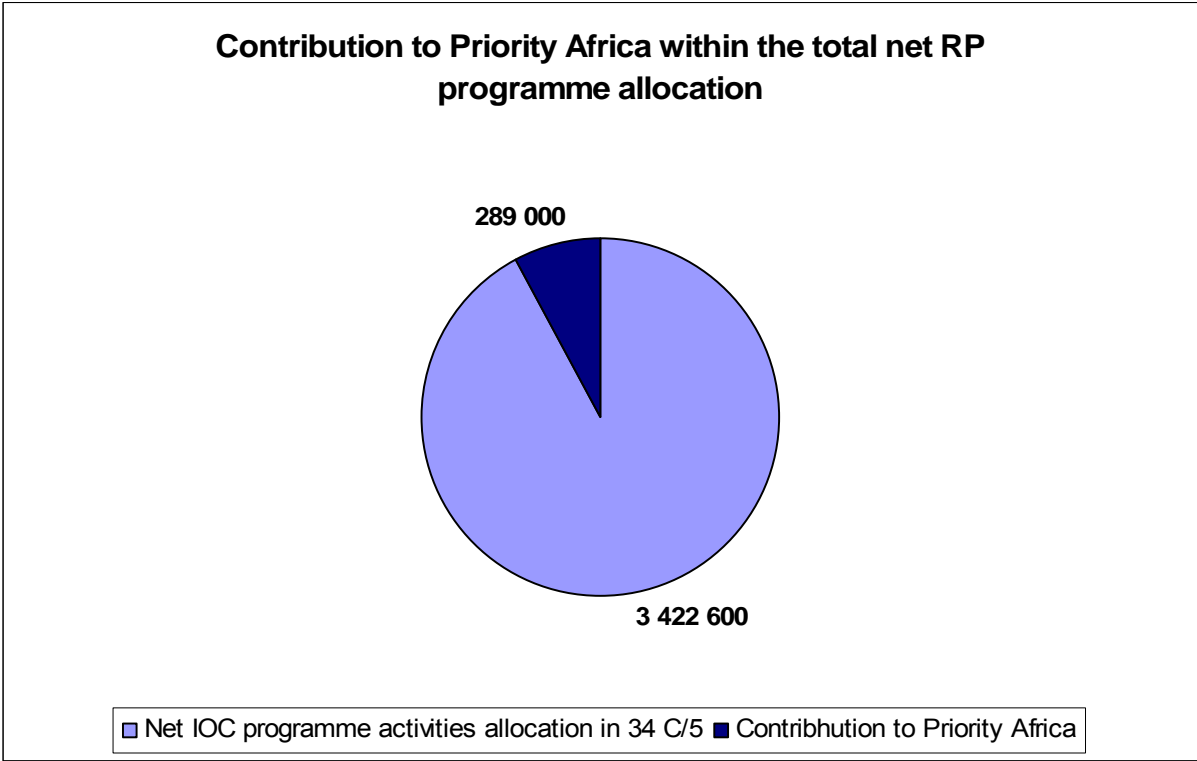
120,000 (of which 5,000\$ from RP) (2009)

In addition to participation in meetings/workshops funded by ODINAFRICA, IODE provided support to African experts to attend the following meetings:

- IODE Workshop on Coastal Atlas Requirements, 21–22 February 2008, Ostend, Belgium (2 pax)
- ODINAFRICA-IV Planning Workshop 2-5 June 2008, Oostende, Belgium (10 pax)
- 10th Session of the IODE Group of Experts on Marine Information Management, 3–6 November 2008, Oostende, Belgium (1 pax)

- IOC-OBIS workshop on collaboration between IOC and OBIS towards the long-term management, archival and accessibility of ocean biogeographic data 24–26 November 2008, Oostende, Belgium (1 pax)
 - 20th Session of the IOC Committee on International Oceanographic Data and Information Exchange 4–8 May 2009, Beijing, China (2 pax)
 - Training Course on website development 15–26 June 2009, Ostend, Belgium (5 pax)
 - Support for IODE Co-Chair to participate in 25th Session of the IOC Assembly, 16–25 June 2009
- Sustaining and enhancing the African sea level observation network (Bulgaria FIT) \$45,000 (2009)
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- In collaboration with GLOSS ongoing support and training provided for maintenance and levelling of tide gauges installed in Africa.





GLOBAL PRIORITY AFRICA – IOC ACTIVITIES
PROPOSED for 35 C/5: 2010–2011

IOC REGIONAL SUBSIDIARY BODIES			
ACTIVITY	SOURCE OF FUNDING		EXPECTED RESULTS
	REGULAR BUDGET	EXTRA-BUDGETARY	
IOCINDIO - Doha Office Regional cooperation through capacity-building in ocean sciences and observations and measures to strengthen IOC RSBs	28 300		<ul style="list-style-type: none"> • Ocean observing systems and data exchange standards enhanced • Enhanced coordination of research on ocean ecosystems, marine habitats and biodiversity, and best practices promoted in the management of marine and coastal ecosystems
IOCEA - Accra Office Regional cooperation through capacity-building and transfer of technology & measures to strengthen IOC RSBs	39 600		<ul style="list-style-type: none"> • Proposed IOCEA and African position paper submitted to and adopted by the 26th Session of the IOC Assembly in 2011 recommending ways and means for a profound modernization of IOCEA in partnership with the IOCWIO
IOCWIO - Nairobi Office Regional cooperation through capacity-building in ocean sciences and observations and measures to strengthen IOC RSBs	39 600		<ul style="list-style-type: none"> • IOCWIO priorities and work plans for 2010 - 2012 agreed on by Member states from the region, in consultation with and other programmes and organizations active in the region. • Increased collaboration with other regional programmes and organizations implementing marine related activities in the region • Successful implementation of IOCWIO work plans
Subtotal:	107 500		

OCEAN SCIENCE SECTION			
	SOURCE OF FUNDING		EXPECTED RESULTS
	REGULAR BUDGET	EXTRA-BUDGETARY	
ACCC Training Course on Coastal Vulnerability Mapping		30 000	Trained experts in mapping and use of GIS technology
Development of Coastal Vulnerability/inundation maps for each ACCC sites		30 000	Ready to use maps for coastal planners and managers
ACCC Training Course on Integrated Coastal Area Management in a climate change context		25 000	Trained technicians and ICAM practitioners
Web based Clearing House mechanism on CC adaptation in Coastal Areas		40 000	Improved accessibility to documents and resources relevant to CC adaptation
Mid term and end of project evaluation		40 000	<ul style="list-style-type: none"> • Project outcomes evaluated • Lessons learned in implementing coastal adaptation measures
Operations of IOC Regional Project unit		300 000	Effective project coordination and execution mechanisms in place
Communication materials, brochure, posters, Cdrom		40 000	Visibility of the project, information available and targeted to a large public audience

Establishment of regional network of experts in the area of coastal erosion/adaptation		30 000	<ul style="list-style-type: none"> • Expertise available to support national and regional initiatives (PRCM, UEMOA, ...) • Published manual on CC adaptation in coastal zones
Increase the understanding of the impacts of climate variability and global change: are coastal pollution and ocean warming having additive or multiplicative impacts in the Mediterranean Sea	20 000		<ul style="list-style-type: none"> • Increase number of regional coastal and marine ecosystems delineate with approved indicators of ecological health and socioeconomic benefits that are monitored and understood. • Increase number of coastal communities incorporating ecosystem and sustainable development principles and good practices into planning and management.
Climate change adaptation for Africa and SIDS	29 700		Science-based applications and policies to adapt to climate and coastal change developed.
North African Network on Harmful Algae		10 000	Strengthened regional coordination, sharing of knowledge and improved observation and management systems for harmful algae.
Subtotal:	49 700	545 000	

OCEAN OBSERVATIONS SECTION			
ACTIVITY	SOURCE OF FUNDING		EXPECTED RESULTS
	REGULAR BUDGET	EXTRA-BUDGETARY	
Hire of an IOC Africa Coordinator	289 000		
GOOS Africa seed funds - Cotonou meeting in February 2010	30 000		
Enhancement and sustaining African Sea Level Observation Network		60 976	<ul style="list-style-type: none"> • African Sea Level Network sustained
Coordination and management of the Ocean Data and Information Network for Africa		383 000	<ul style="list-style-type: none"> • Efficient project implementation and coordination.
Planning and review meeting attended by Heads of institutions participating in ODINAFRICA		177 000	<ul style="list-style-type: none"> • Alignment of ODINAFRICA activities to priorities of countries and institutions
Training and internships on diverse topics related to marine data and information management		148 000	<ul style="list-style-type: none"> • Trained experts on marine data management, marine library management, development of repositories for publications, atlas development, application of GIS and remote sensing to coastal management
Strengthening of national capacities for data and information management (including comprehensive assessment of available capacities for data and information management, and provision of equipment and software)		490 000	<ul style="list-style-type: none"> • Strengthen and sustainable national ocean data and information centres • Improved management of, and access to data streams coming from wide range of ongoing and completed projects • National multi-sectoral data networks that maximize the use of available data for integrated coastal management
Development of national and regional marine atlases, incorporating forecasts and scenarios of priority issues		470 000	<ul style="list-style-type: none"> • Digital atlases available online for all the participating countries • Atlas publication distributed to potential users • Scenarios and forecasts addressing key issues developed and incorporated into atlases • Policy briefs prepared on basis of scenarios

Dissemination of research results, and sharing of data, information and products		300 000	<ul style="list-style-type: none"> • Improved mechanisms for dissemination and application of data, information and products • Science-based decision making for coastal resource and environment management • Improved knowledge of marine issues
GEO GOOS-Africa Coastal Zone Community of practice workshop, March 2010	20 000	26 000	<ul style="list-style-type: none"> • Intersectoral cooperation reinforced between GOOS-AFRICA and the UNESCO International hydrological programme • Partners mobilized including GEO, UNEP, LMEs, AARSE, and African stakeholders • Focus made on existing and new frameworks for addressing critical issues of Water across lake, river and coastal ocean systems and Climate Change
The First IOC-WMO Data Buoy Cooperation Panel In-Region Western Indian Ocean Capacity Building Workshop (14-19 April 2010, Cape Town)		60 000	<ul style="list-style-type: none"> • Begin to Build Capacity Within Regional Institutes to Apply New Indian Ocean Observing System (IndOOS) Data, such as from RAMA and others, for Enhanced Predictive Capability for the Region • Build In-Region Modeling Development Teams (MDT) and Observation Development Teams (ODT), including for the implementation of buoy programmes, • Demonstrate the Societal and Economic Benefits of Delivering Enhanced Ocean Observing System Data for Better Informed Decisions • Learn practical implementation aspects for the deployment of operational data buoys at sea, the collection of buoy data, and related data management, • Coordinate Regional Institutes for Increasing Western Indian Ocean Observations, • Celebrate the IOC's 50th Anniversary, which began with the 1960 Indian Ocean Expedition. [National contributions from India, South Africa and USA for approx. USD 45,000]
I-GOOS-VI Board meeting in Abidjan, Cote d'Ivoire in late 2010	10 000		
Workshop on extreme natural hazards and disasters in Africa (early 2011, Pretoria, South Africa at the Aon Benfield Natural Hazard Centre of the University)	20 000		
Sustaining and enhancing the African sea level observation network (Bulgaria FIT)		40 000	In collaboration with GLOSS ongoing support and training provided for maintenance and levelling of tide gauges installed in Africa.
Subtotal:	369 000	2 154 976	

CAPACITY BUILDING SECTION			
ACTIVITY	SOURCE OF FUNDING		EXPECTED RESULTS
	REGULAR BUDGET	EXTRA-BUDGETARY	
Associate Expert in Nairobi	27 000	27 000	<ul style="list-style-type: none"> • Support of all activities as per the approved IOCWIO workplan, and managing the IOCWIO project office • Support Capacity Building Section activities
Consultants Support	73 000		<ul style="list-style-type: none"> • Workplans drafted on the management off and protection of coastal zones • Raise 134,000 USD in extra budgetary funds to undertake coastal numerical modelling in Africa • Undertake 3 coastal numerical modelling projects in 3 countries in Africa.

PROGRAMME ACTIVITIES			
Empowering NSAs in Tanzania to Plan for Sustainable Coastal Livelihood using Decision Support Tools [1) Decision Support tools (DSTs) using Hydrodynamic modeling, 2) Participatory stakeholder consultation, 3) management plans and ratification, 4) Best practice guidelines]		46 000	<ul style="list-style-type: none"> Jambiani coastal management plan ratified Dissemination of best practices guidelines for DSTs in participatory coastal management Data available through Tanzania NODC Trained Tanzanian experts on all aspects of the process: 10 in participatory stakeholder management, and 10 in DSTs for coastal management
COASTMAP-IO. Enhancing capacity to map coastal hazards in the Indian Ocean region.		120 000	On-the-job training is planned for about 40 scientists from the region in 2010 in cooperation with France. Hardware such as echo sounders, GPS stations and software will also be provided to the countries with funds provided by the Government of Italy in framework of COAST MAP IO.
Support to IOC Chairs in Africa	20 000		IOC Chairs in Africa supported in research, education and technology transfer
Decision support tools	10 000		Technical transfer of modelling skills for Congo, Gabon & Cameroon
Subtotal:	130 000	193 000	

TSUNAMI UNIT			
ACTIVITY	SOURCE OF FUNDING		EXPECTED RESULTS
	REGULAR BUDGET	EXTRA-BUDGETARY	
Regional Workshop on the development of Standard Operating Procedures in Tsunami Warning and Emergency Response for Western Indian Ocean and East African Countries	30 000		<ul style="list-style-type: none"> 2 participants from each of up to 10 countries trained Provision of SOP training materials: SOP guidance and templates; bet practice; reference documents
Consultation meeting on climate change impacts and adaptation (in collaboration with ISESCO)		3 000	<ul style="list-style-type: none"> Risk and hazard awareness increased, new mitigation strategy developed
Installation of 2 sea level stations in Egypt and Tunisia (in collaboration with ISESCO, which will contribute US\$40,000)		60 000	<ul style="list-style-type: none"> Improved real-time sea level monitoring for coastal hazards
Adaptation of tsunami awareness materials for the North Africa and the Middle East (in collaboration with ISESCO)		20 000	<ul style="list-style-type: none"> Enhancing awareness and preparedness of coastal communities at risk
Strengthening of the Tsunami warning systems in Comoros, Madagascar, Mozambique and Tanzania [The specific activities and total amount of IOC intervention in Comoros, Mozambique, Tanzania and possibly Madagascar will be defined with ISDR through February 2010.]		216 000	<ul style="list-style-type: none"> Tide gauges installed in Comoros and Madagascar National training courses on inundation modelling held in Comoros, Mozambique and Tanzania National training workshop on the development of standard operating procedures in tsunami warning and emergency response held in Comoros, Mozambique and Tanzania Seismic component tool installed and related training held in Mozambique [with Mozambique contribution approx 300,000USD]
Subtotal:	30 000	299 000	
TOTAL IOC	686 200	3 191 976	

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