

**CCLME Inception Workshop  
2-3 November 2010  
Hotel Pullman Teranga  
Dakar, Senegal**



# **GOOS-AFRICA CONTRIBUTION TO CANARY CURRENT LARGE MARINE ECOSYSTEM**

**Mbaye DIOP (LERG, Dakar)**

**et**

**Justin AHANHANZO ([j.ahanhanzo@unesco.org](mailto:j.ahanhanzo@unesco.org)) - + 33 1 45 68 36 41) &**

**Team Leader-Coordinator**

**GOOS-AFRICA &**

**UNESCO Initiative on Satellite Remote Sensing Applications in Africa**

**IOC/UNESCO-GOOS Project Office**



- 1- **GOOS-AFRICA: The Framework for Operational Ocean Services in Africa**
- 2- **Synergy & Contribution to CCLME**
- 3- **GOOS-AFRICA Forward Look**





## COUPLING SCIENCES, MANAGEMENT AND HUMAN DEVELOPMENT GOALS

### Cape Town Conference in 1998: Political and Legal Framework:

“Africa’s long and beautiful coasts and the abundance of marine resources can contribute to improve economic, food and environmental security for the continent. These coastal and marine resources, like the rest of Africa’s environmental resources, continue to be exploited in a manner that does not benefit AFRICA and her PEOPLE. This is a paradox of a people dying from hunger, starvation and poverty when they are potentially so rich and well endowed”.







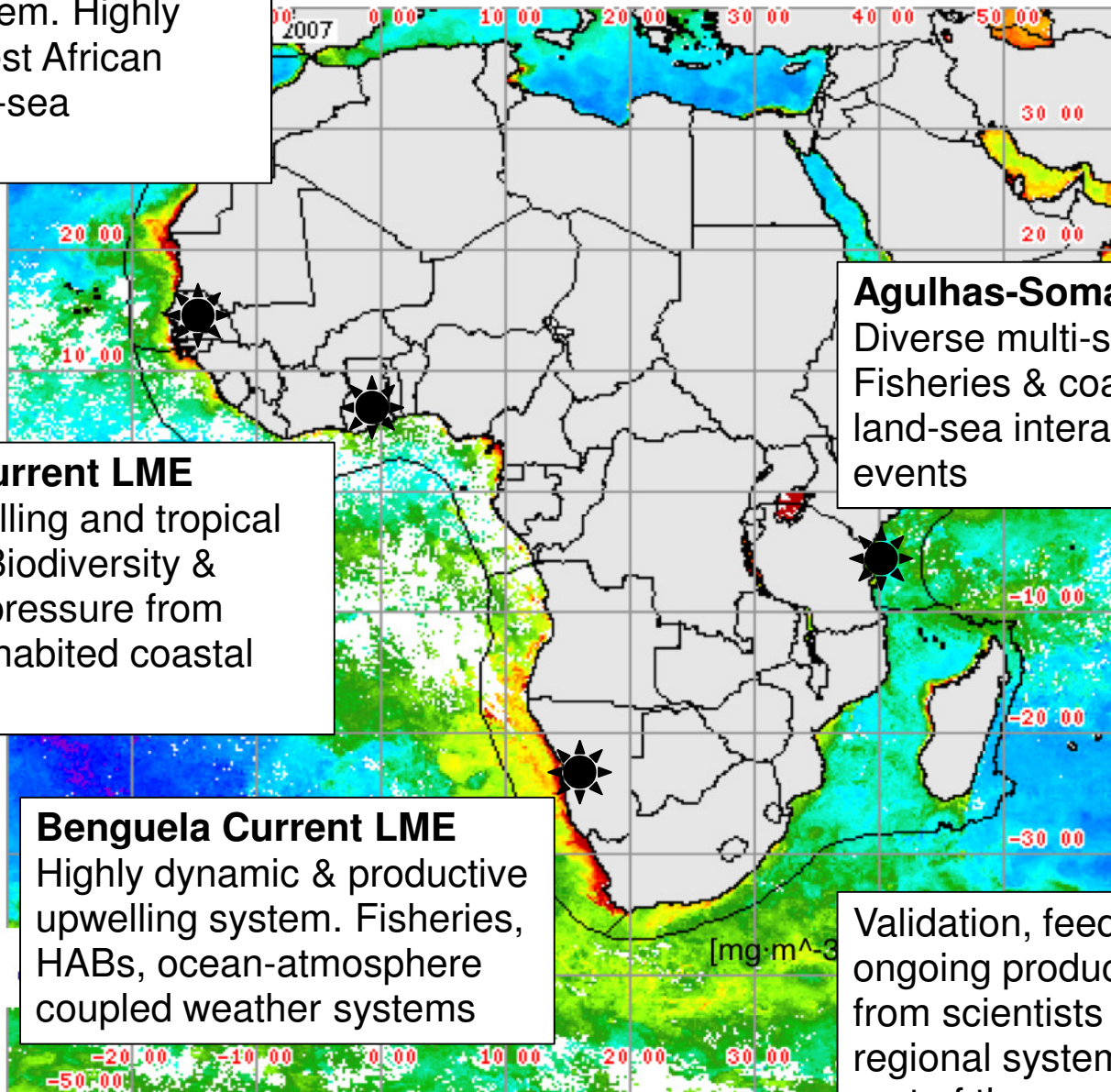
# MATTERS OF PUBLIC CONCERNS



# African Large Marine Ecosystems

## Canary Current LME

Major boundary-current upwelling system. Highly productive West African fisheries, land-sea interaction



## Agulhas-Somali Current LME

Diverse multi-system LME. Fisheries & coastal ecosystems, land-sea interactions, extreme events

## Guinea Current LME

Both upwelling and tropical systems. Biodiversity & fisheries, pressure from densely inhabited coastal zone

## Benguela Current LME

Highly dynamic & productive upwelling system. Fisheries, HABs, ocean-atmosphere coupled weather systems

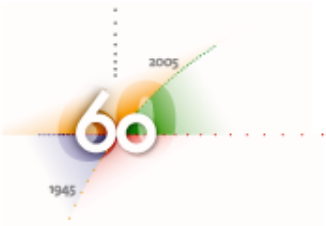
Validation, feedback and ongoing product development from scientists familiar with regional systems an essential part of the process





# WHAT GOOS-AFRICA CAN DO FOR CCLME

- **International Scientific Expertise**
- **Long-term Coastal Ocean Observations, Monitoring, Predictions and Forecasting Ecosystem**
- **Training, Education and Capacity Building**
- **Instrumentation: Standards and Quality**
- **Network with Center of Excellence in Africa and Overseas**
- **Access to Funding**
- **Access to Data and funding of the International Association of Oil and Gas producers: GOOS-AFRICA is a Member**
- **Strengthen partnerships and Collaboration with other LMEs in Africa and globally**





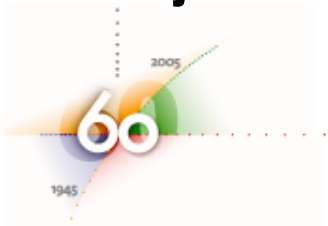
GOOS AFRICA

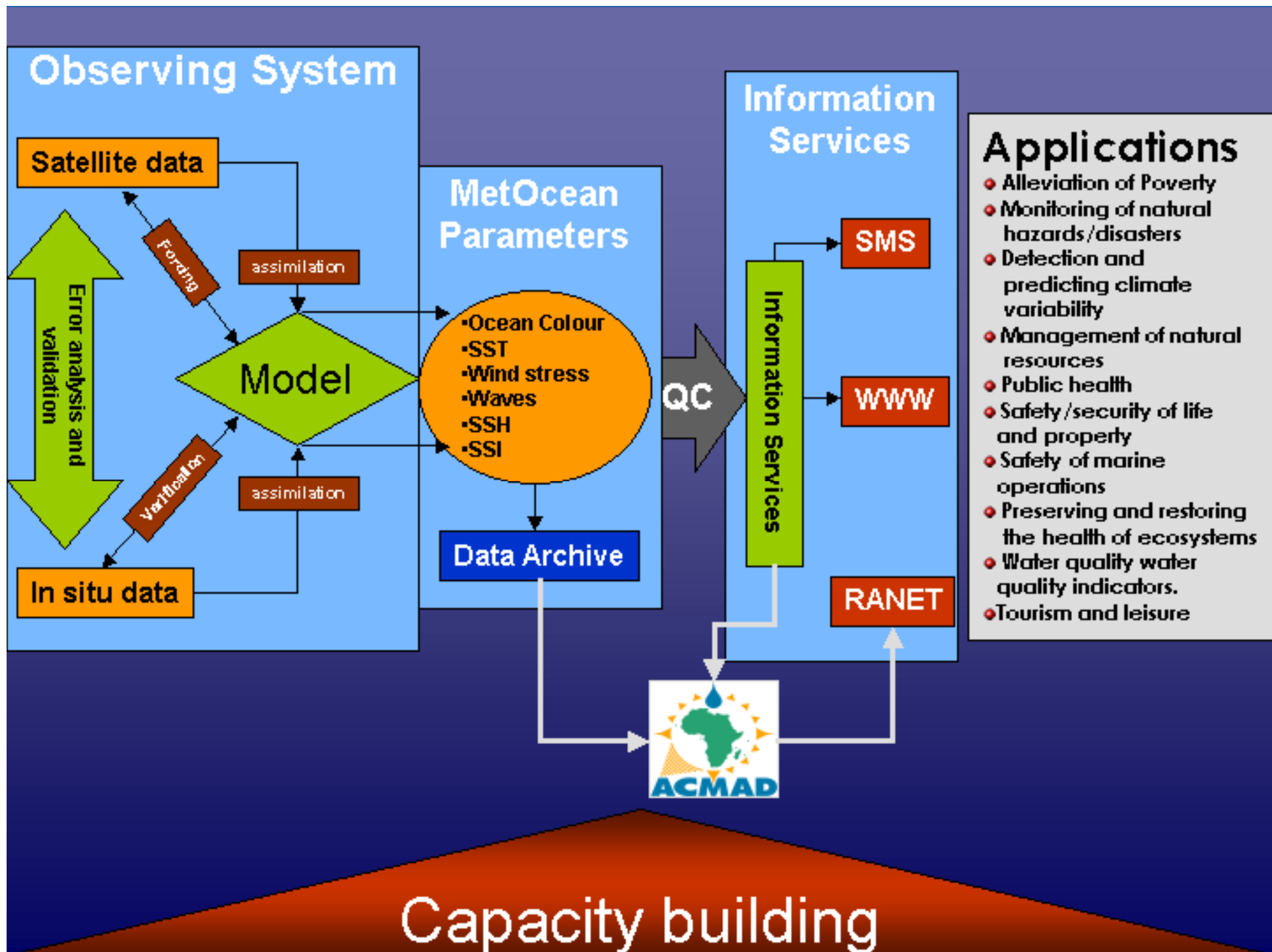


## **ROOFS-AFRICA Regional Ocean Observing & Forecasting System In Africa**

### **A Multi-modular Approach For Ocean Progress in Africa**

***In situ* observing stations in the coastal ocean**  
**Satellite Remote Sensing of marine and coastal environments**  
**Ocean modelling and forecasting**  
**End-to-end communications and information delivery**  
**Strategic Business and Industry Partnerships**  
**Project management integration and coordination**



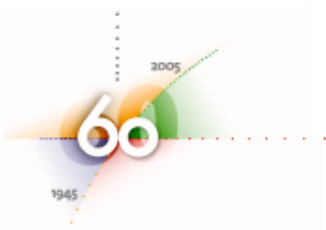






## OUR GUIDANCE TOWARDS ACHIEVING

- **African Union VISION**
- **NEPAD Action Plan**
- **WSSD Implementation Plan**
- **The Millennium Development Goals**



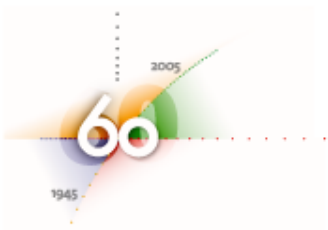


Pan African LMEs & GOOS AFRICA Leadership Workshop  
on Operational Oceanography and Remote Sensing  
Cape Town, 6-10 November 2006

## Our Partners for Africa

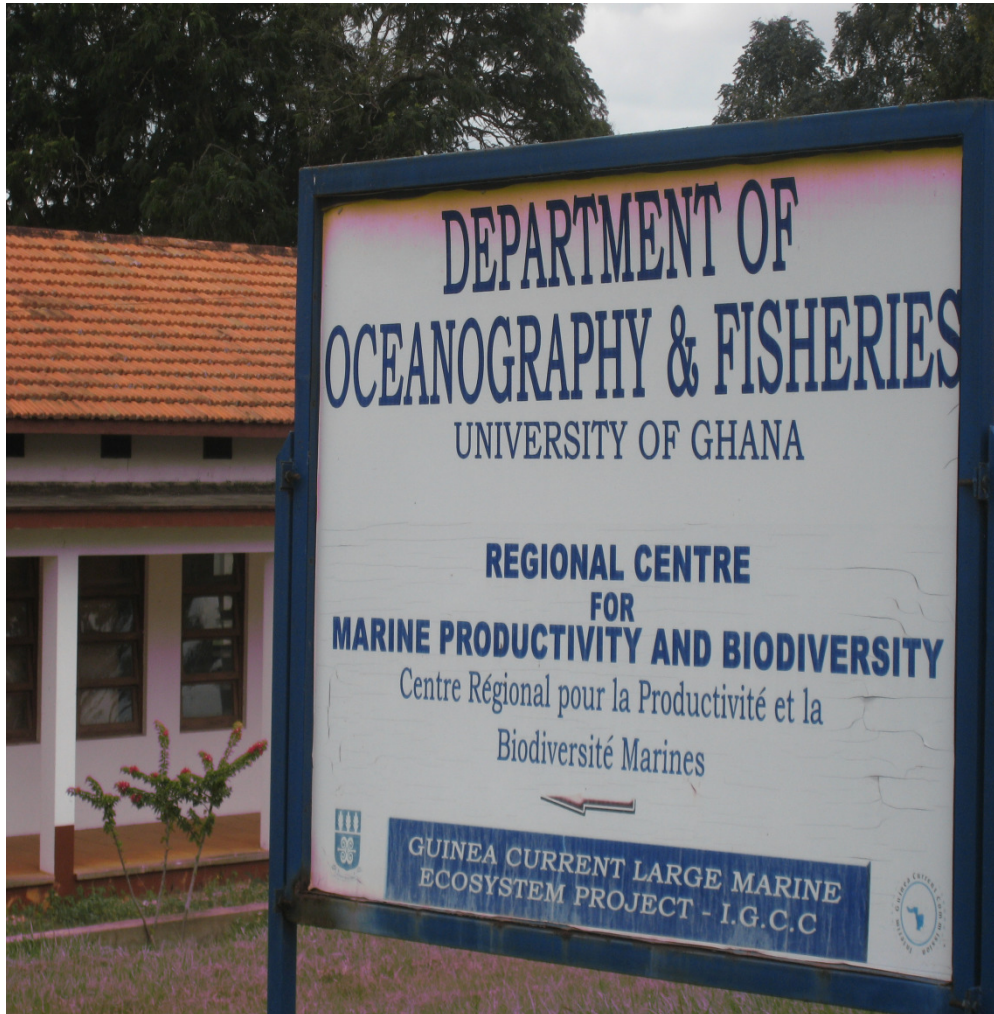
**Pan African Large Marine Ecosystem programmes**  
**Ocean Data and Information Network in Africa**  
**Global Ocean Observing System in Africa**

**Space agencies and remote sensing projects**  
**Business and industry associations**  
**Regional economic groupings**  
**Academic and research institutions**  
**Inter-Governmental Organisations**





## BEST PRACTICES AND LESSONS LEARNED



### SUCCESS STORIES

- With about only 25k \$US, UNESCO established a Chair of Oceanography and Marine Sciences at the UEM in Mozambique as a boost for the **Gvt of Mozambique to create a full University Institute in Marine Sciences**
- **UCAD-Dakar, Senegal**
- **ICMPA @ UAC-Benin: UNESCO Chair in Physical Oceanography and Regional Center for Climate Modelling.**





- 1) African research and higher education centers are the key players: UCT, CSIR, Univ Ghana, IMS, NatMIRC, LERG, ICMPA, WIOMSA, UNESCO CHAIR/Benin, Univ Mozambique, RECTAS, RCMRD, AARSE, EIS-AFRICA, etc.
- 2) Overseas partners: National Oceanography Centre, Southampton and PML, U K, Department of Water Resources and Earth Systems Analysis, ITC, The Netherlands, VITO, NOAA, NASA, African Scientific Institute, etc.
- 3) IOC/UNESCO GOOS Project Office Coordination/fund raising





Partenariat National de l'Eau du Bénin

Global Water Partnership  
West Africa

**GEO** GROUP ON  
EARTH OBSERVATIONS

# SCIENCE, EDUCATION and ICT KEY TO POVERTY ALLEVIATION



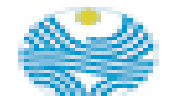


**Pan-African Workshop**  
**“Decision-Making Support for Coastal Zone Management, Water Resources and**  
**Climate Change in Africa”**  
**Cotonou-Benin**  
**15-17 February 2010.**

**Sub-Theme 1: Strengthening Observing Systems Capacity for Managing and Mitigating the Impacts of Human Activities and Coastal Inundation in the African Region**

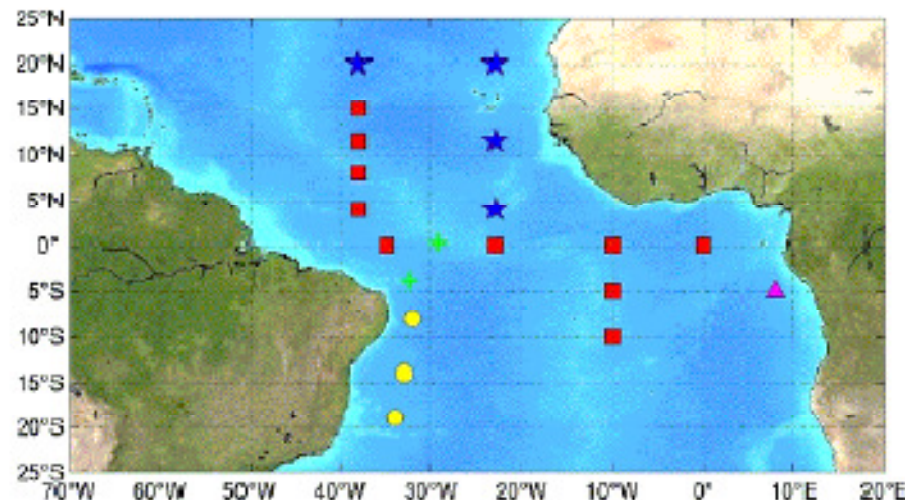
**Sub-Theme 2: Climate change and water resources management and related issues in Africa**

**Jimmy Adegoke, CSIR, South Africa**  
**Justin Ahanhanzo, IOC/UNESCO**  
**Abel Afouda, University of Abome-Calavi, Benin**  
**Geoff Brundrit, UCT, South Africa**





## PIRATA IS THE PILOT MOORED ARRAY IN THE TROPICAL ATLANTIC



Status of the PIRATA array of Atlas Mooring. Original array (red), South West extension (Brazil), South East extension (purple) and Northeast extension (blue)

**PIRATA (Brazil, France, USA) has deployed between 1997 and 2001, an array of 12 ATLAS buoys with the objective of describing and understanding the evolution of SST, upper ocean thermal and saline structure, net heat budget, air-sea fluxes of momentum, latent and sensible heat and fresh water in the tropical Atlantic. The ocean observations along with meteorological observations are transmitted to shore via satellite by Service Argos and are available in near real-time on the Internet.**

**A Southwest extension was made by Brazil in 2005, a northeast extension by USA**

LME and GOOS Meeting Cape  
Town 6-10 November 2006



# PUBLIC AWARENESS @ HIGH LEVEL: UNESCO/IOC-AFRICAN OCEAN PARTNERSHIP CONTRIBUTION TO GEO-IV Ministerial Conference Cape Town, November 2007



## AngolaPress

Português
English

Luanda - Lundi, 12 décembre 2005 - 14:35      ANGOLA | ANGÓF | RECHERCHE | CONTACTEZ-NOUS

Première page | Politique | Economie | Societe | Sport | Culture | Afrique | Monde | Dossiers

Infos économiques sur l'Angola

TES PROCHES.

24 heures sur 24

**Info**

### Apport de la Télédétection dans la gestion des Aires protégées

Kinshasa, RD Congo, 04/12 - La télédétection peut se révéler d'un apport important dans la gestion des aires protégées car on peut, à partir d'elle, produire des cartes géographiques actualisées capables de fournir des renseignements ou des informations nécessaires dans le traçage des pistes pour guider les visiteurs, a estimé l'océanographe Justin Ahananzho de l'UNESCO/Paris.

Dans un entretien accordé jeudi à la PANA au cours d'une visite guidée que des participants à un atelier national sur la télédétection ont effectué jeudi au Jardin botanique de Kisantu, dans la province du Bas-Congo, à environ 70 Km à l'Ouest de Kinshasa, M. Ahananzho a défini cette discipline comme étant une technique qui permet de recueillir des informations à partir des images prises par satellite dans le cadre de l'eau, des forêts, des écosystèmes marins, côtiers et des mangroves.

Ces informations recueillies sont comparées, enregistrées sur des longues séries et périodes pour observer leur évolution, a-t-il noté.

Cet expert de l'UNESCO a fait ce rapprochement entre la télédétection et la gestion des Aires protégées.

Dans ce site touristique, ces derniers ont pu contempler le musée, la paléontologie, l'herbarium, la bibliothèque du Jardin avant de sillonner l'échantillon de la forêt tropicale humide et le mangoustanier où ils ont pu découvrir plusieurs espèces d'essences d'arbres notamment l'Arbre qui marche, l'Arbre du bonheur, etc.. que renferment les lieux.

Selon Mme Francesca Lanata, assistante technique au Projet de réhabilitation de Jardin Botanique de Kisantu, l'Union européenne a accordé 400.000 euros pour la réhabilitation de ce site et pour la formation de ses cadres et cadres du Jardin botanique pour une durée de deux ans et 9 mois.

13:45 - Météo

13:44 - Un leader religieux appelle à l'éducation des fidèles

12:46 - Foot: La formation de

12:31 - Football/Mondial 2006: Franz Beckenbauer attendu mardi à Luanda

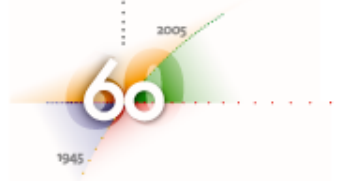
12:28 - Inauguration d'une laiterie à Huambo

12:23 - Le ministre de la Communication sociale à Kwanza-sul

12:04 - Réunion de la commission provinciale électorale de Cabinda

11:17 - Basket/Messieurs: Jean Piaget remporte le tournoi 49 ans du MPLA

11:16 - Course du champion











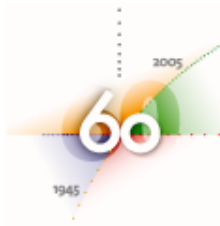
# The Challenges...

**1- Availability of Human and financial resources**

**2- Accessibility to data**

**3- Empowerment of Regional capacity in EO with particular emphasis on natural resources management including Oceanography and Earth Sciences studies with a strategy combining the provision of training, equipment and operational support**

**4- Regional Training Programmes (M. Sc/Ph. D) in EO with particular emphasis on Operational Oceanography, modelling, Climate Change and Earth Sciences.**





### **GOOS AFRICA Industry Partnerships**

International Association of Oil  
and Gas Producers  
[www.ogp.org.uk](http://www.ogp.org.uk)

<http://info.ogp.org.uk/metocean>

### **GOOS AFRICA International Projects**

UNESCO Crosscutting Project on  
Application of Remote Sensing for the  
Integrated Management of Ecosystems  
and Water Resources in Africa

#### **FET REMSENS**

ChloroGIN Africa  
Geo Net Cast Africa  
MSG Africa  
BILKO Africa  
Alt/SAR Africa

### **Capacity Building**

UNESCO IOC  
<http://ioc.unesco.org/tema>  
[www.ioc-cd.org](http://www.ioc-cd.org)

Sea Level  
[www.gloss-sealevel.org](http://www.gloss-sealevel.org)

Remote Sensing  
[www.noc.soton.ac.uk/bilko](http://www.noc.soton.ac.uk/bilko)

Data & Information Exchange  
<http://iodeweb5.vliz.be/oceanteacher>

Earth System Science ACCESS  
[www.africanclimatescience.org](http://www.africanclimatescience.org)

### **Outreach and Promotion**

Western Indian Ocean Journal of  
Marine Science  
[www.wiomsa.org](http://www.wiomsa.org)

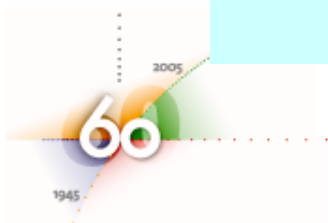
African Journal of Marine Science  
[www.nisc.co.za](http://www.nisc.co.za)

### **OCEAN PARTNERSHIPS IN AFRICA**

Pan African  
Large Marine Ecosystems



**SOME IMPORTANT  
LINKS AND  
POINTS OF CONTACT**

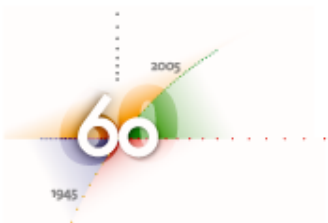
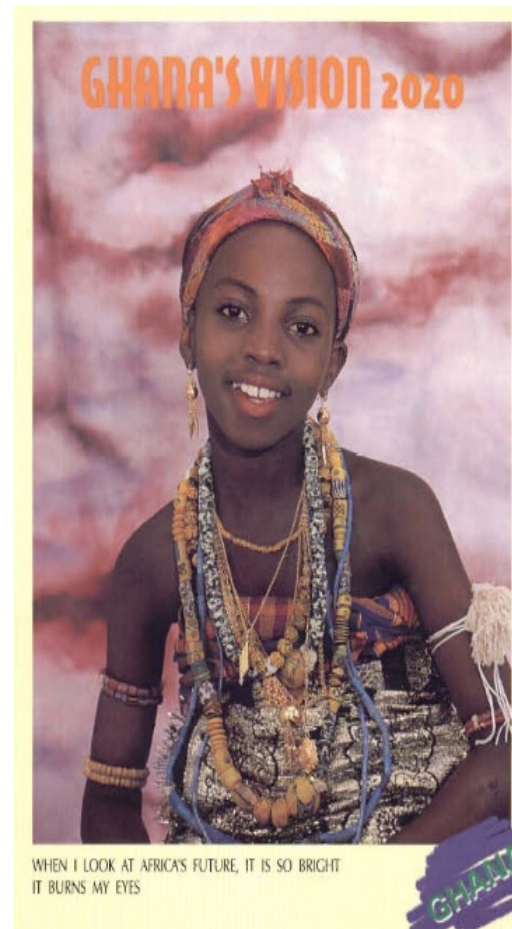




# WHAT IMPACTS AND LEGACIES DO YOU WANT TO MAKE IN AFRICA?

## THE BRIGHTEST FUTURE IN STI IN AFRICA

When I look at Africa's future, it is so bright that I am excited and truly **COMMITTED** to the efforts towards the **Brightest future in STI in Africa including OPERATIONAL OCEANOGRAPHY**







- Main contact
- [j.ahanhanzo@unesco.org](mailto:j.ahanhanzo@unesco.org)
- **+ 33 1 45 68 36 41**

