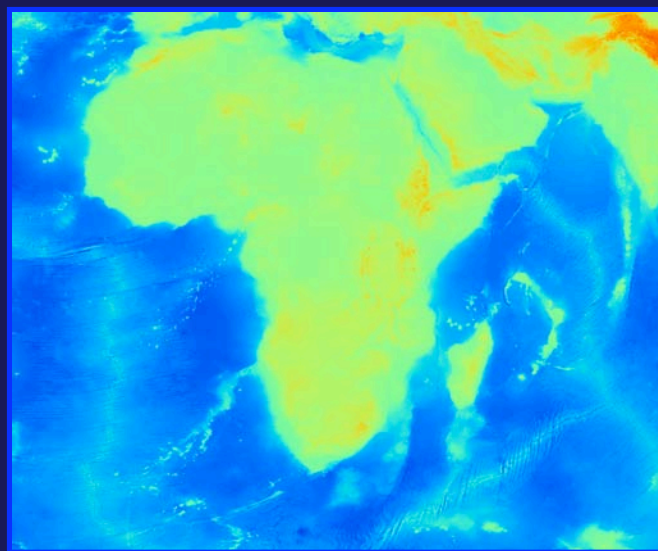
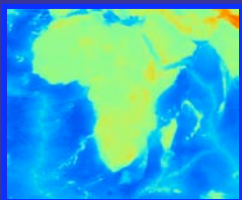
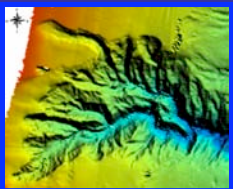


# African Coastal Atlas developments



10 July 2008 – EEA – Copenhagen, Denmark

# Africa Overview

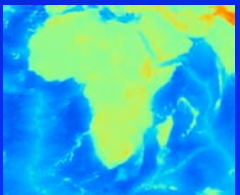


- Africa has approximately 40 000 km of coast across 32 mainland countries and four island states.
- Africa's coastal ecosystems are some of the most biologically productive in the world resulting from the unique physical, climatic and dynamic nature of the ecosystems.



- African Environment Outlook, UNEP

# African Marine Atlas – links, partners and contributors



## GLOBAL

CoML

GEO/GOOS/GEOS

International Coastal Atlas Network

NOAA

USGS

UNEP

IOC/UNESCO

GBIF

OBIS

## AFRICAN

AfrOBIS

NEPAD

ODINAFRICA Sea level data facility

ODINAFRICA

GOOS-Africa

AMIS

GeoNetCast-Africa

ChloroGIN

African Marine Atlas

## REGIONAL

ReCoMap

COI

ASCLME

SWIOFP

SST

AMESD

Clearing House Mechanism – East Africa

Regional Atlases

WIO-LaB

WIOMSA

ACEP

Regional Project databases and products

## NATIONAL

Universities

Institutions

NGOs

National IOC coastal modelling projects

Government departments

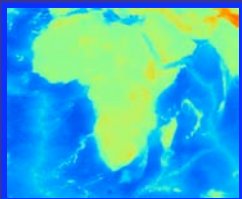
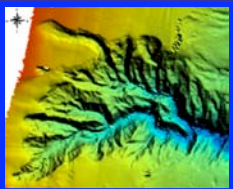
State of the Environment reports

Earth observation networks (SAEON)

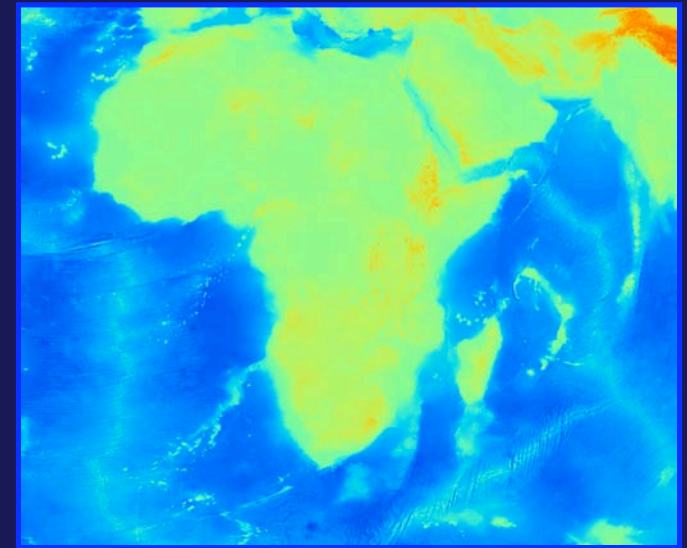
National Oceanographic Data Centres

National Databases and products

# African Coastal Atlas developments

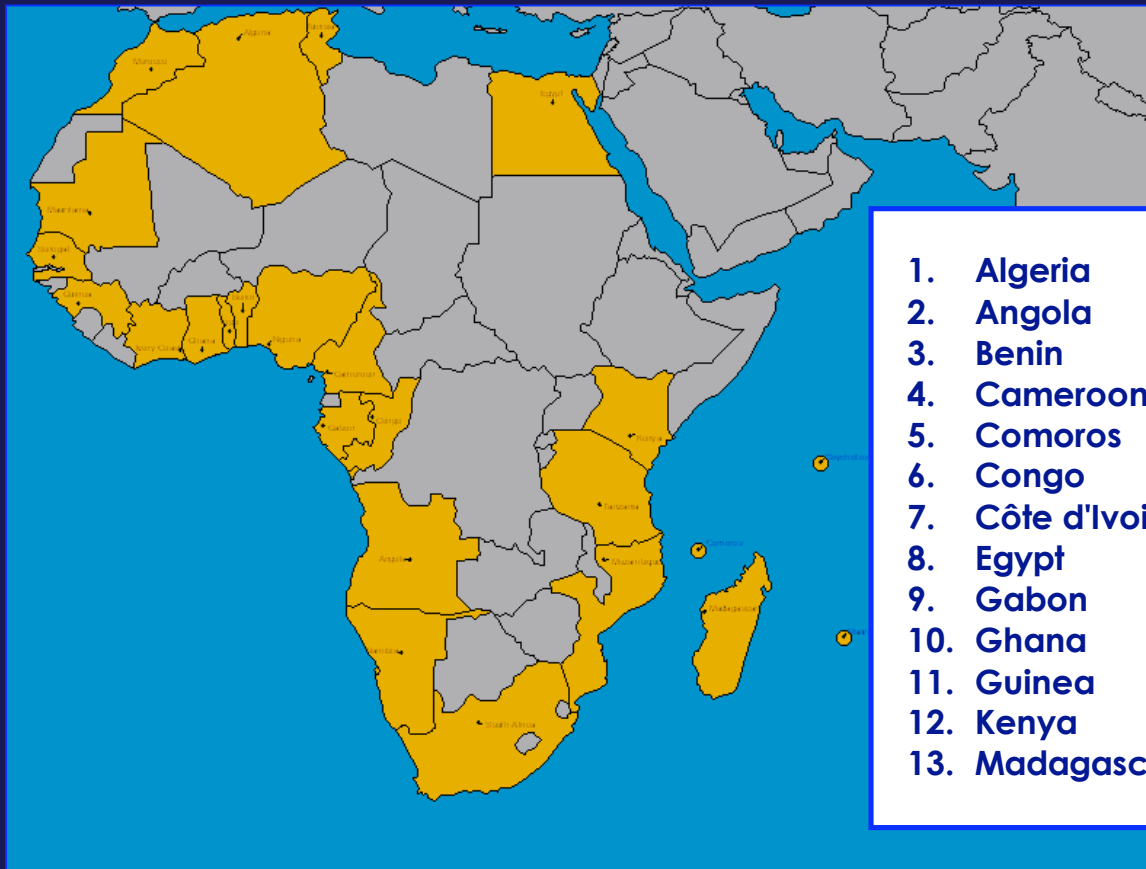


- African-wide projects
- Coastal Atlas Projects in East and Southern Africa
- Coastal Atlas Projects in West and North Africa
- African Marine Atlas



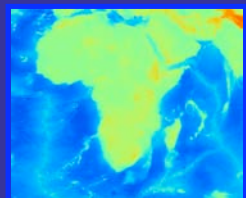
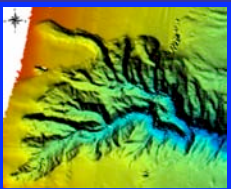
# African-wide projects

- **Ocean Data and Information Network for Africa (ODINAFRICA), a project of IOC/UNESCO's IODE**



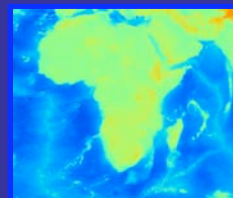
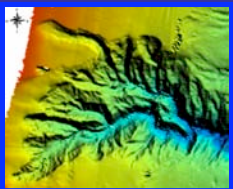
1. Algeria
2. Angola
3. Benin
4. Cameroon
5. Comoros
6. Congo
7. Côte d'Ivoire
8. Egypt
9. Gabon
10. Ghana
11. Guinea
12. Kenya
13. Madagascar
14. Mauritania
15. Mauritius
16. Morocco
17. Mozambique
18. Namibia
19. Nigeria
20. Senegal
21. Seychelles
22. South Africa
23. Tanzania
24. Togo
25. Tunisia

Over 40 institutions in 25 countries  
National Oceanographic Data Centres (NODCs)





# African-wide projects



## African Marine Atlas

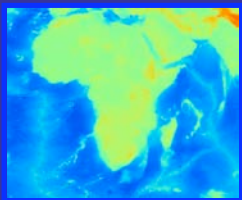
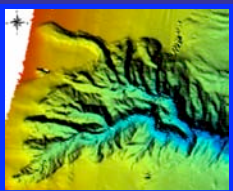
A project of ODINAFRICA

[www.africanmarineatlas.net](http://www.africanmarineatlas.net)

The screenshot shows the African Marine Atlas web application interface. At the top, there is a banner with the title "African Marine Atlas" and a background image of a coral reef. Below the banner is a main map area showing a topographic map of Africa and the surrounding oceans. To the right of the main map is a control panel with the following sections:

- Map Options** and **Query results** tabs.
- A small inset map showing the location of the main map area on a world map.
- Available maps**: A dropdown menu showing "ama.map".
- Available layers**: A list of layers with checkboxes and a refresh button. The layers are: World Vector Shoreline 1:250K, Graticules - 2 degrees, Graticules - 10 degrees, Area of Interest Frame, Geological Provinces of Africa, Deep Sea Drilling Sites, Ocean Drilling Program Sites, Earthquake Zones, Significant Earthquake Sites, and Tsunami Event Sites.
- Select background**: A dropdown menu showing "GEBCO Pseudo-Color Basemap".
- Legend**: A list of legend items, currently showing "World Vector Shoreline 1:250K".

At the bottom of the main map area, there is a scale bar showing 0, 1100, 2200, 3300, and 4400 km. To the left of the scale bar is a "Map Size" dropdown menu showing "400 x 300". To the right of the scale bar is a "Disable Rosa" button.



# African-wide projects

## • African Marine Information System AMIS

[http://amis.jrc.ec.europa.eu/4\\_1\\_gismap.php](http://amis.jrc.ec.europa.eu/4_1_gismap.php)

African Marine Information System

Important legal notice

EUROPA > European Commission > DG JRC > IES > AMIS Home > GIS functionalities

Contacts | Search on EUROPA

African Marine Information System

Map size: xs S M L XL

Navigation options: Pan, Zoom in, Zoom out, Zoom Factor

Predefined Regions: Full (Initial View), Canary Current, Guinea Current, Benguela Current, Indian Ocean, Somali Current, Red Sea, Mediterranean Sea, Lake Victoria, Lake Tanganyika, Lake Chad

Reference Map

Variables: --PHYSICAL-- sst\_mean, topo; --BIOLOGICAL-- chl\_mean, pp\_mean, k450\_mean

Time: Year: 2002, Month: Jan

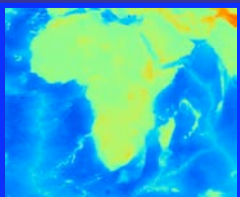
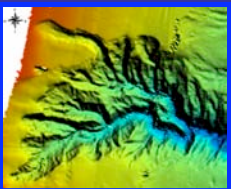
Option map:  Grid,  Borders,  LMEs,  Contour

# African-wide projects

- African Monitoring of the Environment for Sustainable Development

- AMESD

[http://ec.europa.eu/enterprise/space/doc\\_pdf/amesd.pdf](http://ec.europa.eu/enterprise/space/doc_pdf/amesd.pdf)



Home Contact us

Home >> Programme Overview >> Context >> Few words about AMESD

AMESD-MeteoAfrica

Few words about AMESD

User Rating:      / 3

Poor      Best  Rate

Written by Jerome Bruniquel

Tuesday, 22 April 2008 07:10

L'Union Africaine et l'Union Européenne viennent de lancer un programme de coopération internationale nommé AMESD (African Monitoring of the Environment for Sustainable Development), financé en partie par le Fonds d'Aide au Développement, afin de doter l'Afrique d'un système efficace de surveillance de l'environnement et d'aménagement du territoire, qui permettra notamment d'améliorer la gestion des ressources agricoles, maritimes et fluviales. Tous les pays africains de l'ACP sont concernés (tous sauf le Sahara Occidental, le Maroc, l'Algérie, la Tunisie, la Libye et l'Égypte).

En créant un système d'information intégré, qui s'appuiera sur les technologies/données d'Observation de la Terre, AMESD fournira aux décideurs Africains des outils de prise de décision au niveau régional et national, contribuant à améliorer les conditions de vie de millions de personnes situées dans certaines des régions les plus pauvres du monde.

Pour la phase d'étude d'AMESD, qui portera sur 4 ans, cinq thèmes ont été identifiés et répartis entre 5 régions:

Events

<< July 2008 >>

Mo	Tu	We	Th	Fr	Sa	Su
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

News...

APO-SOURCE : The African News Source

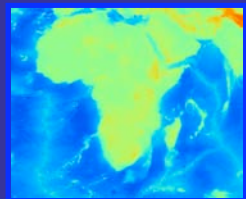
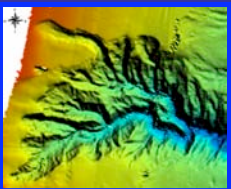
- Africa / Denmark / More Focus on Education Essential for Development
- Afrique / Danemark / Point de plus sur l'Education

Main Menu

- Home
- Programme Overview
  - Context
  - Objectives
  - Consortium members
  - Organisation



# African-wide projects



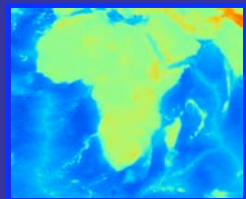
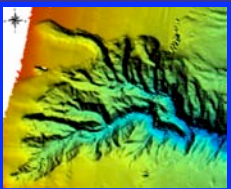
- Large Marine Ecosystems

- Five Large Marine Ecosystems (GEF)
- Four LME Projects, 3 currently active
- Actively synthesizing and generating information to support the ecosystem approach.



Canary Current LME

# African-wide projects



- Large Marine Ecosystems

- Five Large Marine Ecosystems (GEF)
- Four LME Projects, 3 currently active
- Actively synthesizing and generating information to support the ecosystem approach.

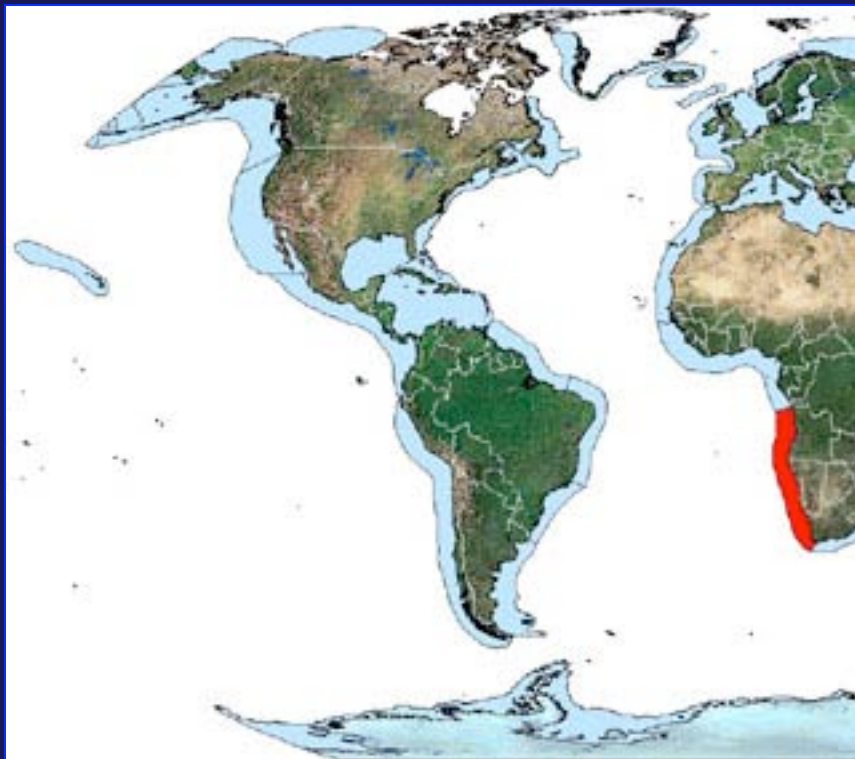


Guinea Current LME

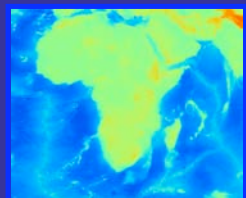
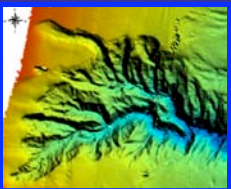
# African-wide projects

- Large Marine Ecosystems

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Benguela Current LME



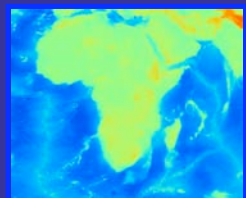
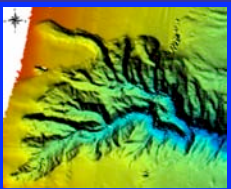
# African-wide projects

- Large Marine Ecosystems

- Five Large Marine Ecosystems (GEF)
- Four LME Projects, 3 currently active
- Actively synthesizing and generating information to support the ecosystem approach.



Agulhas Current LME





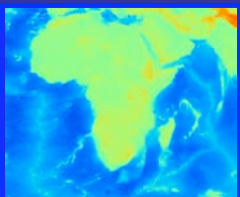
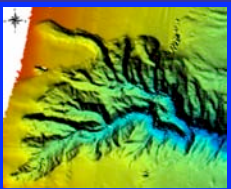
# African-wide projects

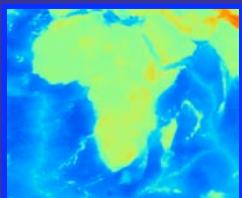
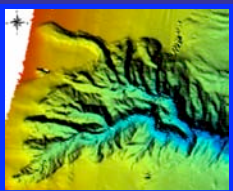
- Large Marine Ecosystems

- Five Large Marine Ecosystems (GEF)
- Four LME Projects, 3 currently active
- Actively synthesizing and generating information to support the ecosystem approach.



Somali Current LME





# African-wide projects

- Ocean Biogeographic Information System
- (AfrOBIS) <http://afrobis.csir.co.za:8000/>

Enter a species name in the " Search" box below, or choose one of the other available search options: [Other search options](#)

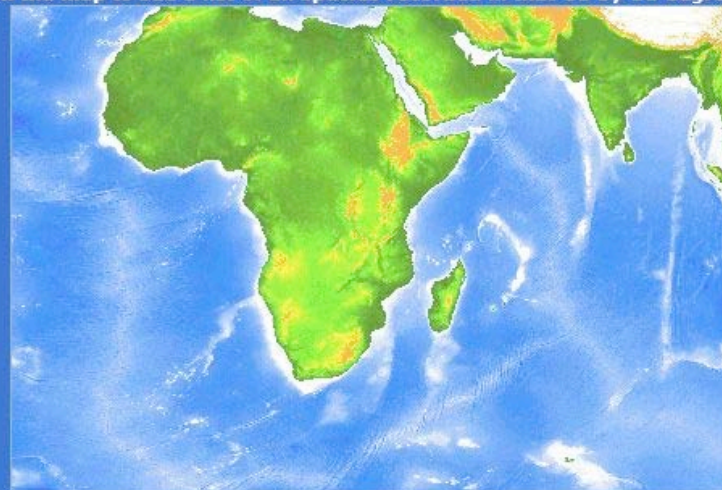
Common name

example: Atlantic salmon

Scientific name

example: Salmo or Salmo salar

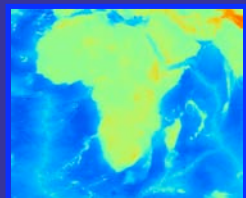
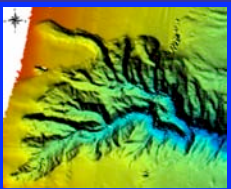
click on the map to see a list of all species recorded in that 10 by 10 degree square



*detailed map with all points*

# African-wide projects

- Global Biodiversity Information Facility (GBIF)
- African nodes - SABIF



HOME | DATA | NEWS | EVENTS | ARTICLES | NODES | PREFERENCES | HELP | ABOUT | PRESS | SITE MAP

GBIF

... free and open access to biodiversity data

GLOBAL BIODIVERSITY INFORMATION FACILITY

SITE SEARCH:

HOME

Latest news [ More... ]

- GBIF bids farewell to Meredith Lane - The GBIF Public and Scientific Liaison Officer ... - posted on 2008-07-08
- GBIF seeks Java developers - The GBIF Secretariat seeks two Java Software ... - posted on 2008-07-07
- GBIF seeks Head of Participation - The GBIF Secretariat seeks an experienced and ... - posted on 2008-07-02
- GBIF seeks Administrative Assistant - The GBIF Secretariat, located in Copenhagen is ... - posted on 2008-07-01
- Videos from the Workshop on Georeferencing Biodiversity Data now available from GBIF-ES - Videos of some of the presentations delivered ... - posted on 2008-06-13
- GBIF launches online tabulation of hosted and shared data - GBIF has launched an online tabulation of Data ... - posted on 2008-06-12
- First assembly of Spanish GBIF data providers and partners - Representatives of 20 Spanish institutions that ... - posted on 2008-06-12
- GBIF Secretariat staff enhanced by new intern - A one-year internship to assist with CEPDEC ... - posted on 2008-06-11
- Bibliographies of GBIF citations accessible at EditGrid.com - MOST RECENT UPDATE: 19 June 2008 - posted on 2007-12-10

Latest articles [ More... ]

Calendar of events

July 2008

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

GBIF UDDI Registry

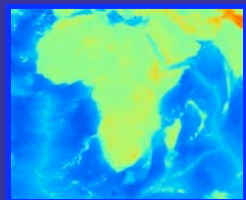
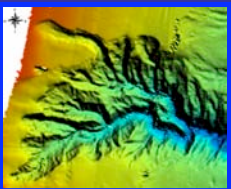
- \* registration
- \* update information

Data Providers	256
Datasets	2960
Searchable Records	141,500,888



# African-wide projects

- New Partnership for Africa's Development
- NEPAD
- <http://ioc3.unesco.org/nepad-cosmar>



The screenshot shows the homepage of the NEPAD-COSMAR website. At the top, there is a banner with the title "Coasts and Oceans: Hope for Africa" and logos for NEPAD, COSMAR, and UNESCO. Below the banner, there is a search bar and a navigation menu. The main content area is divided into several sections:

- About NEPAD COSMAR**: A section with a folder icon, containing a sub-section "About NEPAD - COSMAR" with a brief description of NEPAD and its goals, and a "NEPAD - COSMAR Secretariat" section with a brief description of the secretariat's role.
- NEPAD - COSMAR Activities**: A section with a folder icon, containing a brief description of the activities and a "Major events related to the NEPAD-COSMAR Adoption of the UNEP/GEF MSP on the Environment Component of the New Partnership for Africa's Development (NEPAD) 26 July 2001, Lusaka, Zambia Launch of" section.
- Links**: A section with a list of links to various resources, including the United Nations Environment Programme, NEPAD Environment Directory, and the African Process.
- Events**: A section with a list of events, including the International Conference on Aquatic Resources: Needs and Benefits (18.09.2006) and the Tripoli 2005 - The Ocean Security Initiative (22.07.2005).

On the left side of the page, there is a "Site" navigation menu with links to Home, About NEPAD COSMAR, Projects and Programmes, CSA Programmes & Projects, Databases, Newsletter, and Contact Us. Below the menu is a "Member Login" section with fields for Username and Password, a "Remember Me" checkbox, and a "GO" button. There are also links for "Lost My Password" and "I Want To Register". At the bottom of the left side, there is a "Languages" section with a dropdown menu set to "English".

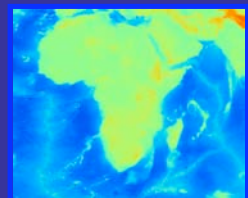
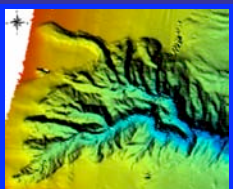




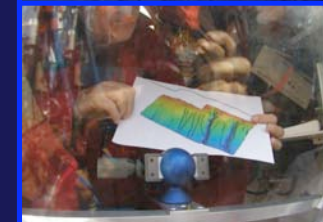
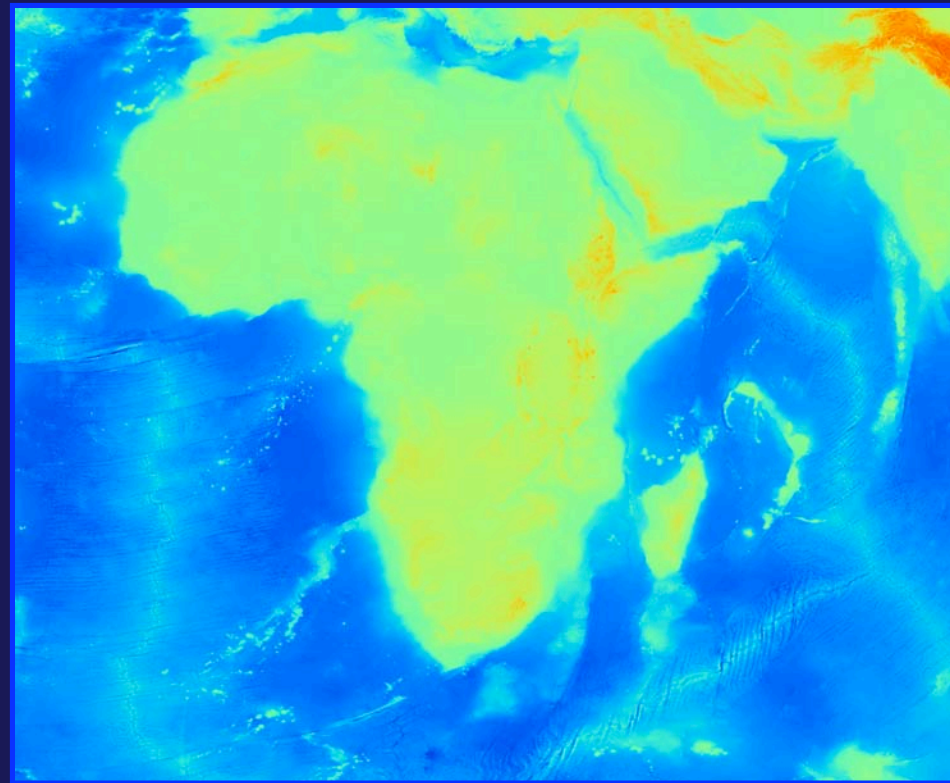
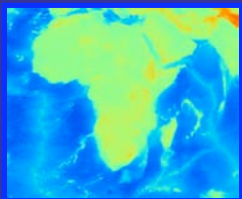
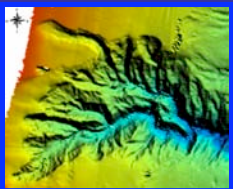
# Coastal Atlas Projects in East and Southern Africa



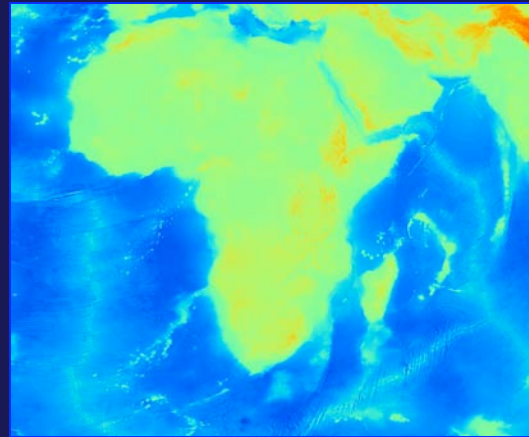
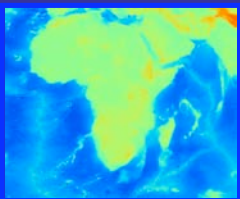
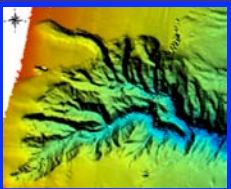
- Nairobi Convention Clearinghouse Mechanism (NC CHM Project)
- <http://gridnairobi.unep.org/CHMPortal/>



# The African Marine Atlas



# The African Marine Atlas

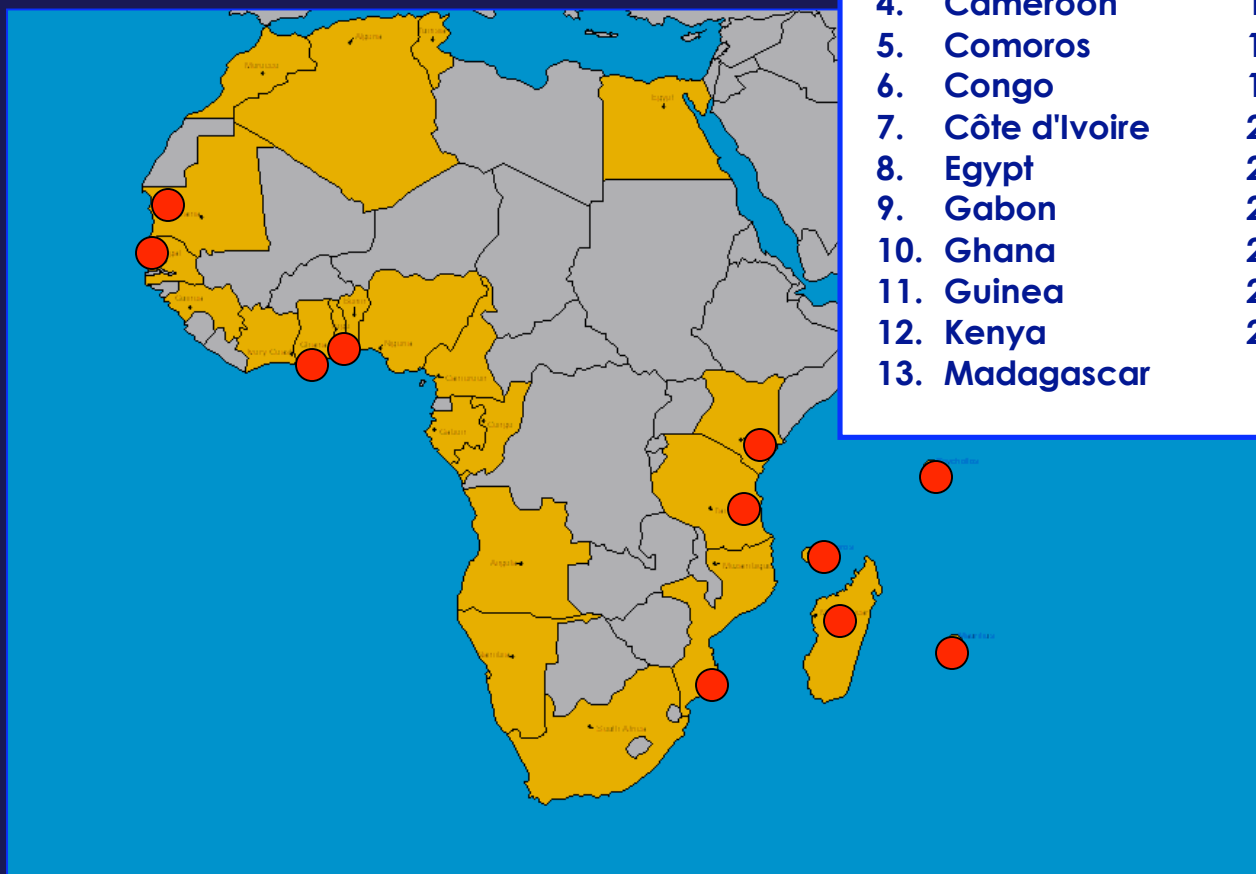
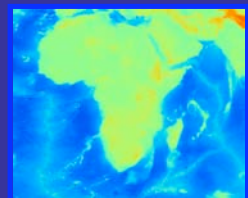
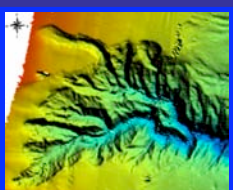


A project of the:  
Ocean Data and Information Network For  
Africa (ODINAFRICA),  
a network of National Institutions in Africa  
funded by the:  
Government of Flanders and the:  
Intergovernmental Oceanographic  
Commission (IOC of UNESCO)'s IODE





## Ocean Data and Information Network for Africa (ODINAFRICA)



1. Algeria
2. Angola
3. Benin
4. Cameroon
5. Comoros
6. Congo
7. Côte d'Ivoire
8. Egypt
9. Gabon
10. Ghana
11. Guinea
12. Kenya
13. Madagascar
14. Mauritania
15. Mauritius
16. Morocco
17. Mozambique
18. Namibia
19. Nigeria
20. Senegal
21. Seychelles
22. South Africa
23. Tanzania
24. Togo
25. Tunisia

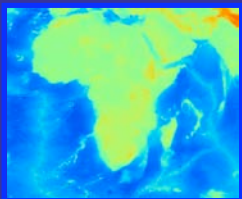
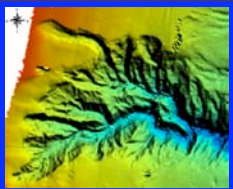
African Marine Atlas - participating NODCs ●  
Primary international partners: UNEP, ACEP



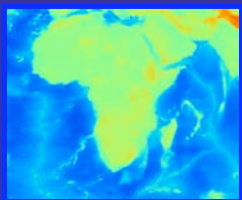
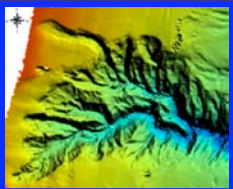


# The African Marine Atlas

## A project designed to address the challenges:



- The coastal region & marine waters of Africa are biologically diverse, physically complex, and not well studied.
- Spatial data from past/published studies are not easily available.
- Coastal and marine management and decision-making is complex and requires easy access to reliable information.
- There is insufficient human capacity and data to meet management needs.
- There is a broad understanding of the usefulness of GIS and RS, but actual use is limited.
- There is limited access to public funded data.
- Global data resources are not easily accessible.
- Useful data products are urgently needed for natural resource management, coastal planning, and management of marine protected areas at a national and regional level.



# The African Marine Atlas

## The Project

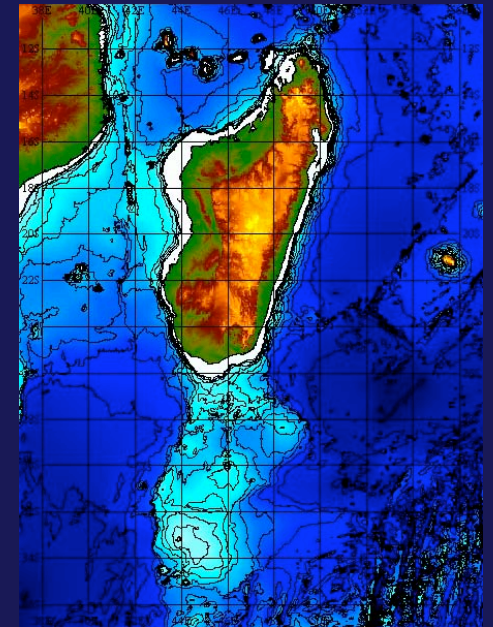
A project that aims to source, collect and format marine geospatial datasets and make them available to marine scientists and managers while building capacity for marine data management.

## The Products

A digital GIS atlas, and atlas products, containing a broad spectrum of informative marine geo-information about the African coasts and oceans.

1. Improve access to data  
(online Atlas product)

2. Increase capacity to use data  
(training courses, work programmes)

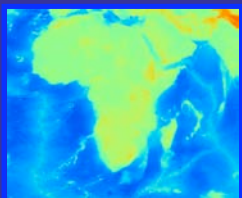
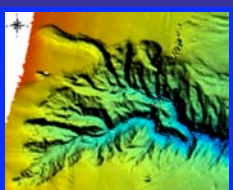




# The African Marine Atlas

## Designing the project:

1. National level consultation and workshops (Jan – June 2005)
2. Regional workshops, at which regional needs and products were identified and prioritised based on national consultative reports
3. Input from regional programmes
4. Annual ODINAFRICA Seminar







# The African Marine Atlas

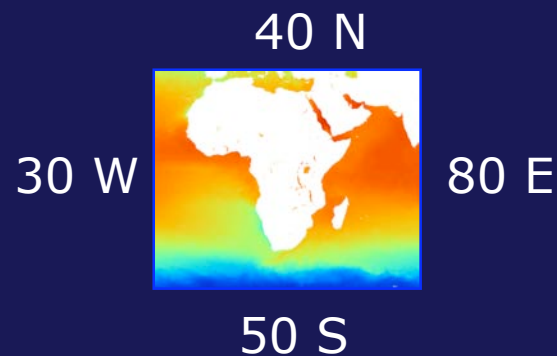
## Technical Scope:

**Five Themes: Geosphere, Hydrosphere, Atmosphere, Biosphere, Human environment**

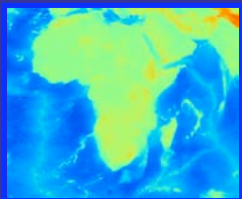
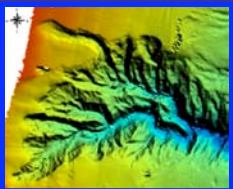
**The atlas incorporates data sets that are relevant in any way to coastal / marine sciences or management (initial list of over 200 data categories)**

**Existing geo-referenced datasets available in the public domain (but tailored to meet specific user requirements).**

**Continental Africa and island states:**



**Transboundary data sets**

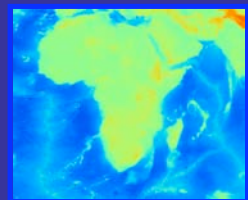
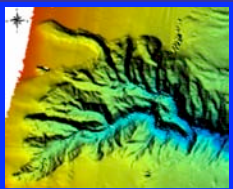




# The African Marine Atlas

## The Team:

**ODINAFRICA National Data Centre Managers from 12 countries and two regional partners, the African Coelacanth Ecosystem Programme (ACEP) and the United Nations Environment Programme (UNEP)**



## **GEOSPHERE & ATMOSPHERE**

- Chief Editor Dr. Desiderius C.P. MASALU, University of Dar Es Salaam; Institute of Marine Sciences. *Tanzania*
- Editors Mr. Selorm Dzako ABABIO, Dept. of Oceanography & Fisheries; University of Ghana. *Ghana*  
Mr. Mohamudally BEEBEEJAUN, Mauritius Meteorological Services. *Mauritius*  
Mr. Anis DIALLO, Centre de Recherches 'Ocianographiques de Dakar- Thiaroye (CRODT). *Senegal*

## **HYDROSPHERE**

- Chief Editor Mr. Emmanuel Kwame DOVLO, Directorate Of Fisheries; Marine Fisheries Research Division. *Ghana*
- Editors Ms. Clousa MAUEUA, Instituto Nacional de Hidrografia e Navegao (INAHINA). *Mozambique*  
Mr. Josef WEDEINGE, National Marine Information and Research Centre (NatMIRC). *Namibia*  
Mr. Bambaye Ould HAMADY, Departement Ressources Vivantes et Environnement; Institut Mauritanien de Recherches Ocianographiques. *Mauritania*

## **BIOSPHERE**

- Chief Editor Ms. Lucy SCOTT, African Coelacanth Ecosystem Programme (ACEP), South African Institute for Aquatic Biodiversity (SAIAB). *South Africa*
- Editors Mr. Zacharie SOHOU, Centre Beninois de la Recherche Scientifique et Technique (CBRST), Centre de Recherches Halieutiques et Oceanologiques du Benin (CRHOB/CNDO). *Benin*  
Mr. A.K. ARMAH; Department of Fisheries and Oceanography; University of Ghana/Legon. *Ghana*
- Intern Ms Meaghen McCord, African Coelacanth Ecosystem Programme (ACEP), South African Institute for Aquatic Biodiversity (SAIAB). *South Africa*

## **HUMAN ENVIRONMENT**

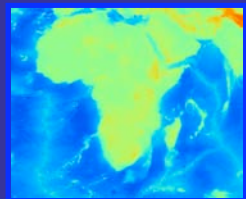
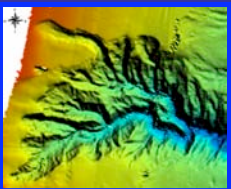
- Chief Editor Mr. Mwangi THEURI, UNEP/Nairobi Convention Clearinghouse Mechanism and Information Sharing System. Synergy with ODINAFRICA (of IOC/UNESCO), *Division of Early Warning and Assessment, United Nations Environment Programme (UNEP)*
- Editors Mr. Richard JASMIN, Seychelles Fishing Authority (SFA). *Seychelles*  
Mr. Harrison ON'GANDA, Kenya Marine and Fisheries Research Institute (KMFRI). *Kenya*

## **BASE MAP**

- Chief Editor Dr. Murray BROWN; IOC/IODE Consultant. *USA*



# Product 1: Static website (spatial data clearinghouse)



## Atlas Themes

GEOSPHERE

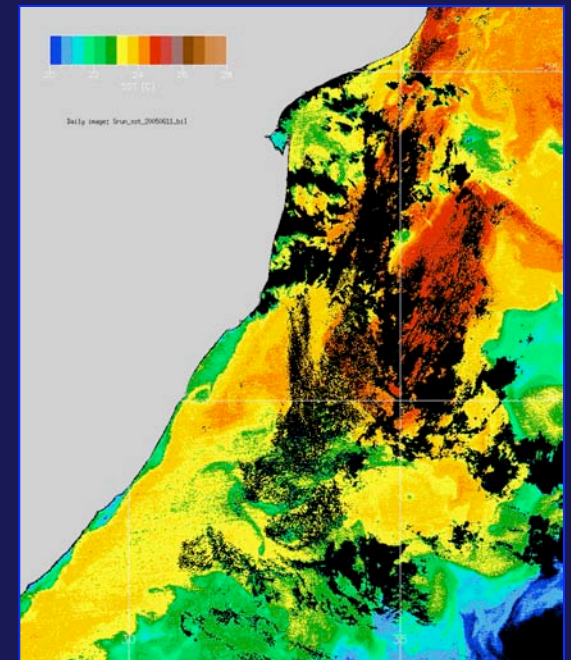
HYDROSPHERE

ATMOSPHERE

BIOSPHERE

HUMAN ENVIRONMENT

BASE MAP

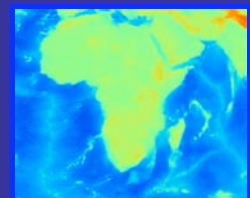
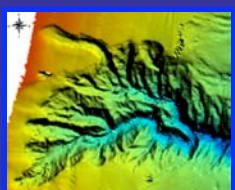




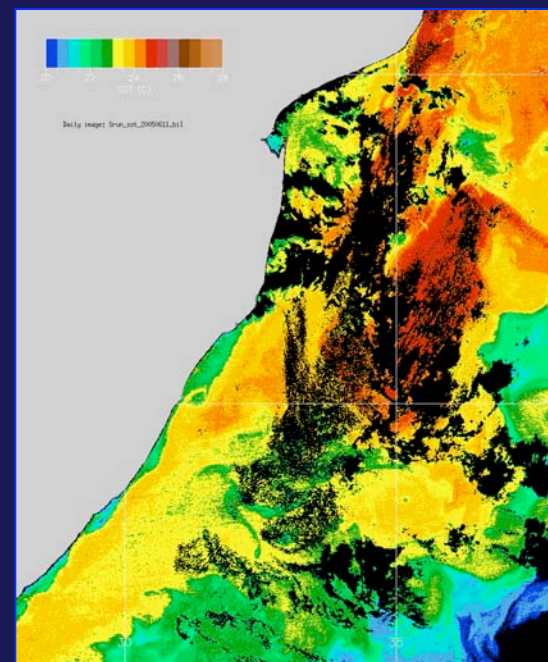
## Product 1: Static website (spatial data clearinghouse)

>800 unique data sets, each one:

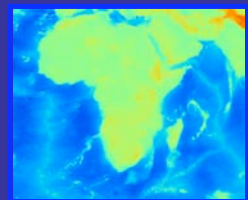
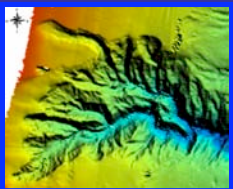
- described briefly
- JPG image provided of the data
- Link to source, citation
- Downloadable zip file:  
(actual data, data image and metadata in original form)



Atlas Themes	Individual Data Products
GEOSPHERE	19
HYDROSPHERE	445
ATMOSPHERE	96
BIOSPHERE	231
HUMAN ENVIRONMENT	27
BASE MAP	61



<http://iodeweb2.vliz.be/omap/OMAP/index.htm>



## Product 2. African Marine Atlas WebMapServer

- Demonstration site developed
- Selection of themes
- Training and working meetings (2)
- Current display: [www.africanmarineatlas.net](http://www.africanmarineatlas.net)

**African Marine Atlas**

Home

UNESCO IODE ODINAFRICA UNEP

**Main Menu**

- Home
- Go to the Atlas
- About AMA...
- What's in AMA...
- The layers...
- How to use AMA...
- Who's who in AMA

**About AMA**

Written by Fasiens Peter  
Thursday, 18 October 2007

The African Marine Atlas developed by the [Ocean Data and Information Network for Africa \(ODINAFRICA\)](#) was officially launched on 23 February 2007 at the IOC Project Office for International Oceanographic Data and Information Exchange (IODE) in Ostend, Belgium.

The African Marine Atlas provides substantial maps, images, data and information to coastal resource managers, planners and decision-makers from various administrative institutions and specialized agencies in Africa. The Atlas will be of immense benefit to national institutions and a variety of users such as environmentalists, local administrators, park managers, scientific community, fishing cooperatives, tourists, hotel keepers, teachers, NGOs, the general public, and any other interested persons. It has over 800 downloadable data products derived from the fields of marine geosphere, hydrosphere, atmosphere, biosphere, geopolitical and the human socio-economic dimensions.

The Atlas indicates areas of intense use along the coastline requiring careful management and provides potential foresight on likely consequences of specific decisions.

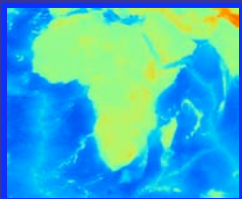
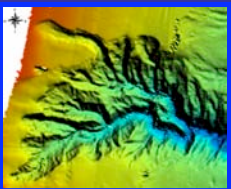
Further, the Atlas indicates gaps in knowledge and information base, where additional efforts may be directed. The Atlas will also act in other ways as a guide to recreational opportunities and tourist attractions.

In developing the Atlas, the main objective was to collate available geospatial datasets and information on the marine environment and to summarize it into an African Marine Atlas suite.

The website is one of a set of Marine Atlas products that will include web data services, web mapping and an Atlas publication when completed.

The Atlas was realized through intensive work between May 2006 and February 2007 by a team of 16 marine scientists and GIS experts from NODC's in Benin, Ghana, Kenya, Mauritania, Mauritius, Mozambique, Namibia, Senegal, Seychelles, South Africa, and Tanzania. International ocean data experts provided key inputs in data analysis. It is based on an extensive survey of coastal and marine data needs undertaken in early 2006 in all the countries participating in ODINAFRICA.





# African Marine Atlas

Map Size: 400 x 300

0 1100 2200 3300 4400 km

Disable Rosa

[Map Options](#) | [Query results](#)

Available maps  
ama.map

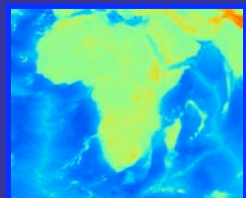
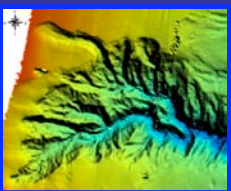
Available layers

- World Vector Shoreline 1:250K
- Graticules - 2 degrees
- Graticules - 10 degrees
- Area of Interest Frame
- Geological Provinces of Africa
- Deep Sea Drilling Sites
- Ocean Drilling Program Sites
- Earthquake Zones
- Significant Earthquake Sites
- Tsunami Event Sites

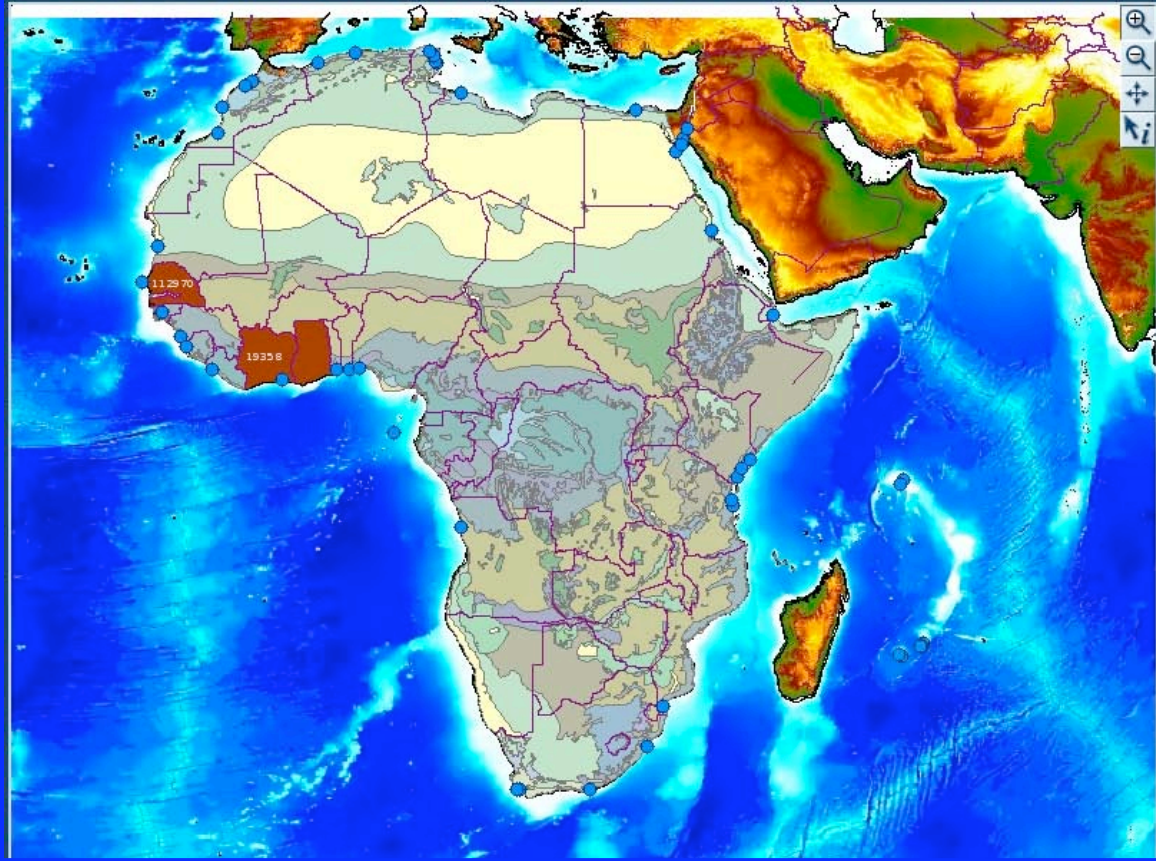
Select background  
GEBCO Pseudo-Color Basemap

Legend

- World Vector Shoreline 1:250K



# African Marine Atlas



Map Options Query results

Available maps  
ama.map

Available layers

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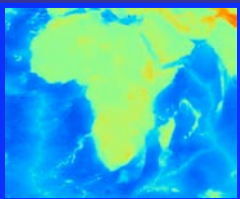
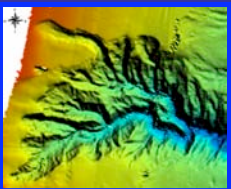
Select background  
GEBCO Pseudo-Color Basemap

Legend

- Coastal hotels 5\*
- Country boundaries
- National catch *Sardinella aurita*
- Afro-alpine
- Anthropic landscapes
- Arid-fertile savanna
- Desert
- Dry forest and thicket
- Fynbos
- Hydromorphic grassland
- Moist-infertile savanna
- Montane forest
- Mopane savanna
- Moist forest



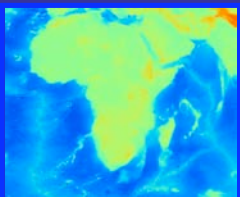
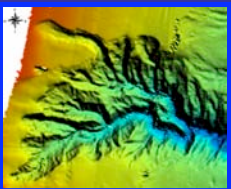
# Challenges



- **Expectations of an online data atlas**
- **Metadata management**
- **Standards: choosing data formats and standard legends**
- **Selecting appropriate data of interest and meaning at continental scale**
- **Logistics of working together from several countries**
- **Remote access to servers**
- **Access to the Internet from countries**
- **Biological data: specific permission had to be requested and recorded, data citations were complex**
- **Sustainability of the project**



# Short-term recommendations



**Linking of the static (clearinghouse) and dynamic (WMS) sites**

**Editing of the WMS site**

- Ordering layers by theme, in hierarchical drop-down lists

**Investigate the level of use of the Atlas by countries and NODCs and monitor this over time**

**Produce technical and peer-reviewed publications**

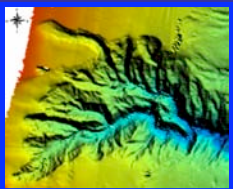




## Considerations for the next phase (2009 .....



- The African Marine Atlas is the largest online resource of multidisciplinary, downloadable spatial information for the African continent, and it has proved to be a valuable information resource in its current shape.



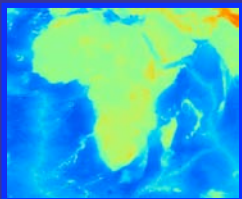
- There is considerable opportunity for the African Marine Atlas to develop further.....



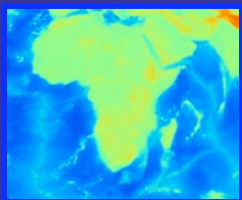
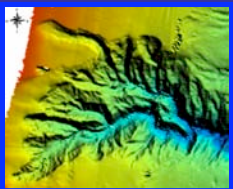
- We have implemented a WMS, need a CSW and WFS.



- Alignment with other regional information systems (Nairobi Convention Clearinghouse Mechanism and LME systems) and international networks (**International Coastal Atlas Network**) is essential.

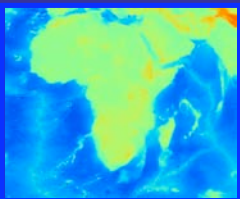
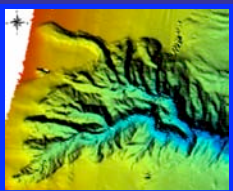


- We aim to adopt recommendations and best practices of ICAN.



- The AMA must develop functionality at more scales (different management & research questions need data at appropriate scale) including National and case-study scale.
- Regional projects should be encouraged to use and contribute to the AMA process (design, training, data provision).
- LME Projects, for example, have a requirement to collect new data, to provide data management training and to develop data products.
- NODCs (as National data repositories) and the African Marine Atlas (as the continental portal to query the NODC resources) can provide an established framework for some of these activities.
- In the development of National and Continental systems *within* Africa, we have the opportunity to maximise harmonisation (now, through the adoption of consistent structures and ontologies) to minimise the need for mediation later.



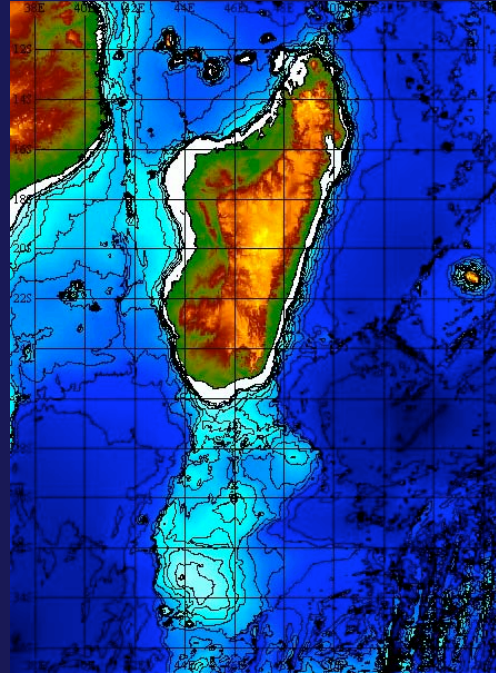
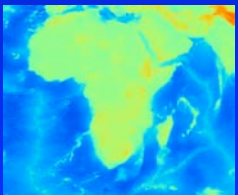


The African Marine Atlas can grow to become an integrated coastal & marine information resource for Africa.

It is itself a product, but it can be more than that, by providing a platform for the dissemination of other products and tools at all scales (regional, national, case study).

Together with OceanTeacher, the AMA can provide material for training courses and derive new products which can go back into the atlas.

Lessons learned and best-practice will be exchanged with other developing country Atlases (such as the Caribbean Marine Atlas – CMA)



[www.africanmarineatlas.net](http://www.africanmarineatlas.net)

### Acknowledgements

IOC/UNESCO, UNEP, ACEP, ASCLME