Experience/Expertise Expectation (Triple E)

Agnes Muthumbi, School of Biological Sciences, University of Nairobi

Training on scientific cruise planning, oceanographic sampling, fisheries and data management" Mombasa, Kenya, 18 – 27 April 2016

Experience

- Marine Biologist: > 25 years of experience
- Research: > 10 years experience
- Teaching and research: > 15
- Publications: > 30 papers and book chapters
- Student supervision: > 20 postgraduates
- Research grants: 10 participant and 4 as PI

Expertise

- Benthic ecologist in soft sediments
- Continental shelf and slope off the Kenya Coast 20- 2000m
- Biodiversity of benthic fauna and nematode taxonomy (described several new species)
- Mangrove forest floor ecology (human impact on resource use)

On going Research: Bait Fishery

Training on scientific cruise planning, oceanographic sampling, fisheries and data management" Mombasa, Kenya, 18 – 27 April 2016

Expectations

- To know how to:
  - Develop a proposal for funding for offshore research
  - plan a research cruise –activities and programming for efficient resource use
  - Budgeting: items to consider for budgeting, average cost
  - Experience in actual sampling and samples and data handling at sea

Acknowledgement

- Flanders Marine Institute: Inviting me for the Training
- VLIR: Support
- KMFRI: Logistics

"Training on scientific cruise planning, oceanographic sampling, fisheries and data management"

Mombasa, Kenya

Amon Kimeli

18th – 27th
April, 2016

Qualifications

- **Post Graduate Certificate in Ocean Mapping & Hydrography (category A Certified) - 2015**

- **MSc in Marine and Lacustrine Science and Management (Oceans & Lakes) - 2013**

- **BSc in Geology - 2008**

Experiences

- My Interest have revolved around sedimentation and sea level rise

- Marine GIS

- Recently Hydrography

Experiences Contd.

- Data Manager for ODINAFRICA Kenya Chapter in the development of African Marine Atlas

- Tutor in the Regional Training Center (RTC) for the Ocean Teacher Global Academy (OTGA)

- Member of the Kenya National Oceanographic and Hydrographic Committee

- Member of the Geological Society of Kenya

Multibeam Bathymetry Survey for the Delineation of Kenyan Outer Continental Shelf

Kenya Marine & Fisheries Research Institute (KMFRI)

Ongi... K., Mu... O. N., N... O. M. & M... O. K.

Introduction

➤ The survey was done in 2007 under Kenya's UNCLOS project to delineate its outer continental shelf.

➤ Survey was contracted to Gardline GeoSurvey Ltd. and was carried out aboard M/V L'Espoir.

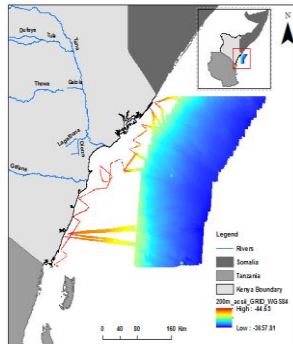➤ To support Kenya's submission to UNCLOS for extension of it's EEZ.
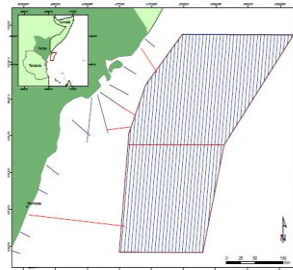
Equipment Used

Sonar/Acoustics

➤ Simrad EM 710 MBES
- 95 kHz at 1×1 degree array
- < 400m depth

➤ Simrad EM 120 MBES
- 12 kHz at 1×2 degree array
- > 400 m depth

➤ Simrad EA400 SBES
- Shallow waters at dual frequency
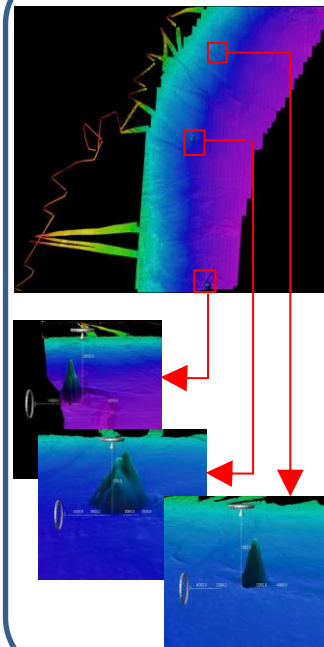- 38 and 200 kHz

➤ Knudsen 320 SBP
- Deep water
- 3.5 – 11 kHz

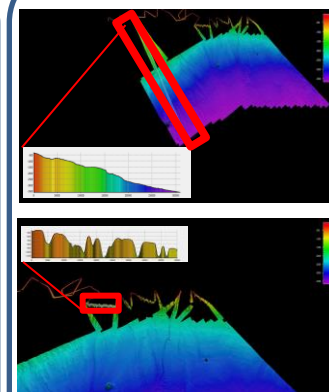**Sound Velocity**

➤ Valeport CTD
➤ Sippican EBT

Survey Area

Results

Results

Conclusions

- Very gentle transition from continental shelf to the deep ocean.

- Three large seamounts that are yet to be named.

Acknowledgement

- Nippon Foundation & GEBCO

- Centre for Coastal Ocean and Mapping at the University of New Hampshire

Multibeam data from delineation of Kenyas EEZ processed using Fledern...
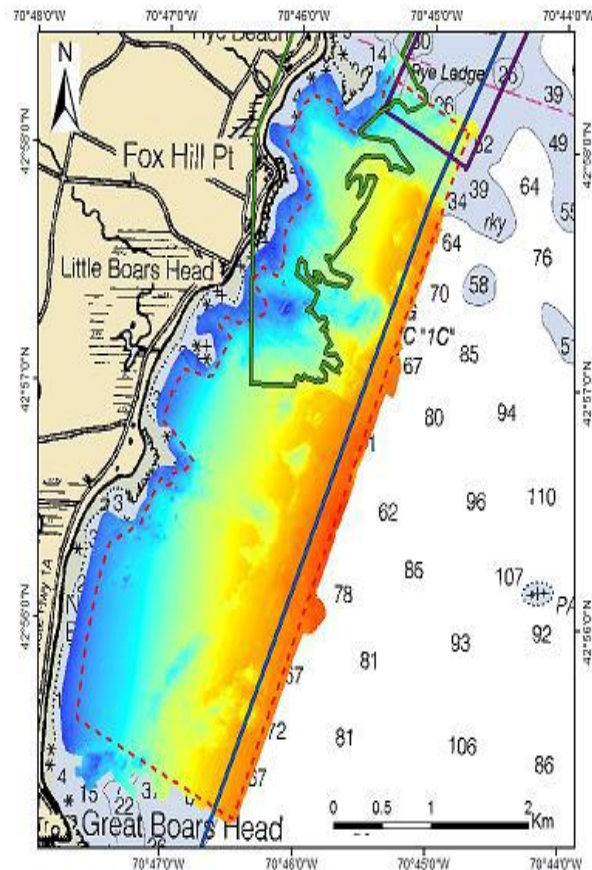
Backscatter and Bathymetric Surface
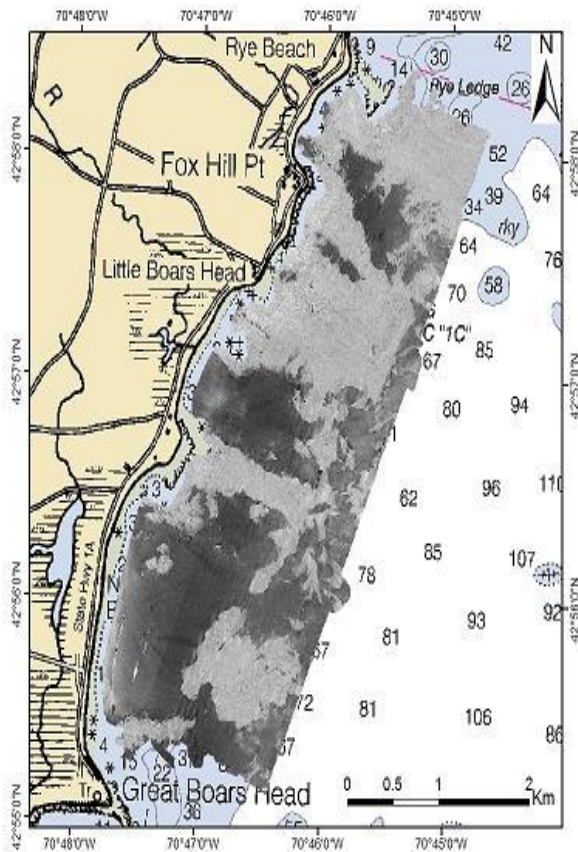
At the University of New Hampshire Hydrographic/Bathymetry mapping
- **Kongsberg EM2040**
- **Aboard RV Coastal Surveyor**

Sidescan sonar

SH2015_Sidescan Sonar Mosaic_20150625
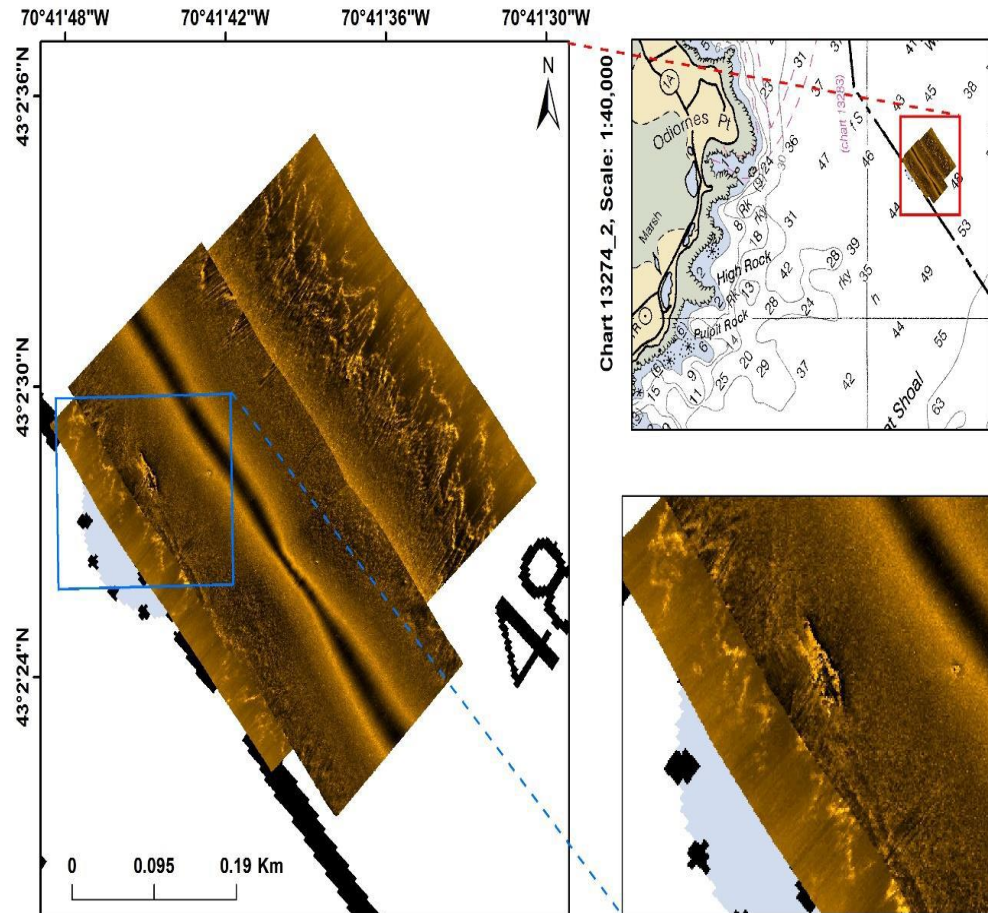
Using Towed Klein 3900

Seafloor Characterization
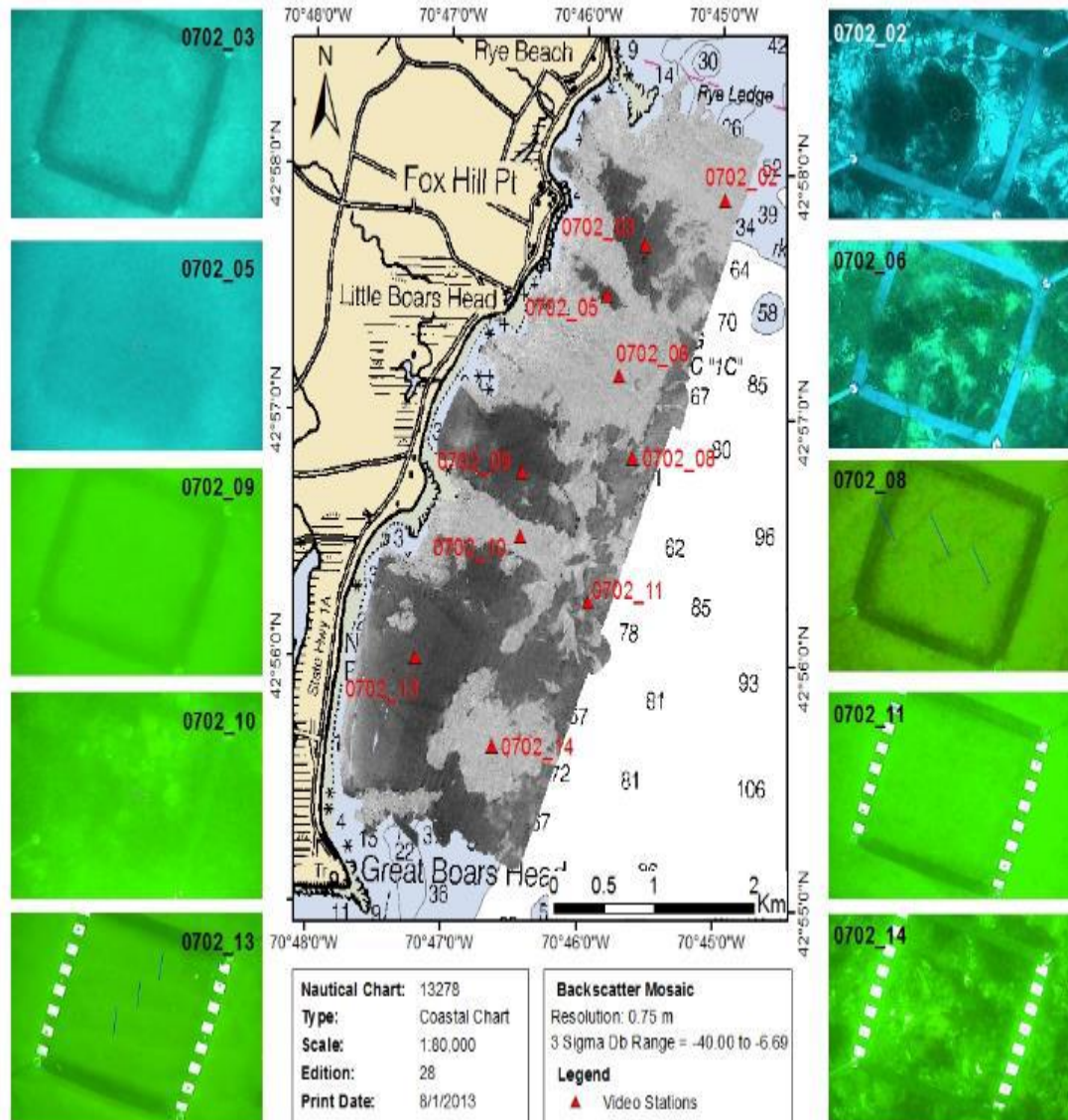
Satellite Derived Bathymetry
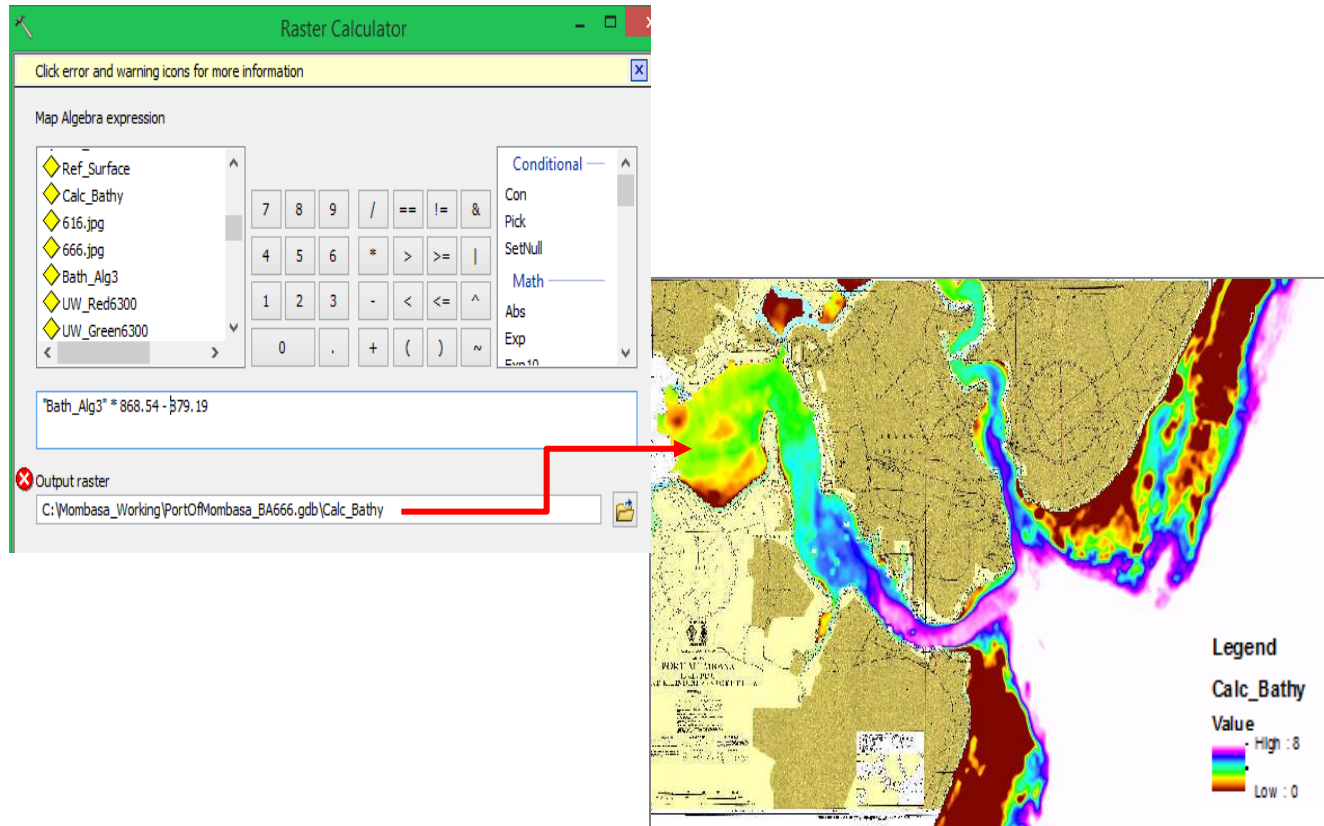
Obtained by processing Landsat Imagery for shallow wa

Comparing the depth soundings
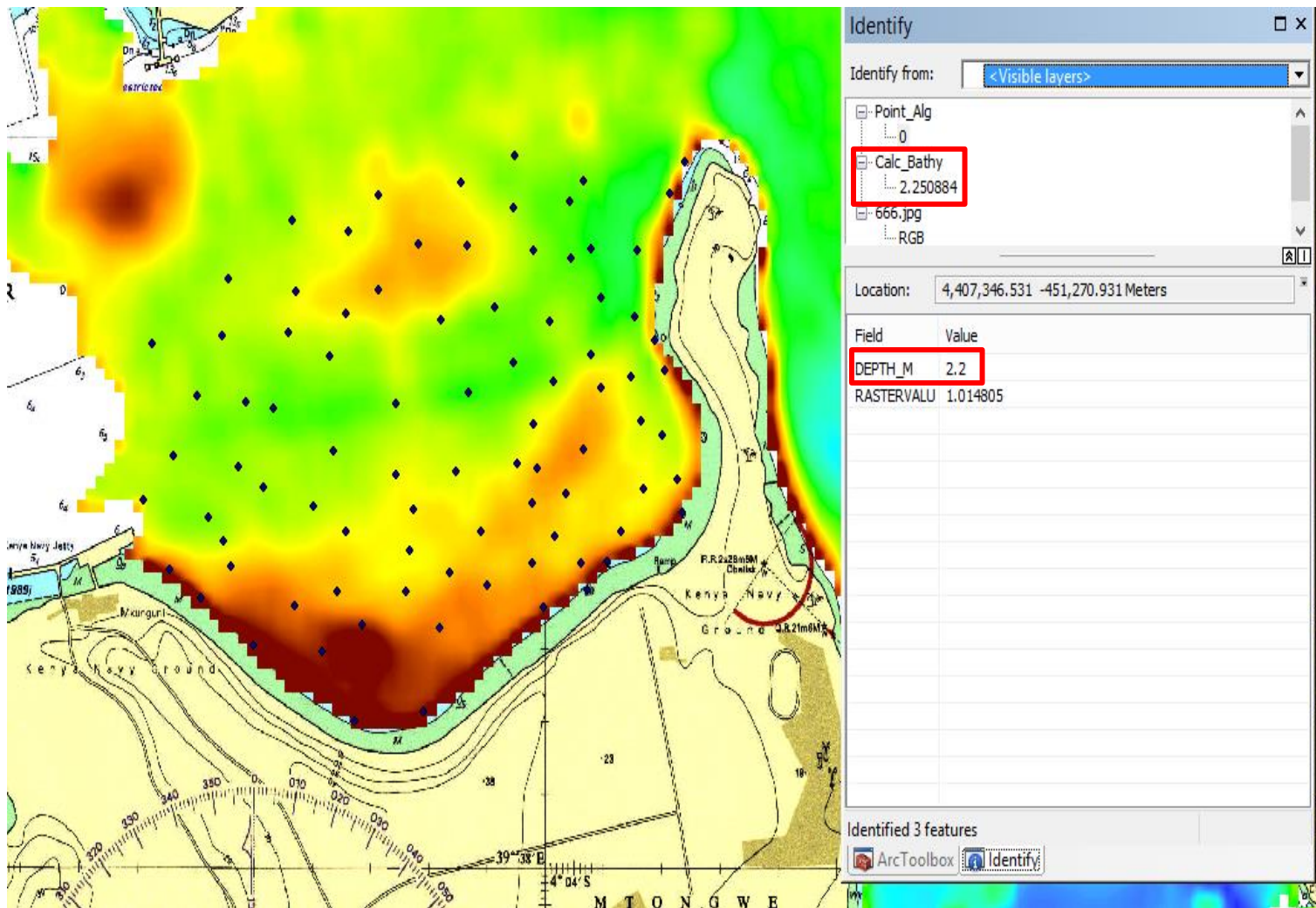
Expectations

- Learn
- Experiment
- Clear roadmap for the future (collaborative cruises)

"Training on scientific cruise planning, oceanographic sampling, fisheries and data management"

KMFRI and RV Mtafiti, Kenya,
18 – 27 April 2016

By: Calvin Gerry
Seychelles

Expertise

- Bachelor of Science; Physical Oceanography and Meteorology

- Working for Seychelles Fishing Authority(SFA) Since 2007 as a Fisheries Oceanographer

- Experience in research and practical skills in the field of Physical Oceanography, Data Management, applied GIS and modelling

Project Related

- Managing the Seychelles National Ocean Temperature (SST) Monitoring Network, which was established in 2007.

- National Coordinator & Data Manager for the Seychelles National Oceanographic Data Centre, within SFA

Experiences

- Participated in the Cirene Oceanographic Research Cruise on the research vessel Suroit in the Indian Ocean (8 -29 January 2007)
- Participate and undertake several Research Cruise related Fisheries and Oceanography on the SFA research vessel, R/V L'Amitie from 2007 to date
- Participate in R/V DR FRIDTJOF NANSEN RESEARCH CRUISE IN THE SOUTHERN INDIAN OCEAN from Mauritius to South Africa on 18 July – 10 August 2015

Expectation

- Proper Development & planning for a scientific cruise
- Knowledge how to operation and maintenance scientific marine sampling equipment. (Protocol)
- Proper collection, preservation of the Biological and chemical of the sampling. (Protocol)
- Data Management
- Skill in Leadership, Team Work , Coordination and communication

Scientific Survey Cruise Experience

Cosmas Munga
Department of Environment and Health Sciences, Marine Science Section
Technical University of Mombasa, Kenya

Training on Scientific Cruise Planning, Oceanographic Sampling, Fisheries and Data Management, KMFRI and RV Mtafiti, Kenya, 18-27 April 2016.

SWIOFP Shallow Water Prawn Research Surveys
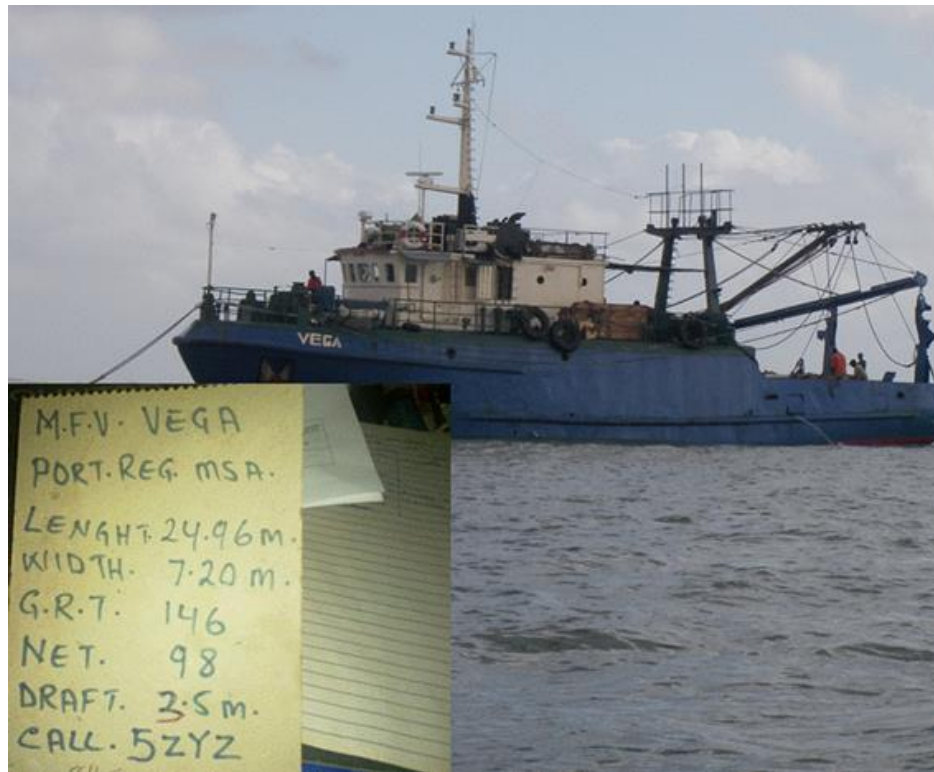
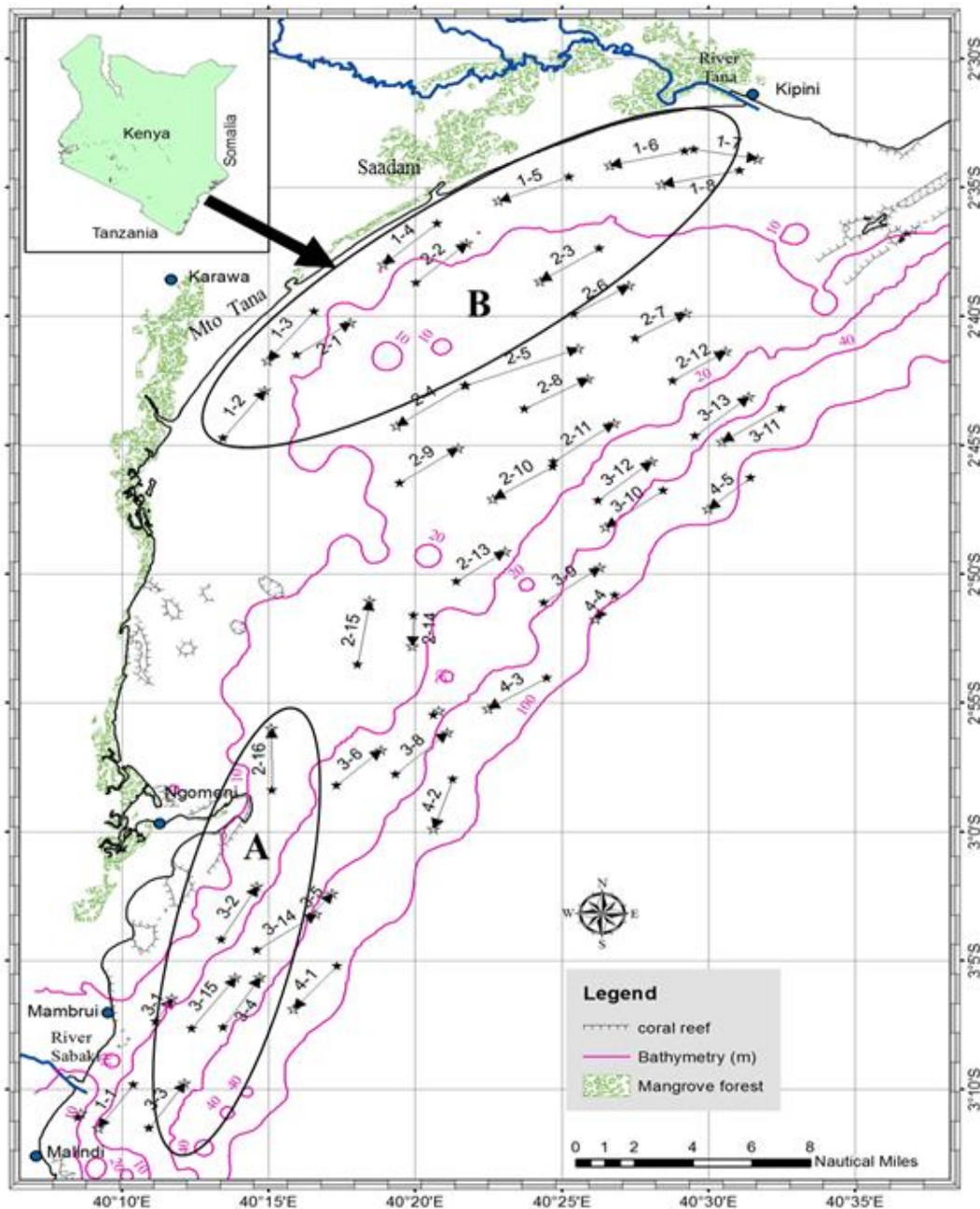- The first survey 22nd Jan – 3rd Feb 2011 coinciding with the NEM season
- The second survey 22nd May – 3rd June 2011 coinciding with the SEM season

Area Trawled

Munga et al., 2013

Objectives of the Surveys

1. To sample crustacean species composition and distribution (level 1), biological samples (level 2), and genetic samples (level 3);

2. To sample retained and discarded by-catch. To identify and quantify by-catch and link to projects on demersal fish (Component 3) and biodiversity impacts of fisheries (Component 5);

3. To collect genetic samples of shallow-water prawns *P. indicus, P. monodon*, and *M. monoceros*;

4. To collect & freeze specimens for reference collection for NMK;

5. To collect data and samples to support research projects approved by the SWIOFP and other projects being implemented in the region.

The R/V Dr Fridtjof Nansen Survey in North West Africa

- Biomass estimates of commercial pelagic fish species using the following methods:

  - Acoustics
  - Pelagic trawling

- Biological measurements of the commercial pelagic species

- Measuring environmental variables using CTD
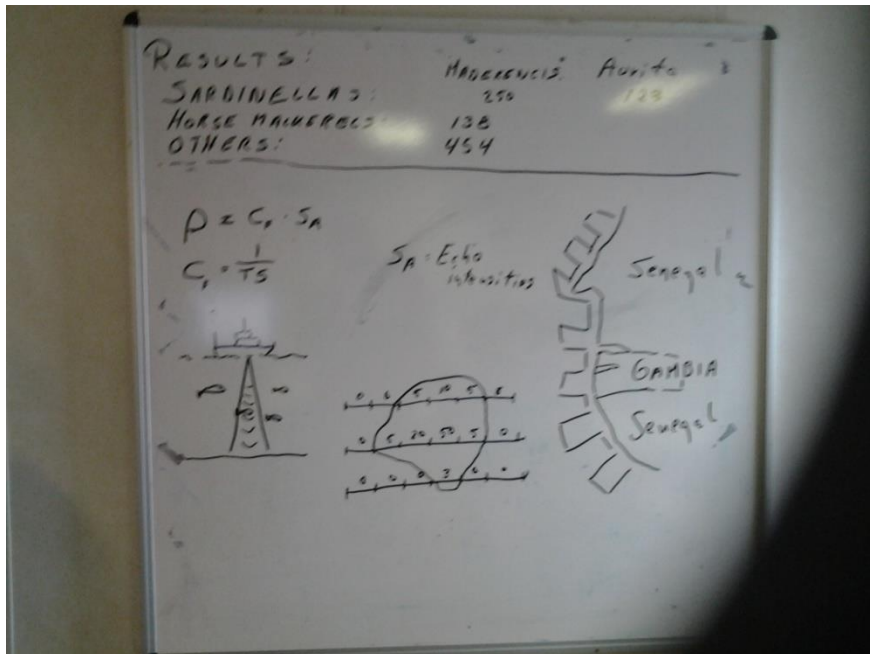
Thanks for listening

EXPERIENCE IN MARINE RESEARCH AND EXPECTATIONS.

Training workshop on scientific cruise planning, oceanographic sampling, fisheries and data management

PARTICIPANT: ESTHER WAIRIMU MAGONDU:

KMFRI

Personal background

- My back ground:

- BSc. Fisheries and aquatic sciences

- MSc. Aquaculture and Marine Resources Management. Wageningen University. NL.

❖ Short training on Trawling and acoustic surveys (FAO/EAF-Nansen project. Durban S.A

❖ Part time Tutor on basic stock assessment UON.

Experience in marine research

- ➢ Participation in the Northwest Africa scientific cruise for acoustics and trawl surveys onboard the RV Dr. Fridtof Nansen. Nov & Dec 2015.

- ➢ The scientific focus was on pelagic fish species.

- ➢ The research was conducted in the Canary Current Large Marine Ecosystem in the waters of The Gambia, Mauritania, Morocco and Senegal.

The cruise survey plan – Acoustics and trawl stations are

Experience cont.

How to define objectives of a Scientific Survey

Particular to the NWA survey:

❑ To assess the abundance and distribution of commercial key pelagic fish species: *Sardinella maderensis, Sardinella aurita, Trachurus trecae, Decapterus rhombus*, and *Scomber japonicus.*

❑ To conduct biological measurements of these key pelagic fish species (mostly total length, individual weight, gonad maturity, otolith collection for *Sardinella aurita* in each sub region).

❑ To measure environmental variables and obtaining vertical profiles of (temp, conductivity, salinity, fluorescence) using Conductivity Temperature Depth (CTD) device.

Experience cont: Scientists sampling and recording catch measurements onboard

Some of the equipment used were: Electronic fish meter, Sampling basins, weighing balances and data recording sheets

Expectations from the workshop

- Enhance my knowledge on cruise planning, oceanographic sampling and fisheries data management.

- How to use different scientific equipment while conducting fisheries surveys.

- To gather knowledge on how to analyze stock assessment data and the soft wares to use.

- To get a certificate.

THANK You

Distinguished guest, good morning !

-
- First, let me introduce myself
- I am Florette RASOARILALAO,
- I came from Mahajanga MADAGASCAR
-
- My current profession is Biologist at the CENTER of STUDIES and DEVELOPEMENT of FISHERIES in Ministry of Halieutic Resources and Fisheries of MAHAJANGA MADAGASCAR
- In my institution, I am in charge of :
- The data processing obtained from the traditional fisheries in the north-west coast of Madagascar and
- monitoring bycatch in small-scale shrimp fisheries.

- I did my higher education at the Halieutic Institute and Marine Sciences (IH.SM) of Tuléar University in MADAGASCAR… and I have a post graduate diploma in Applied Oceanology
- « Variation of specifics biodiversity of fishes population in the great reef   of Toliara Southwest part of Madagascar between 1970 and 1997 » is my dissertation.
- This research aims at highlighting the modifications intervenant in the diversity ichthyologics in connection with the ecological and architectural changes of the Great reef during the last three decades.
- And it focuses on the comparative study between the research published by VIVIEN HARMELIN in 1972 and 1981 on the inventory , ecology and alimentary ethnology of reef species
- It also mentions the management policy rational of the living resources in the reef

- My experience deal with :
- An analysis of fish population according in the different stations in the reef
- A taxonomic study, measurement and study of the health status of the reef
- Comparison between fish species in each station
- a qualitative and quantitative study of fish
- an analysis of the size frequency of fish
- the coral rate, the rate of seaweed and others in the reef

-
- Last year,I attended a training course in Fish Species Identification organised by EAF-Nansen Project of the Food and Agriculture Organization of the United Nations (FAO) at the Department of Biological Science of the Eduardo Mondlane University (UEM) in Maputo, Mozambique
- I really enjoy this workshop because it helps me to manage the data obtained from our research and my aim is to improve the quality of data collected
- I aspect to acquire new skills to improve the data processing in my current or future job .And to know how to manage the fisheries data of Madagascar for the sustainability of the resources .

Thank you for your attention.

Gladys M. Okemwa

Fisheries Scientist,
Kenya Marine and Fisheries Research Institute

gokemwa2002@yahoo.com

Research Experience / Interest

- Fisheries catch assessment
  - Coordinating KMFRI artisanal fisheries catch assessment monitoring programme

- Fish ecology and biology
  - Reef fish census and recruitment surveys

- Fisheries stock assessment

- Sea turtle monitoring and conservation
  - Ecology and fisheries interactions

- Shorebird census surveys

Expectations from the Training

- General exposure on ship operations

- Insights on cruise planning

- Insights on standard cruise survey , data archiving and reporting methodologies

- Familiarization with equipments

Thanks

Introduction

- Name: Jane Mora Nyamora
- Organization: KEMFRI
- Position : Research Officer II
- Programme: Fisheries
- Qualifications: MSc. Marine & Lacustrine Science and Mgt; BSc. Fisheries & Aquatic Sciences

Experience

- Catch Assessment of priority fish species along the Kenyan Coast under - artisanal

- On board of RV Simon Stevin vessel in Belgium in the North sea where we determined catch composition and length weight relationships of different fish species using otter trawler and beam trawler.

- On board of RV Belgica vessel in the North sea to gain hand on experience on how to collect *in-situ data*.

Expectations

- Gain more Knowledge on how to use research vessel RV Mtafiti in fisheries research
- Learn how to use scientific equipment while on board RV Mtafiti
- Learn how to generate, organize and analyze scientific data while on board RV Mtafiti
- Use the deep sea for sustainable development of our people

MY 3 E's: Experience, Expertise and Expectations

Johnstone Omukoto Omuhaya
Department of Coastal and Marine Fisheries Research,
Kenya Marine and Fisheries Research Institute

Training on scientific cruise planning, oceanographic sampling, fisheries and data management held at KMFRI's Dolphin Hall and aboard RV Mtafiti in Mombasa, Kenya, 18 – 27 April 2016

Experience

- ✓ Coastal and Marine Fisheries Research Scientist at KMFRI since April 2012 (4 years)

- ✓ Formerly worked for 2.75 years as a Fisheries Officer at the Ministry of Fisheries Development, Kenya (2009-2012).

- ✓ Coastal and Marine Conservation Research Assistant at Wildlife Conservation Society, Mombasa for 3 years (2006-2009).

- ✓ Currently works on institutional projects such as the Kenya Coastal Development Project (KCDP) and individual small-grant projects such as MARG-1 funded by the Western Indian Ocean Marine Science Association (WIOMSA)

- ✓ A collaborating researcher on ESPA funded Participatory modeling of wellbeing tradeoffs in coastal Kenya (P-Mowtick) project and currently on another ESPA research – SPACES (Sustainable Poverty Alleviation from Coastal Ecosystem Services) that ends mid-2016.

Expertise

- ✓ MPhil. (Aquatic resource management).
- ✓ Bachelor of Science (Fisheries and aquatic sciences).
- ✓ Marine Conservation Biology, Policy and Law.
- ✓ Ecological modeling using Ecopath with Ecosim.
- ✓ Fisheries data collection and analysis.
- ✓ Basic biostatistics and data analysis.

Sum up

In a nutshell my working areas of expertise and interest is in marine and coastal fisheries, aquatic sciences and aquatic resources management with particular interest on studying linkages between marine ecosystems, their fisheries production and contribution to ecosystem services for coastal communities together with the associated fisheries trade-offs and management options.

EXPECTATIONS FROM THE TRAINING

My work duties include:

- Inventorying and assessment of fish stocks: their spatial and temporal abundance and distribution;

- Undertaking studies on the interaction between fisheries organisms and their environment (ecology);

- Studies on fish population dynamics.
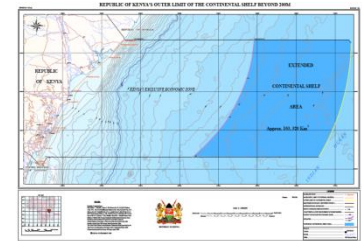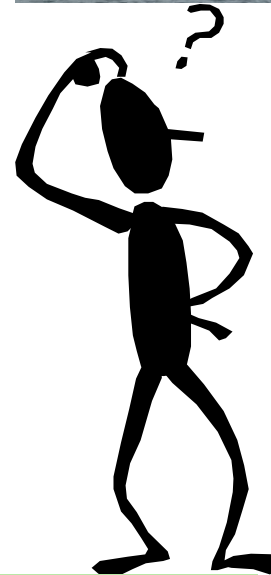
Training on **scientific cruise planning**, **oceanographic sampling, fisheries and data management**
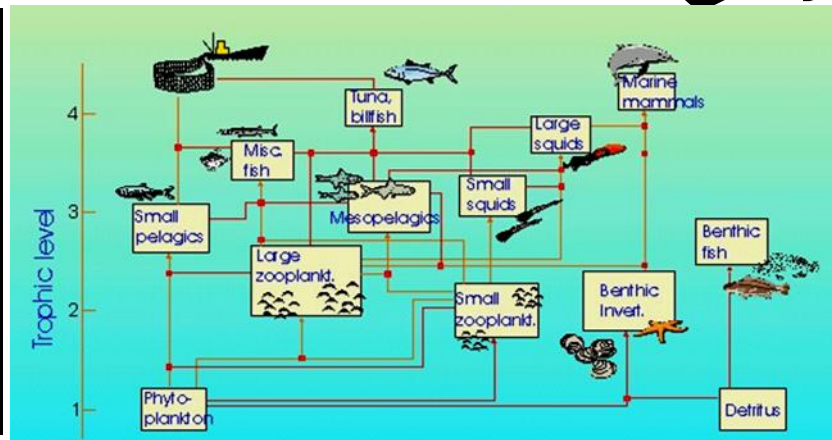
THANK YOU

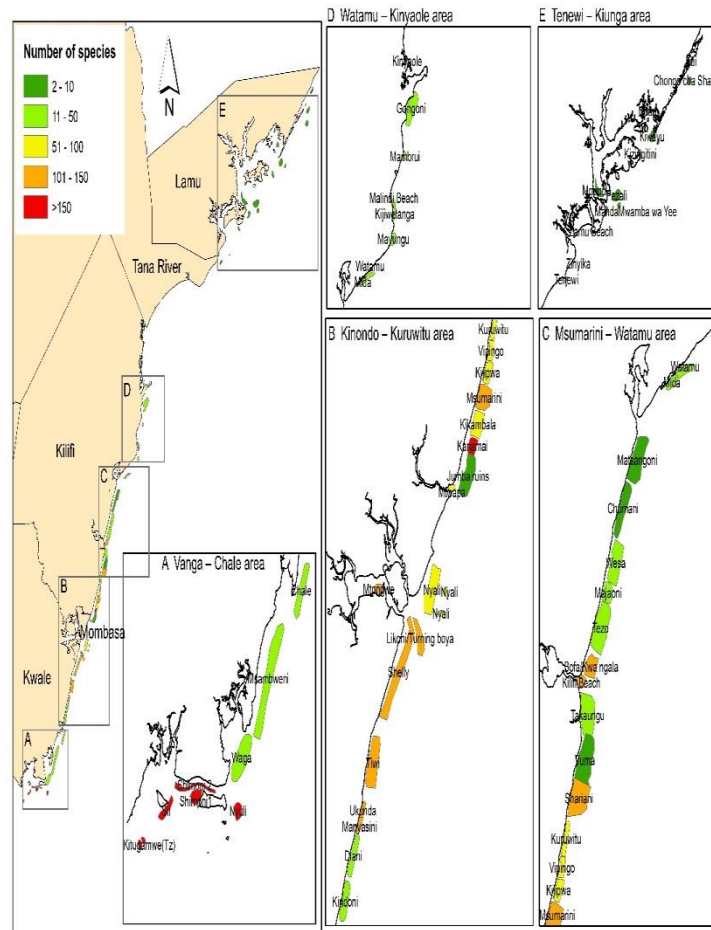# TRAINING ON SCIENTIFIC CRUISE PLANNING, OCEANOGRAPHIC SAMPLING, FISHERIES AND DATA MANAGEMENT
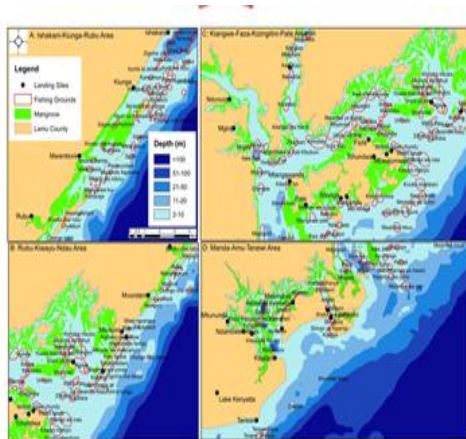
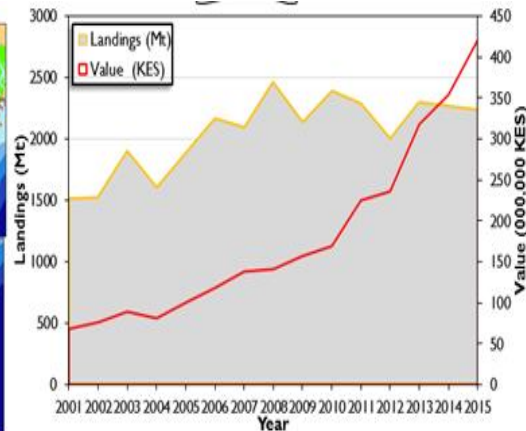# EXPERIENCES/EXPERTISE

By

Mr. KIRATHE Benson

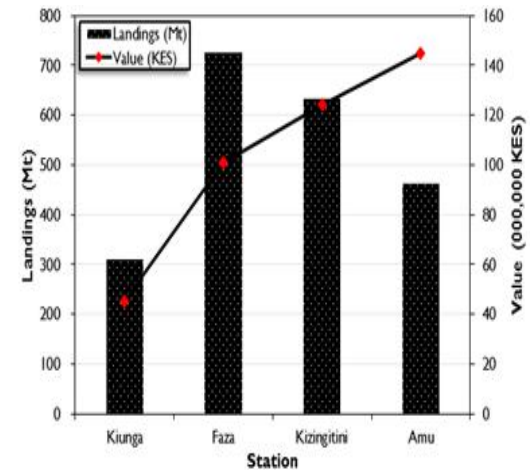# Collaborative fisheries research & resource mapping

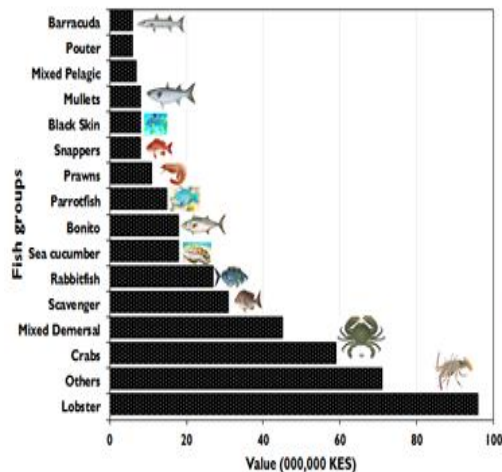# Data collection, analysis and interpretation

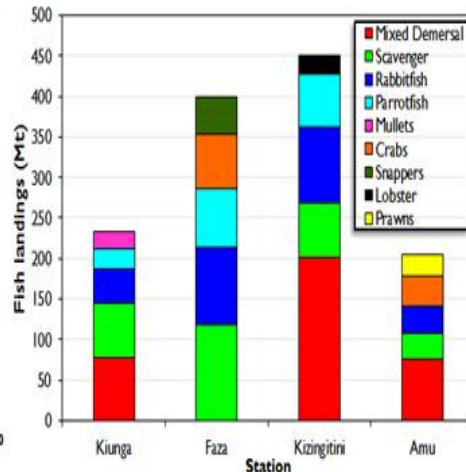Distribution of fishing grounds frequented by artisanal fishers in Lamu County

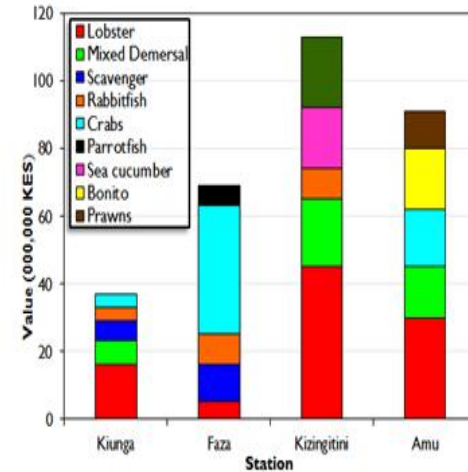Trend of fish landings and respective value 2001 - 2015

Spatial change in fish landings and respective value – 2015

The value (KES) of fish groups landed in Lamu County – 2015

Five fish groups that were mostly landed in each of four fisheries stations in 2015

Five major fish groups that were highly valued in each of four fisheries stations in 2015

Fisheries management and conservation

EXPECTATION

✓ To understand how various sampling tools on-board Mv Mtafiti are used

✓ To enhance skills on data management – storage and processing of collected data

Thank you

Coastal and Marine Science School

Noca B. Furaca da Silva

- Master in Applied
- Head Department of Engineer and Marine Technology Oceanography
- Lecture of Physical Oceanography
- Researcher

Experience

- From 2010 worked as researcher at CMSS
- 2015 Head Department of Engineer and Marine Technology
- January 2016 Lecture of CMSS

- From 2010 have been working on field work with local and international researcher, lecture and Students of CMSS;
- My influence on this field have been the Data collection and processing;
- The field work research have been to publication, master and bachelor thesis or practical lesson for student;
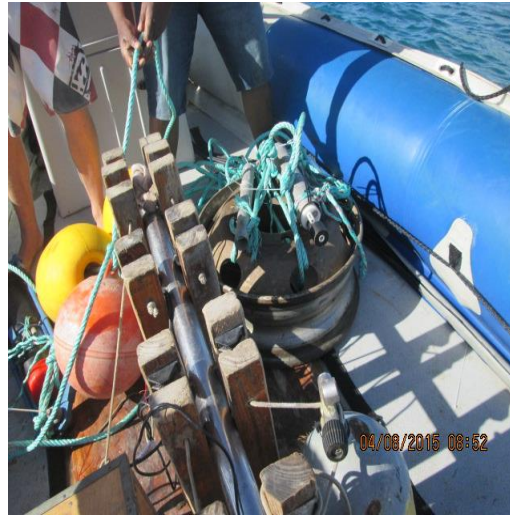
- Since 2008 have been worked in project of renewable energy of tidal current and other renewable source energy (wind, sun, biomass).

Experience

Removing Current meter
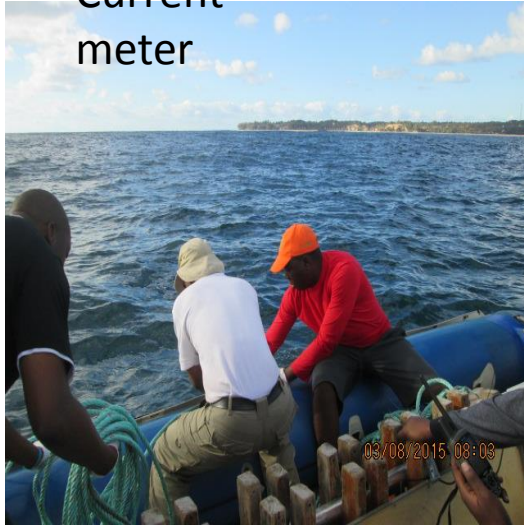
Prepare to deploy Seagurd, CTD and TWR with Boat

Bathymetre profile

Lagrangian buoy

Deployment Seagurd, CTD and TWR at Beach

Backing from Field work with students

Expertise

Expectation

- To have experience on data collection and processing, related with Bathymetry and CTD

- To make this oportunity the best way to relation physical parameter and productivity / fishing;

- To increase exchanges with other researchers

The National Oceanographic Data

Centre of Comoros
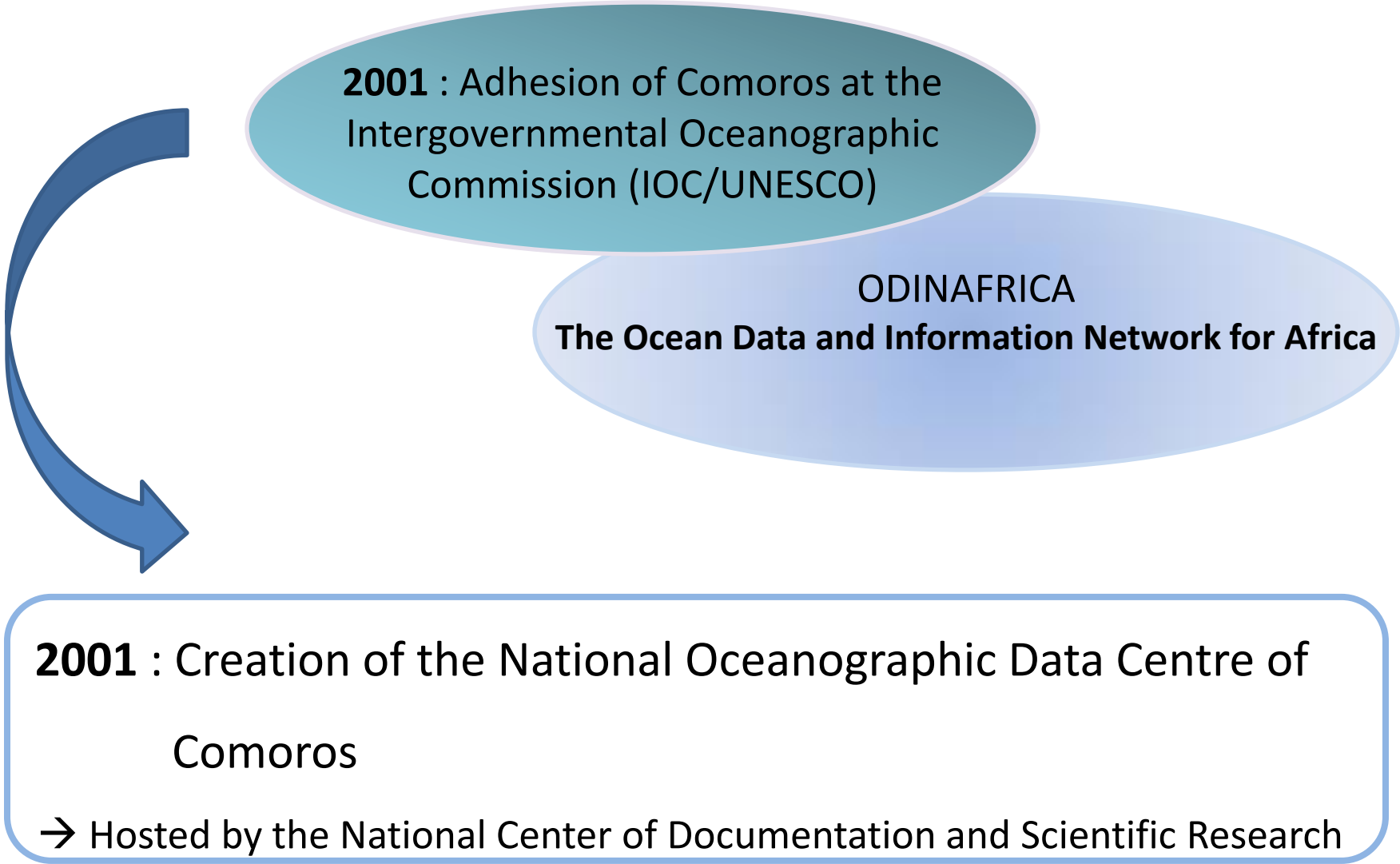
Rahamata BOINA

CURRICULUM VITAE

❑ HIGH QUALIFICATIONS

2008   **Masters degree in Signaling pathways and integrated system in biology,**
from Ecole Pratique des Hautes Etudes, Paris-France

2012   **PhD in cellular and molecular biology and health sciences**,
from Ecole Pratique des Hautes Etudes, Paris-France
<u>Subject</u> : Sensitisation of colorectal cancer cells to apoptosis by two kinase inhibitors combined with nitric oxide : molecular mechanisms

❑ WORK EXPERIENCE

2013-2015   **Lecturer in Al-Madina private University,** Comoros
<u>Subjects</u> : Cytology, histology, physiology, embryology

2016-   **Associate researcher,** National Centre of Documentation and Scientific Research (CNDRS), Comoros
- Department of biodiversity
- Oceanography team

THE NATIONAL OCEANOGRAPHIC DATA CENTRE OF COMOROS

2001 : Adhesion of Comoros at the Intergovernmental Oceanographic Commission (IOC/UNESCO)

ODINAFRICA
The Ocean Data and Information Network for Africa

2001 : Creation of the National Oceanographic Data Centre of Comoros

→ Hosted by the National Center of Documentation and Scientific Research

OBJECTIVES OF THE NATIONAL OCEANOGRAPHIC DATA CENTRE OF COMOROS

Observatory of oceanographic and environmental data

\

- ➢ Collect
- ➢ Control
- ➢ File

Ocean data and informations (physico-chemical, biological, socio-economic...)

\\ Elaborate and distribute marine data products = users tools (atlas, poster ,...)

\\\ Sensitize and promote marine information access to all users

Potential users :
- Fishermen
- Tourist boat
- Regional and international expeditions in Comorian marine space

EVOLUTION OF THE CENTRE ACTIVITIES

❑ **<u>Delay accumulation</u>** :

- Not continual communication between ministry and the organisms who

 support the activities

- Trained people go out

❑ **<u>Consequences:</u>**

- Between 2001 and 2016 -> Only 2 contracts + some equipments

- Delay comparing to the other WIO countries (no ocean database...)

www.nodc-comoros.org

THE NATIONAL OCEANOGRAPHIC DATA CENTRE OF COMOROS

☐ **The team :**

1 oceanographer
(Team chief)

A national experts
network
(National partners)

1 geologist,
specialised in
sismic data

1 associate
researcher
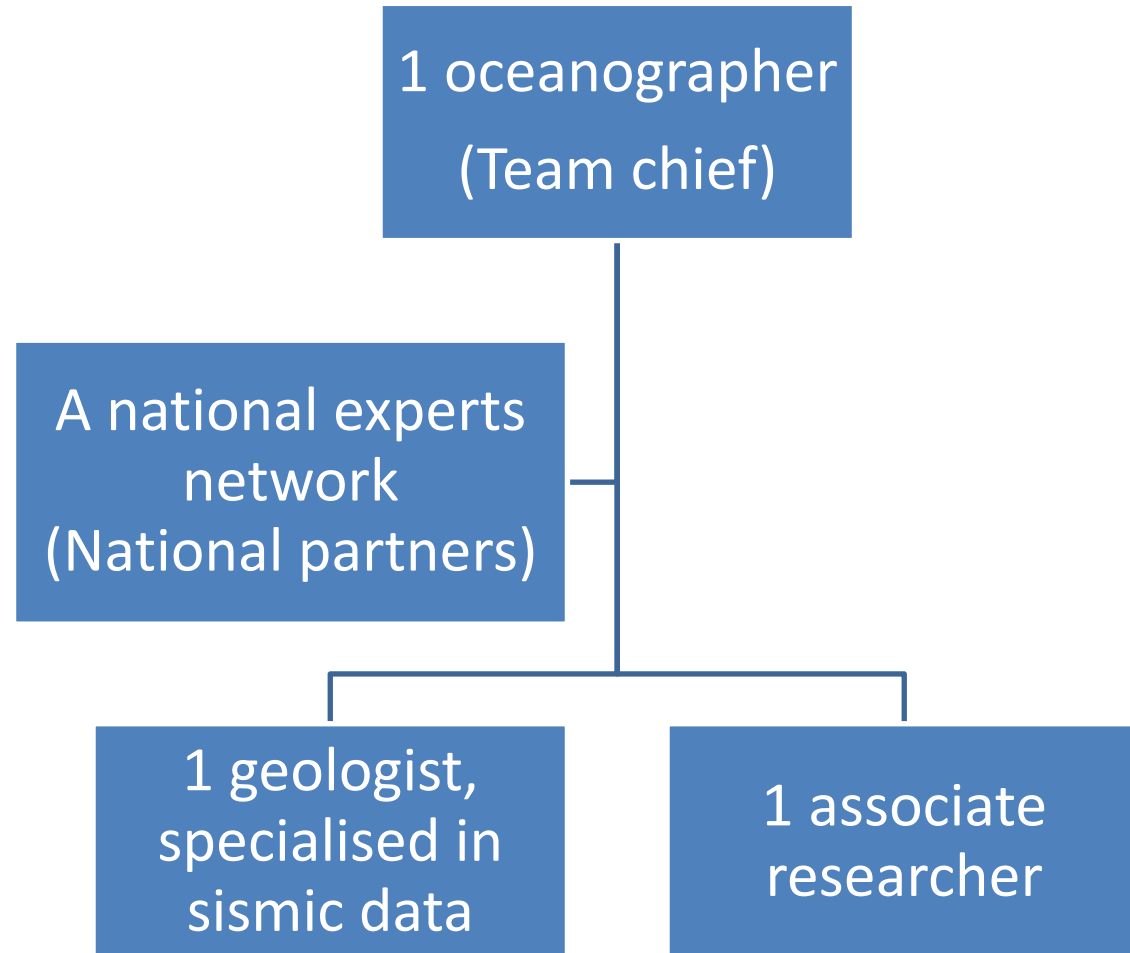
MY AIMS

1. Acquire knowledge in oceanography

2. Create an ocean data base of Comoros ➜ Numeric atlas

3. Develop products adapted to the potential users

   Examples : Atlas, film, poster, pedagogic booklet…

4. Participate in several ocean research works

5. Communicate : Publications, International conferences…

Thank you for your attention.

The National Oceanographic Data Centre of Comoros

Rahamata BOINA

Rui Jorge Mutombene

Country: Mozambique
Institution: Fisheries Research Institute (IIP) **2008-present**
Division: Monitoring and Assessment of fishes (Marine and Inland)
Position: Research Scientist (Monitoring and Assessment of marine fish)
Degree: MSc (Marine Biology and Management of Costal Ecosystems)
Specialization: Marine and inland water resource monitoring and assessment
(Six months Fisheries Training Programme in Iceland – United nations university)

Main Job

Hoke and line/ Longline industrial Fisheries

* Coordination of data collection processes (on-board and port sampling)
* Data processing and reporting
* Biological studies
* Stock Assessment and advice
* Contribution to management plans
* Plan and implementation of scientific surveys (biomass , distribution)

Artisanal Fisheries

* Improvement of data collection
* Specific studies (Biology, fisheries dynamics, etc.)
* Assessment and advice

Demersal species
- Snappers,
- Groupers,
- Seabrems,
- Emperors.

Pelagic species
- Mackerels,
- Tunas,
- Billfishes

Regional Scale Working

- **IOTC (Presently)**

- Scientific adviser of Mozambique delegation to the Scientific Committee meetings,

- Participation as Mozambique scientist to IOTC working parties: (1) Neritic Tunas (2) Billfishes (3) Ecosystem and Bycatch (4) Fisheries Data Collection.

- **SWIOFP (2009-2014)**

- Country Coordinator for component 3 (Assessment and sustainable utilization of demersal fishes),

- Cruise lieder on Acoustic and dropline survey for demersal fish in Mozambique.

- **ASLME (2009)**

- Contribution to Mozambique MEDA (Marine Ecosystem Diagnostic Analysis) and coordinator for component of Coastal Ecosystems and Resources

Experience in cruise surveys and Expectations

- "MV Roberto" - Acoustic and dropline survey for demersal fish in Mozambique – 2012.

- "Dr. Fridtjof Nansen" - Ecosystem Surveys of Mozambique - 2014.

- IIP will conduct a cruise survey, within this first semester (probably in May 2016), to assess the distribution and estimate abundance of demersal rocky bottom fish along the central and northern Mozambique marine coast. Mr Rui Mutombene is the person who is coordinating the elaboration of cruise plan and will be the survey cruise leader.

- **Expectations with this training curse:**

- Develop technical capacity to lead on planning and implementation of ecosystem cruise surreys (focused on fisheries resources)

- Assess which opportunities the RV Mtafiti offer that are of particular interest to Mozambique and for the SWIO Region

Some Publications

- **Mutombene, R.**, O. Chacate, J. Mafuca e B. Malauene (2016). *Marine Linefish Assessment 2011-2015.* Internal Report. IIP. Maputo. 57P.

- Krakstad, J., B. Krafft, O. Alvheim, M. Kvalsund, I. Bernardes, O. Chacate, **R. Mutombene**, O. Filipe, B. Haji, L. Zacarias, F. Zivane, M. Padeira and D. Varela (2015). *Cruise Report "Dr. Fridtjof Nansen" - Ecosystem Surveys of Mozambique - 11 November – 02 December 2014.*

- **Mutombene, R.**, L. Mangue, E. Mausse, H. Mussagy, M. Filipe and R. van der Elst (2014). *An EAF Baseline Report of the Linefish Fisheries in Mozambique.* in Koranteng K., M. Vasconcellos and B. Satia (Eds.). Baseline Reports - Preparation of Management Plans for Selected Fisheries in Africa. FAO - EAF Nansen Project. Rome. 156-194pp.

- **Mutombene, R.**, O. Chacate, O. Filipe, A. Uetimane and A. Mapasse (2014). *Adjustment of the closed season for artisanal beach seine fishery in Inhassoro district, south coast of Mozambique.* IIP. Maputo.

- **Mutombene, R**. (2013). *Fishery, Biology and Stock Assessment of Blueskin Seabream (Polysteganus coeruleopunctatus, Klunzinger, 1870) in Mozambique.* Master Thesis. UEM. Maputo. 33p.

Brief presentation
on
Past experience and expectation during STI 2016, Mombasa, Kenya

Dr. Sabyasachi Sautya

Scientist

CSIR-National Institute of Oceanography,
Goa, India

My background

- Masters in Fisheries Sciences

- Research Fellow at CSIR-National Institute of Oceanography (2006-2011)

- PhD in Marine Science

- Fisheries Specialist at Integrated Coastal Zone Management Project under World Bank (2012-2014)

- Regular Scientist at CSIR-National Institute of Oceanography (Sep. 2014 - current)

About CSIR-NIO

The National Institute of Oceanography (NIO) with its headquarters at Dona Paula, Goa, and regional centres at Kochi, Mumbai and Visakhapatnam, is one of the 37 constituent laboratories of the Council of Scientific & Industrial Research (CSIR), New Delhi.

CSIR-NIO was established on 1 January 1966 following the International Indian Ocean Expedition (IIOE) in the 1960s. The institute has since grown into a multi-disciplinary oceanographic research institute of international repute. The principal focus of research has been on observing and understanding special oceanographic characteristics of the Indian Ocean.

Mission
To continuously improve our understanding of the seas around us and to translate this knowledge to benefit all

Mandate

- To develop knowledge on physical, chemical, biological, geological, geophysical, engineering and pollution aspects of the waters around India
- To provide support to various industries, government and non-government organisations through consultancy and contract research
- To disseminate knowledge on the waters around India

RV Sindhu Sankalp

RV Sindhu Sadhna

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Sea-floor Data

Improved bathymetric datasets for the shallow w... Ocean

Abstract

Ocean modellers use bathymetric data sets like ETOPO5 and ETOPO2 ...graphy. The former data set is based on digitization of depth contours greater than 200 m, ...atellite altimetry. Hence, they are not always reliable in shallow regions. An improved sh... Ocean region (20°E to 112° E and 38°S to 32°N) is derived by digitizing the depth contours a... 200 m from the hydrographic charts published by the National Hydrographic Office, Indi... gridded and used to modify the existing ETOPO5 and ETOPO2 data sets for depths less thai... igitized data with the original ETOPO data set, we apply an appropriate blending technique n... sure smooth merging of the data sets. Using the modified ETOPO5, we demonstrate that the original ETOPO5 is indeed inaccurate in depths of less than 200 m and has features that are not actually present on the ocean bottom. Though the present version of ETOPO2 (ETOPO2v2) is a better bathymetry compared to its earlier versions, there still are differences between the ETOPO2v2 and the modified ETOPO2. We assess the improvements of these bathymetric grids with the performance of existing models of tidal circulation and tsunami propagation.
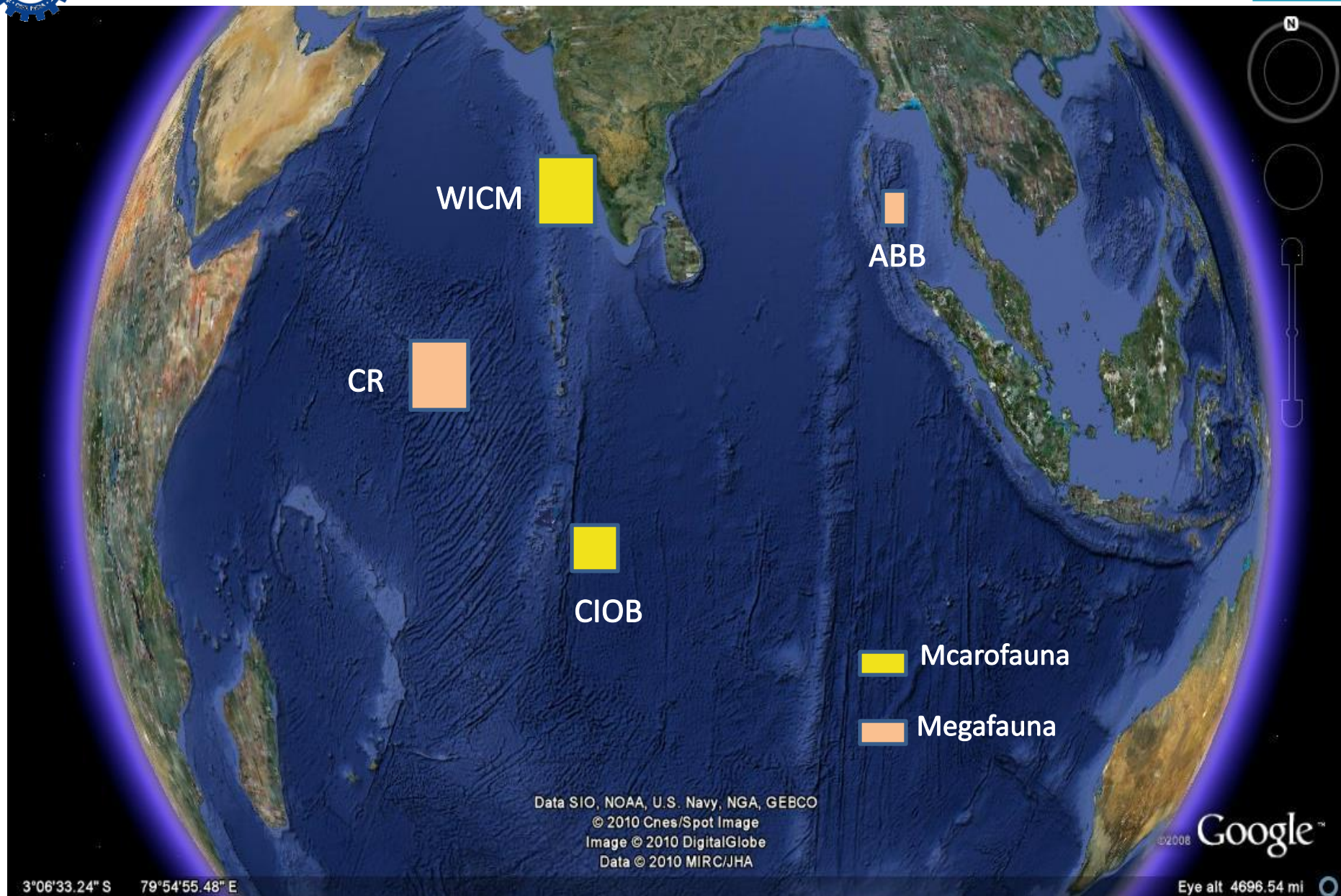
For more details, please refer to: Sindhu et al 2007, J. Earth Syst. Sci.: 116(3): 2007: 261-274. The paper provides a detailed description of the generation, evaluation and validation of the modified bathymetry datasets.

The datasets are provided in three formats : **ASCII, NETCDF** and **BINARY**.

Indian Ocean (Lat: 20°E to 112°E, Long : 38°S to 32°N)			
Data	Format	File name	Code to read data
Modified etopo5	ascii	indiano5.txt (22 mb)	
	netcdf	indiano5.nc (7.1 Mb)	indiano5_rd.f
	binary	indiano5_bin.dat (29 mb)	indiano5_bin2asc.f
Modified etpo2	ascii	indiano2.txt (125 Mb)	
	netcdf	indiano2.nc (45 Mb)	indiano2_rd.f
	binary	indiano2_bin.dat (178 Mb)	indiano2_bin2asc.f
Global (Merged files)			
Modified etopo5	ascii	global_merged5.txt (278 Mb)	

Presentation at STI 2016, Mombasa, Kenya

STUDY AREA

Sampling and processing

ORV Sagar Kanya

RV Akademic Boris Petrov

Box core operation

Sub cores put into a box core

Sub cores sectioning

Sieving through 300 μm sieve

Macrofauna

WICM - Sagar Kanya (Cruise no. SK-237), August 2007

CIOB - *R. V. Akademic Boris Petrov* (Cruise no. ABP 38), Oct-Nov 2009

Megafauna

Carlsberg Ridge – SONNE (NIO RVS-II), Oct – Dec, 2007

Andaman Back-arc Basin– SONNE (NIO RVS-II), Oct – Dec, 2007

CTD rosette

RV SONNE

Television Gripper (TVG)

Operation on board

Ocean Floor Observation System (OFOS))

Observation & controlling unit

MS package 10, PRIMER v.6, STATISTICA 6, SURFER 8, R program, ArcGIS 9.3, ImageJ, Google Earth etc

Fellowships and collaborations

• "InterRidge/ISA Endowment fellow for 2011" worked at National Oceanography Centre, University of Southampton, UK

• Travel grant award from DST (Department of Science and Technology, Govt. of India) to attend a international workshop in Portugal

• Minigrant Fellow 2010 under CenSeam (A global census of Seamount) : 2010 (visited PP SHIROV OCEANOLOGY INST. RUSSIAN ACCADEMY OF SCIENCE, MOSCOW, RUSSIA and
• SWEDISH MUSEUM OF NATURAL HISTORY, STOCKHOLM, SWEDEN)

• CSIR- SRF (Senior Research Fellow) : Dec. 2008 – Dec.2011
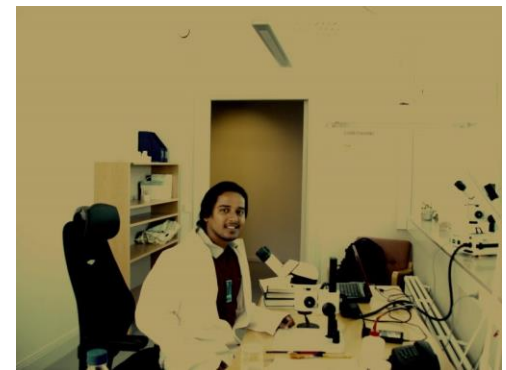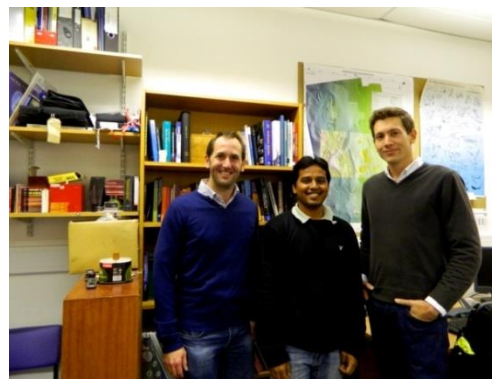
Publications

- **Sautya S**, Ingole B, Jones D.O.B, Ray D, KameshRaju KA (2016) First quantitative exploration of benthic megafaunal assemblages on the mid-oceanic ridge system of the Carlsberg Ridge, Indian Ocean. *Journal of Marine Biological Association, UK* (Accepted)

- Dey K, **Sautya S**, Mote S, Tsering L, Patil V, Nagesh R, Ingole B.S (2015) Is climate change triggering coral bleaching in tropical reef?. *Current Science*, 109(8): 1379-1380.

- **Sautya S**, Ingole B, Ray D, Stöhr S, Samudrala K, Kamesh Raju KA, Mudholkar A (2011) Megabenthic community structure within and between deep-sea habitats: An investigation from seamounts and ridge area in the Indian Ocean. *PLoS ONE* 6(1): e16162. Doi:10371/journal.pone.0016162.

- **Sautya S**, Tabachnick K R, Ingole B (2011) A new genus and species of deep-sea glass sponge (Porifera: Hexactinellida: Aulocalycidae) from the Indian Ocean. *Zookeys,* 136: 13-21.

- **Sautya S**, Tabachnick KR, Ingole B (2010) First record of the genus *Hyalascus* (Hexactinellida: Rossellidae) from the Indian Ocean with description of a new species from a volcanic seamount in the Andaman Sea. *Zootaxa.* 2667: 64-68.

- Stöhr S, **Sautya S**, Ingole B (2012)Brittle stars (Echinodermata: Ophiuroidea) from seamounts in the Andaman Sea (Indian Ocean) - a first account, with descriptions of new species. *Journal of Marine Biological Association, UK* 92 (5) 1195-1208 doi:10.1017/S0025315412000240.

- Sivadas S., Ingole B., Ganesan P., **Sautya S**., Nanajkar M. (2011)Role of environmental heterogeneity in structuring the macrobenthic community in a tropical sandy beach, west coast of India. *Journal of Oceanography*, 68:295-305. DOI 10.1007/s10872-011-0099-z.

- Ingole BS, **Sautya S**, Sivadas S, Singh R, Nanajkar M (2010) Macrofaunal community structure in the Western Indian Continental Margin including OMZ. *Marine Ecology*, 31: 148-166.

- Ingole B, Singh R, **Sautya S**, Dovgal I, Chatterjee T (2009) Report of epibiontThecacineta calix(Ciliophora: Suctorea) on deep-sea Desmodora (Nematoda) from the Andaman Sea, Indian Ocean. *Journal of Marine Biological Association, UK2- Biodiversity Records*.4 pp.

- Ingole B, Sivadas S, Nanajkar M, **Sautya S**, Nag A (2009) A comparative study of macrobenthic community from harbours along the central west coast of India. *Environmental Monitoring and Assessment*, 154: 135–146.

Expectation from STI 2016

- To learn planning for a scientific cruise including financial, management and proper implementation as well as data management.

- To see collaborative opportunity with respect to IIOE-2 or other oceanographic research areas, if any.

THANK YOU

Please visit us again

Presentation at STI 2016, Mombasa, Kenya

Victor Mwakha, Msc Ecological Marine Management
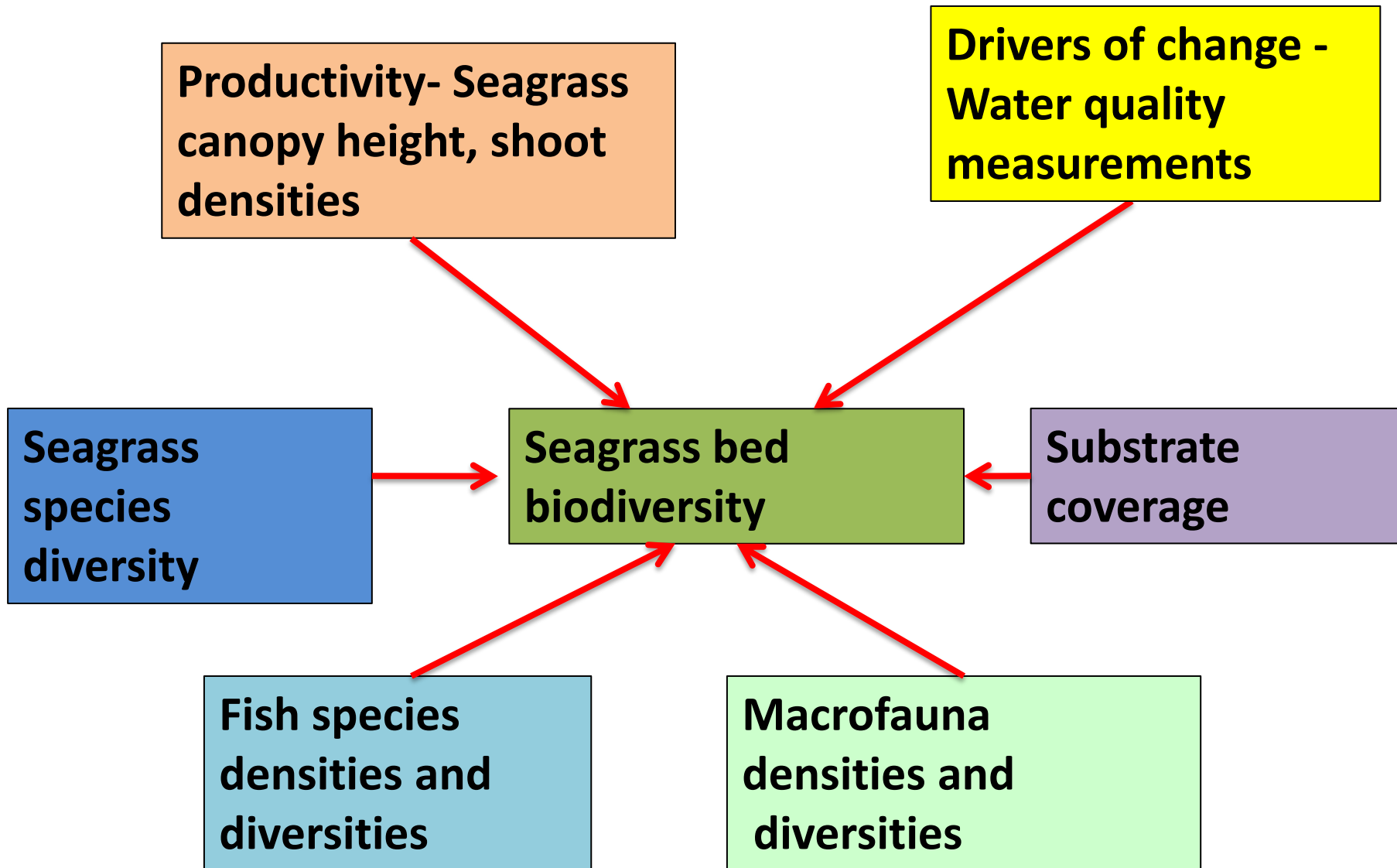Oceanography and Hydrography department, KMFRI

Impact of mollusc harvesting on their species composition and socioeconomic aspects along the Kenyan coast

"collect data on intensity, and magnitude of mollusc collection activities and establish how this alters the distribution and abundance of mollusc species"

Drivers influencing the distribution of marine mollusc species

Spatial and temporal trends in abundance and distribution of commercially exploited marine molluscs along the Kenyan coast

Seasonal biodiversity monitoring

Productivity- Seagrass canopy height, shoot densities

Drivers of change - Water quality measurements

Seagrass species diversity

Seagrass bed biodiversity

Substrate coverage

Fish species densities and diversities

Macrofauna densities and diversities

Seagrass bed fisheries in Kenya

"role played by seagrass beds in enhanced provision of Kenya's coastal fisheries"

Spatial and temporal patterns of fish species in seagrass beds

Monetary value of seagrass for fisheries

Level of preference for seagrass beds as a fishing ground
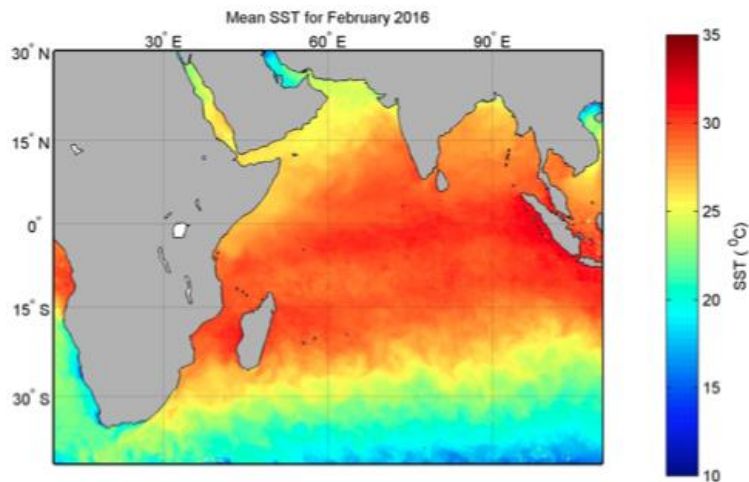
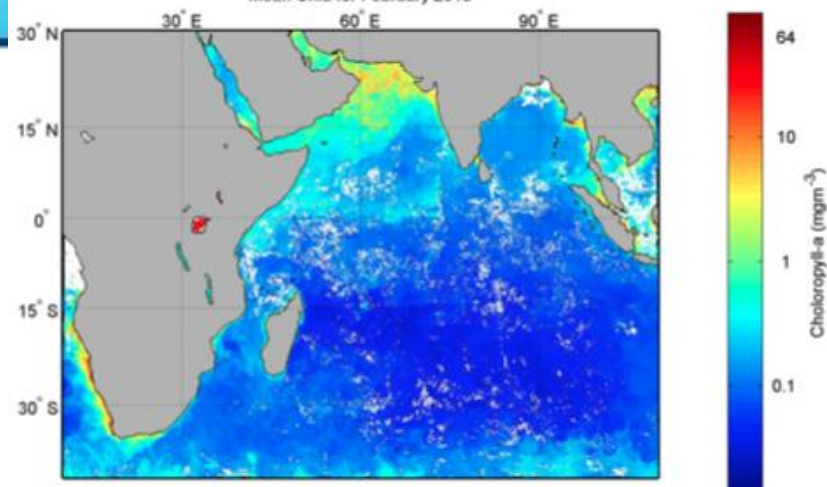**KENYA MARINE AND FISHERIES RESEARCH INSTITUTE**

MONTHLY OCEANOGRAPHY BULLETIN

Kenya

February 2016

SST February 2016

Mean SST for February 2016

Mean Chla for February 2015

Expectations

- Deep sea fisheries potential and value
- exploring potential research areas vs emerging developments e.g. oil exploration