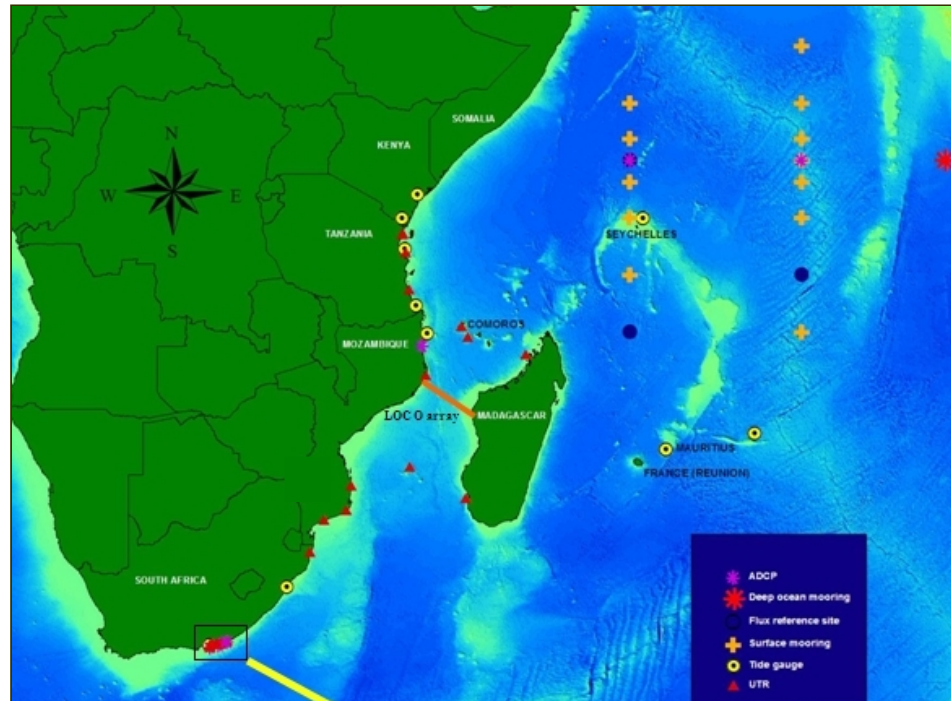


## The Agulhas and Somali Current Large Marine Ecosystems Project



Lucy SCOTT & Magnus NGOILE  
15 February 2010 - Cotonue, Benin





## Introduction to the ASCLME Project

The MEDA > TDA > SAP  
process

Partnerships

Some achievements

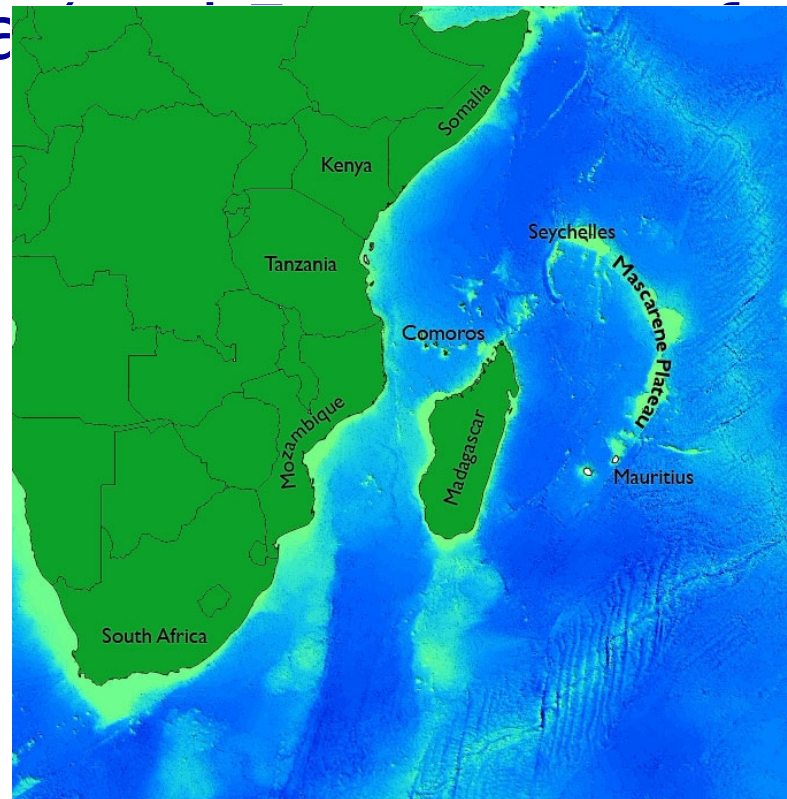
Understanding and supporting  
decision-making in a  
changing environment

Challenges

Governance in the ASCLME



**COUNTRIES:** Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, South Africa, Tanzania, Somalia (excluded)



**TIMEFRAME:** 5 Years, until mid-2012



The GEF funds three partner projects in the Western Indian Ocean region:

1. **WIOLaB** (UNEP): Addressing land-based activities in the Western Indian Ocean - Land-based pollution, coastal degradation
1. **SWIOFP** (World Bank): South-West Indian Ocean Fisheries Project - offshore and nearshore commercial fisheries
1. **ASCLME Project** (UNDP): Oceanographic variability (biological, chemical, physical); coastal artisanal and subsistence fisheries and other coastal livelihoods, critical habitats, marine pollution and invasive species.



To support the participating countries in the implementation of an ecosystem approach to marine resource management in the long term

Build capacity for countries and national institutions to manage their own ecosystem data sustainably and effectively

Enable regional assessments, modelling, scenario-building, review and advocacy for policy options

**through**

Undertaking a baseline assessment of the



## Transboundary Diagnostic Analysis (TDA)

to scale the relative importance of sources and causes, both immediate and root, of transboundary waters problems and to identify potential preventive and remedial actions.

## Strategic Action Programme (SAP)

A SAP is a pragmatic, workable framework and unambiguous statement of common goals and objectives and the means of their achievement.

The signature of the SAP is the *beginning* of the cooperative transboundary LME management commitment.



## **National Marine Ecosystem Diagnostic Analyses (MEDAs)**

An integrated tool to gather comprehensive, updated state of the environment information together, as well as to develop a diagnostic analysis of threats to the national marine ecosystem.



- Build country ownership for the LME process,
- Be a useful reference for national policy development
- Provide an update on national ecosystem status
- Produce a causal chain and cost benefit analysis
- Be the major contribution to the regional TDA
- Incorporate information from other processes, national and regional projects.

**MEDA Tz )**

**MEDA Ke > TDA > SAP**



2009		2010		2011		2012
MEDA		TDA		SAP		
Section A: Executive summary						
Section B: Current status						
Section C: Causal chain analysis for Areas of Concern (Issues)						
Section D: Cost benefit analysis						
Section E: Monitoring and Indicator assessment programme						
Section F: Policy briefing document						
MEDA ANNEXES						

ONGOING activities: Cruises, capacity building and training and data and information management

Governance and inter-ministerial engagement



EAF Nansen Project	RAMA	ReCoMaP
IOC/UNESCO	IRD	SWIOFP
Nairobi Convention	AMESD	WIO-LaB
EAF Seamounts	IUCN	WIOMSA
GOOS Africa	FAO	MESOBIO
ODINAFRICA	ACEP	US Navy
RAMP COI	BCRE	CORDIO
Coral Triangle WIO	UNEP	SEMPA
Marine Highway	LOCO	WIO-Fish
Argo Programme	NOAA	SWIOFC
..... And others	SADC	NEPAD

**We are actively engaging with several of these projects to collaborate on cruises, for training partnerships, or for data exchange.**

**Input into TDA and SAP**



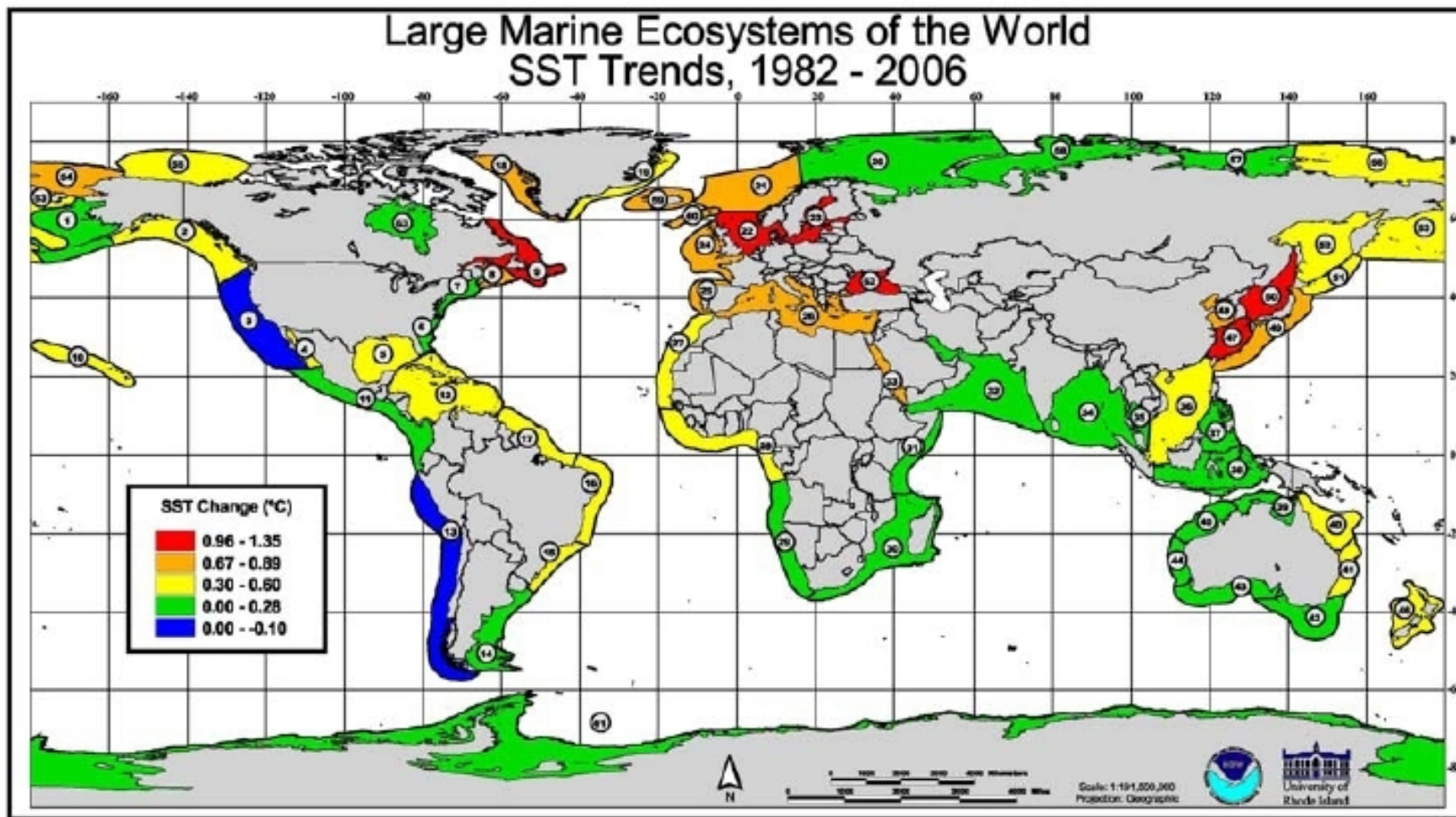
Some examples....

SST data since 1976 show a warming trend in the Western Indian Ocean (WIO)

Coral bleaching caused by high ocean temperatures in 1998, resulted in up to 90% coral decline in some regions; long term changes in communities

Fisheries productivity has been shown to be directly affected in a region where most of the marine fisheries already





SST trends in the World Ocean LMEs, 1982-2006, modified after Belkin (2009)  
by Sherman *et al.* 2009



1997-1998 El Nino event had a dramatic impact on the tuna fishery in the WIO.

Warmer sea surface temperatures, more extreme weather events and sea level rise are projected to pose a major threat to tropical coastal habitats including mangroves and coral reefs which are critical habitats for tropical marine species (IPCC 2001 and WWF 2006).

Marine and coastal ecosystems in the ASCLME support large human populations that are highly dependent





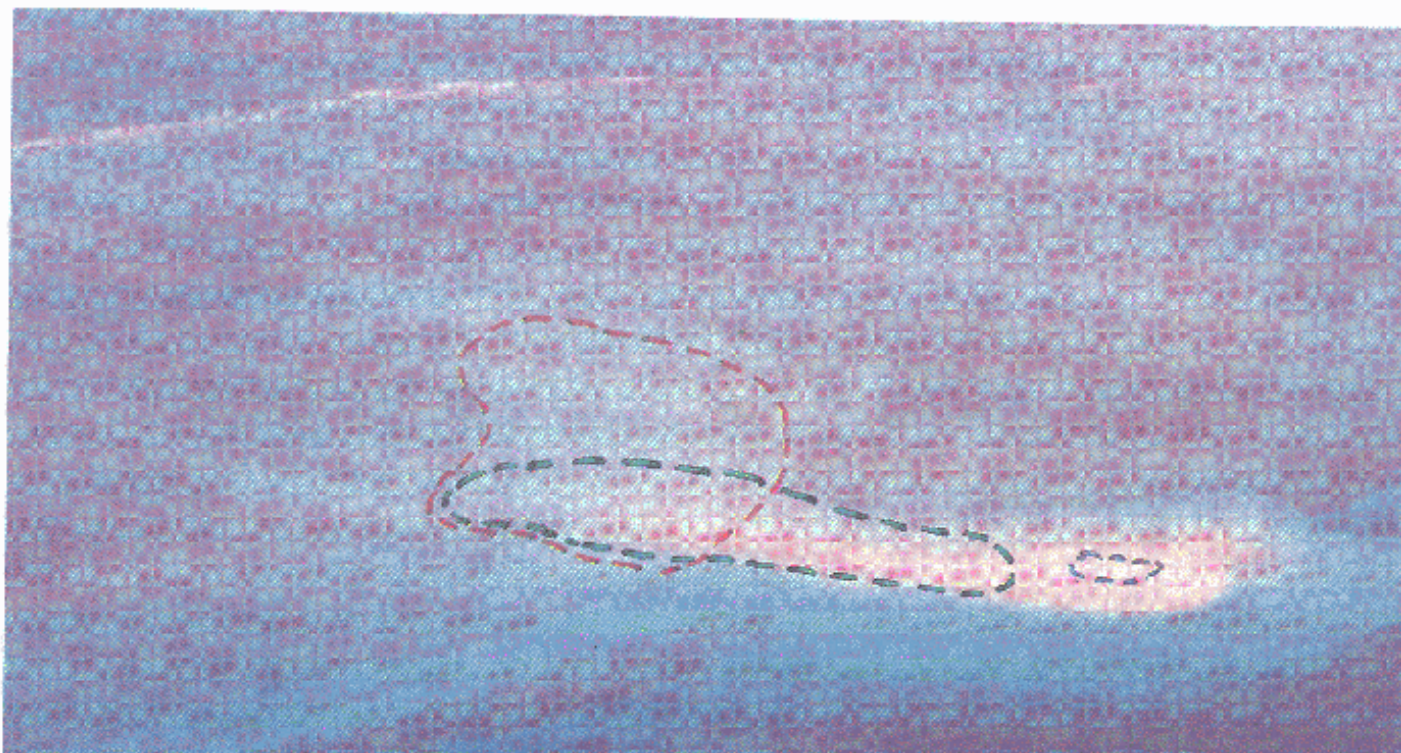
**Maziwi Island, off Pangani,  
Tanzania (1975) 28 hectares,  
~ 600m long**

**Known as the single most  
important breeding ground for  
three species of turtle (olive  
ridley, green, hawksbill) in East  
Africa (UNEP Regional Seas  
Report 139)**

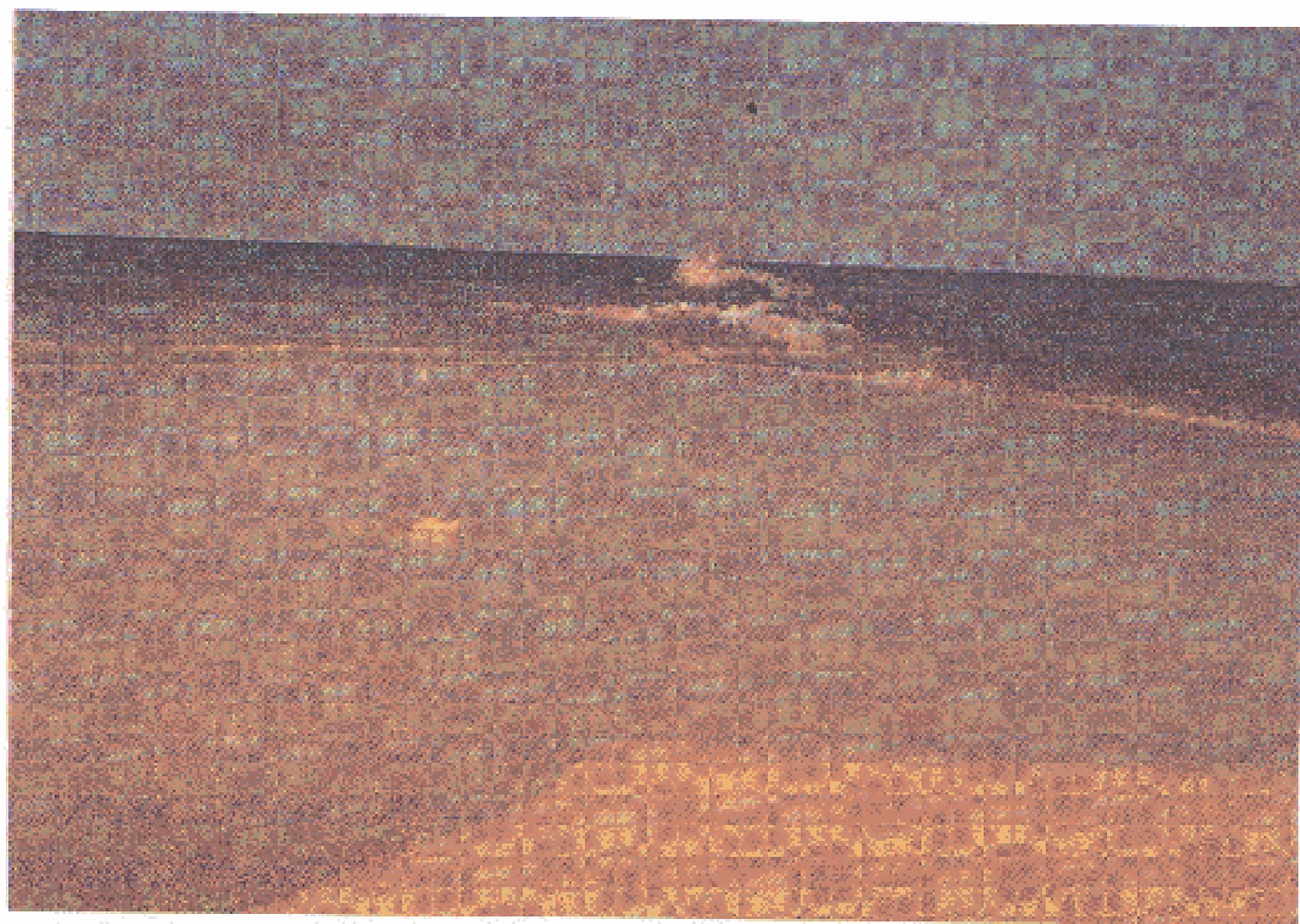
**Fishermen used it for stop-overs  
during fishing expeditions.**



# Today?







10. A view of the landscape from the campsite, showing the flat, brownish ground and the dark, overcast sky.



A recent global analysis suggests that ecosystem change will lead to increased economic hardship or missed opportunities for development in countries that lack capacity to adapt to changes. These effects are likely to be felt most in the developing world (Allison *et al.* 2009).



- ## Understanding and supporting decision-making in a changing environment (ASCLME Project)
- will be through an LME monitoring programme that requires:
- baseline data on ecosystem status,
  - an effective indicator set,
  - long term data collection programme,
  - Forecasting future state,
  - reporting schedule and feedback mechanism

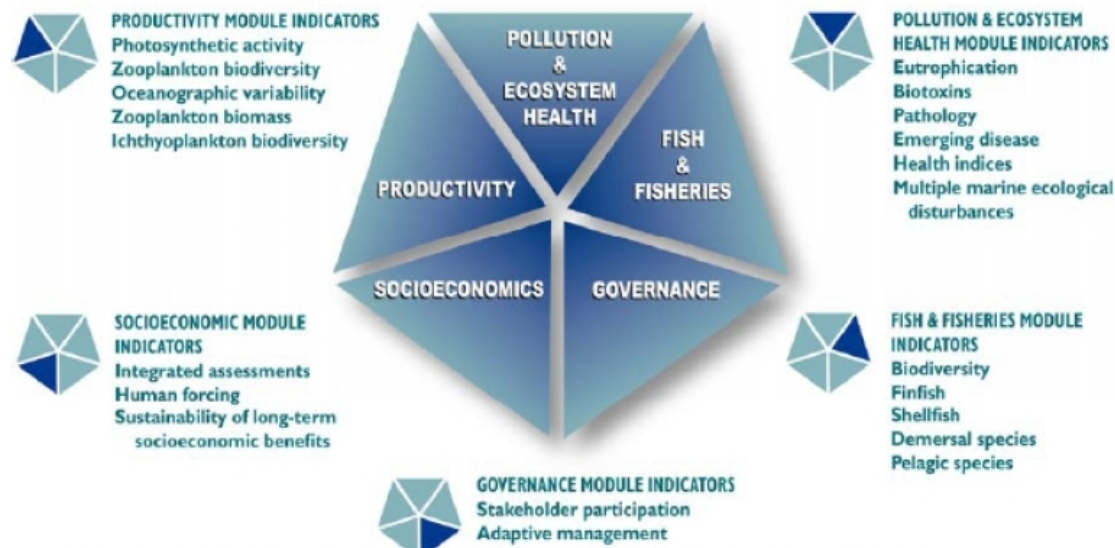




ASCLME is looking at ECOSYSTEM indicators - including socio-economic and governance indicators, not just environmental indicators.

Process / Stress reduction / Environmental

## Modular Assessments for Sustainable Development



LME modules as suites of ecosystem indicators (Sherman et al. 2005)



There is no single or static set of indicators that can be employed in all regions of the world because of the variety and diversity of transboundary issues countries face.

Indicators vary according to the nature of specific **stresses** produced by sectoral activities.



- Review current capacity for marine and coastal data and information management (with IODE, ODINAFRICA IOC/UNESCO, Nairobi Convention, UNEP)
- Capacity for monitoring and advising on environmental change (with ODINAFRICA IOC/UNESCO)
- Building national teams to understand and monitor ecosystem change (with ODINAFRICA IOC/UNESCO, Nairobi Convention, UNEP, SWIOFP, ReCoMaP)



# Reviewing existing observation and monitoring systems throughout the WIO

## Undertaking strategic assessments

## Working towards a Long term monitoring and indicators programme for the ASCLME region with key partners (eg IODE, ODINAFRICA, ChloroGIN, TWAP).

- **Countries will harmonise their sampling, lab and analysis methods and agree on parameters measured so that each country can contribute to the programme (implemented with the SAP).**



Established national teams to

- Coordinate data and information collection & management
- Develop integrated data policy
- Coordinate and plan cruises
- Develop a capacity building and training plan

Working collaborations with:

NOAA to support RAMA (IoGOOS),

ODINAFRICA to support NODCs and the African Marine Atlas, and

The IRD (France) to undertake a quantitative review of critical habitats in the ASCLME countries (mangroves, seagrasses and coral reefs), and

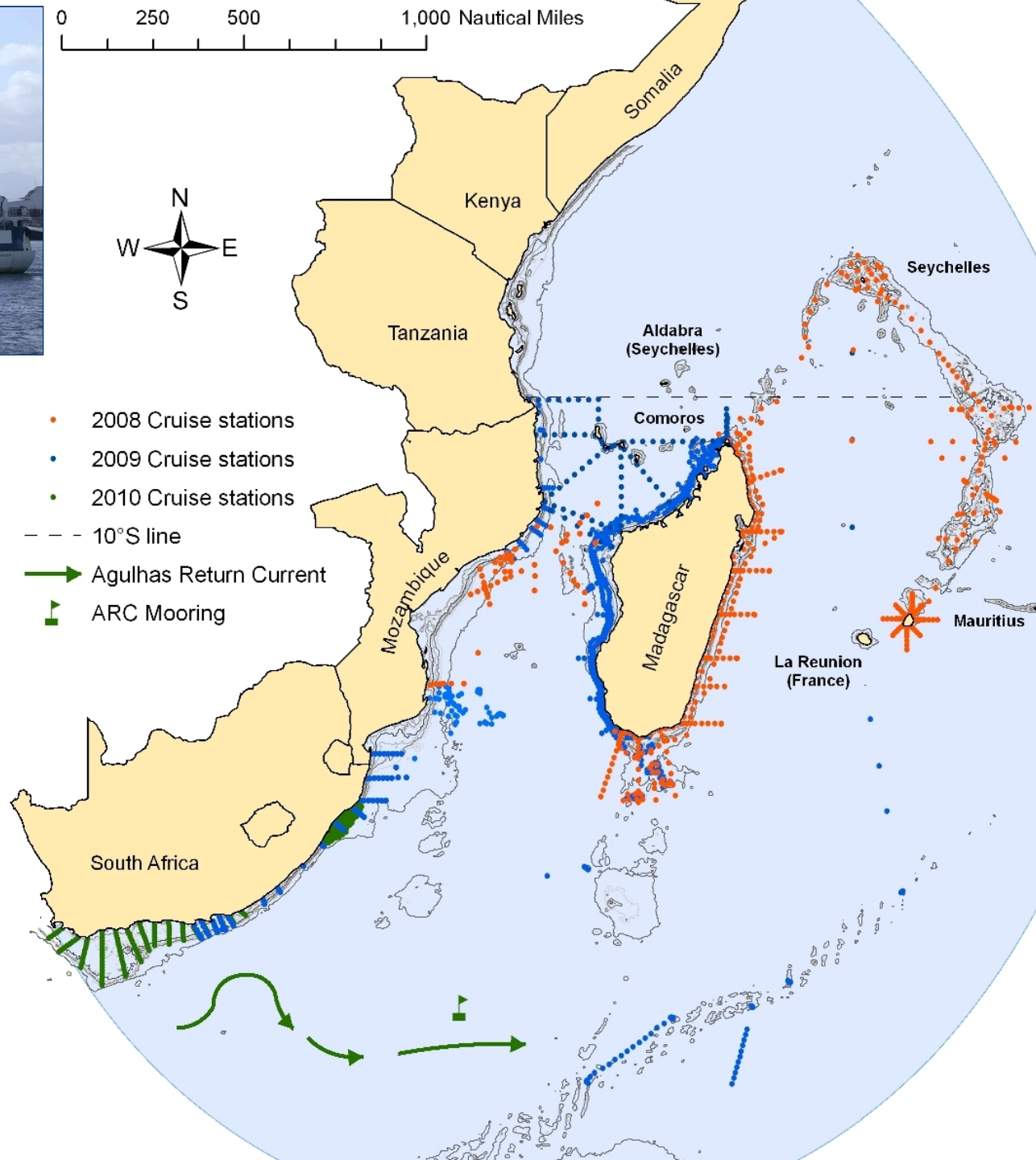
To establish an online Landsat image server for high resolution images optimised for coastal applications.



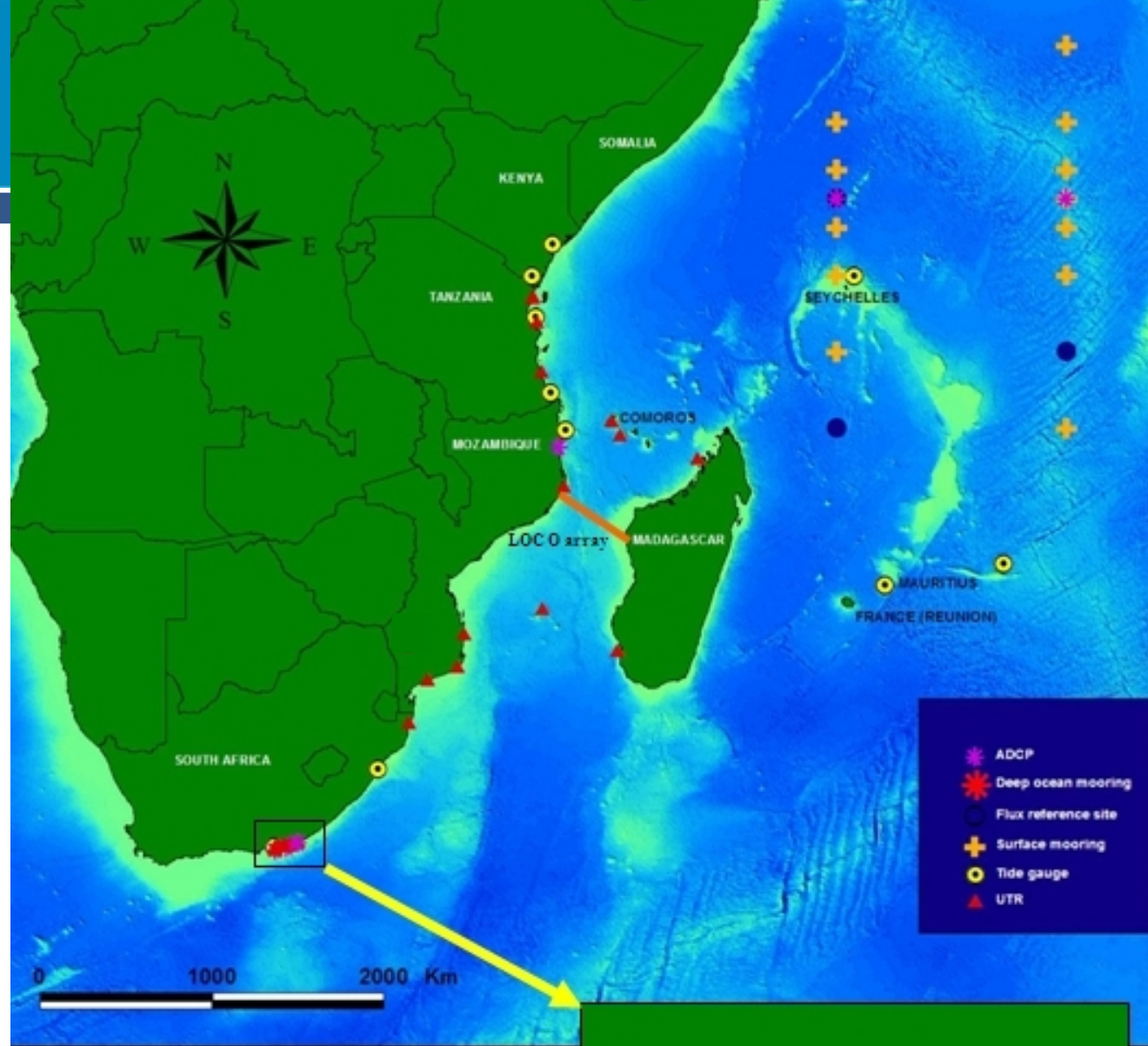
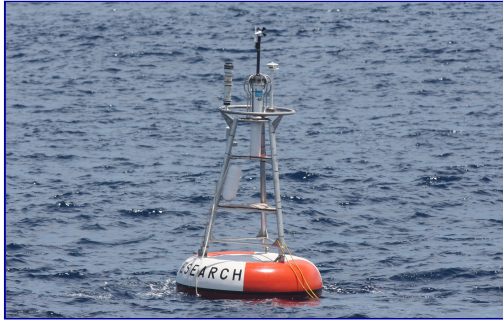




# ASCLME research expeditions 2008-2010





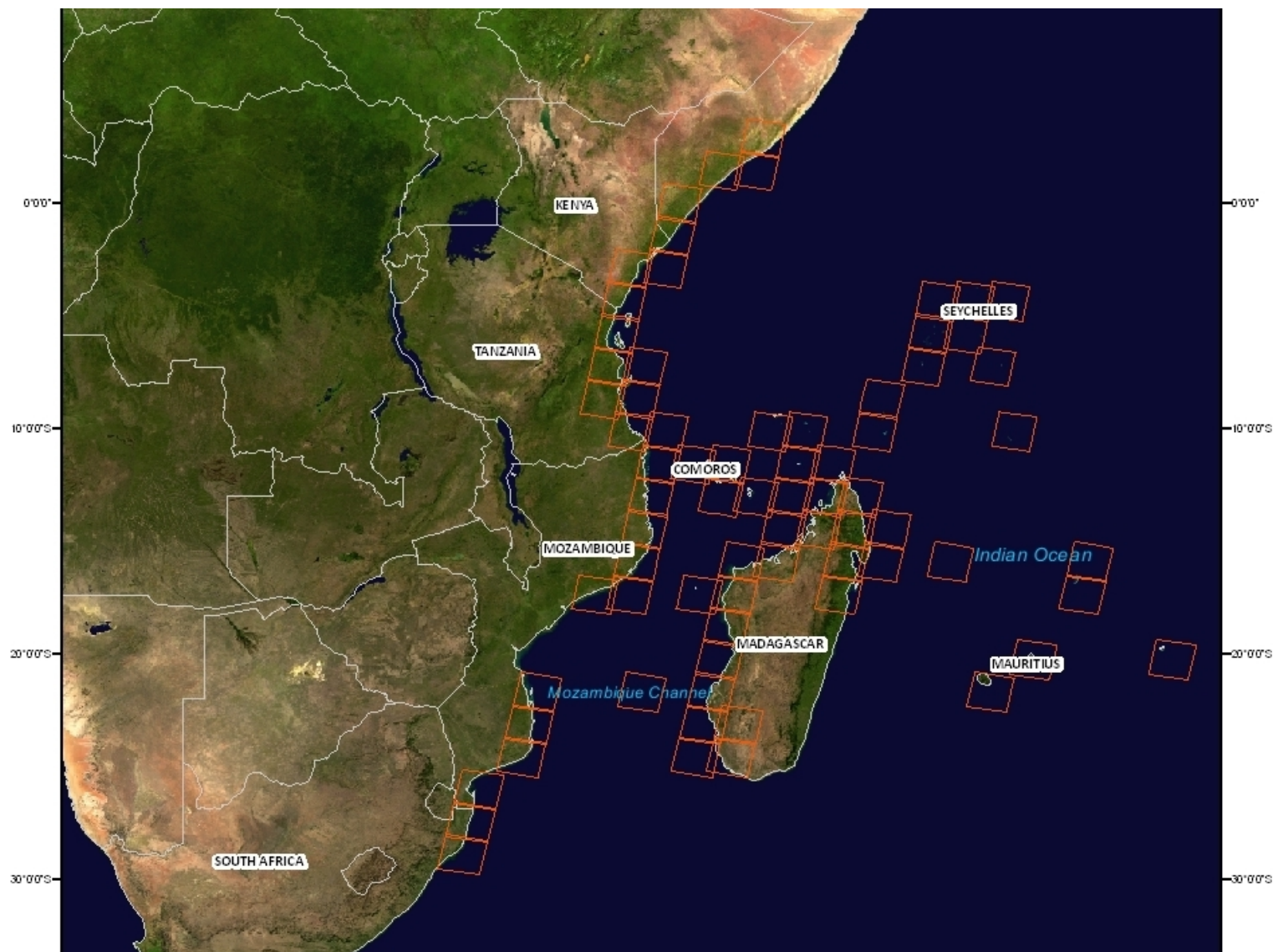


In-situ instrumentation in the  
WIO



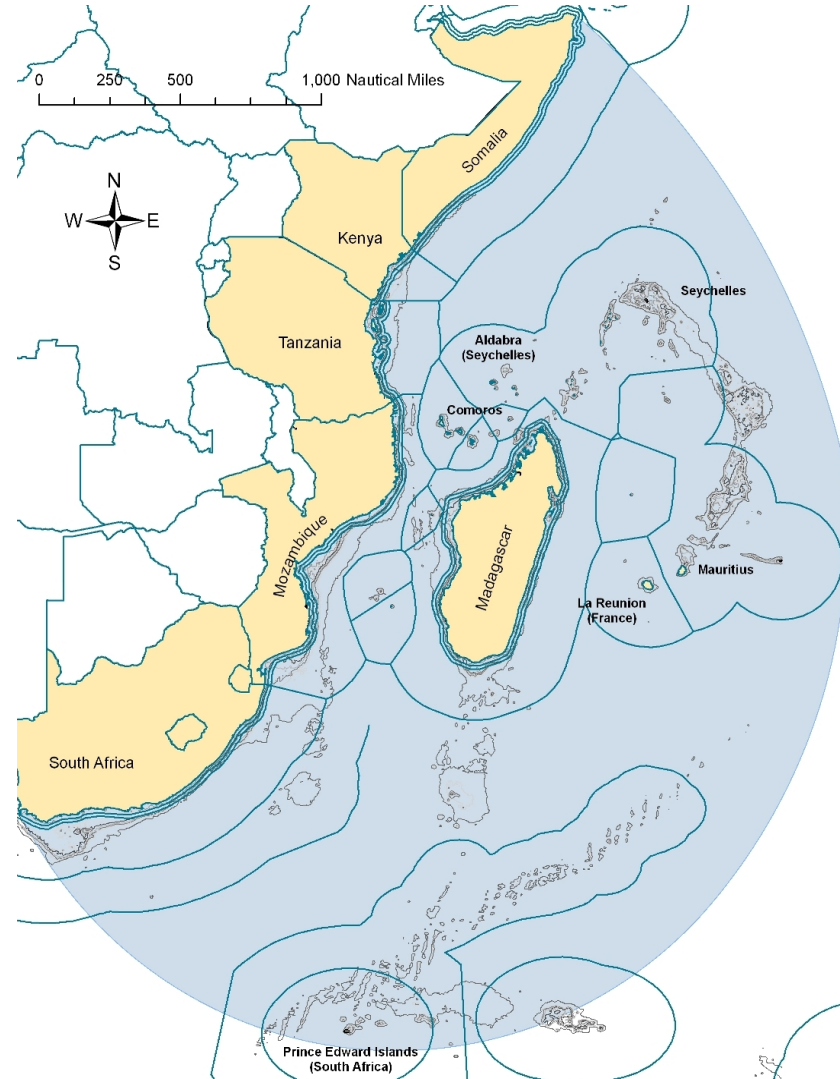
# ASCLME Landsat image server

BUILDING AN ECOSYSTEM APPROACH TO MANAGING AFRICAN MARINE RESOURCES





- The sheer scale of the LME region





- There is no single, existing entity that automatically lends itself to regional governance of the LMEs, either individually or as jointly within the western Indian Ocean

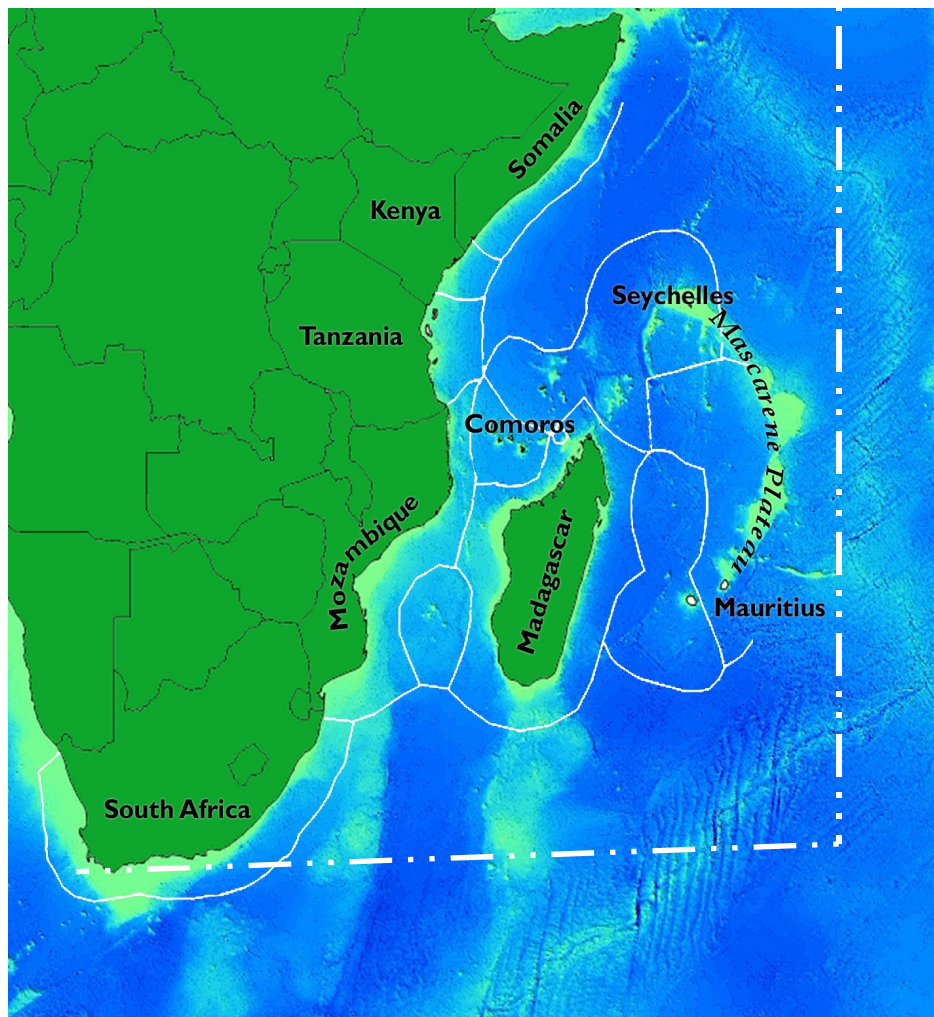


- The Nairobi Convention
- The South West Indian Ocean Fisheries Commission
- IOCINCWIO (IOC-UNESCO)
- The Southern Indian Ocean Fisheries Agreement
- RECS: SADC, COMESA COI
- NEPAD, AU
- Indian Ocean Tuna Commission

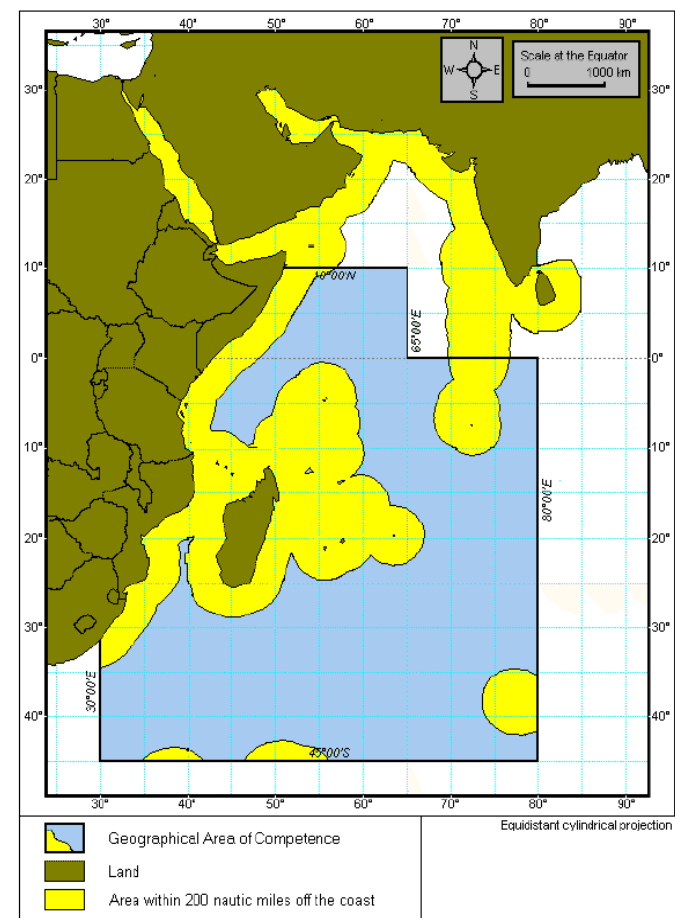


# The geographic area of competence for the Nairobi Convention and SWIOFC

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Annex I. The Geographical Area of Competence and possible EEZ external limit (200 nautical miles).









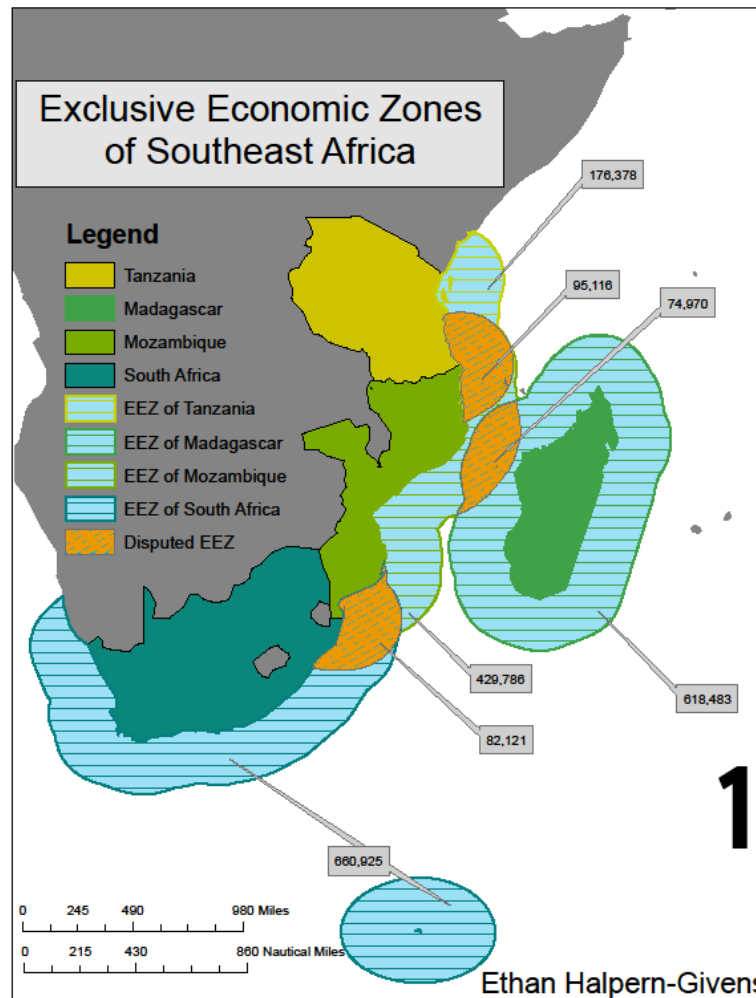
## **Global Governance obligations which extend to Areas Beyond National Jurisdiction**

- UNCLOS
- FAO related conventions and agreement
- CBD
- IMO related conventions and agreements



# Un -resolved EEZ Boundaries

BUILDING AN ECOSYSTEM APPROACH TO MANAGING AFRICAN MARINE RESOURCES





- Criteria defining LMES – bathymetry, hydrography, productivity, trophically linked populations
  - the criteria defining LMEs do not include societal criteria even when we are part of the ecosystem
  - traditionally the limits of the LMES have tended to be the EEZs of the adjacent countries because productivity is a continuum, difficult to define the outer bounds
  - Consideration was not given to the management of the areas outside the national jurisdictions of the relevant countries of the LMES
- The ten countries of the western Indian Ocean, from a historical and economical perspective, have formed a cohesive geopolitical area since the 1993 beginning with the Arusha (Tanzania) process and that is when the region was adopted as the western Indian Ocean.



- The five modules are a science language, NOT a policy and governance language.
- The modules do provide an organizational framework for gathering and analyzing data and information but not for packaging policy and governance actions.
- The former relates to understanding the dynamics of the system including the socioeconomic and management actions. The latter relates to



- WIO region is a mega LME encompassing 2 (3??) LMEs that are closely related with a people that are united historically, culturally and economically
- The ASCLME Projects and the WIO region has some specific governance requirements and challenges – Stock-taking meeting
- LME governance in this region will need to address both the regional management of areas within National Jurisdiction AND the regional/global management of areas beyond national jurisdiction



- Experience with other LME projects has demonstrated the need to engage policy-level stakeholders in the TDA and SAP development process at an early stage. This evokes legitimacy and strengthens 'ownership' of the LME approach prior to adopting the SAP (which is formally signed at the Ministerial level)
- Signature of the Strategic Action Programmes is not the end product but actually marks
  - The conclusion of the preparatory process and
  - The beginning of a long-term cooperative regional transboundary LME governance commitment
- There will be financial and human resource implications for each country
- It is ESSENTIAL that financial sustainability be central in the SAP negotiations/agreements and institutionalised nationally, regionally and globally



# THANK YOU

BUILDING AN ECOSYSTEM APPROACH TO MANAGING AFRICAN MARINE RESOURCES



<http://www.asclme.org>