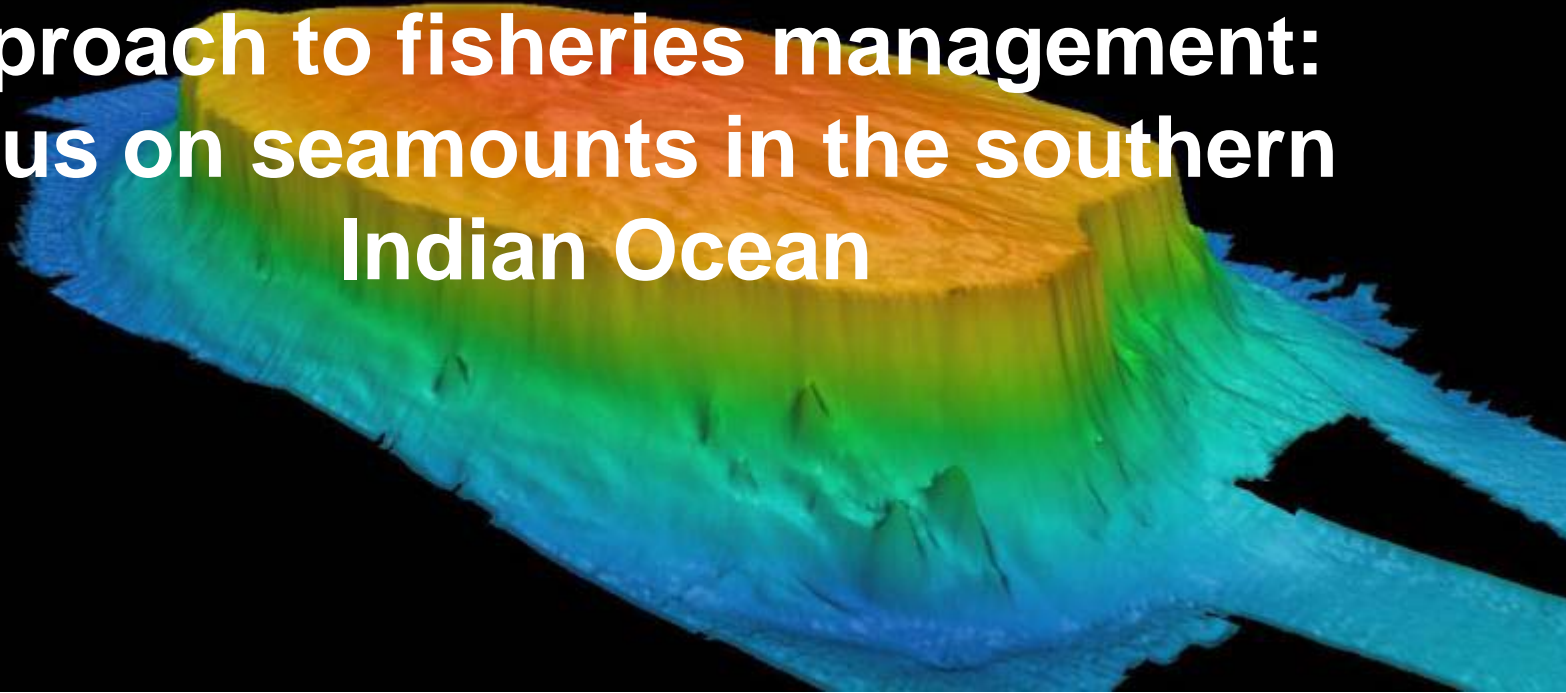




# Applying an ecosystem-based approach to fisheries management: focus on seamounts in the southern Indian Ocean



# Presentation

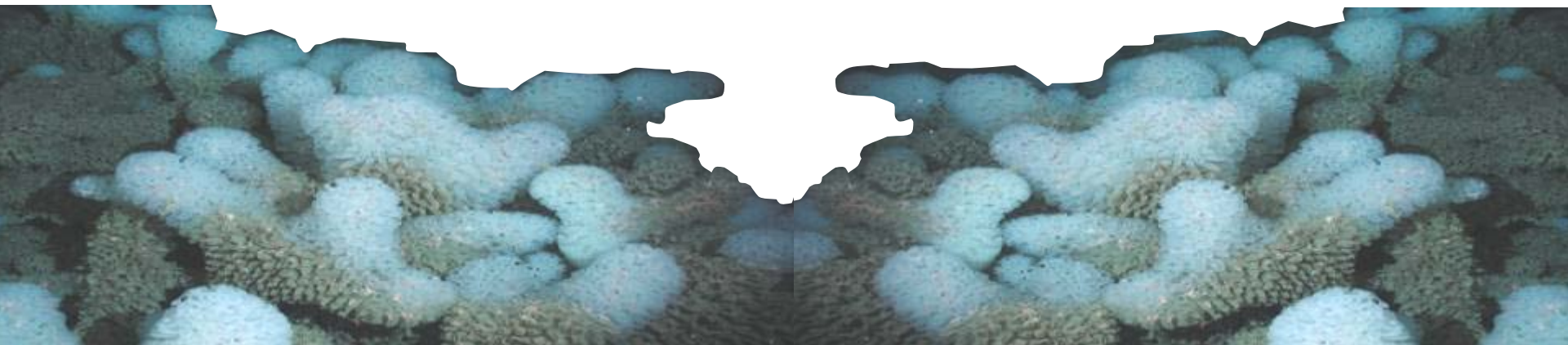
- Background to the project
- Seamounts & the Indian Ocean
- Project objectives
  - Objective 1: biodiversity assessment
  - Objective 2: improving governance
  - Objective 3: improving management
  - Objective 4: outreach

# Background

- **FUNDING**  
**GEF Medium-size project**
- **FOCAL AREA**  
**International Waters**
- **STRATEGIC PROGRAMME**  
**Restoring and sustaining coastal and marine fish stocks and associated biological diversity**
- **DURATION**  
**April 2009 to mid-2012)**
- **MAIN PARTNERS**  
**UNDP/GEF, ZSL/IOZ, IUCN/WCPA, FAO & FAO/NORAD EAF-Nansen Programme, IMR, CenSeam (CoML), ASCLME, ACEP, SIODFA**

# Overall goal

“To apply an **ecosystem-based approach to fisheries** management for biologically- globally significant and commercially-important areas beyond national jurisdiction in the southern Indian Ocean, focusing on **seamounts**, with a long-term aim to demonstrate innovative approaches to improve conservation and management of unique biodiversity and ecological resources in the high seas”

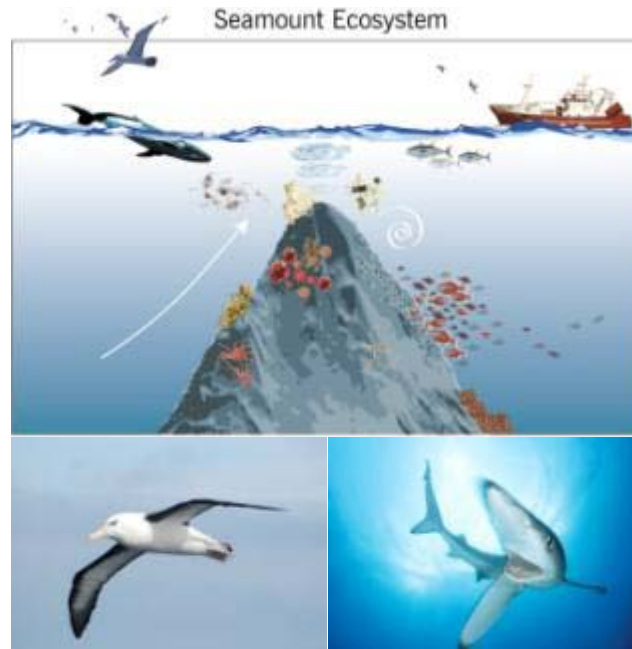


# Why seamounts?

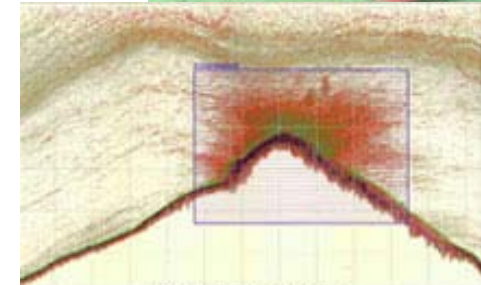
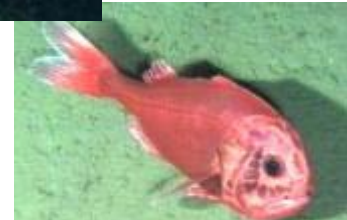
- Hotspots of biodiversity



- Strong benthic-pelagic coupling



- Habitats for commercially-important species



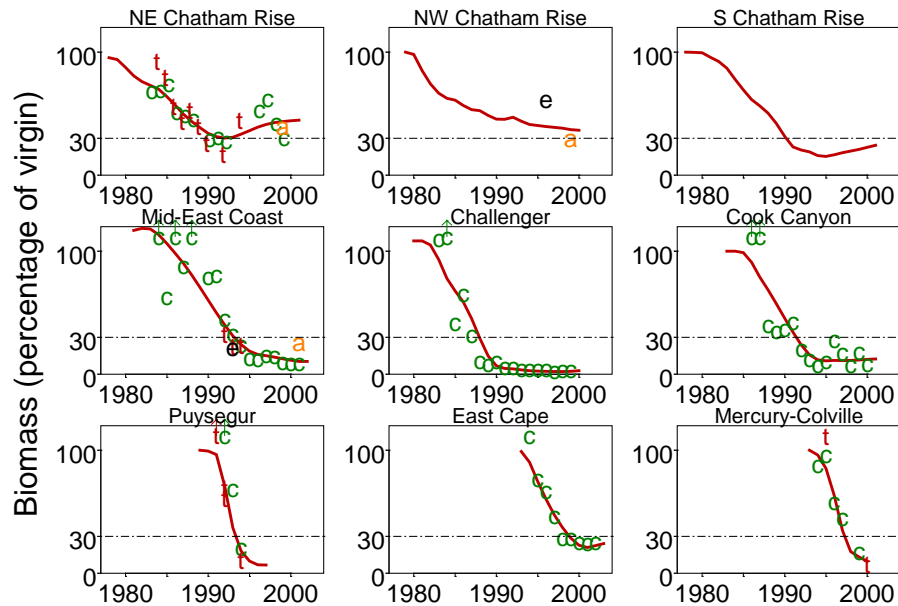
Orange Roughy  
Spawning Aggregation  
© NIWA, 2002.

# Why seamounts?

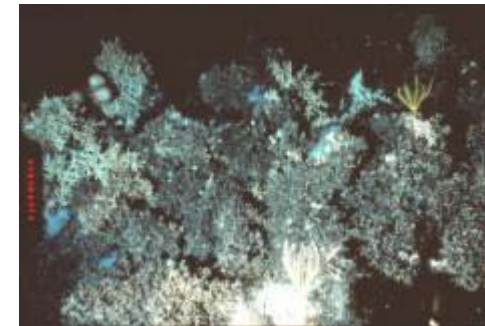
- Lack of knowledge,

Yet:

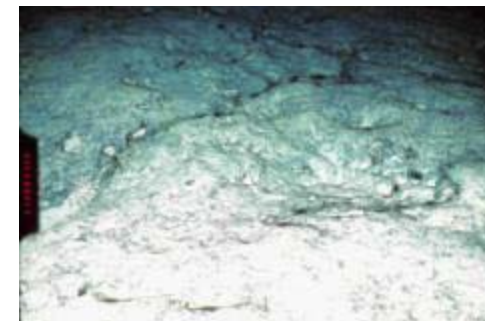
## Serial depletion of seamount fisheries



## Tasmanian seamounts



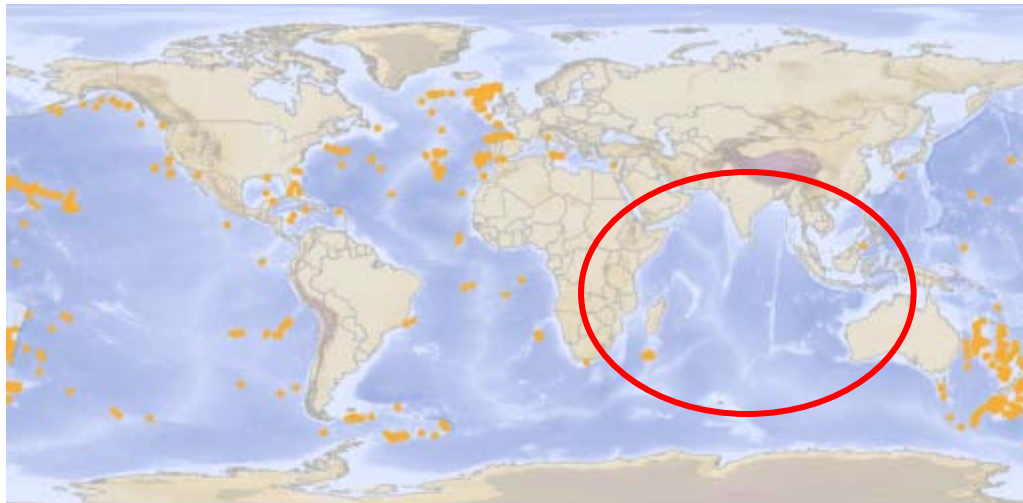
**Unfished**



**Fished**

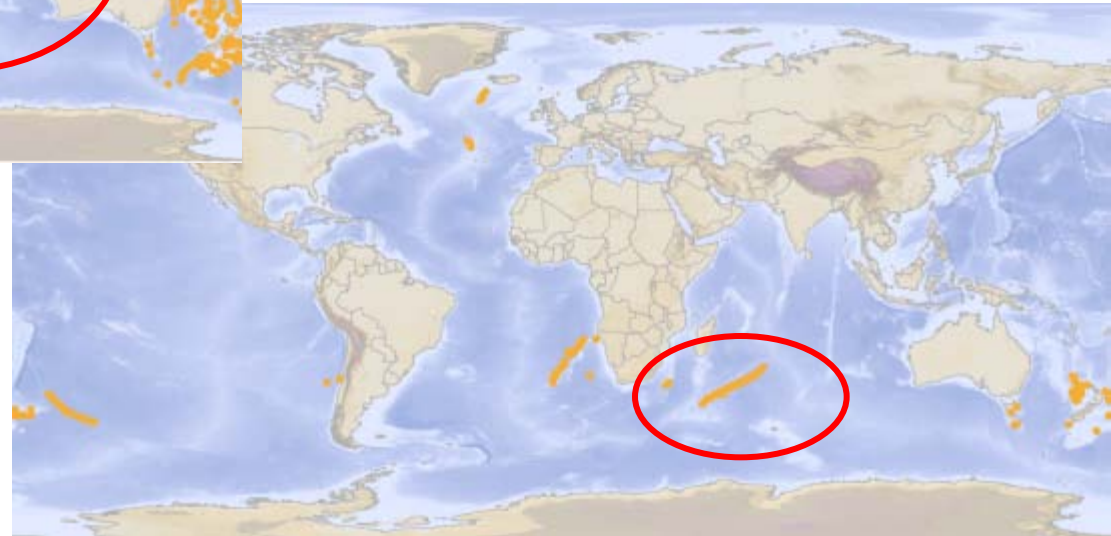
# Why the SW Indian Ocean

- **Global database of coral records**



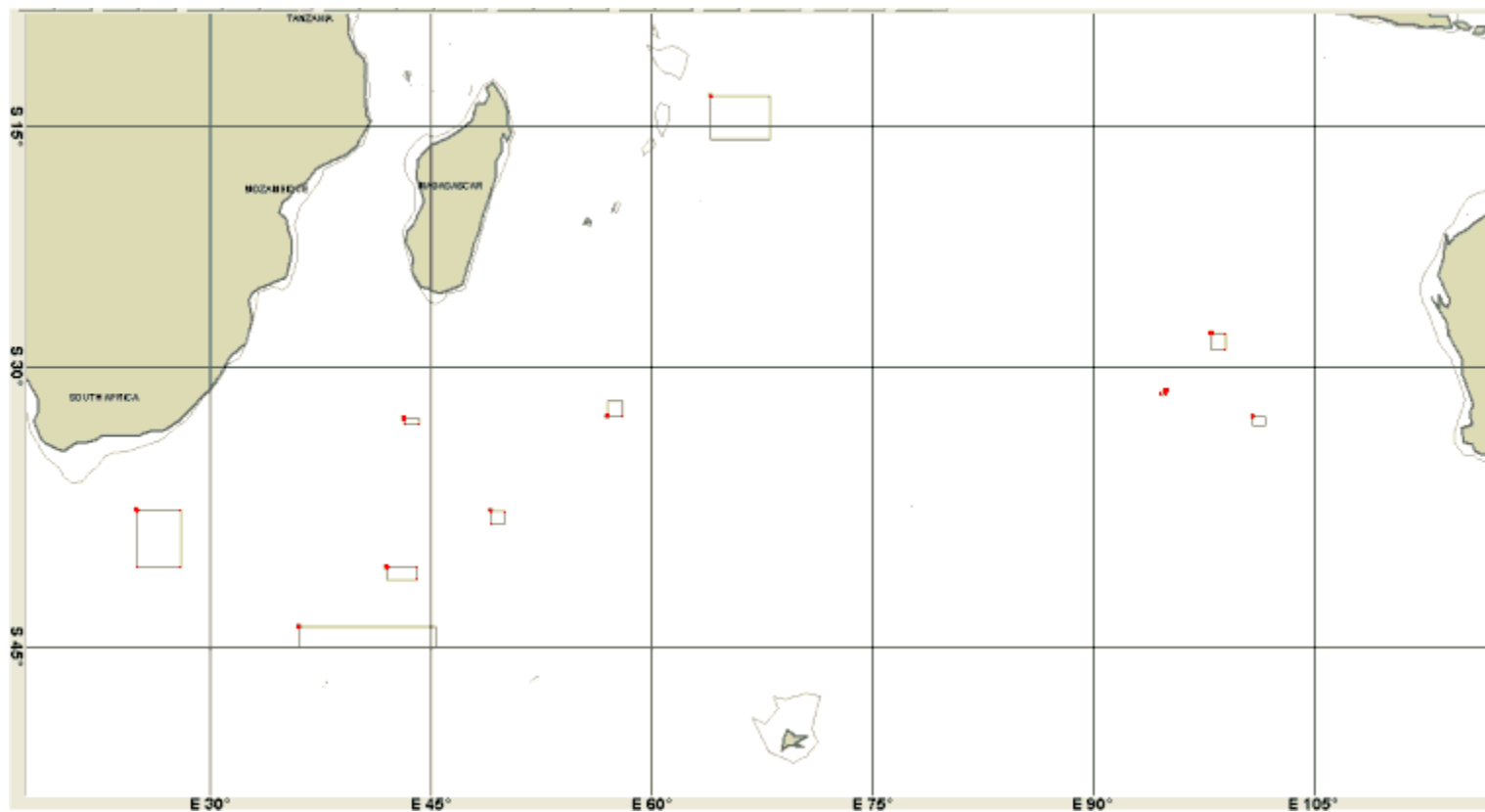
SW Indian Ocean appears to be good habitat for corals according to habitat suitability models

- **Main areas at risk from orange roughy fisheries**



# Why the SW Indian Ocean

- SIODFA recognise that something has to be done.
- Proposed high-seas protected areas in the Indian Ocean (BPAs)





# Gaps

- Governance gap
- No comprehensive conservation and management framework for ABNJ
- Requirement under UNGA resolution 61/105 to protect Vulnerable Marine Ecosystems (VMEs)



# Objectives



## Objective 1 – Biodiversity Assessment

Improve scientific understanding and capacity for monitoring, assessment and analysis of high seas biodiversity and fisheries



## Objective 2 - Governance

Enhance governance framework for high seas resources conservation and management



## Objective 3 - Management

Identify management and compliance options for deep and high seas biodiversity in the southern Indian Ocean, based on precautionary and ecosystem-based approaches



## Objective 4 - Outreach

Raise awareness of and share knowledge with policy makers, the fishing industry and the public regionally and internationally

# How & when

## Cruise 1

- *RV Dr. Fridtjof Nansen*
- Aim: 40 days, November-December 2009
- Focus: pelagic ecosystems and biodiversity, pelagic fishery resources and oceanography
- Some activities:
  - Acoustic and net-studies of zooplankton, micronekton, nekton and fish populations
  - Sampling of animals for studies of pelagic biodiversity, trophic ecology, genetics
  - Sampling of fish for analysis of species diversity, age / size structure of populations and genetics



## Cruise 2

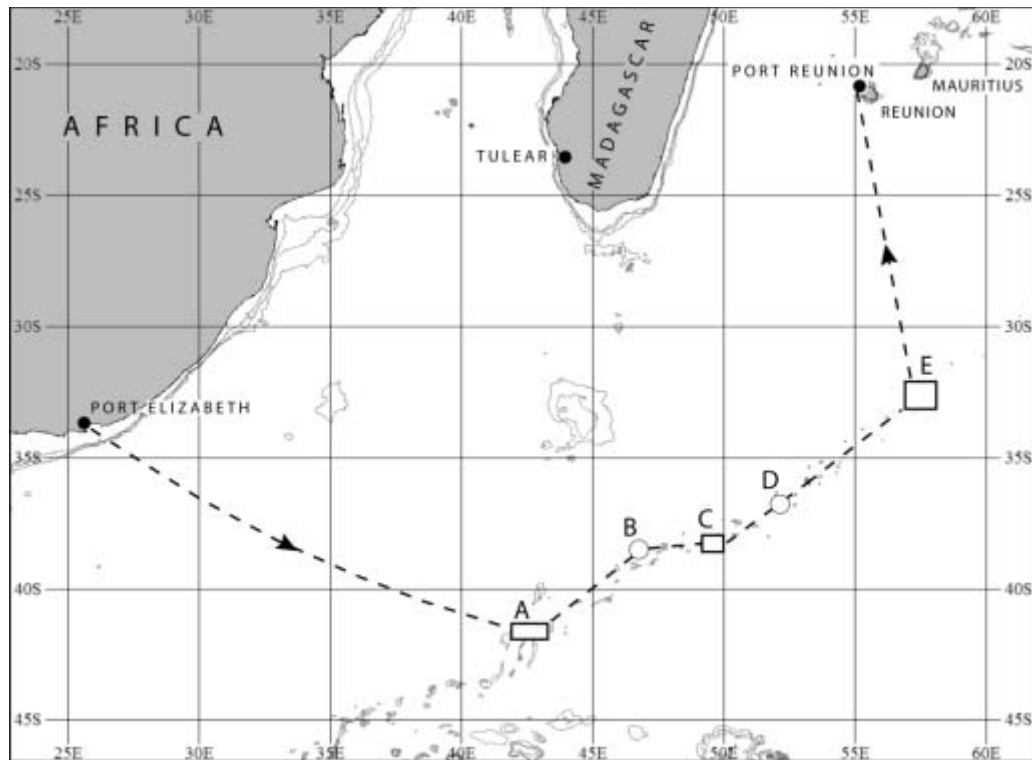
- Led by IOZ/ZSL on the *James Cook* (?)
- Aim: 40 days, end 2010 (possibly end 2011)
- Focus: benthic ecosystems and biodiversity, benthic fishery resources and impact assessment of bottom fishing activities
- Some activities:
  - ROV-based surveys of seamounts to estimate abundance and diversity of the fauna
  - Some surface-based sampling to analyse the diversity of smaller organisms living on seamounts (those not visible with ROV cameras)
  - Collection of specimens for taxonomic identification, trophic ecology studies, reproductive biological studies, genetic studies, palaeoceanographic analyses



# Where

## Southwest Indian Ocean Ridge

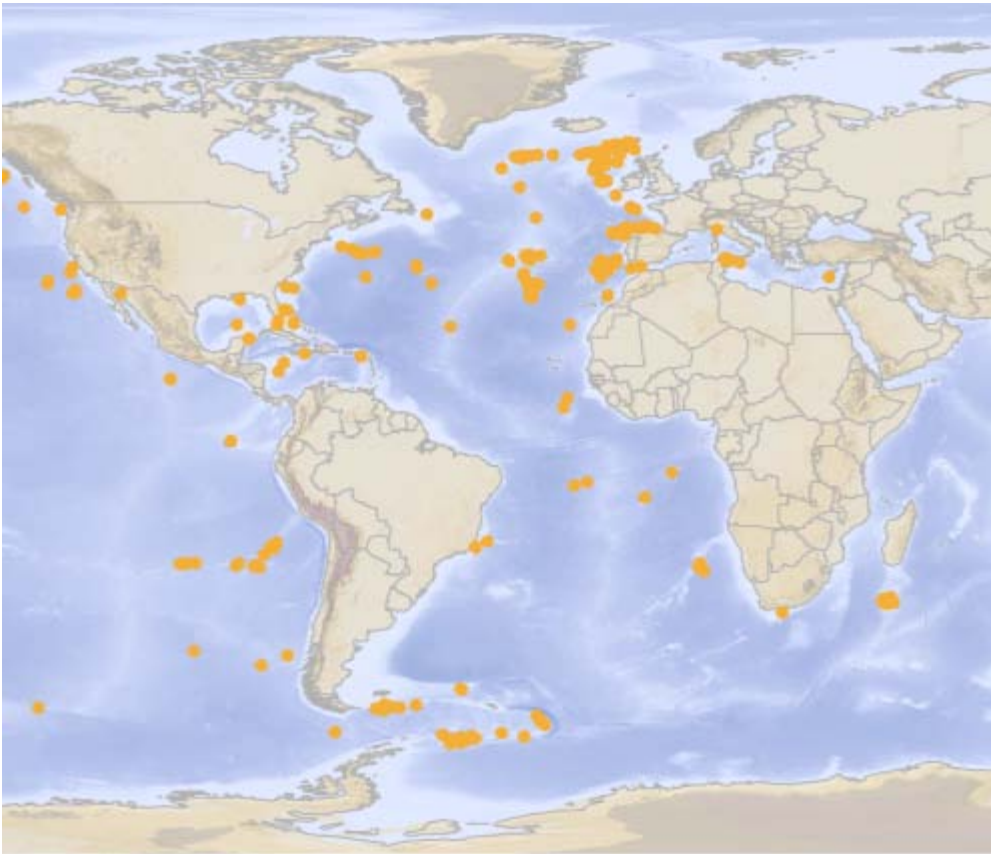
- 5 seamount areas – all exclusively on the high seas
- 3 inside proposed BPAs (A, C & E)
- 2 outside BPAs (B & D)



A = Coral, B= Melville, C = Bridle, D = Sapmer, E = Atlantis

# Where to next?

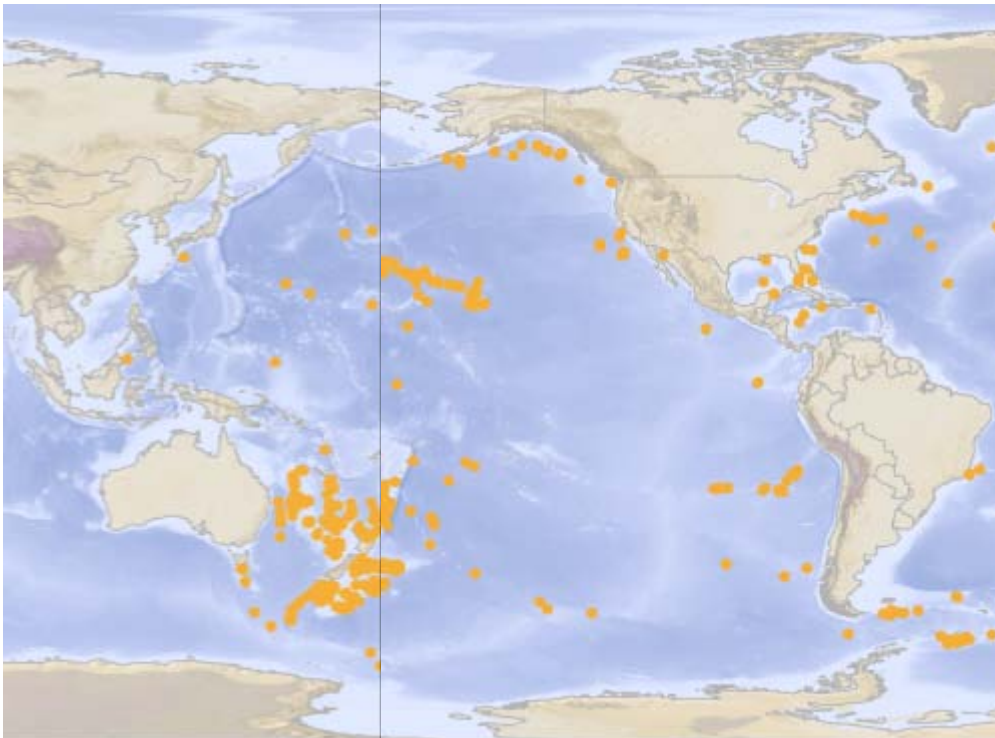
- **South Atlantic?**



- Conservation and management issues
- Different (unique?) species and ecosystems
- Knowledge gap
- Project framework in place

# Where to next?

- **Pacific?**



- Conservation and management issues
- Different (unique?) species and ecosystems
- Knowledge gap
- Project framework in place