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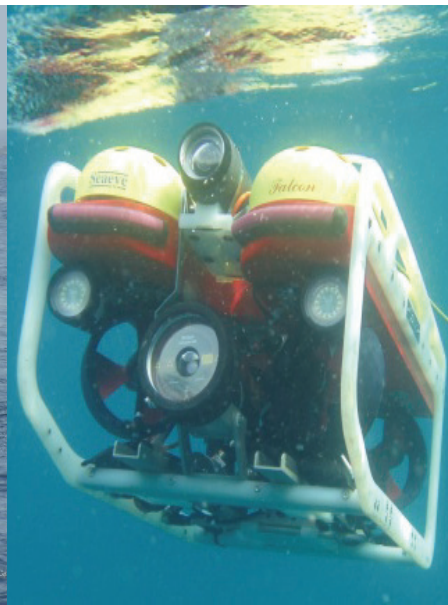
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SAEON  
South African Environmental  
Observation Network

# Overview of coastal Long-Term Ecological Research programmes & platforms

## SAMREF Workshop: 23 July 2015



# Coastal Observations



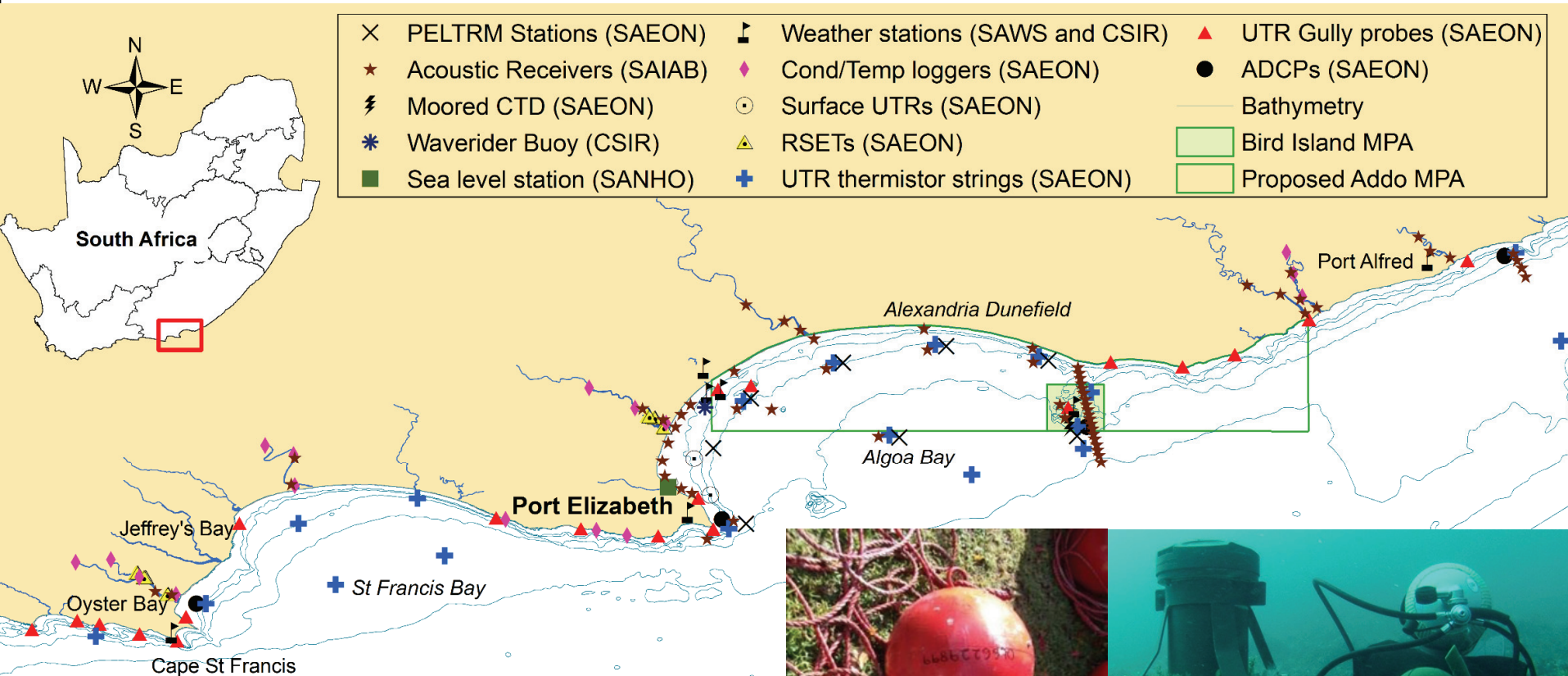
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1. SAEON Sentinel Site for LTER
2. National Coastal Temperature Network
3. National Estuaries Network
4. National MPA LTER Network
5. Acoustic Telemetry Array Programme
6. Research platforms to support coastal observations
  - a) Coastal research vessels
  - b) Underwater opticals
7. SA Research Infrastructure Roadmap: Shallow Marine and Coastal Research Infrastructure
8. SA National HF Radar Observation Network
9. Data management
10. Competitive access through ACEP



# 1. Sentinel Site for LTER

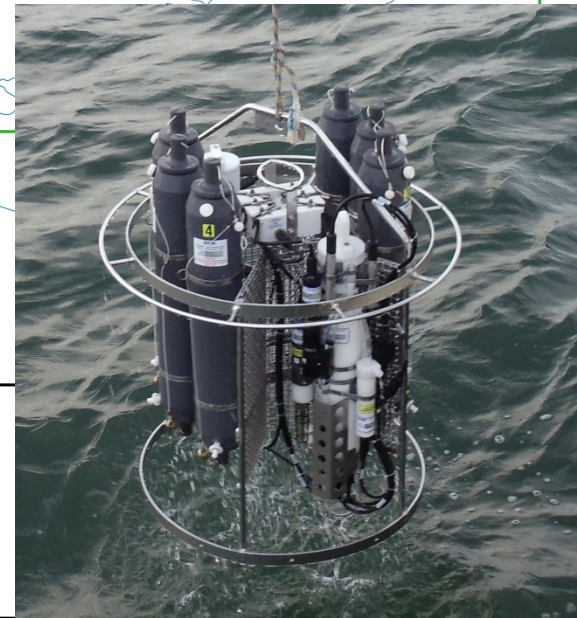
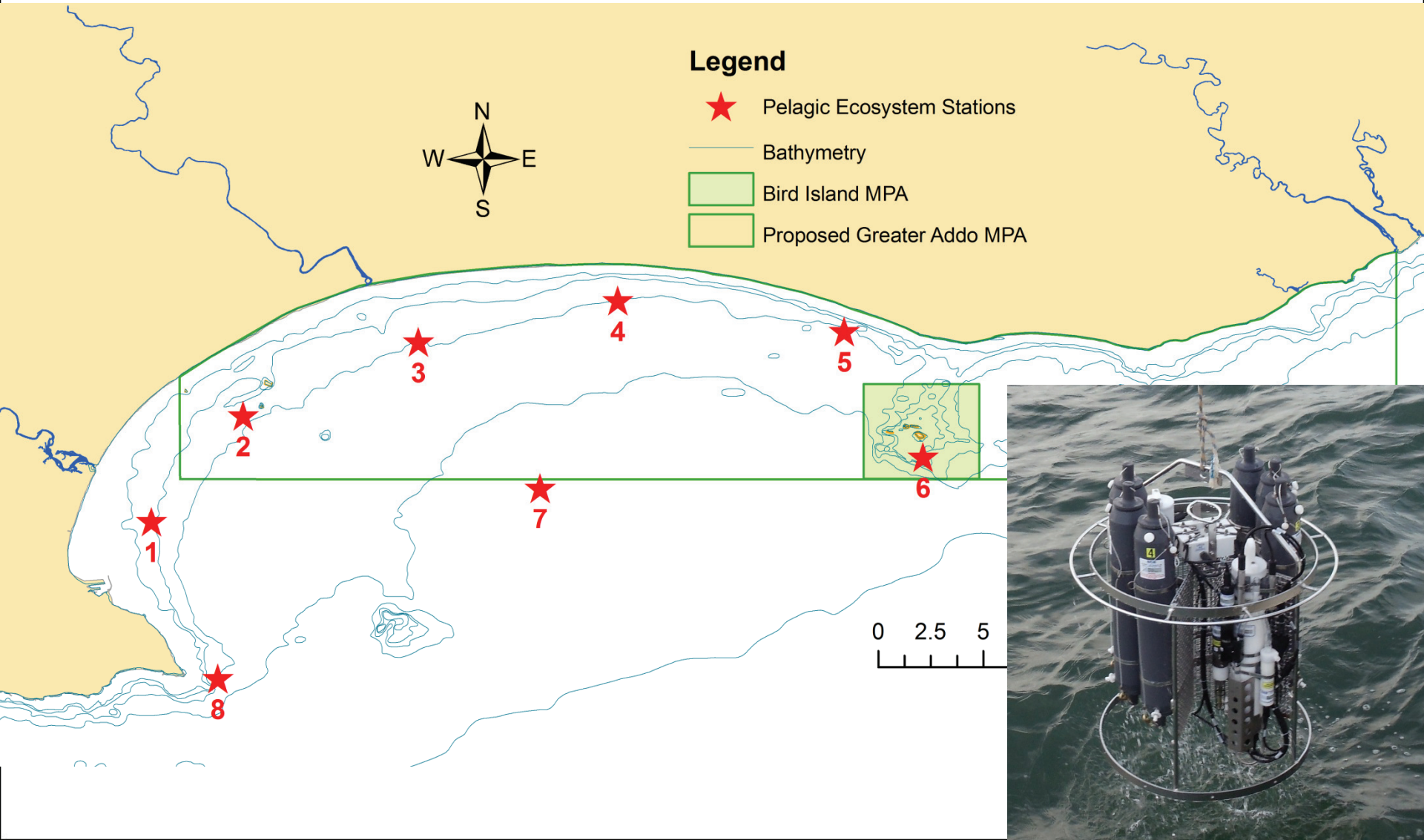


- >100 *in situ* instruments
- Best monitored coastal area in A





# Pelagic Ecosystem



# 2. SA National Coastal Temperature Network



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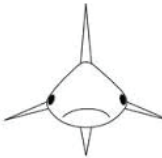


**environmental affairs**

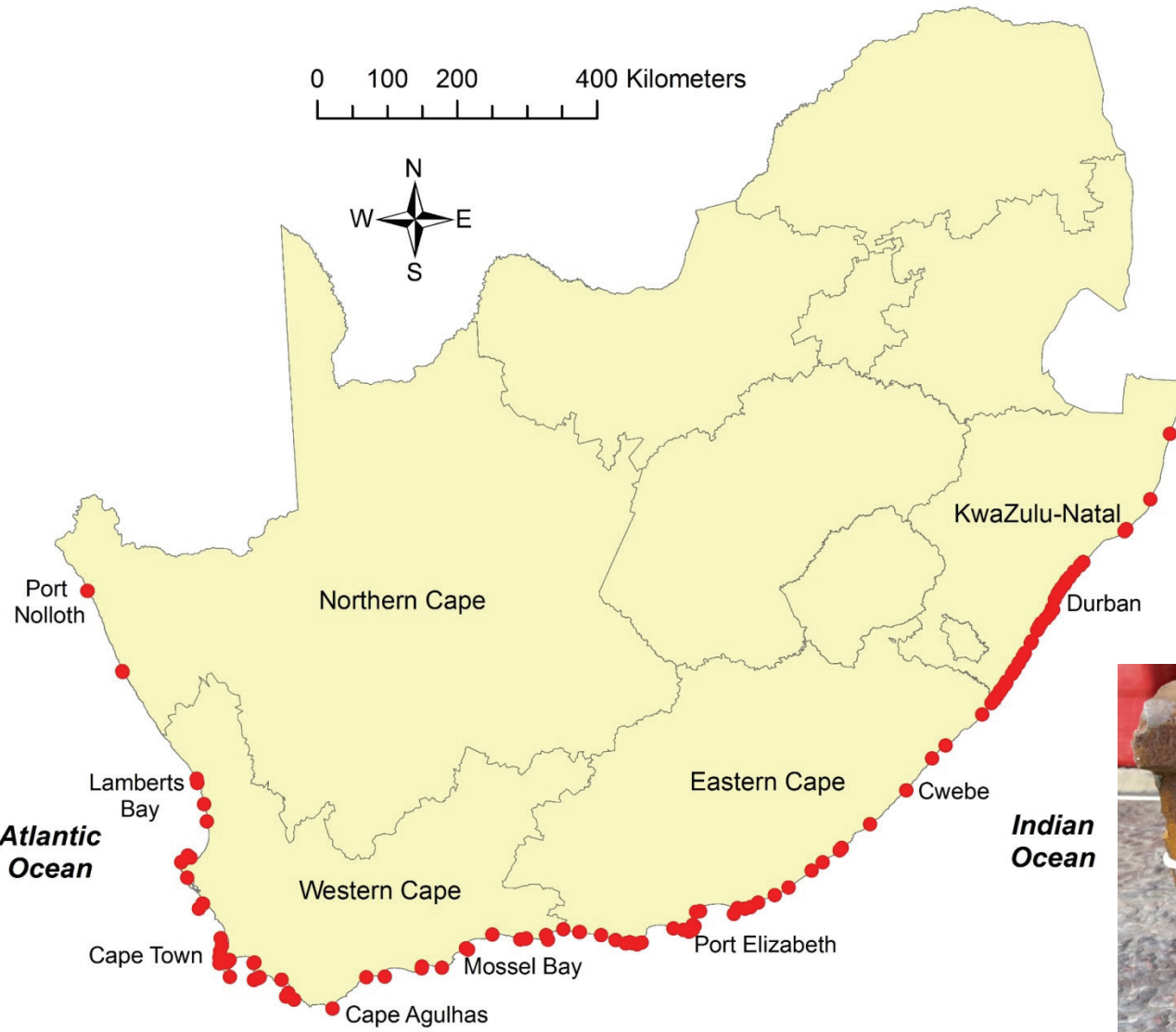
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**South African  
Weather Service**



0 100 200 400 Kilometers





water & sanitation

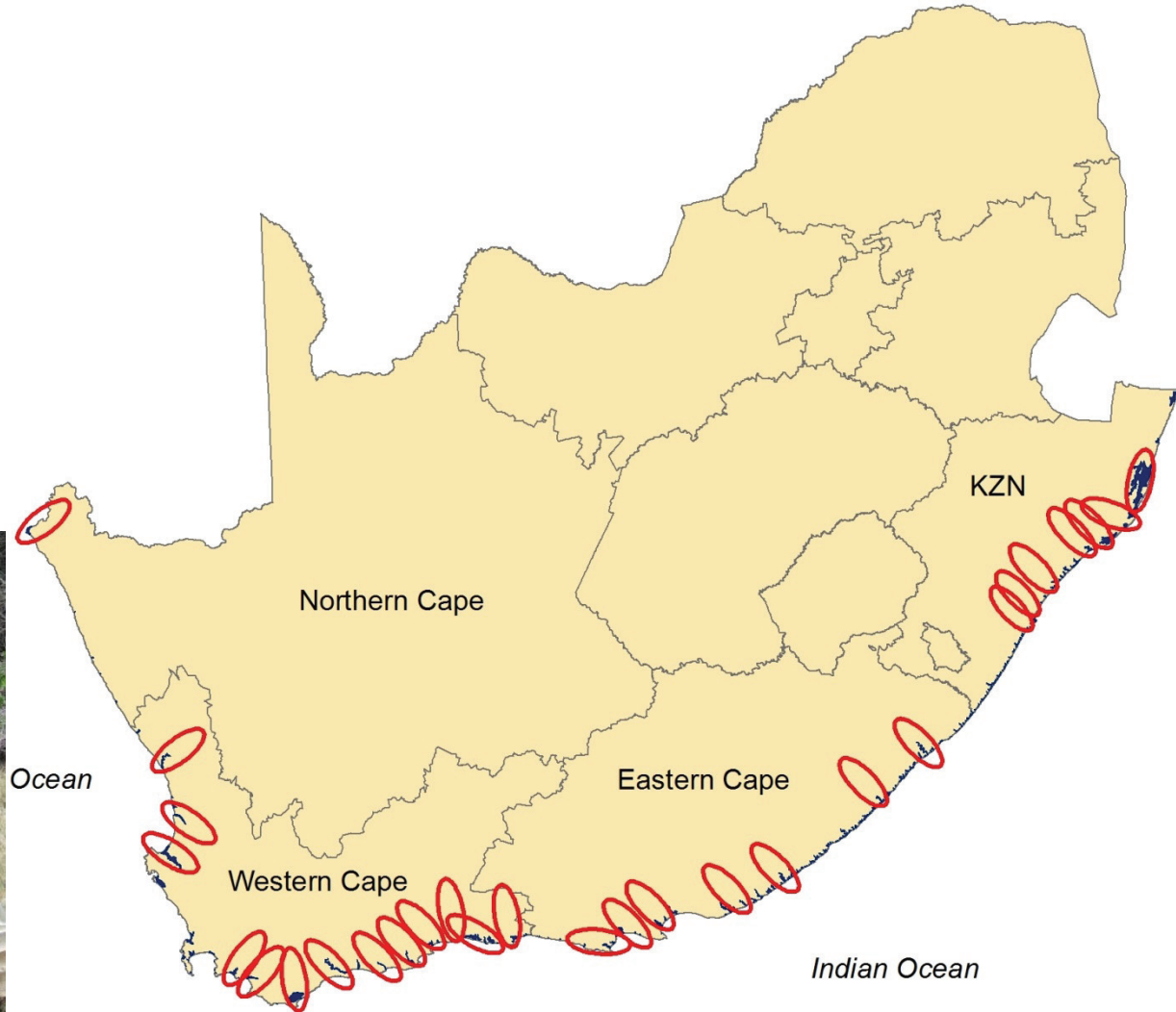
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# 3. National Estuaries Network



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- > 300 estuaries
- 29 NEMSP



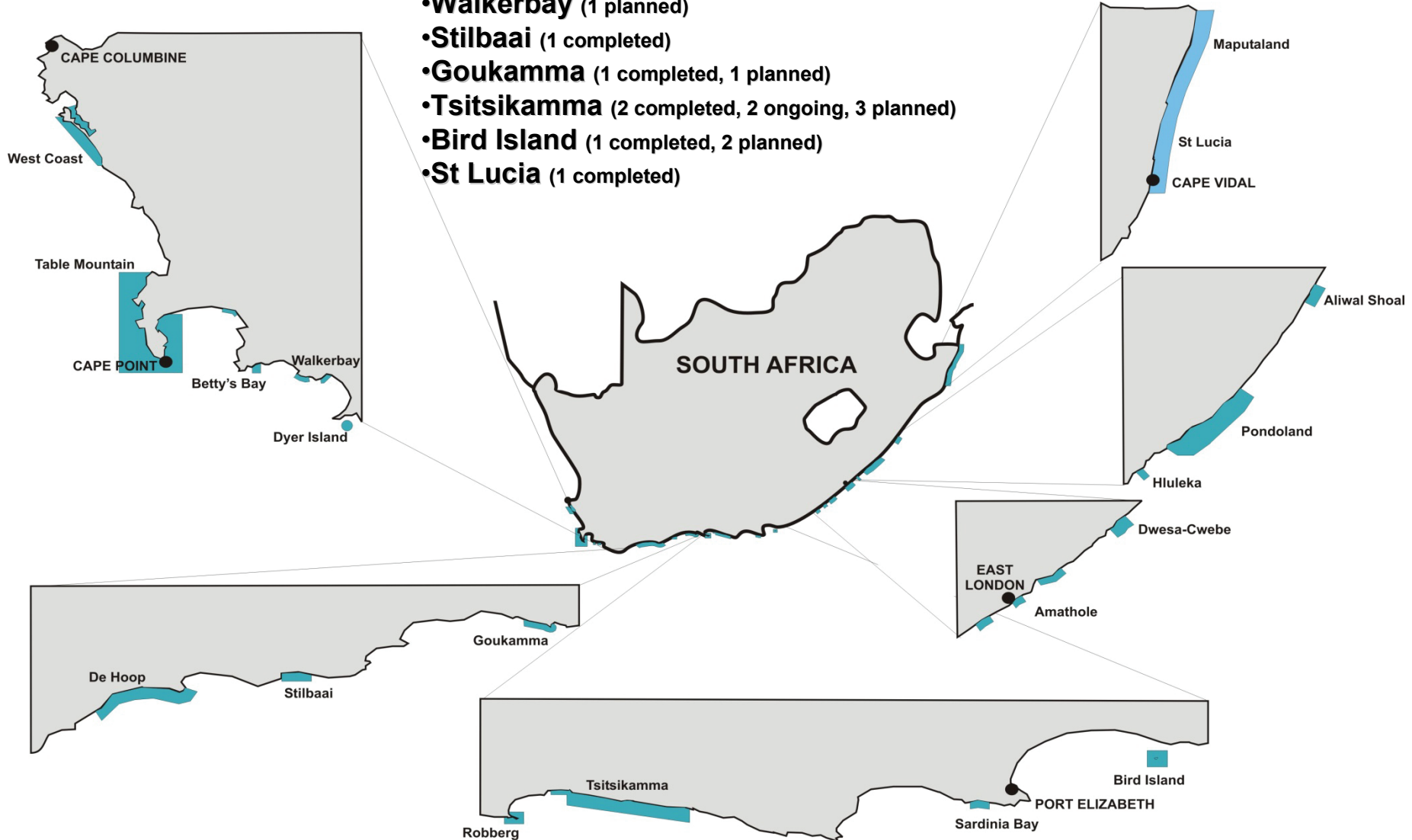
# 4. MPA LTER Network



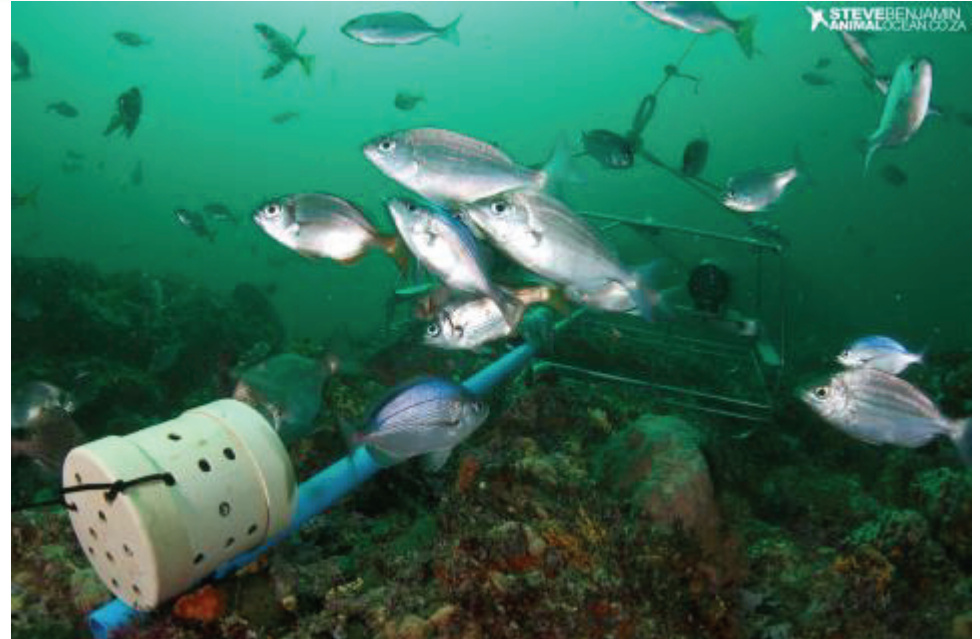
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- **Table Mountain National Park** (1 completed, 1 planned)
- **Betty's Bay** (1 planned)
- **Walkerbay** (1 planned)
- **Stilbaai** (1 completed)
- **Goukamma** (1 completed, 1 planned)
- **Tsitsikamma** (2 completed, 2 ongoing, 3 planned)
- **Bird Island** (1 completed, 2 planned)
- **St Lucia** (1 completed)

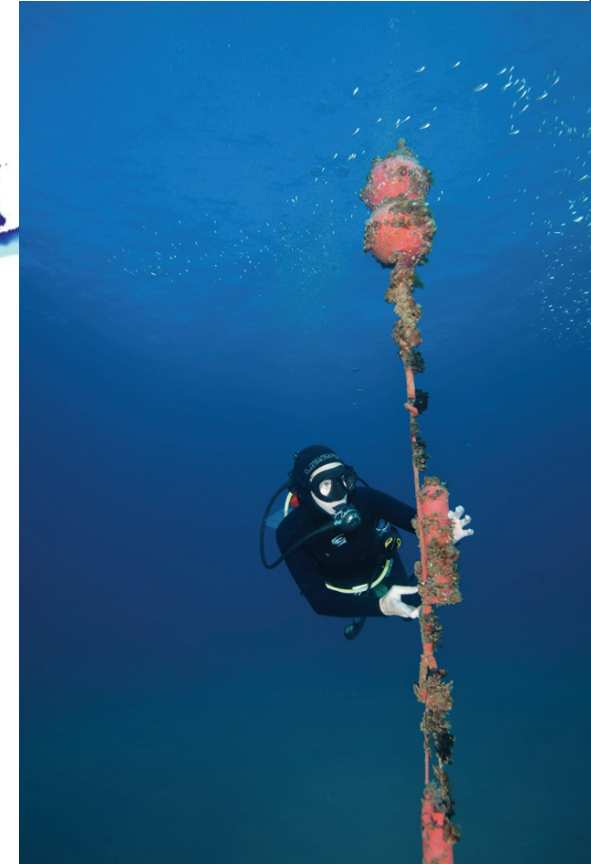
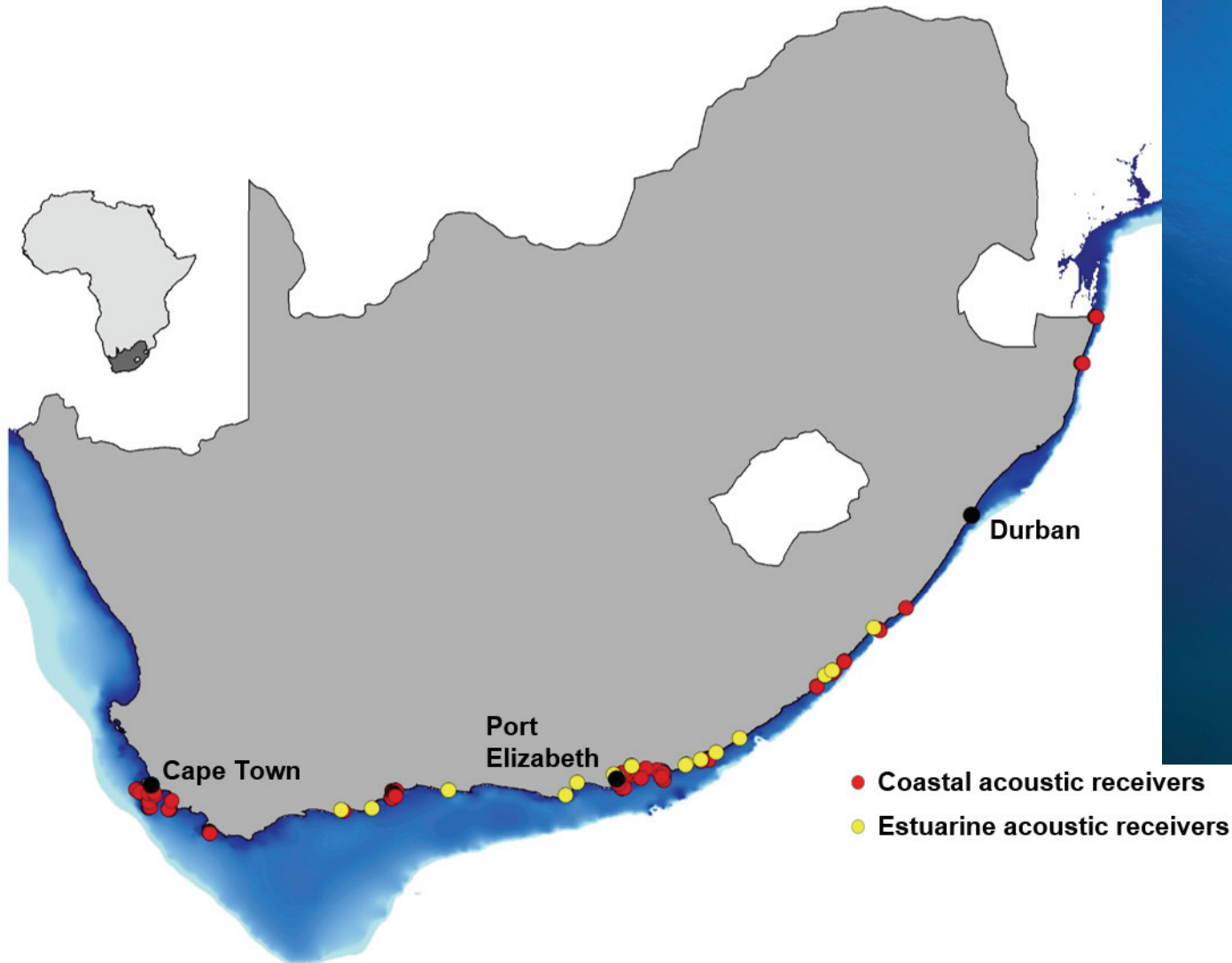


# SBRUVs

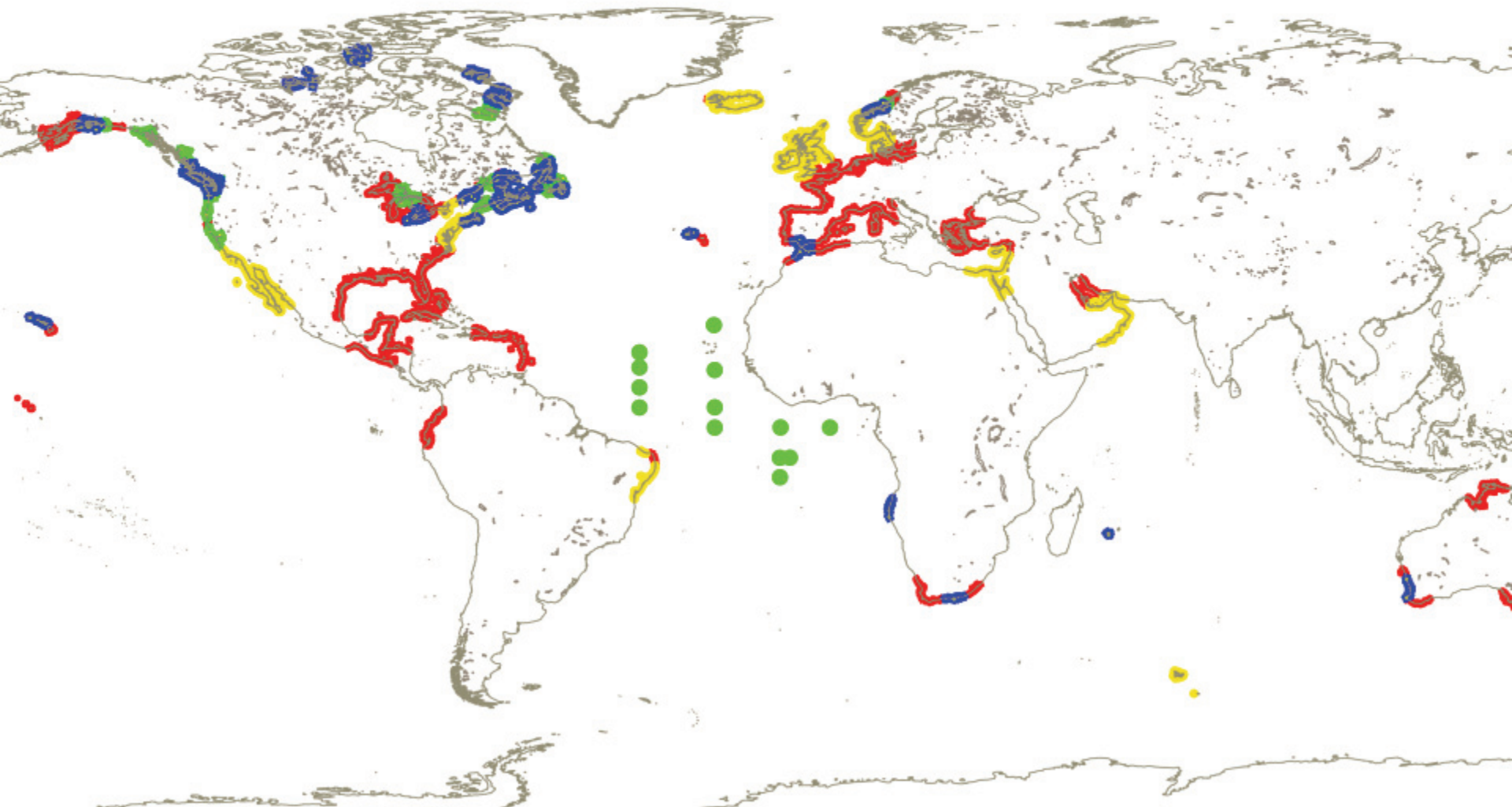




# 5. ATAP Network



- OTN Owned Array
- OTN Data Partner
- OTN Planned Array
- Other Acoustic Co





# 6. Research platforms



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- 13 m Ski-boats
- 2x 300 hp motors
- Sample to shelf edge
- Equipped with:
  - CTD > 600 m depth rating
  - Mini Niskin-rosette water sampler
  - ADCP
  - Multibeam
  - Crane & winch
  - Custom designed to launch & operate ROV



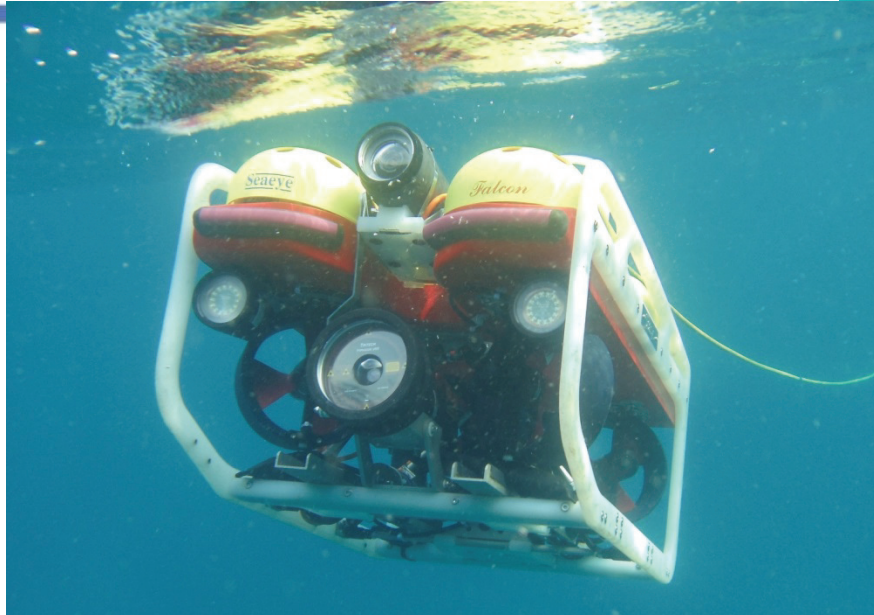


# ROV



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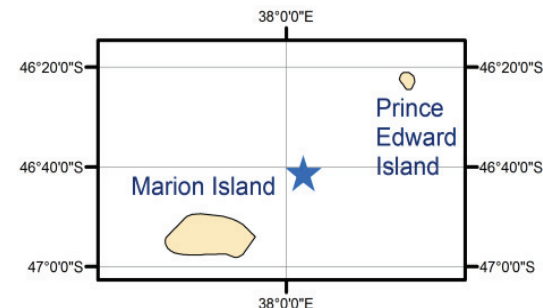
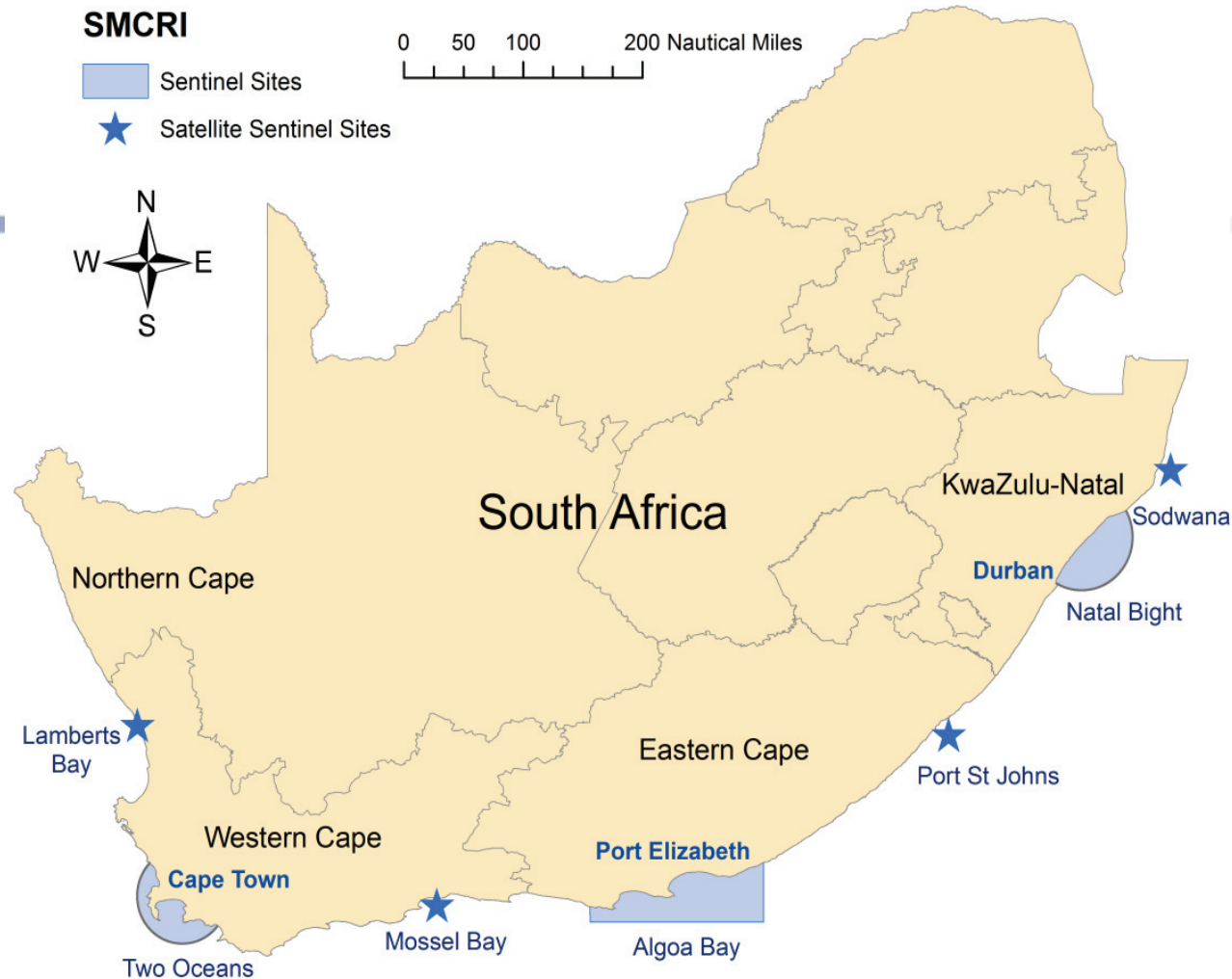
# 7. SMCRI

## Dispersed SS

- Two Oceans
- Algoa Bay
- Natal Bight

## Satellite SS

- Lamberts Bay
- Mossel Bay
- Port St Johns
- Sodwana Bay
- Prince Edward Islands



# Infrastructure



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- Fully equipped coastal research vessels,
- Current, wave, salinity, telemetry, pCO<sub>2</sub> & pH, CTD and temperature sensors,
- Real time surface Data Buoy
- Single instruments for dispersal from CCU
- Data and information management system

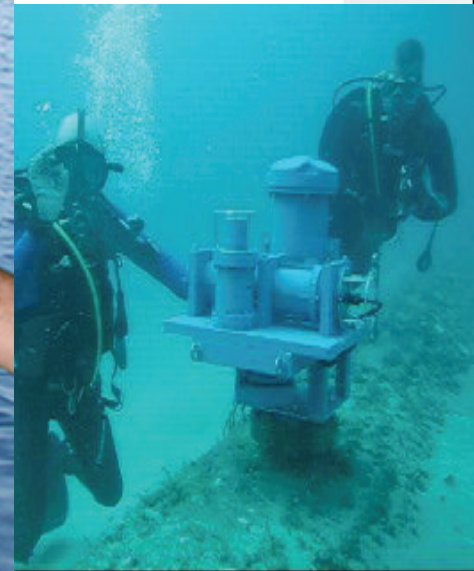


# Data Buoy



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# 8. National HF Radar





- Access to the research infrastructure and platforms is on the principle of equal, open but competitive basis.
- All data collected by the DST / NRF platforms are:
  - Free and open data by default
  - High quality and quantity (limited data gaps)
  - Usable by all (i.e. understandable)
  - Released specifically for improved governance
  - Released specifically for innovation



# 10. ACEP Open Call



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- The African Coelacanth Ecosystem Programme is an open call for research funding that promote marine research along the East & South Coast through the provision of competitive access to:
  - Research infrastructure (e.g. ship's time, coastal craft, remote operated vehicles, etc.)
  - Sentinel Site research sites
  - Research funding



# ACEP- Phakisa Ocean Cruises



A Joint initiative between DST and DEA (O&C) using the R/V Algoa

- Phakisa Initiative #9: MPA/MSP Discovery, research and monitoring programme.
- DST and DEA(O&C) identified ACEP, as a leading multi-disciplinary, multi-institutional programme, as a key platform to be used to meet the aims of Operation Phakisa.
- Research teams include a mix of DEA (O&C) scientists and scientists and scientists from other institutions.

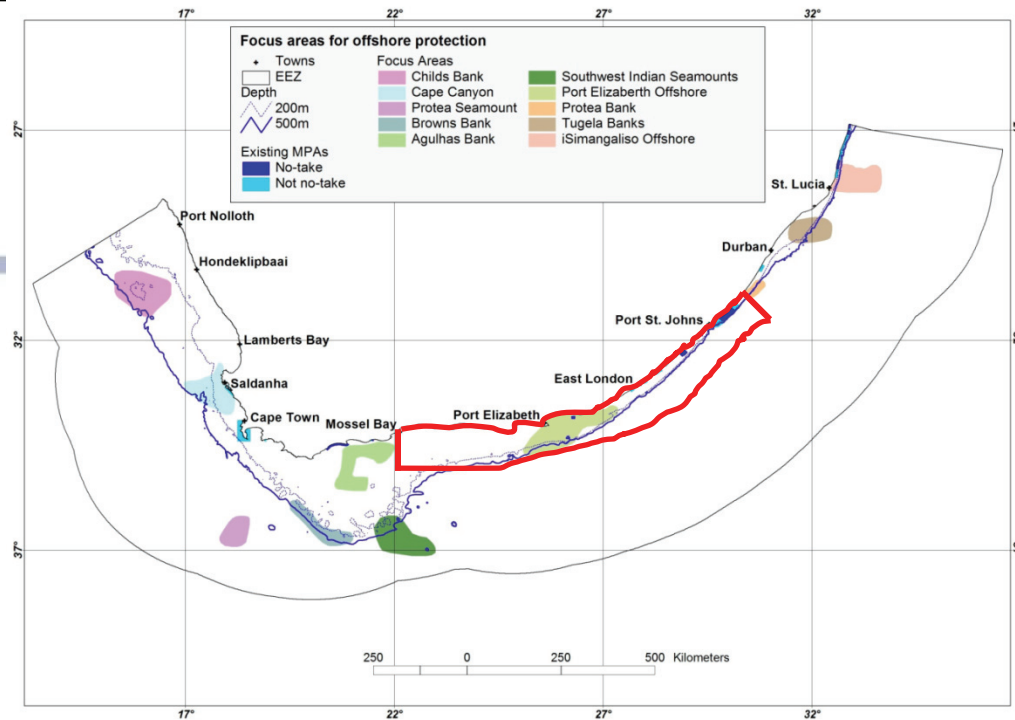


DEA Research Vessel – R/V Algoa

# Two 30 day cruises on the R/V Algoa (2016-2017)

Projects awarded via ACEP  
Open Call on a competitive  
basis.

1. Influence of the Agulhas Current oceanography on the biodiversity of the Transkei shelf.
2. Deep secrets: the outer shelf and slope ecosystems of the Eastern Cape.



## Key research areas:

1. Test and validate offshore habitat classification of the National Biodiversity Assessment.
2. Elucidate the key drivers of offshore biodiversity patterns.
3. Finer scale habitat mapping.
4. Identification and mapping of habitat types to improve National Biodiversity Assessment.
5. Canyon ecology.
6. Understand industry impacts on habitats.
7. Support MPA design.
8. Refinement of biodiversity targets.
9. Pelagic biodiversity patterns and ecosystem processes
10. Line-fish stock assessment and recovery
11. Marine geoscience

Thank you

