

Project Endorsement Form

1. PROJECT TITLE

Full title	Regional Research Cruises in the Western Indian Ocean
Acronym	
Website	www.environment.gov.za
Keywords (up to 10, describing the project research)	Baseline environmental data collection along the east coast of Africa
New initiative or continuing programme?	New initiative

2. APPLICANTS

Lead applicant / Project Leader / key research contact person:

First name	Ashley
Last name	Johnson
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Institutional or personal website	Institutional

Other key participants / research team leaders: (repeat as needed)

First name	Harrison
Last name	Odanga
Role in the project	Kenyan Coordinator
Affiliation	Kenyan Marine and Fisheries Research Institute
Country	Kenya
Email address	hochiang2003@yahoo.com
Institutional or personal website	Institutional

First name	IOCAFRICA Chair and Vice-Chairs
Last name	
Role in the project	
Affiliation	
Country	
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Institutional or personal website	Institutional

N.B.: Please note that all these names and contact details will be added to the IIOE-2 membership database.

3. ABSTRACT– Brief description of the project: (1/4 page maximum)

IIOE-2 Joint Project Office (JPO)

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This will be placed on the IIOE-2 Website after endorsement.

The project is aimed at collection of essential ocean observations in a sustained manner along the east coast of Africa, by utilising African research vessels as well as international vessels. The primary aim is to collect enough information to develop a baseline across a number of variables. To that end, South Africa will deploy its research vessels, *SA Agulhas II* and *RV Algoa* into the region to address the priorities identified by the various countries in their adjacent oceans.

The first regional cruise by the *SA Agulhas II* will commence on 18 October to 15 November 2017. At the same time, SA will coordinate with the research vessel *Mtafiti* from Kenya.

4. LINKS TO IIOE-2 SCIENCE PLAN: (1/2 page maximum)

How do you anticipate your project to contribute to the IIOE-2 strategy and science delivery, with reference to which (either one or more) of the six IIOE-2 Science Plan themes that your project responds. Please state the specific issues and questions addressed by your project in the context of the IIOE-2 Science Plan themes and key issues.

The IIOE-2 Science Plan Document provides six Themes which are to be addressed in IIOE-2 (those of primary interest to South Africa are in boldface):

1. **Human Impacts:** Collection of baseline data on marine environment, habitat mapping, biodiversity assessment and monitoring, capacity building in the field of marine sciences. Influence of human activity, such as fishing and waste outfalls on the marine environment.
2. **Boundary Current Dynamics, Upwelling Variability, and Ecosystem Impacts:** Studies of upwelling regimes in the southern African region, the influence of the Agulhas Current system.
3. Monsoon Variability and Ecosystem Response.
4. **Circulation, Climate Variability, and Change:** Monitoring of the Agulhas Current flow and variability, studies of the influence of the Agulhas Current on the region.
5. **Extreme Events and their Impacts** on Ecosystems and Human Populations.
6. Unique **Geological, Physical, Biogeochemical, and Ecological Features** of the Indian Ocean.

The study of upwelling systems and their influence on ecosystems and productivity for sustainable resources is a featured initiative of the IIOE-2 Science Plan. Of relevance for South Africa is the proposed West Indian Ocean Upwelling Research Initiative (WIOURI). The upwelling areas are listed in WIOURI and those logistically accessible for South African based fieldwork campaigns (see [Addendum](#)) suitable for extensions to South African based fieldwork could be selected from these areas, to contribute to IIOE-2 efforts further afield.

- Agulhas Current driven upwelling,
- the Mozambique Channel,
- the Madagascar Ridge and associated seamounts, and
- the Eastern Madagascar bloom.

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It is noted that the IIOE-2 Science Plan calls for intercalibration among the vessels and equipment used for variables measured basin-wide. The data management guidelines require that IOC policy and IODE framework should be followed if possible.

5. INTERNATIONAL COLLABORATION(S):

Is the project part of a related multi-national activity? **YES**

If No, would you welcome international collaboration in your project? **N/A**

6. REGION(S) OF STUDY

Provide a description of 'where' the research is to be conducted (for field based activities) and/or the region or regions to which the research pertains (you are encouraged to consider providing either the coordinates of the area of studies or the coordinates of the planned cruise tracks, as well as a figure as an addendum to your proposal).

Region is the East Coast of Africa, including all member states of the IOCAFRICA Sub-Commission.

6. TIMETABLE OF THE PROJECT

Start date:2017	End date:2020
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7. LINKAGES WITH OTHER PROJECTS / PROGRAMMES / INITIATIVES

Is the project part of a related national or multi-national activity?

If yes, provide the related activity title and website for reference, if available:

There is a notable paucity of data on the east coast shelf inshore of the Agulhas Current, an historically neglected region, and realising the importance of baseline data in assessing variability and change, it is proposed that additional fieldwork be undertaken in the Agulhas Current and the inshore countercurrent. This fieldwork will enable

- additional studies and provide data on the upwelling side of the Agulhas Current, contributing to further knowledge and understanding of the Agulhas environment (addressing Themes 2 and 4),
- satisfying baseline understanding of the SA EEZ (Phakisa, NEMO, Themes 1, 2 and 4);
- contribute to the IIOE-2 WIOURI initiative (Theme 2).

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- provide platforms and access to enable disciplinary process studies and observations (regional capacity building).

There is ongoing and planned work related to and in the Indian Ocean that involves South African scientists. These cruises and efforts are complementary to the IIOE-2 program, and their data and findings will be made available for the IIOE-2.

- ACEP-4 cruises on *Algoa* between Mossel Bay and Port Alfred are discussed in more detail below.
- ASCA cruises (on board the RV *Algoa*) and moorings, monitoring the Agulhas Current flow and variability. This program and a planned extension is discussed in more detail below.

Other relevant International fieldwork and projects that may have South African involvement are:

- French cruise (led by Jean-Francois Ternon, IRD) on the Madagascar Ridge, on the RV *Antea*. Leg 1: La Reunion to Fort Dauphin, 6-22 Nov 2016. Leg 2: Fort Dauphin to Richards Bay, 25 Nov-13 Dec 2016. A multidisciplinary cruise including physics, biogeochemistry, phytoplankton and zooplankton sampling, acoustics and trawling.
- IUCN cruise (led by Philippe Bouchet, National Museum of Natural History, Paris, France) on FRS *Africana* at Walters Shoal (planned for March 2016, but may be delayed or cancelled depending on status of *Africana*). Focus on benthic biodiversity, with some oceanographic sampling.
- Mascarene Ridge fieldwork (IRD, *Antea*), is in planning. Pinnacles of the Mascarene Ridge off Madagascar summit at 200-300 m. Comparison with shallow upwelling is planned.
- The new *Dr Fridtjof Nansen* will be operational from Jan 2017, and may spend 25% of her time in the Indian Ocean over the next 5 years for IIOE-2 projects, depending on co-funding.

Is your project part of, or affiliated to, another SCOR, IOC or IOGOOS activity or project?

If “yes”, please indicate which activity or project:

8. DATA MANAGEMENT AND SHARING

1. Will new data be collected as part of this project (yes or no?)

Yes, the region agreed that the IODE Data Centre at KMFRI will host the data collected by these cruises.

2. Contact information if any, of the person in charge of the data management from whom the metadata can be accessed by interested IIOE-2 stakeholders.

Please note that for all IIOE-2-endorsed projects, IIOE-2 will have developed its own metadata portal. Once the project is endorsed, the project leader will be asked to provide the metadata information of the project.

Mr. Mthuthuzeli Gulekana, Science Manager, Department of Environmental Affairs, Cape Town, South Africa.
mgulekana@environment.gov.za

3. Recognizing the need for an initial period of exclusive data use, would you be willing to provide timely access to all data generated under this project and associated metadata in accordance with relevant national and funding agency data sharing policies? **YES**

9. FUNDING

Please note that IIOE-2 strongly encourages funded/resourced projects. However, IIOE-2 may endorse projects yet to receive funding/resourcing if IIOE-2 endorsement can be clearly shown to significantly aid in prospects for funding/resourcing.

Has funding and resources to successfully achieve and undertake the project been obtained? Indicate the sources of funding and resources that have been approached and/or secured.

Cruise-time onboard the vessels from South Africa and Kenya will be funded by their respective national budgets. The Regional Cruises undertaken by the SA Vessels will also be funded by the SA National Department

10. BENEFITS FROM IIOE-2 ENDORSEMENT (1/4 page maximum)

Specify why you are seeking endorsement and how the activity would benefit from endorsement, and how the IIOE-2 SC could assist in the implementation of your project.

Endorsement will allow for the region to submit proposals for scientific equipment procurement in support of the vessel activities, in order to have a baseline of information needed to better manage the adjacent ocean space.
The region will collectively submit proposals as well as individual countries to international funding agencies and bilateral cooperation agreements.

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11. OPTIONAL: OTHER COMMENTS/INFORMATION/MATERIAL (*length and detail may be at the discretion of and as deemed necessary by the applicant*)

Please feel free to provide any other comments, information or materials that you feel relevant to your proposal for the IIOE-2 Steering Committee's information and benefit. You may provide this as general information or provide the additional comments/information/materials as relevant to any of the specific Sections above.


AS Johnson

(Signature of the PI)

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