

INTERNATIONAL INDIAN OCEAN EXPEDITION-2: 2015-2025

WG 03: OPERATIONAL COORDINATION *A Progress Report*

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Co-Chairs

(acknowledging the help from Kiran Kumar, INCOIS, Hyderabad)

The New Terms of Reference

- Establish a **central web-based expedition planning utility** linked to the IIOE-2 website.
- Establish an **opportunity/volunteer vessel database** of commercial-sector ships and fixed platforms available for research and observations.
- Establish a **database of “in-kind” resource support** from institutions, national fleets and funding agencies
- Establish a **process for reviewing planned and developing research projects** toward discovering, communicating and enabling opportunities for collaboration among PIs.
- **Provide access to references** on recommended methods and sources for acquiring calibration materials

Contd....

- *Understand the **current capacity development needs** of Indian Ocean countries and align these needs with the IIOE 2 Science Plan.*
- ***Facilitate increased access to existing online training courses**, resources and research infrastructure including onboard opportunities*
- ***Develop** an IIOE-2 **Communication Strategy** and related Implementation Plan to ensure that the 'IIOE-2' is effectively communicated*
- ***Develop**, implement and maintain an **IIOE-2 website**.*
- ***Capture and build interest in IIOE-2** amongst the general public through a public event and promotional materials campaign.*
- *Showcase and promote the relevancies of the IIOE-2 research*

Contd.....

- ***Maintain a regular dissemination mode*** of cross-cutting information and general news and specific announcements for IIOE-2.
- ***Promotion of IIOE-2 via presentations etc***
- ***Ensure that all IIOE-2 endorsed projects identify links*** with national and/or international benefits.
- ***Estimate the societal and economic value*** of proposed IIOE-2 research
- ***Facilitate P-P-P***
- ***Provide the day-to-day underpinning resources to administer and run the IIOE-2***
- ***Providing sufficient internal (IIOE-2) resources*** to support the effort of soliciting and obtaining complete and sustained financial and other support for IIOE-2.

*The WG continues to be the interface between the Pls and the other stakeholders, **primarily on account of the enormous support from INCOIS and the JPO.** By and large, several of the activities under the ToR are being accomplished through and by the JPOs.*

Some of the continuing activities of this WG have been

- ☐ ***Assisting the JPO-India as and when needed, in the endorsement process of the projects received by IIOE-2.***
- ☐ ***Facilitating the updation and management of the IIOE-2 website through the JPO (India Node) and the Web-Based Services Group at INCOIS, Hyderabad.***

Contd.

- ***Coordinating with the JPO in the management of the central web-based expedition planning and progress utility (<http://www.iioe-2.incois.gov.in/WebGIS.html>) for operational coordination and cruise archiving, linked to the IIOE-2 website.***

Contd.

OUTREACH: Helping INCOIS with THE INDIAN OCEAN BUBBLE



Bi-annual informal newsletter providing short articles contributed by scientists with a sustained interest in the Indian Ocean studies.

e-versions reach out to nearly 1000 people.

To advance our physical dynamical biogeochemical

The first meeting
Perth Program
4 February, 2017

Held back-to-back
the elegant Indian
meeting was a
consisted of the
the Chairs/Co-
Bodies and the
of the different
The overarching
common issues
Implementation



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e-newsletter started in March 2017 and published on the last working day of each month highlighting the various activities in IIOE-2. As on date, 61 issues of this Monthly Newsletter have been released and mailed to nearly 900 people.

To advance our understanding of interactions between geologic, oceanic and atmospheric processes that give rise to the complex physical dynamics of the Indian Ocean region, and to determine how those dynamics affect climate, extreme events, marine biogeochemical cycles, ecosystems and human populations.

Optimal parameters for generation of gridded product of Argo temperature and salinity using DIVA

Determining an oceanographic parameter on regular grid positions, using a set of data at random locations both in space and time, is a typical problem since long in the field of oceanography. This is usually called the gridding problem, and the outcome is useful for many applications such as data analysis, graphical display, forcing or initialization of models, etc. The oceanographic community is heavily dependent on the gridded fields (temperature, salinity, etc) for quantitative analysis of ocean general circulation. Gridded products are used to provide initial and boundary conditions for numerical ocean modelling. Many gridding schemes have been proposed in the past for generating data onto a regular grid. The objective analysis scheme is one such, which is based on the minimization of statistical error estimation. Kessler and McCreary (1993) proposed the Objective Analysis (OA) method which is being used at INCOIS to construct a gridded data product for the Indian Ocean region using Argo datasets. This method is relatively easy to implement and is often used to estimate grid-point values from observations existing within a radius of influence.

In the present study data on regular grids were generated from temperature and salinity profile data from Argo profile floats (Figure-1). Data and Interpolating Variational Analysis (DIVA) method was chosen for generating the gridded product.

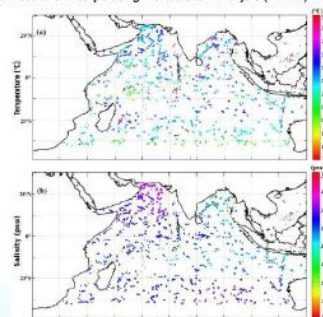


Figure-1. (a) Temperature ($^{\circ}\text{C}$) and (b) Salinity (PSU) observations from Argo profiling floats used to perform the analysis for a sample month of January 2016. Each dot represents the data availability in the region. Color of each observation represents the parameter range as represented by the colorbar.

*A major constraint in the attempts of the WG to disseminate the various achievements of the IIOE-2 to the stakeholders at large has been the **non-submission of plans/ progress of studies by many of the PIs** of the IIOE-2 endorsed cruises voluntarily, despite this being one of the pre-conditions of the cruise endorsements.*

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Excerpts from the Minutes of the last meeting (2021) of the SC

-It would be useful if data such as bathymetry data collected during cruises could be made freely available, particularly those likely to be uncontentious...
-Lynnath Beckley noted that the bathymetric data from the R/V Investigator and R/V Falkor cruises off Australia were available in the Geoscience Australia Seabed Database.
-Sateesh Shenoi noted that IIOE-2 has a template (on the website) for recording metadata from cruises and this is a requirement of endorsement ***so ideally metadata should be made available immediately***, with the data to follow later once researchers have had an opportunity to publish.

*It is felt necessary **to strongly encourage/urge the proponents** of the various IIOE 2-endorsed projects to make available to the JPO in a timely manner:*

- *their plans of implementation of the project*
- *details of the cruises planned/under way*
- *salient results of the studies, including data availability*
- *publications arising out of the work carried out*
- *availability of onboard positions if any, for the ECS in the planned cruises etc.*
- *The scientists also need to be encouraged to maintain to the extent possible, a regular dissemination mode of information and general news specific to IIOE-2/their projects.*

