The Core Group comprises:

The co-chairs who represent the sponsors and oversee IIOE-2 activities

+ 3 Working Groups co-chairs:
  WG1 Science & Research
  WG2 Data & Information Management
  WG3 Operational Coordination

Project Office located in Hyderabad (Aneesh Lotlikar)
The 6th meeting of the Steering Committee of IIOE-2 SC6 was organized in person on February 21-24, 2023 by the UWA, Australia, and IIOE-2 Project Office at the Indian National Center for Ocean Information Services (INCOIS), Hyderabad.
Outline:

- Progress
  - International Participation
  - IIOE-2 Research Initiatives (EIOURI, WIOURI, YMC, KUDOS)

- Status
  - Working Groups and Research Themes
  - Cruises/RAMA

- Products
  - EGU Special Issue of Synthesis Papers
  - IIOE-2 DSR II Special Issues on IIOE-2
  - Elsevier Book on the Indian Ocean
Outline:

- **Progress**
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- **Products**
  - EGU Special Issue of Synthesis Papers
  - IIOE-2 DSR II Special Issues on IIOE-2
  - Elsevier Book on the Indian Ocean
Summary of Endorsed Projects:

- 80 Endorsed projects with 20 Countries involved
- USA, India, UK, and Australia leading the way
IIoE-2 Research Initiatives:

The Eastern Indian Ocean Upwelling Research Initiative: It is ongoing anchored by China, Japan and USA. Landry / NSF BLOOFINZ cruise recently completed. The main foci of this initiative is on the upwelling regions that develop seasonally off Java, Sumatra, and northwestern Australia. Efforts to revise/invigorate this initiative are underway.

The Western Indian Ocean Upwelling Research Initiative: Also ongoing. Anchored by Solstice Project and DEA Agulhas II cruises. Significant progress has been made. More cruises planned, e.g., upcoming Agulhas II cruises (Go-Ship IO5).

The Years of the Maritime Continent: In addition to these research initiatives, the IIoE-2 coincided with and embraced the Years of the Maritime Continent (YMC) as a major IIoE-2 field champagne in 2017-2018. This is largely completed with one last cruise scheduled for 2023.
KUDOS (Korea-US Indian Ocean Scientific Imperatives):

- Scientific focus on the Seychelles-Chagos Thermocline Ridge.
- *R.V. Isabu* cruises cancelled in 2020 and 2021, but are resuming post-COVID.
- **Have institutionalized KUDOS cruises for the next 5 years.**
- **Will support RAMA and other international collaborative efforts**

Outline:

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  - Elsevier Book on the Indian Ocean
Status of Research Themes:

Six Research Themes:

Theme 1: Human Impacts (Ben Milligan) Not Active!

Theme 2: Boundary current dynamics, upwelling variability and ecosystem impacts (P. N. Vinahachandran and Yukio Masumoto) Active

Theme 3: Monsoon variability and ecosystem response (Andrian Matthews and Joaquim Goes) Active

Theme 4: Circulation, climate variability and change (Amit Tandon and Helen Phillips) Active

Theme 5: Extreme events and their impacts on ecosystems and human populations (Chari Pattiaratchi) Active

Theme 6: Unique geological, physical, biogeochemical and ecological features of the Indian Ocean (Jerome Dyment) Not Active!
Status of Cruises:

- Cruises and research activity came to a screeching halt in Spring of 2020 due to COVID-19 pandemic.
- 18 Official IIOE-2 Cruises thus far (according to the IPO website).
- Many more if you include those not tracked by the IIOE-2 IPO.
Status of Cruises/RAMA:

- COVID-19 has led to severe negative impacts on RAMA due to cancelation of mooring deployment and servicing cruises.
- *All RAMA moorings now offline except one.*
Rapid Recovery:

- There has been a rapid resumption of cruise activity over the past 12 months.
- *Anticipate bringing RAMA 70% back on line by the end of 2023!*
Outline:

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  - Working Groups and Research Themes
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  - EGU Special Issue of Synthesis Papers
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EGU Special Issue on IIOE-2:

- We put together a set of synthesis papers on the Indian Ocean and published them as a special issue of EGU Journals.
- Guest editors: Raleigh Hood and Hermann Bange
- Inspired by IIOE-2 Science Plan Research Themes
- 6 synthesis papers published

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**bg-2020-494** Submitted on 1 Jan 2021

**Reviews and syntheses**

**Reviews and syntheses: Trends in primary production in the Bay of Bengal – is it at a tipping point?**

Carole R. Llewellyn

**Abstract:**

We put together a set of synthesis papers on the Indian Ocean and published them as a special issue of EGU Journals.

**Handling Editor:** Viviane Monesio, v.monesio@whoi.edu

**Status:** Final responses (6G Discussions)

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**bg-2020-492** Submitted on 14 Jan 2021

**Ideas and perspectives**

**Ideen und perspektiven: Visions on the Indian Ocean and its role in the future**

Raleigh Hood

**Abstract:**

We put together a set of synthesis papers on the Indian Ocean and published them as a special issue of EGU Journals.

**Handling Editor:** Viviane Monesio, v.monesio@whoi.edu

**Status:** Final responses (6G Discussions)

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**os-2020-117** Submitted on 06 Jan 2021

**Review article**

**Plastics in the Indian Ocean – sources, fate, distribution and impacts**

Charlotta Pottsmith, Elke von der Weiden, Carsten Schröder, Shweta S. Samayamkari, Andreas Joss, Davide Hatzis, Rachel White, Nirmi Kumar, Michelle Fernandes, and Suneeth Wijenjith

**Abstract:**

We put together a set of synthesis papers on the Indian Ocean and published them as a special issue of EGU Journals.

**Handling Editor:** Viviane Monesio, v.monesio@whoi.edu

**Status:** Final responses (6G Discussions)

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**os-2021-1** Submitted on 04 Jan 2021

**Review article**

**Progress in understanding the Indian Ocean circulation, variability, air-sea exchange and impacts on biogeochemistry**

Helen E. Phillips, Anik Chatterjee, Ren Purcell, Raleigh Hood, Caroline Beerling, Jessica Benthien, Viviane Monesio, Shilin Hu, Ben Webster, Evangeline Sanchez-Franco, Deepak Chater, Emile Shreyes, Michaela Wijenjith, Abrakhane Chatterjee, Lian Yu, Juliette Herme, Raghu V. father, Yvonne Gosling, Daniel L. Su, Anind Singh, Luca Centurioni, Sabye Prakash, and Jerry Wiggett

**Abstract:**

We put together a set of synthesis papers on the Indian Ocean and published them as a special issue of EGU Journals.

**Handling Editor:** Viviane Monesio, v.monesio@whoi.edu

**Status:** Final responses (6G Discussions)

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**bg-2020-489** Submitted on 28 Dec 2020

**Reviews and syntheses**

**Reviews and syntheses: Indian Ocean Gas-Chemical Processes associated with upwelling in the Indian Ocean**


**Abstract:**

We put together a set of synthesis papers on the Indian Ocean and published them as a special issue of EGU Journals.

**Handling Editor:** Viviane Monesio, v.monesio@whoi.edu

**Status:** Final responses (6G Discussions)

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**acp-2020-718** Submitted on 17 Jul 2020

**Review article**

**Atmospheric gas-phase composition over the Indian Ocean**

Suneet Gooses, Chandra Madur, R. A. Singh, and Auroop S. Mahajan

**Abstract:**

We put together a set of synthesis papers on the Indian Ocean and published them as a special issue of EGU Journals.

**Handling Editor:** Rolf Müller, r.mueller@library.de

**Status:** Discussion (ACP Discussions)
Deep-Sea Research Special Issues on IIOE-2:

- We put together a set of special issues on IIOE-2 for publication in DSR II.
  > 50 papers published thus far.


- Guest editor team volumes 1 and 2:
  1. Raleigh Hood (rhood@umces.edu)
  2. Jerry Wiggert
  3. Lynnath Beckley
  4. Birgit Gaye
  5. Jerome Vialard
  6. Sunil Singh

- Guest editor team volumes 3 and 4:
  1. Raleigh Hood (rhood@umces.edu)
  2. Zouhair Lachkar
  3. Lynnath Beckley
  4. Birgit Gaye
  5. Jerome Vialard
  6. VVSS Sarma

- Volume 5 is focused on the 2019 R. V. Investigator Cruise along 110°E with Guest editors:
  1. Lynnath Beckley,
  2. Raleigh Hood
  3. Peter Thompson

- Volume 6 now with 11 manuscripts in various stages of review, revision and production. May 15, 2023 submission deadline.

- Application for volume 7 will be submitted.
We are putting together an interdisciplinary book of synthesis chapters on the Indian Ocean for publication as an Elsevier book.

Editors: Caroline Ummenhofer and Raleigh Hood

20 chapters, with all but two submitted and in various stages of review/revision/production:

1. Raleigh Hood et al., “Introduction”
2. Timothy Walker et al., “History of the Indian Ocean”
3. Andrew Turner et al., “Monsoon variability and its drivers”
5. Toshi Yamagata et al., “Climate phenomena of the Indian”
7. Charlotte Demott et al., “Indian Ocean intraseasonal variability”
8. Janet Sprintall et al., “Oceanic Interbasin connections”
9. Caroline Ummenhofer et al., “Indian Ocean impact on global climate”
10. Francis Marsac et al., “Indian Ocean primary productivity & fisheries variability”
11. Raleigh Hood et al., “Nutrient, phytoplankton and zooplankton variability in the Indian Ocean”
15. Faiza Al-Yamani et al., “Physical and biogeochemical characteristics of Indian Ocean marginal seas”
17. Toshi Shinodai et al., “Modeling the Indian Ocean”
18. Mahyar Mohtadi et al., “Paleo evidence to understand Indian Ocean variability across a range of timescales”
19. MK Roxy et al., “Future projections for the Indian Ocean”
20. Ming Feng et al., “Extreme events & impacts”
OUTREACH: Helping INCOIS with the THE INDIAN OCEAN BUBBLE

Bi-annual informal newsletter providing short articles contributed by scientists with a sustained interest in the Indian Ocean studies. To date, 13 issues have been published, with the eversions reaching out to nearly 1000 people.

OUTREACH: The IIOE-2 monthly newsletters

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, 50 issues of this Monthly Newsletter have been released and mailed to nearly 900 people.
IIOE-2 Metadata & Data Portal
Catalog of projects, cruises, moorings, datasets ...
Hosted at INCOIS (Hyderabad, India)

IIOE-2 Metadata Portal enables search and discovery of metadata of completed...
UPCOMING EVENTS

- IIOE-2 SSC will meet at INCOIS in Hyderabad, November, 28-30, 2023
  On the Future Road Map for IIOE-2

- 6th International Conference on Global warming on 4 to 7 december 2023 in the context of the UNFCCC/COP28 in the UAE

- INCOS is ITCOO Category-2 Center of Unesco for CD for the IO rim (IOR), African countries bordering the Indian and Atlantic Oceans and small islands countries. Provide infos & services to various sectors e.g. fishermen, disaster management, shipping, ports, coastal states, navy, coast guard, offshore industries for conducting day-to-day operations

- INCOIS endorsed as a UN Decade Collaborative Office (UNDCO)

- New adopted IOCINDIO sub-commission (19 Member States) (resolution A-32/1) during the GA on the IOC in June 2023 in Paris on the transformation of IOCINDIO sub-committee into an IOC sub-commission (+WESPAC, IOCAfrica, IOCARIBE)

-> Build upon IIOE-2 activities to create synergies with existing and future programmes in the central Indian Ocean
Thank You!