

Nick D'Adamo IIOE-2 Australia Node of Joint Project Office

IIOE-2 Steering Committee No 4, 12-15 April 2021 (virtual meeting via MS Teams, hosted JPO India).

Report, Day 1, 12 April 2021, Agenda Item 2

Day 1, 12 April 2021. Agenda Item 2.

Report on IIOE-2 SC3 Meeting (Port Elizabeth, March 2019): Nick D'Adamo (JPO) Australia Node. SC3 minutes taken as read (distributed prior to meeting).

IIOE-2 SC3 met under the auspices of the International Indian Ocean Science Conference 2019 (IIOESC 2019), at which the other aligned groups of IORP, SIBER, IOGOOS and IRF met.

- The minutes of the IIOE-2 SC3 meeting, Port Elizabeth, South Africa, have been widely disseminated, and finalised. They have been taken as being read.
- The final minutes are re-attached herewith (below) for ease of reference.
- IIOE-2 SC4 may endorse the minutes if no late changes are requested.

Note especially the decision from that meeting that IIOE-2 should be extended out to 2025. Steering Committee members aligned with science groups immediately indicated that they would continue to work for IIOE-2's mission, irrespective of institutional decisions to support or not the proposition.

- IOGOOS, at the Port Elizabeth IIOESC 2019, indicated support for that proposition.
- Soon after the meeting both IOC (at its 30th Assembly Session of 2019) and SCOR (at its annual meeting of 2019) joined IOGOOS in that sentiment to formally endorse the IIOE-2's continuance to 2025.

**Second International Indian Ocean Expedition
(IIOE-2)**

**IIOE-2 Steering Committee Meeting No 3
(IIOE-2 SC3)**

12-13 March 2019

DRAFT MINUTES

Nick D'Adamo revision (as at 20 Jan 2020)

of draft version of 0937AM 22nd Sep 2019

***For ratification at IIOE-2 Steering Committee 4, 12-15
April 2021***

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***Meeting venue: Nelson Mandela University - North
Campus Conference Centre, Port Elizabeth, South Africa***

General information

Co-Chairs of the Steering Committee and for this meeting were:
 Prof Peter Burkill, for SCOR as an IIOE-2 co-sponsor
 Dr Vladimir Ryabinin, for UNESCO IOC as an IIOE-2 co-sponsor
 Dr Satheesh Shenoi, for IOGOOS as an IIOE-2 co-sponsor

This Agenda remains available via
<http://www.iioe-2.incois.gov.in/IIOE-2/IIOESC2019.jsp>

All IIOE-2 sessions took place at the Nelson Mandela University - North Campus Conference Centre.

This IIOE-2 SC3 was part of an integrated package of aligned meetings under the banner of the *2019 International Indian Ocean Science Conference (IIOESC 2019)*, for which the full week's integrated meetings schedule and general logistics information were presented in the IIOESC 2019 Information Booklet (available at <http://www.iioe-2.incois.gov.in/IIOE-2/IIOESC2019.jsp>)

Sponsors providing support (funds and/or in-kind) were: Nelson Mandela University, IOC Perth Programme Office, Scientific Committee on Oceanic Research, Indian Ocean Global Ocean Observing System, SOLSTICE, Western Australian Global Ocean Observing System (WAGOOS Inc.)

All participants and related host personnel associated with this meeting provided their professional time as a contribution – for which they and their collective institutional patrons are gratefully acknowledged.

The meeting minutes are incorporated into the flow of the agenda by recording the discussions after each of the individual agenda items, and where there were action items generated from those discussions, the actions are shown adjacent in the right hand column.

Tuesday 12 March 2019

0800-0900	Registration	
0900-1030	<p align="center">SESSION 1</p> <p>Welcome on behalf of hosts / housekeeping - Prof Mike Roberts (5 mins)</p> <p>Presented by Nick D'Adamo. Welcomed all, and on behalf of Mike Roberts. Conveyed welcome and apologies at not being able to attend on behalf of Dr V Ryabinin (for IOC), noting that V Raybinin will present in this session by video link.</p> <p>Thanked: local co-host Nelson Mandela University (through Dr Andrew Leach (DVC Research) and facilitator of local hosting Dr Mike Roberts (SOLSTICE); British High Commission and Commissioner Nigel Casey for hosting the previous day's special events, including the reception and WIO robotics demonstrations at Nelson Mandela University Ocean Sciences Campus the evening prior (11 March 2019); the three principal co-sponsors of IIOE-2 in IOC, SCOR and IOGOOS, along with the Indian Government in providing the underpinning support for the Indian Node of the IIOE-2 Joint Project Office (JPO) and Australian Government (at Federal and Western Australian State levels) for the Australian JPO Node.</p> <p>Outlined that the background and motivation to having the SC3 meeting</p>	<p>Action 3.1 JPO India to include time duration of IIOE-2 Endorsed Projects in their IIOE-2 website postings.</p> <p>Action 3.2 JPO India to obtain metrics on how many hits the IIOE-2 receives, and to report this data from time to time (at least at SC meetings).</p> <p>Action 3.3 Generic to all IIOE-2 SC members, with JPO to facilitate information for. Try to engage in order to contribute for IIOE-2 in the India Decade planning workshop when</p>

<p>at Nelson Mandela University stemmed from the interest of the wider IIOSC community to hold one of the key IIOSC annual gatherings in the West Indian Ocean region in order to provide regional balance in terms of the location of the meetings, and in so doing to also promote scientific integration amongst the broadest IO community possible and facilitation of the showcasing of WIO capacities, interests and developments in ocean observations and related disciplines. These meetings also promote the building of relationships for knowledge transfer, creation of new research, the development and implementation of ideas for applying new knowledge and techniques, and the development of joint projects under IIOE-2 and complementary programs (eg IOGOOS, IOCINDIO, IORP, SIBER, IRF). Note was made that the wider IIOSC community was appreciative at the opportunity afforded by the location of the IIOSC 2019.</p> <p>Setting the meeting's agenda by IIOE-2 Co-Sponsors' reps – Peter Burkill for SCOR; Vladimir Ryabinin (TBC) for IOC; Satheesh Shenoi for IOGOOS (15 min total).</p> <p>Peter Burkill and Satheesh Shenoi presented in respect of their organizations' expectations for the meeting and for the IIOE-2 going forward. Their main points included reference back to the original rationale for setting the IIOE-2 at a 5-yr time frame, but with the IIOE-2 co-sponsors scientific community having maintained the objective of the IIOE-2 needing to be assessed towards its 5 year tenure in respect to the merits of continuing (say out to 2025). It was pointed out that this meeting will discuss IIOE-2 being extended, as a major meeting agenda item.</p> <p>PB emphasized that from his (for SCOR) perspective there has always been the feeling that a program such as IIOE-2 in reality would ideally need to run for 10, if not 15, years. He emphasized that SCOR's assessment of the extension proposition will occur formally at the 2019 SCOR Executive meeting (Sep 2019, Japan) and that it will focus on the quantity and quality of new science attributable to IIOE-2. In that regard, Peter Burkill indicated that SCOR was looking forward to assessing the growing number of science articles and major journal synthesis editions either already written or imminent, as overviewed and announced by the IIOE-2 science theme co-chairs at the SCOR-funded IIOE-2 science workshop in Kiel Germany during 3rd quarter 2018.</p> <p>Satheesh Shenoi's presentation was in the same spirit in respect to a prospective IIOE-2 extension, noting that the number of endorsed projects (many implemented and many imminent and planned) in themselves indicates substantial achievement. S Shenoi added that the IIOE-2 has taken on a further relevance since 2017 in that it now can also be regarded as a program that will make a material contribution to the UN Decade of Ocean Science for Sustainable Development 2021-30 (proclaimed by UN General Assembly on 6 Dec 2019). Satheesh also referred to the special event of the day before sponsored by the British High Commission (on WIO ocean science and related robotics developments; and SOLSTICE) which showed clearly that much has and will be achieved in alignment with the IIOE-2 Science Plan and IIOE-2 Implementation Strategy (including in terms of capacity development and the ECSN objectives).</p>	<p>it is confirmed.</p>
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Vladimir Ryabinin's address was via the keynote talk (below).

Report on IIOE-2 SC2 Meeting (Jakarta, 19-21 March 2018) - Nick D'Adamo (JPO) (10 min)

- General discussion on minutes of SC2. Plenary Q & A – chaired by one of the co-sponsors (TBA) (10 min)

The SC2 draft minutes (previously circulated) were accepted.

IIOE-2 Joint Project Office Report

- Australia JPO Node – N D'Adamo (5 min)
- India JPO Node – S Prakash (5 min)
- General discussion Q & A – chaired by one of the co-sponsors (TBA) (10 min)

The JPO reports were presented. Mention was made that Mika Odido (IOC Africa Secretariat office, Nairobi) would not be present. One minute of silence, as a mark of respect, was had in reference to the airline tragedy of 10 March (just before the meeting), involving some that were colleagues of UN staff in Nairobi.

“Any other business” was called for. Korean delegates sought a slot to present an update on Korea engagement in the IIOE-2, as did Joaquim Goes. Both were accepted and to be included at the appropriate point later in the agenda.

General Q&A.

- Greg Cowie requested that the time duration of endorsed projects be shown on the website, in order to indicate if and by how long past 2020 projects are set to run, to facilitate applications for projects that would run past 2020 by showing prospective funders that IIOE-2 is a going concern past 2020. This issue also links with the issue of this meeting resolving on the question of IIOE-2 duration past 2020. Generated an action item.
- Peter Burkill enquired as to whether metrics could be gathered on number of hits on the IIOE-2 website. Generated an action item.
- Lynnath Beckley sought confirmation that the results of consolidating the Science Theme and Working Group teams from 13 down to 3 would be shown on the website. This was confirmed by JPO India Node.

Keynote talk: *Update on UN Decade of Ocean Science for Sustainable Development 2021-30 and relevancy to IIOE-2 both now and beyond 2020* – Vladimir Ryabinin (TBC) (20 min)

- Q & A – chaired by Satheesh Shenoi (10 min)

IIOE-2 SC Co-Chair, Vladimir Ryabinin presented by video link. The presentation can be made available via JPO India. He referred to the success to date of the IIOE-2, as per other co-chairs' addresses earlier. Emphasised the role that an extended IIOE-2 would play in the UN Decade. Emphasised that the proposition for IOC to continue its sponsorship for an extended IIOE-2 would need to go to the IOC Assembly in June/July this year (2019). Vladimir referred to the UN Decade Executive Planning Group (EPG) being administered by IOC and

	<p>that it will meet to developed a framework for Decade planning at a meeting in Copenhagen in mid-May 2019.</p> <p>Raleigh Hood urged that IIOE-2 be well represented at that meeting, noting Vladimir would of course be there but that it would be good for other IIOE-2 SC constituents to participate.</p> <p>Peter Burkill noted that it would be constructive to identify a ‘big issue’ that IIOE-2 could contribute to the Decade. In response, and although not wishing to impose suggestions on the IIOE-2 science community, Vladimir indicated that furthering the science on key gaps in scientific understanding for Climate Change would fit well for a programme such as IIOE-2.</p> <p>Vladimir strongly encouraged the IIOE-2 to actively contribute to the planning for the Decade in this regard. He mentioned that there are plans for a series of ‘regional workshops’ to plan for the Decade, guided by the EPG framework (above). They will occur world-wide, with one set for India in early 2020, and that the IIOE-2 should and must play a key role in participating in that specific workshop. He further noted the importance of IOGOOS also providing input, especially in terms of the societal benefit to be derived from better science, linking to Blue Economy for example.</p> <p>Generated an action item.</p>	
1030-1100	Morning Tea	
1100-1230	<p style="text-align: center;">SESSION 2</p> <p>IIOE-2 National Committee Reports - delivered by National Committee chairs/ reps.</p> <p>Chaired by Satheesh Shenoi</p> <p>Each speaker 15 min presentation (Integrated Q&A at end of Session)</p> <p>Note: details on these talks are not presented here, as all talks are available for reference (ie on the website). Rather, salient points that came from any Q&A for each are given.</p> <ul style="list-style-type: none"> • Australia. Lynnath Beckley <p>‘Marine Heatwaves’ (as occur, for example, off Western Australia) were mentioned as an emerging issue in the IPCC assessment.</p> <ul style="list-style-type: none"> • France. Francis Marsac • Germany. Hermann Bange. <p>Hermann referred to the Kiel 30-11 to 2-12-18 IIOE-2 SCOR-sponsored science meeting hosted by GEOMAR and the report to come from that meeting. Generated an action item.</p> <ul style="list-style-type: none"> • India. Satheesh Shenoi <p>Roxy Koll asked for any update on India’s data policy (ie release of data) for data collected in its own EEZ. Satheesh replied data accessibility was improving. Nick D’Adamo suggested the Decade would provide an</p>	<p>Action 3.4 Hermann Bange to provide final report from IIOE-2 science planning meeting held 30-11 to 2-12-19 in Kiel Germany) (Host - GEOMAR, sponsor – SCOR).</p>

	<p>opportune high level (UN) forum to examine and try to improve data access etc for EEZs.</p> <ul style="list-style-type: none"> • Japan. Yukio Masumoto. 	
1230-1330	Lunch	
1330-1500	<p style="text-align: center;">SESSION 2 Cont...</p> <p>IIOE-2 National Committee Reports. Cont...</p> <ul style="list-style-type: none"> • South Africa. Ashley Johnson. <p>A Johnson reminded all that South Africa has significant large vessel capability that has already been used in major IIOE-2 surveys, and to remember to consider proposing collaborations in that context.</p> <ul style="list-style-type: none"> • UK. Greg Cowie <p>Greg Cowie made a specific point that it would be very helpful in the UK's case for proposals for IIOE-2 projects that would reach into the next decade and that could potentially be funded via UK bodies, it is critical that IIOE-2 be formally extended. This again refers to the later relevant agenda item.</p> <ul style="list-style-type: none"> • USA. Raleigh Hood <p>R Hood pointed to the USA committee having now self-organized and met, with the outcome a comprehensive engagement plan.</p> <ul style="list-style-type: none"> • Korea. Tae Kun-Rho. <p>Korea has a strong interest in the IO and wishes to engage materially with the SC, and will seek future projects to be endorsed and for Korean rep(s) to become members of the SC.</p> <p>Response to IIOE-2 National Committee Reports - are we delivering on the Implementation Strategy and supporting the Science Plan?</p> <ul style="list-style-type: none"> • Brief high-level response to talks by Satheesh Sheno, including plenary integrated Q&A (15) <p>A few issues that were highlighted:</p> <ul style="list-style-type: none"> • P Burkill asked if in light of the set of talks given, whether the SC thought that the Implementation Strategy needed to be revised in the context of an IIOE-2 that may continue post 2020? • S Sheno requested that projects deriving from Nat Comms be submitted for Endorsement, as many seem to not be as yet. • L Beckley highlighted that effort needs to be made to better address the AS and BoB, especially in terms of GO-SHIP, and that ND responded that some avenues for support and/or advocacy for that objective could lie in IORA, Gulf States, UN Decade regional planning (as will occur early 2020 in India for the IO). 	

	<ul style="list-style-type: none"> • A Johnson reminded all that in respect to advancing the science in the Southern Ocean, to bear in mind that SA's vessel Agulhas 2 can and does work in SO. • R Koll believed that the Nat Comms as a whole could become more inter-disciplinary, that research projects could look more for piggy back science on cruises, and that an endorsed project leader should as a matter of course email all other PIs to offer or explore opportunities for joint tasking, piggy-backing etc. Acknowledging that this could be time consuming, R Koll further suggested that perhaps ECSN members could play a role here in facilitating communications for this purpose. <p style="text-align: center;">SESSION 3</p> <p>Science Themes. Progress reports - delivered by ST team Chairs. Highlights only - referring to submitted background papers.</p> <p>Chaired by Raleigh Hood or Hermann Bange, Science Theme Coordinators</p> <ul style="list-style-type: none"> • Introduction/overview - Raleigh Hood and/or Hermann Bange (10 min) <p>R Hood presented a summary of progress since SC2.</p> <p>Each speaker 10 min presentation (integrated Q&A at end of session)</p> <ul style="list-style-type: none"> • ST1 Human benefits and impacts – Ben Milligan • ST2 Boundary current dynamics, upwelling variability and ecosystem impacts – P N Vinayachandran and Yukio Masumoto • ST3 Atmospheric and monsoon Variability and ecosystem response – Adrian Mathews and Joaquim Goes 	
1500-1530	Afternoon tea	
1530-1700	<p style="text-align: center;">SESSION 3 cont...</p> <p>Science Themes. Progress reports - delivered by ST team Chairs. Highlights only - referring to submitted background papers. (10 min each)</p> <ul style="list-style-type: none"> • ST4 Circulation, climate variability and ecosystem change – Amit Tandon and Helen Phillips • ST5 Extreme events and their impacts on ecosystems and human populations – Chari Pattiaratchi • ST6 Unique geological, physical, biogeochemical and ecological features of the Indian Ocean – Jerome Dymant <p>Members are referred to the PPTs - all presentations are available.</p> <p>Early Career Scientists Network (ECSN) (as a cross cutting research / capacity development element of IIOE-2)</p> <ul style="list-style-type: none"> • No presentation. Refer Session 1, JPO Australia Node Report paper. 	

	<p>Response to ST & ECSN talks / general discussion– are we delivering on the Science Plan?</p> <ul style="list-style-type: none"> • Brief high-level response to talks by Raleigh Hood or Hermann Bange (5 min) • Plenary integrated Q&A (15 min) <p style="text-align: center;">SESSION 4</p> <p>Working Groups. Progress reports - delivered by WG team Chairs. Highlights only - referring to submitted background papers.</p> <p>Chaired by Shailesh Nayak or Rajan Sivaramakrishnan, Working Group Coordinators</p> <ul style="list-style-type: none"> • Introduction/overview – Shailesh Nayak and/or Rajan Sivaramakrishnan (10 min) <p>Presented by S Nayak.</p> <p>Each speaker 10 min presentation (integrated Q&A at end of session).</p> <ul style="list-style-type: none"> • WG1 Tentative: WG1 Science and Research – Raleigh Hood / Hermann Bange (Note: input RE: WG1 Science and Research may defer to what has been presented in previous sessions –TBA) • WG2 Data and Information Management – Cynthia Chandler / Harrison Ong'Anda • WG3 Capacity Development – Behrooz Abtahi / Zainal Arifin <p>Housekeeping / announcements - Nick D'Adamo or Satya Prakash</p>	
Wednesday 13 March 2019		
0800-0900	Registration	
0900-1030	<p style="text-align: center;">SESSION 4 cont...</p> <p>Working Groups. Progress reports - delivered by WG team Chairs. Highlights only - referring to submitted background papers. (some of the talks in this session may be given in consolidated integrated presentations – to be advised).</p> <ul style="list-style-type: none"> • WG4 Operational Coordination – Shailesh Nayak / Rajan Sivaramakrishnan (10 mins). • WG5 Outreach and Communication – Faiza Al-Yamani (5 mins). • WG6 Translating Science for Society – Rezah Badal (5 mins) • WG 7 Resources and Sponsorship – Nick D'Adamo / Satya Prakash. (5 mins) <p>Members are referred to the PPTs - all presentations are available.</p> <p>Response to WG talks / general discussion– are we delivering on the Implementation Strategy and supporting the Science Plan?</p> <ul style="list-style-type: none"> • Brief high-level response to talks by Shailesh Nayak or Rajan Sivaramakrishnan. (5 min) • Plenary integrated Q&A (15 min) 	<p>Action 3.5. Core Group to meet and formalise the new WG structure, settle on Chairs by communication with existing chairs and where necessary nominate and facilitate new chairs, and develop ToR for the new WGs.</p>

	<p style="text-align: center;">SESSION 5</p> <p>Review of the ST/WG framework structure (Ref: briefing paper published in preceding IIOE-2 newsletters and disseminated ahead of meeting) (75 min)</p> <p>Chaired by Peter Burkill.</p> <ul style="list-style-type: none"> • Background on behalf of the Steering Committee Co-Chairs - Peter Burkill (15 min) • Plenary discussion (30 min) 	
1030-1100	Morning Tea	
1100-1230	<p style="text-align: center;">SESSION 5 cont...</p> <p>Consideration of simplification of the ST/WG framework structure. Cont...</p> <ul style="list-style-type: none"> • Plenary discussion (cont...) and resolution on the way forward (30 mins) <p>P Burkill referred to the Burkill et al (2019) article (as the essential background paper on this matter) published in the IIOE-2 Indian Ocean Bubble 2, Edition 10, Feb 2019. Notice on the article was disseminated ahead of meeting.</p> <p>The proposed restructure from 7 ST teams and 6 WG teams to three WGs only was endorsed, as per the paper prepared by P Burkill and as was prior circulated.</p> <p>Drawing from the content of the IO Bubble-2 article on this item, the following resulted from the discussion:</p> <p>The three new WGs will be called:</p> <p>WG1: Science and Research.</p> <ul style="list-style-type: none"> • To include the functions of the original six Science Themes. • Co-Chairs: Raleigh Hood and Hermann Bange. • Members = invite original chairs/co-chairs of the former Science Theme teams. <p>WG2: Data and Information Management.</p> <ul style="list-style-type: none"> • To include the function of the former Capacity Development WG. • Co-Chairs: Cyndy Chandler & Harrison Ong'Anda. • Members = Original WG Cap Dev co-chairs. <p>WG3: Operational Coordination, Outreach and Communication.</p> <ul style="list-style-type: none"> • To also include the functions of the following former WGs: <ul style="list-style-type: none"> • Outreach and Communication (with it having been agreed that this is to be part of the WG's title); • Sponsorship & Resources; and • Translating Science for Society. 	<p>Action 3.6. Nick Hardman-Mountford (for the Commonwealth Blue Charter and JPO (via N D'Adamo) to explore and establish collaboration between the Blue Charter and IIOE-2.</p>

	<ul style="list-style-type: none"> • This new WG will be invited to also handle Remote Sensing for IIOE-2, perhaps as a ‘task team’ within WG3. • Co-Chairs: Shailesh Nayak and Rajan Sivaramakrishnan. • Members = Invite original members of the former WGs. <p>Core Group. It was agreed that there will continue to be a ‘Core Group’ (as before). The Core Group (CG) will provide regular support to the SC as a whole by meeting more regularly (ie at approx. 2-3 mthly) than does the full SC and with secretariat support by JPO.</p> <p>The CG will support the full SC by discussing matters as they arise, and providing guidance and strategic input that can be taken back to annual SC meetings and, if and when required, disseminated as communications inter-sessionally to SC members.</p> <p>The CG will comprise:</p> <ul style="list-style-type: none"> • IIOE-2 Co-Chairs (as nominated by the three main sponsors [ie by IOC, SCOR, IOGOOS]); • WG1 Chair(s); • WG2 Chair(s); • WG3 Chair(s); and • Heads of the IIOE-2 JPO Nodes. <p>Action generated. CG to meet and formalise the new WG structure, settle on Chairs by communication with existing chairs and where necessary nominate and facilitate new chairs, and develop ToR for the WGs.</p> <p>In terms of the new WG structure going forward, a number of specific points were made by various delegates, as highlighted herewith:</p> <ul style="list-style-type: none"> • WGs should provide written updates (as summaries, and at least annually at SC meetings). • WGs to continue to ‘strongly’ encourage cruise related projects to make berths available for ECSN members. • For the IIOE-2’s 2nd phase (to 2025): introduce some metric based system to profile WGs’ achievements/progress. • From IOC’s perspective, ensure there is appropriate focus on issues such as gender balance, inclusion of ECSN, balanced regional engagement and balanced engagement between developed and less development marine scientific communities. • Do not forget the importance of promoting and facilitating ocean literacy in IIOE-2 going forward (especially at all undergraduate levels, noting as an example the long running SEREAD program for primary/high school students of the PIGOOS region). • Science for policy makers will continue to become increasingly important. • IIOE-2’s extended tenure out to 2025 will need to continue to focus on creating a legacy from IIOE-2, as was the case for the original IIOE of the 1960s (eg new scientific observational techniques, birth of NIO India etc). <ul style="list-style-type: none"> • This may be particularly relevant for the WIO (east African) region. 	
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- IIOE-2 out to 2025 and potentially beyond will play an important role in contributing to the UN Decade of 2021-30, and the UN Oceans Conference (Lisbon) of June 2020.

SESSION 6

Progress reports. IOC regional bodies (contributions to IIOE-2 through IOC Regional Bodies)

Chaired by Vladimir Ryabinin (TBC)

Each speaker 10 min presentation (integrated Q&A at end of talks)

- **IOC AFRICA** – Johnson Kazungu (10 min)

Note: Mika Odido was not able to be present due to having remained in Kenya, following the recent airline tragedy, Nairobi.

Members stopped for 1 min silence as condolence.

N D'Adamo presented on M Odido's behalf (for IOC Africa).

- **IOC WESTPAC** – Kentaro Ando or Somkiat Khokiattiwong (10 min)

No presentation. Seek post meeting.

- **IOCINDIO** – M Atmanand (10 min)

Presented by IOCINDIO Chair, M Atmanand.

Q&A – general points from the discussion:

- IOCINDIO encouraged to engage in the IIOSC 2020, Goa, India, March 2020.
- RE: Goa 2020, try to have UN Oceans Envoy, Peter Thompson, present to give a keynote on the Decade, in conjunction with V Ryabinin. This was for noting by S Sheno.
- Interest in establishing a collegiate link between the Commonwealth Blue Charter program and that of IIOE-2, potentially by having reps from both on each other's meeting structures.

Action generated. Nick Hardman-Mountford (for the Commonwealth Blue Charter and JPO (via N D'Adamo) to explore and establish collaboration between the Blue Charter and IIOE-2.

Response to IOC Regional Bodies talks - are we delivering on the Implementation Strategy and supporting the Science Plan?

- Brief high-level response to talks by Vladimir Ryabinin (TBC) and plenary integrated Q&A (10)

SESSION 7

Contingency Session to allow for IIOE-2 Endorsed Projects or new initiative presentations not yet covered in previous sessions.

	<ul style="list-style-type: none"> • West Indian Ocean Upwelling Research Initiative (WIOURI) – Mike Roberts (10 min). • Nekton – Nick Hardman-Mountford (10 min) <p>Presentations given.</p>	
1230-1330	Lunch	
1330-1500	<p style="text-align: center;">SESSION 7 cont...</p> <p>Contingency Session to allow for IIOE-2 Endorsed Project or new initiative presentations not yet covered in previous sessions.</p> <ul style="list-style-type: none"> • Oceanographic drivers of ecosystem variability in the Chagos Archipelago: <i>Conservation strategies for biodiversity hotspots and safe havens in a changing climate</i> - Phil Hosegood (10 min) • Update on Indian Ocean studies by KIOST, Republic of Korea - TaeKeun Rho - (10 min) <p>Presentations given.</p> <p>A few points to mention from the general plenary open discussion.</p> <p>L Beckley suggested IIOE-2 making a collegiate link with the Association of Commonwealth Universities.</p> <p>Action generated. JPO (N DAdamo) to contact Association of Commonwealth Universities and invite a link and explore potential mutual objectives and related actions with IIOE-2 (through SC representation).</p> <p style="text-align: center;">SESSION 8</p> <p>Continuing IIOE-2 beyond 2020. (20 mins)</p> <ul style="list-style-type: none"> • General plenary discussion and formulation of a resolution – chaired by Satheesh ShenoI. <p>S ShenoI presented the case (that he noted had been building since IIOE-2's inception) for continuing IIOE-2 into the next decade referring to (i) its clear scientific achievements aligned to the Science Plan as has been and continues to be evident via the related science presentations and related references through this and prior SC meetings, (ii) the endorsed projects that we know will span either side of the end date of the current IIOE-2 phase (ie +/- 2020), (iii) the likely projects that will emerge for that same span in time and beyond, (iv) the fact that we already know that much data processing, analysis and related scientific analysis and publication will continue into the next decade in respect to current endorsed IIOE-2 projects and initiatives, and (v) the now obvious role that we know IIOE-2 can play as a functioning relevant initiative to contribute in a closely aligned manner in the now proclaimed (6 Dec 2017) UN Decade of Ocean Science for Sustainable Development 2021-30.</p> <p>S ShenoI urged that the IOC's current scientific constituency (ie as</p>	<p>Action 3.7. JPO (N D'Adamo) to contact the Association of Commonwealth Universities and invite a link with IIOE-2 (through SC representation) and to then explore mutual objectives and potential joint project ideas.</p> <p>Action 3.8. V Ryabinin, P Burkill and S ShenoI, for IOC, SCOR and IOGOOS, respectively) facilitated by the JPO.</p> <p>In respect to the issue of IOC, SCOR and IOGOOS continuing their support and Steering Committee Co-Chairing and Co-Sponsorship roles for IIOE-2, the relevant IOC, SCOR and IOGOOS representative Co-Chairs (V Ryabinin, P Burkill and S ShenoI, respectively) will take the resolution of the IIOE-2's 3rd Steering Committee meeting (ie being to continue to support IIOE-2 to at least 2025) back to their own host organizations and advocate for those organizations to continue to co-sponsor and support IIOE-2 out to at least 2025, seamlessly and as they have done for the initial 2015-20 phase of IIOE-2.</p> <p>Action 3.9. S ShenoI to contact the IIOE-2 JPO</p>

<p>represented through increasingly expanding SC) and its three co-sponsors (IOC, SCOR, IOGOOS) agree to IIOE-2 continuing to at least 2025.</p> <p>The matter was then open to the floor in plenary.</p> <p>The key points from the plenary are summarized as follows.</p> <ol style="list-style-type: none"> 1. The discussion quickly converged to being unanimously positive. 2. Raleigh Hood suggested that the IIOE-2 SC's scientific constituency (notwithstanding the issue of obtaining the three sponsors' commitments) agree without further delay that the IIOE-2 clearly needs to, and should, continue and that irrespective of how or whether the sponsors did or did not continue to oversee the IIOE-2 in the current form, the IIOE-2's scientific constituency, as a productive and functioning 'alliance', should continue to stay together and support the IIOE-2, seamlessly and as it is currently doing. 3. R Hood's suggestion was unanimously supported, and underpinned by the following adopted resolution: <p style="text-align: center;"><i>Resolution of IIOE-2 Steering Committee, Meeting No 3, 12-13 March 2018</i></p> <p style="text-align: center;"><i>The IIOE-2 International Steering Committee, chaired by representatives of IOC, SCOR and IOGOOS, and comprising a diverse multi-national constituency, agreed to continue the mission of the IIOE-2 out to at least 2025, in order to build on the significant scientific achievements of IIOE-2 to date, the extension that will occur of many current and imminent major IIOE-2 research initiatives into the next decade, the expected emergence of many new major scientific initiatives well into the next decade strongly aligning with the IIOE-2 Science Plan, and in light of IIOE-2's clear alignment, relevancy and potential to make an important and substantive contribution to the UN Decade of Ocean Science for Sustainable Development 2021-30.</i></p> <p>Action generated.</p> <p>In respect to the issue of the IOC, SCOR and IOGOOS continuing their support and SC oversight roles for IIOE-2, the relevant IOC, SCOR and IOGOOS representative Co-Chairs (V Ryabinin, P Burkill and S Sheno, respectively) were tasked with taking the resolution and underpinning motivation back to their organizations and advocating for those organizations to continue to co-sponsor and support IIOE-2 out to at least 2025, seamlessly and as they have done for the 2015-20 phase of IIOE-2.</p> <p>There was some further discussion in plenary, resulting in a few key points, as follows.</p> <ul style="list-style-type: none"> • Given that it is now clear that IIOE-2 will continue, it may need to be re-framed, or at least its framework be considered and updated if necessary. • In respect to the continuing IIOE-2 (to 2025+), an issue will be whether the IIOE-2's current scientific framework needs to be updated in light of contemporary issues requiring attention in 	<p>and relevant IIOE-2 co-chairs, and other group leaders from IOGOOS, IIOE-2, IORP, SIBER, IRF and IOCINDIO, as planning for the IIOESC 2020 event (March 2019, Goa, India) ensures via organizing committee meetings.</p>
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	<p>addition to those addressed by the current Science Plan and Implementation Strategy, respectively. To this end, it was suggested that science planning workshops to examine any new needs be considered.</p> <ul style="list-style-type: none"> • The IIOSC 2020 Goa science symposium will clearly act as a platform for a continuing IIOE-2, and should be promoted as the 'beginning of something new', in respect to IIOE-2 and not be promoted as the 'end' of anything. • Also in light of IIOE-2 continuing, it is important that the Ocean Obs '19 (Honolulu, Sep 2019) conference has IIOE-2 profiled in the context of the IIOE-2's Indian Ocean and global relevancy and contribution to GOOS. <p style="text-align: center;">SESSION 9</p> <p>Major Indian Ocean Science Symposium 2020 (to include a focus on IIOE-2) planned for March 2020, Goa, India (15 mins)</p> <ul style="list-style-type: none"> • Status report on hosting, planning etc. and plenary Q & A – chaired by Satheesh Shenoi. <p>Noting that many references to the IIOSC 2020 Goa science symposium had already been made throughout the meeting, S Shenoi confirmed in this Session that India will host IIOSC 2020 as a major science symposium for the Indian Ocean and that IIOE-2 SC4 and complementary meetings of IOGOOS, IORP, SIBER, IRF and IOCINDIO will also come under the hosting offer.</p> <p>Action generated. S Shenoi to contact the IIOE-2 JPO and relevant IIOE-2 co-chairs, and other group leaders from IOGOOS, IIOE-2, IORP, SIBER, IRF and IOCINDIO, as planning for the IIOSC 2020 event (March 2019, Goa, India) takes via organizing committee meetings.</p> <p style="text-align: center;">SESSION 10</p> <p>Any other business (5-25 mins) TBA</p> <p>None.</p> <p>Closing comments by Co-Chairs (TBA) of SC (10 mins) TBA</p> <p>Given.</p> <p>Next meetings, see above in relation to IIOSC 2020, Goa, India, March 2020.</p>	
1500-1530	Afternoon Tea / end of meeting	

Consolidated List of Action Items from the 3rd Steering Committee Meeting of IIOE-2, 12-13 March 2019.

Action 3.1. JPO India to include time duration of IIOE-2 Endorsed projects in their IIOE-2 website postings.

Action 3.2. JPO India to obtain metrics on how many hits the IIOE-2 receives, to report from time to time (at least at SC meetings).

Action 3.3. Generic to all IIOE-2 SC members, with JPO to facilitate information for. Try to engage in order to contribute for IIOE-2 in the India Decade planning workshop when it is confirmed.

Action 3.4. Hermann Bange to provide final report from IIOE-2 science planning meeting held 30-11 to 2-12-19 in Kiel Germany) (Host - GEOMAR, sponsor – SCOR).

Action 3.5. Core Group to meet and formalise the new WG structure, settle on Chairs by communication with existing chairs and where necessary nominate and facilitate new chairs, and develop ToR for the new WGs.

Action 3.6. Nick Hardman-Mountford (for the Commonwealth Blue Charter and JPO (via N D’Adamo) to explore and establish collaboration between the Blue Charter and IIOE-2.

Action 3.7. JPO (N D’Adamo) to contact the Association of Commonwealth Universities and invite a link with IIOE-2 (through SC representation) and to then explore mutual objectives and potential joint project ideas.

Action 3.8. V Ryabinin, P Burkill and S Sheno, for IOC, SCOR and IOGOOS, respectively) facilitated by the JPO. In respect to the issue of IOC, SCOR and IOGOOS continuing their support and Steering Committee Co-Chairing and Co-Sponsorship roles for IIOE-2, the relevant IOC, SCOR and IOGOOS representative Co-Chairs (V Ryabinin, P Burkill and S Sheno, respectively) will take the resolution of the IIOE-2’s 3rd Steering Committee meeting (ie being to continue to support IIOE-2 to at least 2025) back to their own host organizations and advocate for those organizations to continue to co-sponsor and support IIOE-2 out to at least 2025, seamlessly and as they have done for the initial 2015-20 phase of IIOE-2.

Action 3.9. S Sheno to contact the IIOE-2 JPO and relevant IIOE-2 co-chairs, and other group leaders from IOGOOS, IIOE-2, IORP, SIBER, IRF and IOCINDIO, as planning for the IIOE-2 2020 event (March 2019, Goa, India) ensures via organizing committee meetings.

Participants and attendance record

IIOE-2 SC3, 12-13 March 2019, Nelson Mandela University, Port Elizabeth, South Africa

Compiled by Nick D’Adamo, Australia Node of the IIOE-2 Joint Project Office

For further reference: nick.dadamo@bom.gov.au

Participant	Tuesday 12 March 2019	Wed 13 March 2019
Alexander Beaton	Attended	
Angus Paterson	Attended	Attended
Ashley Johnson	Attended	Attended
Bernadino Maaue	Attended	Attended
Daniel MacGregor	Attended	
David Pearce	Attended	Attended
Dong-Jin Kang	Attended	Attended
Francis Marsac	Attended	Attended
Gilbert Siko	Attended	Attended
Greg Cowie	Attended	Attended
Helen Phillips	Attended	Attended
Indi Hodgson-Johnston	Attended	Attended
Jeremy Sitbon	Attended	Attended

Jerome Dyment	Attended	Attended
Jerry Wiggert	Attended	Attended
Jing Li	Attended	Attended
Joaquim Goes	Attended	Attended
Jordon Van Stavel	Attended	
Juliane Wihsgott	Attended	
Juliet Hermes	Attended	Attended
Justin Avanzano	Attended	Attended
Katya Popova	Attended	
Kevin Horsburgh	Attended	Attended
Lisa Beal	Attended	Attended
Lisan Yu	Attended	Attended
Louise Lange	Attended	Attended
Lynnath Beckley	Attended	Attended
M A Atmanand	Attended	Attended
Matthew Palmer	Attended	
Michael Landry	Attended	Attended
Michael Roberts	Attended	Attended
Mika Odido	Attended	Attended
Nagaraja Kumar Masuluri	Attended	Attended
Nick D'Adamo	Attended	Attended
Nick Hardman-Mountford		Attended
Nicole du Plessis	Attended	
Nuette Gordon	Attended	Attended
P N Vinayachandran	Attended	Attended
Peter Burkill	Attended	Attended
Phil Hosegood	Attended	Attended
Raleigh Hood	Attended	Attended
Roxy Koll	Attended	Attended
Ryan Palmer	Attended	
Sabrina Dyal	Attended	Attended
Satheesh Shenoi	Attended	Attended
Satya Prakash	Attended	Attended
Sofia Alexiou	Attended	
TaeKeun Rho	Attended	Attended
Terence Sloane	Attended	Attended
Yukio Masumoto	Attended	Attended

The screenshot shows a web browser window with the URL <https://iioe-2.incois.gov.in/IIOE-2/IIOSC2019.jsp>. The page title is "IIOSC Conference Documents". There are three navigation buttons: "IIOE-2018 Meeting Minutes", "Photo Gallery", and "Background Papers". A search bar is present with the text "Search Term". Below the navigation is a table with the following data:

S.No.	Description	Download
01	Information Booklet Last updated on 28/Feb/2019 08:00hrs (IST)	
02	IIOE-2 Steering Committee Meeting Final Agenda Last updated on 11/Mar/2019 06:00hrs (IST)	
03	9 th Annual Meeting of the Indian Ocean Observing System (IndOOS) Resource Forum (IRF-9) Agenda Last updated on 22/Feb/2019 03:12hrs (IST)	
04	IIOE-2 Highlights Brochure (Final Draft Version) Last updated on 11/Mar/2019 12:30hrs (IST)	
05	9 th Annual Meeting of Sustained Indian Ocean Biogeochemistry and Ecosystem Research (SIBER) of IMBER/IOGOOS Last updated on 06/Mar/2019 09:20hrs (IST)	
06	15 th Annual Meeting of Indian Ocean Global Ocean Observing System (IOGOOS) Provisional Agenda Last updated on 06/Mar/2019 17:25hrs	
07	Closing Press Statement Last updated on 16/Mar/2019 17:00hrs	

Resolution of IIOE-2 Steering Committee, Meeting No 3, 12-13 March 2019

The IIOE-2 International Steering Committee, chaired by representatives of IOC, SCOR and IOGOOS, and comprising a diverse multi-national constituency, agreed to continue the mission of the IIOE-2 out to at least 2025, in order to build on the significant scientific achievements of IIOE-2 to date, the extension that will occur of many current and imminent major IIOE-2 research initiatives into the next decade, the expected emergence of many new major scientific initiatives well into the next decade strongly aligning with the IIOE-2 Science Plan, and in light of IIOE-2's clear alignment, relevancy and potential to make an important and substantive contribution to the UN Decade of Marine Science for Sustainable Development 2021-30.