

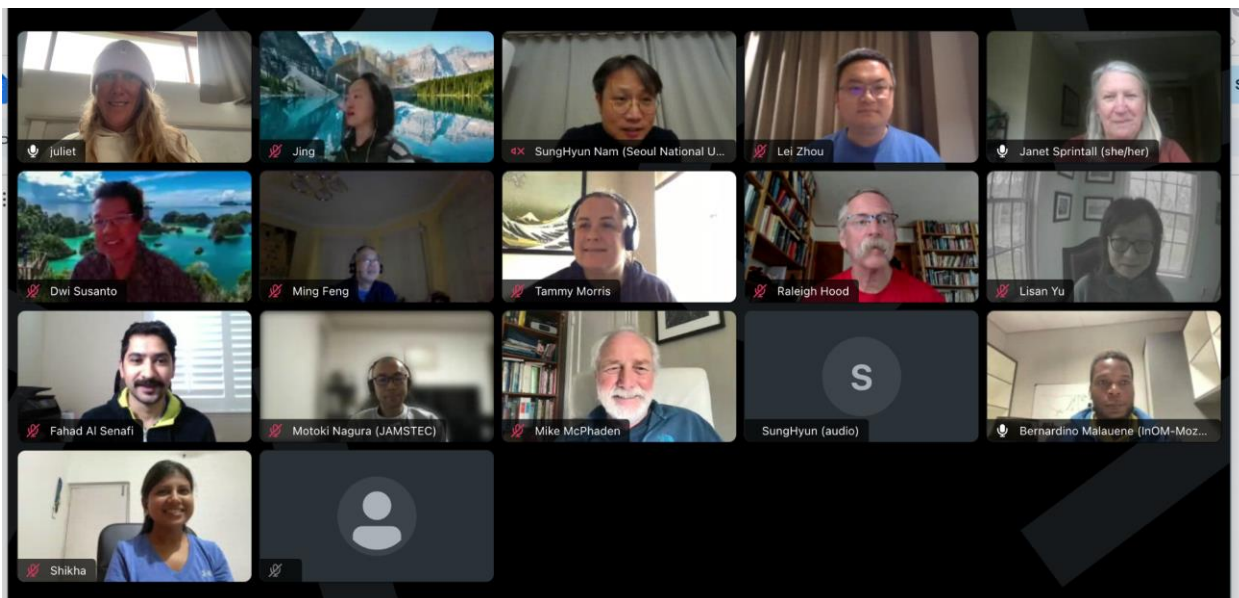
IORP telecon Notes

Time: 12 April 2023, 14:00-15:15 GMT

Attendees: Juliet Hermes, Janet Sprintall, Bernadino Malauene, Dwi Susanto, Fahad Al Senafi, Lei Zhou, Lisan Yu, Mike McPhaden, Motoki Nagura, Shikha Singh, SungHyun Nam, Tammy Morris, Ming Feng (invited), Raleigh Hood (invited), Jing Li (ICPO)

Cannot attend: Marie Alexandrine Sicre, Birgit Gaya, Eluri Pattabhi Rama Rao, Nick Hardman-Mountford, Srinivasa Kuma

Recording is available [here](#).



1. Introduction to all members (perhaps include some scope as to what people feel their role can be within IORP)

- **Dwi Susanto:** Uni Maryland, physical oceanographer, interested in Indonesia Throughflow (ITF).
- **Fahad Al Senafi:** Kuwait Uni, in situ focus, northern Arabian gulf, very hands on including calibration.
- **Janet Sprintall:** Scripps, phys ocean, ITF impact heat and freshwater transport. Also joined the US/Indian project - ASTRAL/EKAMSAT to look at the impact of the mini warm pool in the Southeast Arabian sea on the monsoon of India.
- **Juliet Hermes:** SAEON, In situ obs + numerical modeling, IO, Agulhas current region.
- **Lei Zhou:** Shanghai Jiao Tong Uni., Phy oceanographer, tropics air-sea interaction, ITF, MJO - the intraseasonal variability through the IO. Representing China and look forward to cooperating on IO observations.
- **Lisan Yu:** WHOI, fluxes and air/sea interactions, a high-res new global fluxes is to be released, look into the reason of surface warming in the IO. Lisan was involved in the first

designs of RAMA. She is involved in SOLAS, serving as a member of SSC on behalf of WCRP/CLIVAR. SOLAS SSC will meet next month.

- **Mike McPhaden:** NOAA, phys ocean, chief scientist of RAMA.
- **Ming Feng:** CSIRO, was on IORP 8 years ago, here on invite, MHW, XBT lines etc.
- **Motoki Nagura:** JAMSTEC, phys ocean, mid lat circulation, moorings and Argo floats.
- **Raleigh Hood:** Maryland Uni. first biogeochemist on this panel (no longer on the panel!), BGC modeling, very keen on motivating and sustaining interactions between phys ocean/IORP and BGC research community/SIBER.
- **Shikah Singh:** IITM, phys ocean, upper ocean mixing processes and numerical modelling, machine learning methods, ECR member of IORP.
- **SungHyun Nam:** Seoul Nat. Uni., phys ocean from Seoul university, representing the Korean community, interested in tropical western parts (SCTR), KUDOS program (Korea and US) and KIOS to enhance *in situ* observations in the SCTR, recently deployed instruments in its centre.
- **Tammy Morris:** SAWS, boundary currents, also co-leads GOOS co-design exemplar on boundary currents, Agulhas Current as pilot region. Also part of OOPC.
- **Bernadino Malauene:** Moz oceanographic institute and NMU, phys ocean focussed on ecosystem functioning.

2. Action items from [IORP-19](#) and any on-going from IORP-18 (Juliet and Janet)

IORP19 Action 5: To follow up on the CLIVAR-GOOS workshop report/paper.

- Report is half way done ([link](#)).
- Support ECS to write papers after workshops - Juliet to reach out to Lisa for someone (Franck) to do this as part of the CLIVAR/GOOS Trieste workshop.

Action 1: Juliet to email Lisa, Weidong (Janet and Jing) to find out what further needs to be done, we will need to start the article for the ECR to complete.

IORP 19 Action 7: To follow up with Antonietta for the connection to WCRP Academy LHA for the MHW Summer School.

Action 2: Janet and Shikah to follow up with Antonietta on this. Jing will write to WCRP activity summarizing capacity development activities from 2022 and this will also highlight upcoming summer schools.

IORP 19 Action 8: Shikha to look into some platforms and resources needed for promoting ECS interactions. & **Action 9:** To call for the 3rd Meeting of IO Ambassador (ECS TT).

Looking into platforms for ECR actions, summer school also involves having events before summer school (see section e)

IORP 19 Action 10: To bring the science-to-policy idea to CLIVAR SSG and promote it as a cross-panel activity (see section 3).

IORP-18 Action: Marie-Alexandrine to follow up with IIOE-2 ECR to discuss ECR published papers and see how we can promote them e.g., within *CLIVAR Exchanges*.

Action 3: ECS could be more actively engaged in the workshop report/paper writing, as well as to highlight their research as CLIVAR science highlight or in the CLIVAR Exchanges. (For example: [Science Highlight](#))

3. TT update (eg boundary currents; how can we activate science to society TT, perhaps bring in people from IIOE-2 (Marie Alexandrine could assist with this) and leverage from UWA article)

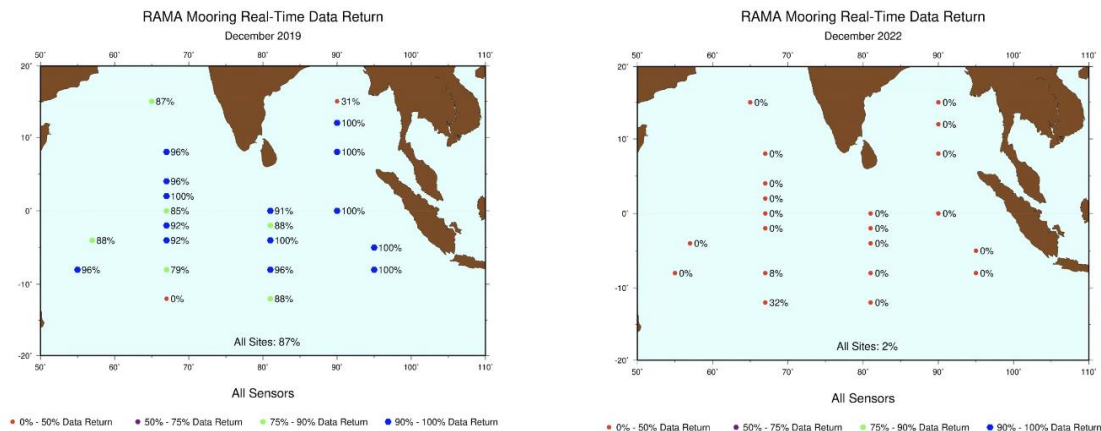
- No volunteers for any new TT, but people will think about it.
- More efforts will be made to activate the IORP science-to-society TT if there is a champion on the IORP to take this on. Asked members to consider what other TTs we might form around areas of common interest. Some interest was expressed about a boundary current focus, but perhaps that might overlap with existing efforts such as the WCRP Exemplar on BCs and the OOPC BS-TT.

Action 4: IORP members consider future Task Teams to be formed of common interest (Boundary current, science-to-society, etc.)

4. BAMS update (can we drive this further to develop impact studies, eg paper on tropical moorings) (Janet)

The 1st draft of the BAMS article for reviewing the COVID impacts on IndOOS has been prepared and is being reviewed by authors. Further inputs on the impacts on modeling with sensitivity studies, satellite validation and etc. will not be included in this article but IORP hopes to engage with OOPC and the boundary current team to develop work on this. An idea that came from this was to look for funding for an IORP Postdoc to work on this. Tammy Morris also mentioned the [SynObs](#) project and perhaps making use of the output of these OSE and OSSE's to understand the impact of ocean observations on the Indian Ocean. E.g. comparing the no observation run against say the full observation run as a brief example. Tammy contacted SynObs leaders Yosuke Fuji and Elisabeth Remy and they shared the [SynObs flagship OSE guidelines](#) among IORP requesting inputs for variables, etc. Encourage the IORP funded postdoc to conduct some of the analysis of the model runs over the next year.

[Slide](#) provided by Mike shows how much we've lost in RAMA and highlights the importance of documenting this. Some discussions highlighted the challenges as well as future opportunities to reactivate IndOOS:



Status of RAMA (Dec 2019 VS Dec 2022)

- There are permanent losses of the records, with dramatical impacts.
- The satellite data also needs to be validated by mooring buoys (Lisan).
- Funds from the US bilateral infrastructure law to fund RAMA. R/V Isabu is scheduled for next month to go from Mauritius to Maldives to service and redeploy buoys. An Indian R/V cruise is scheduled in July.
- Lei could potentially do some modeling work on the impact of RAMA on modeling. He may also seek support from China to contribute to RAMA. Need to talk with his colleagues first, before the end of this week.
- Fahad: What are the solutions for a more sustainable source of funding? Can more countries collaborate to support this, perhaps through IOC agreement?
- Mike: We have a multinational consortium to support RAMA, and the main source of buoys is Mike's lab in Seattle, but ship time comes from partner countries, e.g. India, Korea, Indonesia. However, the buoys need to be regularly serviced and during COVID that caused the issues. A longer lived mooring would be a technological advance we would benefit from. It is the sensor calibration that is also an issue. More autonomous measurements will make the observing system more robust. But even Argo suffered during COVID.
- Tammy: Big gaps in WIO for Argo due to COVID.
- Fahad: He has multiple institutes in Saudi Arabia, including Kuwait Navy for diving and ship's time. He is happy to help coordinate with the nations to support the RAMA extension to the Gulf.
- Juliet: Perhaps Fahed should sit in on the next IRF.

Action 5: *To look for funding for an IORP Postdoc to work on impacts of on modeling as the consequence of data loss of IndOOS due to COVID, with sensitivity studies (e.g. to compare the model run outputs), satellite validation etc.*

Action 6: *To have a separate conversation among Lei, Mike, Janet and Juliet regarding doing some modelling of impacts.*

Action 7: Mike and Fahed to further look at expanding RAMA into the Gulf.

Action 8: Tammy will contact Yusoki to engage further with SynOps (including Janet, Juliet and Mike), perhaps we can provide driver questions.

5. MHW Summer School update (Shikha)

All are underway and will implement the SDA² framework to ensure that the ECRs end up with deliverables. Icebreaking will take place before summer school. To involve more ECR groups we are going to involve them in pre seminars, either as an instructor or as a part of it.

6. ECR Activities (Shikha and Fahad)

- a. Meeting of mega-ECR capacity building groups interested in IO? i.e., IO Ambassador, SDA² Framework, IO modellers group)?
 - Still a challenge to do this, Shikha will think more about it. Maybe they can participate in the SOLAS meeting.
- b. At IORP-19 Fahad introduced the societal impacts and capacity development activities, which aim to create the large-scale learning and training environment that encompasses multidisciplinary, theoretical, and hands-on opportunities with state-of-the-art technology for scientists at different career stages. Synergies with the IO Ambassadors group?
 - Kuwait has several universities involved in training on buoys including wirewalkers, looking at getting more people engaged in this.
 - Shikah: Here and the SOLAS thing, maybe we can think of a way to bring all the groups working on IO together.
- c. From Lisan Yu (11 April): "SOLAS Open Science Conference 2024, scheduled for mid November 2024 in Goa, India. I have recently been appointed as the WCRP representative for the [SOLAS](#) SSG, and one of the highlighted events being planned is the EC day before and during the conference. I believe this ECR event, along with the conference venue, provides an excellent opportunity for the IORP ECR group to actively engage with the wider SOLAS scientific community. Would you be interested in adding it to the meeting agenda? If so, please feel free to share your suggestions with me. I will ensure to include your input in the SOLAS SSG meeting next month."
 - Jing: We used to invite representatives from SOLAS Indian Ocean Programme to attend our IORP panel meeting, and may engage with this group for leveraging future CLIVAR-SOLAS collaboration.

Action 9: Shikah to follow up with Lisan regarding organizing ECR side events along the SOLAS Open Science Conference in 2024.

7. OOPC update (Tammy)

- OOPC has a boundary current TT. Janet is interim chair of this BS-TT.

- A summary paper written by the BS-TT on 6 boundary current systems to identify commonality, and subtle differences, how the obs can be established, some of them are from a stakeholder perspective.
- Joint panel meeting with OOPC, AOPC and TOPC in June to look at cross-cutting issues (e.g., air-sea flux) but also having annual meetings of each group.
- Janet - OOPC TT have been active but it has been a slow process.
- Enhance CLIVAR-GOOS interaction, and ensure IORP is well presented in GOOS and OOPC.
- Argo community in the IO.
- Jing - a CLIVAR-OOPC joint discussion was organized in March 2023 ([news](#)):

8. 2023 WCRP OSC (22-28 October 2023; Rwanda)

- Abstract on COVID impact on IndoOS has been submitted by Janet.
- Juliet or/and Janet from IORP are planning to attend WCRP OSC 2023.

9. Any suggestions for CLIVAR exchanges articles or any new science (especially from ECRs and your students) we need to publicize?

- Lisan - SOLAS meeting has a lot of synergies with the Indian Ocean, should we reach out to SOLAS for joint TT, also for next year how can we connect to the ECR group.
- The ECR group has been quiet.
- Shikha - they did have a meeting in Perth with IIOE2 and there was also YESS.

Action 10: *Lisan to keep us updated about SOLAS. And may help connect Shikha with SOLAS ECS network.*

10. For future meeting:

Let's start listing meetings attended and papers published so we can accumulate for the annual report ([IORP 2022 annual report](#)). Also perhaps a second list of meetings we plan to attend in the next 1-2 years to explore potential meetings where we might have an in person IORP meeting.

Action 11: *Juliet/Jing/Janet to set up a working document for a list of meetings, papers etc.*

The following issues are not covered and are noted here for the next meeting

- a. WCRP GPEX - invite Charlotte deMott to talk to us. She has volunteered to coordinate with us to improve links to The CLIVAR/GEWEX Monsoons Panel
- b. How to link better to WCRP LHAs - This should be part of the MHW-SS.

Action 12: *Shikha and Janet should follow up with Antonietta who is part of the LHA committee.*