Monday 30\textsuperscript{th} Jan, AM (IndOOS Review workshop: IOP/SIBER/IO-GOOS/IRF)

Day 1: IOP and SIBER panel members and invited speakers will give broad review talks on the essential science questions and societal needs for Indian Ocean observations.

08h30-08h45: General introduction and objectives of the workshop
• Sustainable Indian Ocean observations (IndOOS): Why are we doing an IndOOS review and how are we going to proceed? (Lisa Beal and Jerome Vialard, IORP co-chairs)

08h45-10h45: Scientific drivers: IO coupled modes of variability (Rapporteur: Weiqing Han)
• Interannual climate variability and its role for climate forecasting (Harry Hendon, BOM)
• Effect of IO on monsoons and rainfall and future ocean observation needs from a monsoon/rainfall research perspective (Caroline Ummenhofer, WHOI, with inputs from A. Turner & H. Annamalai)
• The Madden-Julian oscillation and monsoon active-break phases, and their impact on the ocean (Toshiaki Shinoda, TAMU)
• Air-sea interaction over the Eastern Indian Ocean and meridional circulation from observations (Takanori Horii, JAMSTEC)

11h15-12h30: Scientific drivers: oceanic variability and change (Rapporteur: Ming Feng)
• Natural decadal variability of the Indian Ocean (Jerome Vialard, IRD)
• Indian Ocean response to climate change (Roxy Matthew Koll, Indian ITM)
• Rapid changes in boundary currents and implications for IO heat transport and overturning (Lisa Beal, U. Miami)

Monday 30\textsuperscript{th} Jan, PM (IndOOS Review workshop: IOP/SIBER/IO-GOOS/IRF)

14h00-15h30: Scientific drivers: physical and biogeochemical processes of the IO (Rapporteur: Makio Honda)
• Eddies and their impacts on the carbon cycle, biogeochemistry, heat and freshwater budgets: Should IndOOS be measuring eddies? How? (Amit Tandon, U. Mass-Dartmouth, with input from A. Mahadevan, WHOI)
• Indonesian Throughflow, its interactions with the Pacific, its influence on the Indian Ocean heat budget and biogeochemistry, and its variability and change (Dwi Susanto, U. Maryland)
• Iron limitation, hypoxia, and other important Biogeochemical / ecological variability and change in the IO (Jerry Wiggert, U. Southern Mississippi)

16h00-17h00: Rapporteurs will synthesise into a brief summary the scientific (and operational) drivers that IndOOS should address, seeking discussion and input from the group
17h15: Opening Ceremony
18h00-20h00: Icebreaker
**Tuesday 31st Jan, AM (IndOOS Review workshop: separate IOP/I OGOOS/IRF & SIBER sessions until 11h30)**

Day 2: Panel members and invited speakers will provide background on past and present IndOOS, and a look forward to the role of new technologies.

**8h30-10h00 : 2006-2016, 10 years of IndOOS and looking ahead (Rapporteur: Lin Liu)**
- RAMA: design, history, current state, scientific achievements and looking ahead (Mike McPhaden, NOAA-PMEL)
- Indian Ocean Argo and drifters: history, current state, scientific achievements and looking ahead (M. Ravichandran Director NCAOR, with input on drifters from Boris Kelly-Gerreyn, BOM)
- Ship of opportunity XBT (and ADCP?) lines and monitoring of Boundary currents / exchange flows in the IO. Past achievements and future role (Ming Feng, CSIRO)

**10h30-11h30 : Scientific drivers: IndOOS re-analysis products (Rapporteur: Roxy Mathew Koll)**
- The state of air-sea flux observations and the quality of atmospheric re-analysis products (Lisan Yu, WHOI)
- Applications of ocean re-analysis products in IO and quality and gaps (Tony Lee, JPL)

**11h30-12h30 : 2006-2016, 10 years of IndOOS and looking ahead (Rapporteur: Greg Cowie)**
- Research ship-based observations (GoSHIP/GeoTRACES etc) in the Indian Ocean, the history, current state, scientific achievements, and future role in IndOOS (Bernadette Sloyan, CSIRO)
- A review of past biogeochemical measurements and instrumentation, associated science results and looking ahead with new technologies (Raleigh Hood, U. Maryland)

**Tuesday 31st Jan, PM (IndOOS Review workshop: IOP/SIBER/IOGOOS/IRF)**

**14h00-16h00 : Looking towards new technologies for IndOOS (Rapporteur: Toshiaki Shinoda)**
- Satellite instrumentation and missions: Past and future missions and role in IO observing (Tony Lee NASA)
- Deep & Bio Argo: Technological advancement, applications, future role in sustained observations of IO (Nick Hardman-Mountford, CSIRO)
- Gliders: Technological advancement, applications, future role in sustained measurements of IO (Craig Lee, U. Washington)
- CPIES: technological advancement, applications, future role in ocean observing (Magdalena Andres, WHOI)

**16h30-17h30 : Rapporteurs will synthesise into a brief summary how the components of IndOOS (and future technologies) serve (can serve) the scientific and operational drivers, seeking discussion and input from group**
**Wednesday 1\textsuperscript{st} Feb, AM (Joint strategic Discussions around IndOOS review: IOP/SIBER/IO-GOOS/IRF)**

The main objective of this day is to frame the IndOOS review white paper that will be the starting point for the IndOOS review wrap-up in Jan/Feb 2018. At the end of the day, we want to have designed an outline to the white paper and designated a team of authors, with lead authors for each chapter.

\textbf{08h30-09:00 : Guidance and Lessons from Pacific and Atlantic reviews}
How did they approach review? What expert information was most useful? What have been the biggest challenges? Recommendations for IOP going into this process?
- OOPC (GCOS/GOOS) guidance (Bernadette Sloyan, OOPC co-Chair, with input from Katy Hill, GCOS/GOOS/JCOMM)
- Lessons from the TPOS review (Jerome Vialard with inputs from S. Cravatte and N. Smith)
- Goals and ground rules for breakout sessions. Announcing of groups and rapporteurs (Lisa Beal)

\textbf{09h00-10h00 : Break-out discussion 1 (groups of ~6)}
- What scientific and operational outcomes should IndOOS achieve? (start with Rapporteur summaries from day 1)

\textbf{10h00-10h30 : Report back}
- 5-minute pop-up report from each break-out group rapporteur and synthesis of ideas (facilitator Jerome Vialard)

\textbf{11h00-12h00 : Break-out discussion 2 (groups of ~6)}
- How do (can) the components of IndOOS serve the scientific and operational goals? (start with Rapporteur summaries from day 2)

\textbf{12h00-12h30 : Report back}
- 5-minute pop-up report from each break-out group rapporteur and synthesis of ideas (facilitator Lisa Beal)

**Wednesday 1\textsuperscript{st} Feb, PM (White paper discussion: Self-identified authors of IndOOS Review only)**

\textbf{14h00-15h30:}
- Use synthesis of ideas from the morning break-out sessions to frame the white paper
- Identify way forward, delegate writing responsibilities, draw up schedule

**Wednesday 1\textsuperscript{st} Feb, PM (IOP and SIBER business meetings)**

\textbf{16h00-17h30 : Separate IOP and SIBER panel Meetings for AOB}
- Other panel business (e.g. memberships, endorsements etc)