Intergovernmental Oceanographic Commission
Reports of Meetings of Experts and Equivalent Bodies

Steering Group for the IOC Ocean Best Practices System (SG-OBPS)

Monthly Meeting
09 Mar 2022
20.00-21.00 UTC
[ONLINE]

UNESCO 2022

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English only

ABSTRACT

The IOC Ocean Best Practices System Steering Group (SG-OBPS) meets annually at a face-to-face/hybrid/online meeting. During the intervening months the SG-OBPS meets monthly online.

This report is the record of the online meeting for 09 March 2022

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1. Opening of the meeting

Jay Pearlman (Co-Chair SG-OBPS) introduced the meeting by explaining that this SG was dedicated to a community dialogue with a panel of speakers from Africa, South America and the Pacific Islands, invited to talk on the challenges of *Best Practices in Developing Regions*.

All participants introduced themselves; a complete list of the meeting participants is shown in Annex I..

2. Panel Session: Best Practices in Developing Regions

Moderator: Rachel Przeslaswki

A brief outline of presentations is given below:

Tommy Bornman (TB), Manager of the Elwandle Coastal Node of the South African Environmental Observation Network (SAEON). https://tinyurl.com/khrbbpun

OBPS in Africa: Presentation available: https://oceanexpert.org/document/30126

- For Africa, observations were initially mainly deep water activities but now they have moved into coastal regions
- TB highlighted his agreement that '*BP are created by the community for the community'*
- On the maps of ocean observatories/observations (Slide 3-6) it looks like Africa has few activities, but Slides 6-8 show how the activity has grown to include the rapidly expanding GLOSS and Global Telemetry Network
- TB also highlighted the Langlois article as an example of using low cost equipment which can be purchased anywhere. The article is an OBPS GOOS Endorsed document.

  Langlois, T.; Goetze, J.; Bond, T. et al (2020) A field and video annotation guide for baited remote underwater stereo-video surveys of demersal fish assemblages. Methods in Ecology and Evolution, 11, pp.1401–1409. DOI: https:// doi.org/10.1111/2041-210X.13470
- Critical requirements of an in situ coastal and marine Observing System were outlined: particularly conformance with FAIR principles, and QA. Sustainability of observations is important in Africa, but it must be responsive to societal needs; effective regional coordination mechanism to guide observations and make sure everyone conforms to best practices is needed.
- TB expanded on the objectives of the new OBPS TT on Ocean Observations in Low-Resourced Countries The team is looking to come up with affordable and portable packages of instruments and methods for coastal oceanography, cheap to buy, easy to use, from estuary to shelf edge and requiring minimal infrastructure ie used from small coastal vessels. The TT wants to identify BP and standardise them.

- Africa - ‘do not go for gold’ - keep it simple with EOV observations , keep it affordable.

Ana Carolina de Azevedo Mazzuco (AM), CEO E-DNA Environment, Data Manager OBIS Brazil Node, Postdoctoral Research Scientist Federal University of Espírito Santo, https://tinyurl.com/bdew73pt

Perspectives and Challenges of Using Ocean Best Practices in Brazil :
Presentation available: https://oceanexpert.org/document/30128

- Brazil has a long coastline and EEZ. With 7500 km of coastline and 3.6 million km2 of EEZ, it is a challenge to cover all
  There are very different regional backgrounds and profiles in Ocean Science and operational Observing Systems
- AM outlined regional research and infrastructure and their differing regional needs: eg. Amazon region has few laboratories.
    1. There are many protected areas in the north east and there is a wish to focus on traditional knowledge
    a. In the North a wish to expand operational oceanography
    b. In the South the focus is on natural hazards and marine spatial planning
    c. Specific challenges for Ocean data: Data sharing; Communication, Collaboration, Capacity building; Funding agencies; Regulations coming top down; now they are being asked for more interaction with social science
    d. Pipeline: Scientific - Private - Government
        i. The overall challenges are : Short-term initiatives; Technical limitations; Capacity building.
        ii. Funding agencies are starting to ask for DMP and best practices to be used.
    e. Marine Sites PELD - main source of ocean best practices in science, conservation and management of marine biodiversity and ecosystems
    f. Recommended for actions for a Coastal Marine Observatory
        i. Plan actions using OBPS
        ii. Collaboration
        iii. Integration with other LTER
        iv. Simplify methodologies
        v. Focus on the objective
        vi. Funding diversification

AM identified that whether instrumentation was expensive or low-cost, the challenge was the lack of technical support, i.e. instruments can be purchased but not maintained. Training was very important particularly for QA of data from whatever priced instrument.

Jerome Aucun (JA), Head of the Pacific Community Center for Ocean Science, the Pacific Community (SPC) https://tinyurl.com/yckzye3d

JA agreed that in the Pacific region, challenges like lack of technical support were the same as Africa and Brazil but there was the additional difficulty of travelling within the region/islands.

Pacific Islands' small population makes it difficult to find skilled technicians (or any profession). There is a need for regional collaboration (they have GOOS GRA but there are functioning issues). Examples of Good practices in Pacific include data sharing; Tonga tide gauge for tsunami warning.

Success is starting for measurement of Ocean Acidification in Pacific - they received funding for the OA Monitoring Centre in Fiji - using simple techniques, relatively cheap instrumentation and technician training and regional collaboration. They are sharing a regional spare parts centre to exchange spare parts for their observing system.

Wave Buoys are notoriously expensive to purchase and to maintain. A system is being developed with a Company that has developed a lower cost wave buoy which can be attached to fish aggregating devices. Countries now feel ownership of this success.

3. Questions and Answers

'Grey' questions were answered in person. Comments to non-greyed questions were written by the panelists.

Unfortunately there was insufficient time to cover all questions and it was agreed to forward them to the panelists for their comments after the meeting

- Are there manufacturers already providing low cost ocean instrumentation - how can that be developed
    - TB: Yes, for most of the instruments and sensors. Important to check the quality of data produced from cheaper instruments, Juliet Hermes added the issue of ensuring instrument calibration. Particularly for those that have to be sent off to be calibrated, how can that be addressed? Tommy agreed this is too costly, suggested it is cheaper to put more than one instrument in the water at the same time and bring it back to a controlled temperature water bath so some comparison and provides basic calibration checks before and after use
    - AM: Staff and maintenance time can also be a more prohibitive issue than cost; we need more training and better pay for qualified technical roles. They are trying to convince funding agencies of the need to include funding for training.
      In Brazil there are just 2 small companies certified to calibrate oceanographic instruments. Mostly it is done within the labs.

- OBPS is just forming a TT on Decision Trees around technicians from the University fleet in USA (deep sea) who maintain instruments and decide what to use. Would it be useful if there was development of best practices for lower cost instrument maintenance that the technicians can address
    - AM - really useful because technicians do not have ocean background

    - TB - it depends on how big the observing system and what variety of disciplines and trades to support, so need to have specialised training in a specific field so that full instrument scientist does the maintenance, not just a technician

- Is language (mostly ENglish resources) an inhibiting factor to access/use existing OBPs?
    - AM: Depends on level of expertise and whether in more regional areas . English is OK at the research centres but not out in the regions - but most training material is in English so a limitation
    - TB: English is language of science… but not for everyone - scientist yes but not technicians who might only speak French or Portuguese particularly in more rural areas . Can be a barrier and suggest BP translated into major languages
    - JA - reception broken - Jerome had to break off.

- From a practical point of view, what activities would the TT do first/short-term, then longer term to have a tangible impact (what would impact look like?) - why and how can OBPS make any difference to you?
    - TB: Literature review to see what is around the world and if it works in under-resourced countries .
    - JA: Need to define scope of task team -was not sure if it is looking at developing countries globally or will it focus on particular countries as case studies? Outlined the different issues between developed and underdeveloped countries.

- Is there a global database for coastal observations?
    - TB: No single one-stop database. Discipline specific, e.g. remote sensing, ocean acidification, sea-level, etc .

- Tommy: Are you aware what the specifics of GTN and GLOSS BP documents approaches are that makes them so successful?
    - TB: Community driven, good training and capacity building, provides incentives - instruments, funding, responsive to societal need, etc

- What are specific examples of people from different backgrounds being excluded from ocean observing and what can OBPS contribute to equity and diversity in the region?
    - TB: Parachute science a big problem, so establishing an observing system and OBP should be bottom up

- Reflecting on your presentations, can you expand on the gaps and next steps OBPS should consider?

- Is it feasible that best practices will converge for different regions?

- In the ‘Objectives’ slide for the TT - given the cross-EOV interest, please add

‘Biology’ to tag line

- Different regions have different observing needs to serve their societies, how can we best create a global observing system taking these different needs into account?
- How capable and influential is the Africa GRA in propagating BP
- Ana: For what reasons are the operational oceanography activities initiated? how is modelling doing and how are the products being “distributed”?
- The integrations with Social Science is interesting. Across the panelists, how much of this integration is done and what can OBPS do to further this challenge?
- How do you select and provide access to BPs? are regional hubs needed?
- Brazil and South Africa are regional technology and science nodes - Brazil had important initiatives 30+ years ago in developing ocean sensors. Did that stall? Is there value for the ‘blue economy’ for countries like that to offer alternative technologies to those from European or US companies?
- Do your reports consider both, hydrographic offices (monitoring) and applications for science?

4. Close of Meeting

Jay Pearlman and Rachel Przeslawski thanked the panelists for sharing the reality of ocean observing in low-resourced regions and requested that OBPS may continue the dialogue with them.

The meeting closed at 16.00 CET

ANNEX I

LIST OF PARTICIPANTS [ONLINE]

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