17th Meeting of the Southern African and Islands Hydrographic Commission

SEABED 2030 - Crowd Source Bathymetry in the SAIHC Region

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INTRODUCTION

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- The Chairman of the NIPPON Foundation, a significant contributor to the Project, proposed in 2016 '...to map 100% of the topography of the World Ocean by 2030'.
- The GEBCO Seabed 2030 Project aims to complete the mapping of our ocean floor in order for States to be empowered to
  - make policy decisions,
  - use the oceans sustainably, and
  - undertake scientific research informed by a detailed understanding of the ocean floor.
- Great results that had already been achieved, (6% good coverage globally in 2014 vs 15% in 2019) since the announcement of the Seabed 2030 project in 2016, but a lot of work still remains in order to achieve the Project aim.

INTRODUCTION

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- IRCC 12 Action Items:

No./Ref	Action	Responsible party
IRCC 12/13	Encourage Member States to support the CSB initiative with positive actions, such as requiring all research vessels to collect bathymetric data for late uploading, when on passage or when it does not interfere with other research activities.	SAIHC Chair and Seabed 2030 Coordinator
IRCC 12/17	Encourage Member States to promote the vital need to map the entire seabed.	SAIHC Chair, Seabed 2030 Coordinator & Member States
IRCC 12/19	Encourage all Member States to make existing seabed mapping data available for use by Seabed 2030 in the GEBCO Grid.	SAIHC Chair, Seabed 2030 Coordinator & Member States
IRCC 12/20	RHC to participate at Regional level in those actions of the UN Ocean Decade matching with IHO´s new strategic targets.	SAIHC Chair, Seabed 2030 Coordinator & Member States

BACKGROUND

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- Republic of South Africa (RSA) to comply and participate with IRCC and SAIHC GEBCO Seabed 2030 Project initiatives and action items.
- 2019 – 2020:
  - SANHO approached Institute of Maritime Technology (IMT) for partnership to assist with mobilisation and data collection.
  - Agreement reached with NOAA to participate in a pilot project towards Seabed 2030 by deploying 50 – 100 bathy data loggers in RSA waters on-board vessels of opportunity.
- The RSA pilot project concept:
  - NOAA would supply 50 – 100 loggers, technical assistance and training to RSA.
  - SANHO and IMT would be responsible for deploying and managing the loggers and the associated data.
  - IMT Central Activities – deployment, installation and mobilisation of the loggers on various vessels of opportunity, and
  - SANHO Central Activities – Ensure data is checked and preserved in a central database before distributing to the IHO Data Center for Digital Bathymetry (DCDB).

CURRENT STATUS

- 2020: Agreement reached that data loggers will be made available to IMT by NOAA – assistance with mobilisation and training.
- COVID-19 global pandemic forced most countries into lockdown, nevertheless, all parties agreed to continue with the programme.
- The following complications and risks became apparent:
  - Possible technical training on logger installation via on-line sessions until international travel is again allowed.
  - Closed borders restricting international deliveries delayed delivery of data loggers.
  - Long term funding for the project as the RSA government might have to divert current Research & Development and Defense funding to combat the rising costs of COVID-19 lockdown implications.
  - RSA policy on CSB data gathering restrictions within maritime areas of jurisdiction limited to outside 24 NM – RSA has limited vessel of opportunity traffic outside of 24 NM.

CURRENT STATUS

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- By December 2020, 50 data loggers have arrived in RSA and delivered to IMT for trials.
- Following industries were identified and invited to participate:
  - Commercial Fishing Industries – Approximately 40% of the units as they are spending time at sea and going further offshore.
  - Recreational boating (fishing and diving charters) – Approximately 5% of the units. Limited return on investment due to predominantly inshore operations.
  - Government Vessels (SA Navy and Government Research vessels) – Approximately 15% of the units. At present it is not foreseen that collaboration would problematic with these vessels, although time at sea is limited.
  - Small scale / subsistence fishing community – Approximately 20% of the units. Limited return on investment foreseen due to predominantly inshore operations.
  - Private sector – Approximately 20% of the units. Private oceanographic / marine consultant companies that could be approached to install 'roaming' CSB loggers when they are operating offshore.

CURRENT STATUS

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- End of December 2020, data logger successfully installed on-board IMT research vessel.
- Trials commenced in January 2021, with successful setting to work and data collection.
- Data to be verified and checked by SANHO in February/March 2021.
- Standard Operating Procedure (SOP) to be developed by SANHO in collaboration with IMT for data logger installation, data recording, data verification, and data submission.
- Challenges encountered/expected:
  - Weak response from invitations to participate – possibly due to festive season and reluctance from fishing and mining industries to share sensitive commercial data.
  - Technical competency – Suitably qualified and experienced technicians to install data loggers.
  - Possible hardware compatibility issues between data loggers and vessel data output connections foreseen – COTS vs MOTS vs age.
  - RSA policy on data gathering restrictions within maritime areas of jurisdiction limited to outside 24 NM – limited vessel of opportunity traffic outside of 24 NM.
  - Majority of identified participants based on RSA West Coast (fishing and mining)

WAY AHEAD

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- Identify and introduce the concept to role-players:
  - Although letters of invite was sent, very few responses were received – requires re-evaluation and vigorous follow-up.
  - Process of data collection, processing and data format to be highlighted as low risk to stakeholders concerned about commercially sensitive information sharing – source data and meta data archived at SANHO, only XYZ information submitted.
  - Long term benefits of Blue Economy concept to be highlighted.
  - No cost to participants.
- Cooperation and technical agreements: Practical cooperation agreements with participants are to be formulated and agreed upon.
- Create formal CSB structures: Develop SOP which includes detail on the two main arms of the project – technical (IMT) and data management (SANHO).

WAY AHEAD

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- Practical considerations:
  - Technical competency: Establish the technical knowledge to set-up and install the loggers.
  - Hardware installation: technical visits/study on vessels before logger installation to verify compatibility and feasibility.
  - Refine SOPs for installation, collecting, processing and rendering of loggers and data.
  - Establish lines of communication across RSA to establish working relationships as well as the installation of loggers/retrieval of data from vessels of opportunity.
- RSA policy on CSB data gathering restrictions within 24 NM: Propose an expanded grid setup for CSB data – any data is better than no data.
- SAIHC Member State participation:
  - Invite and encourage SAIHC Member States to make use of additional 50 data loggers that has been made available by NOAA.
  - RSA can assist where needed from lessons learnt during pilot project.
  - SANHO act as coordinator for CSB activities and data in region.

ACTIONS REQUESTED FROM SAIHC17

1. Invite Member States to take note of IRCC 12 Action Items.
2. Invite Member States to make use of the opportunity to deploy the additional 50 data loggers made available by NOAA through the RSA.
3. Invite participating Member States to share CSB initiatives with RSA as SAIHC CSB Coordinator.

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Thank You