



19th Meeting of the Southern African and Islands Hydrographic Commission

CROWD-SOURCED BATHYMETRY (CSB) WITHIN THE SOUTHERN AFRICAN AND ISLANDS HYDROGRAPHIC COMMISSION (SAIHC)

Presented by Commander Christoff Theunissen

SAIHC CSB Coordinator

SAIHC19, 29 – 31 August 2023



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ANNUAL REPORT: CROWD-SOURCED BATHYMETRY (CSB) WITHIN SAIHC

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- The purpose: To provide a short annual report for the Southern African and Islands Hydrographic Commission (SAIHC), as an output identified at SAIHC17. The report focusses the 13th Crowd-Sourced Bathymetry Working Group (CSBWG13) Meeting Report and notable action items for SAIHC, as well as CSB activities within the SAIHC region.



SAIHC19, 29 – 31 August 2023

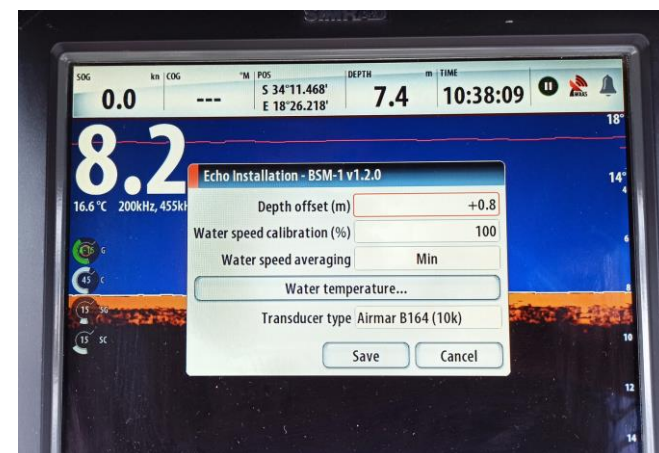


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CURRENT STATUS OF CSB WITHIN SAIHC

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- **South Africa**. The SA Navy Hydrographic Office (SANHO) reached an agreement to participate in a trial with the IHO and Seabed 2030 by deploying data loggers in RSA waters, for eventual roll-out to SAIHC.
- The SANHO, in collaboration with the Institute for Maritime Technology (IMT), commenced with the two part trial in 2020. The trial concept is as follows:
 - **Part 1: Data Collection**: Data collection involves the collection of bathymetry data by means of installing data loggers onboard vessels of opportunity.
 - Seabed 2030 supplied 50 TeamSurv NMEA data loggers in 2020, followed by 50 Yacht Devices Voyage Recorder in 2021.
 - IMT conducted technical visits, logger installation, setting to work and initial data processing. The SANHO performs the final checking of rendered data before preserving the data in a central database.



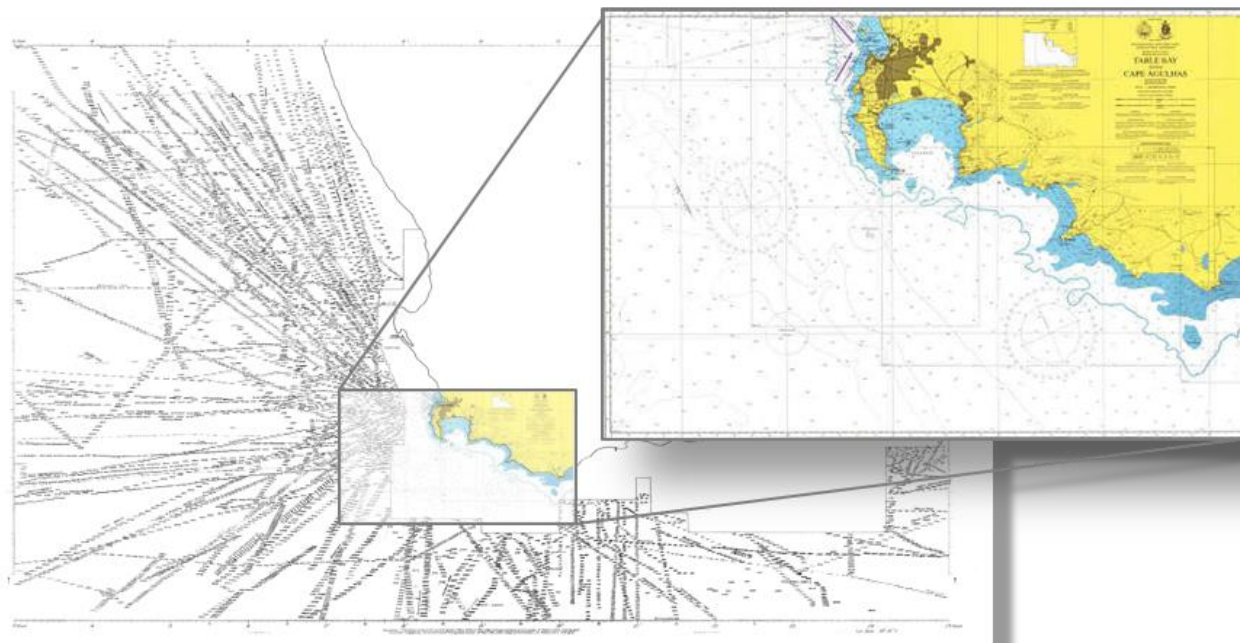


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CURRENT STATUS OF CSB WITHIN SAIHC (CONTD.)

- **South Africa (Contd.)**

- **Part 2: Data Sharing**: Data sharing is the collection of existing bathymetry data from various sources – includes but not limited to existing survey data in the form of bathymetric datasets and gridded products from the survey, exploration and engineering sectors.
- As per Seabed 2030 recommendations, low density datasets and gridded products with large grid/bin sizes or polygons of areas surveyed/explored where data exists can also be submitted and shared with the SANHO.





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CURRENT STATUS OF CSB WITHIN SAIHC (CONTD.)

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• South Africa (Contd.).

- **Executing The Trial**: The task of identifying and introducing the concept to local and regional role-players (Part 1 & 2) is ongoing – 32 stakeholders have been identified and approached, ***of which 4 are new since the previous report.***
 - Commercial fishing industries / Small scale/subsistence fishing community
 - Recreational boating
 - Government vessels
 - Private sector
- Currently data loggers installed onboard 5 vessels.
- 9 stakeholders (***of which 1 is new since the previous report***) providing datasets and gridded products to the SANHO.
- The data was checked, verified, collated, and submitted to GEBCO in February 2022 – next set in progress.



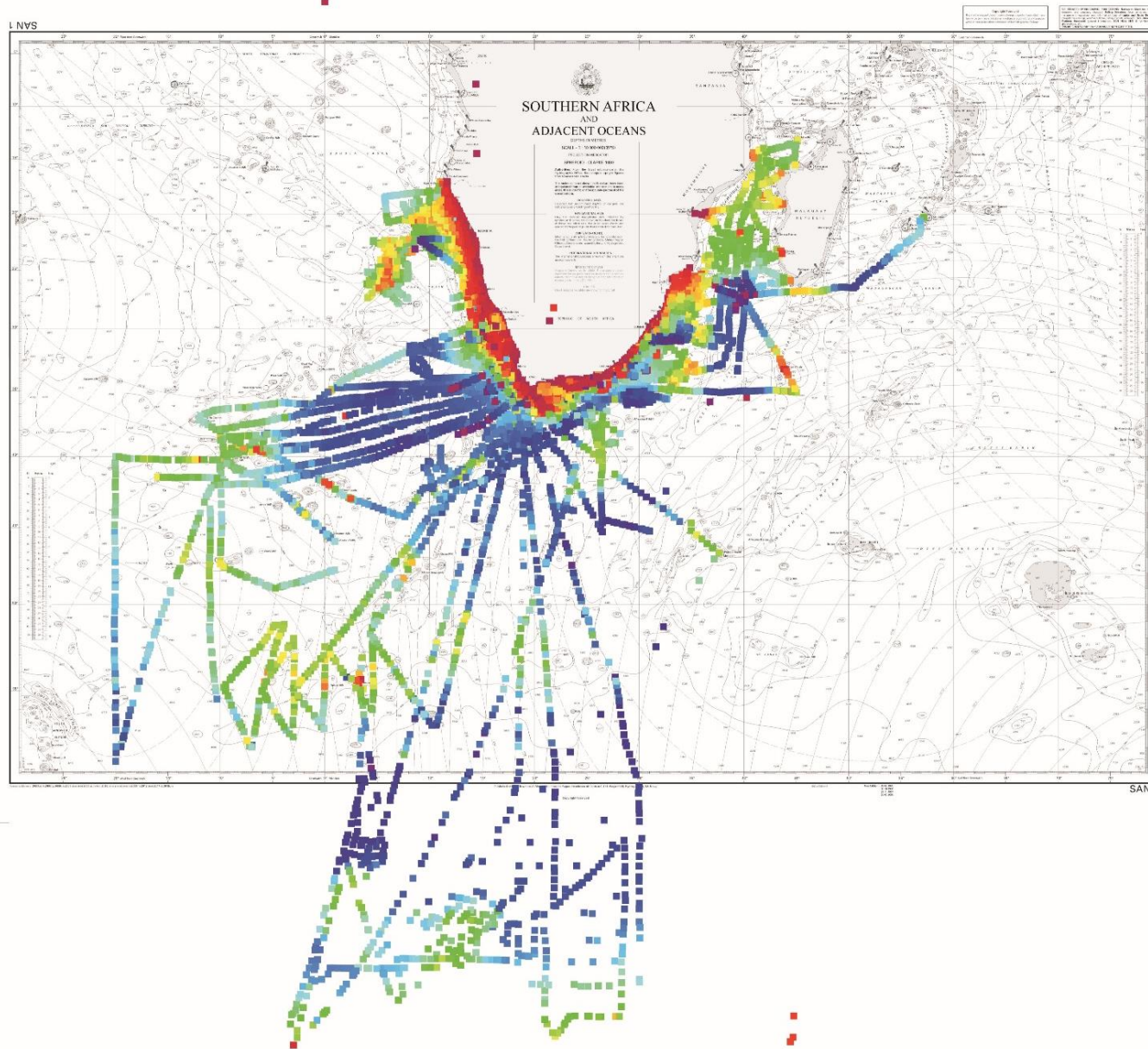


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- South Africa (Contd.)

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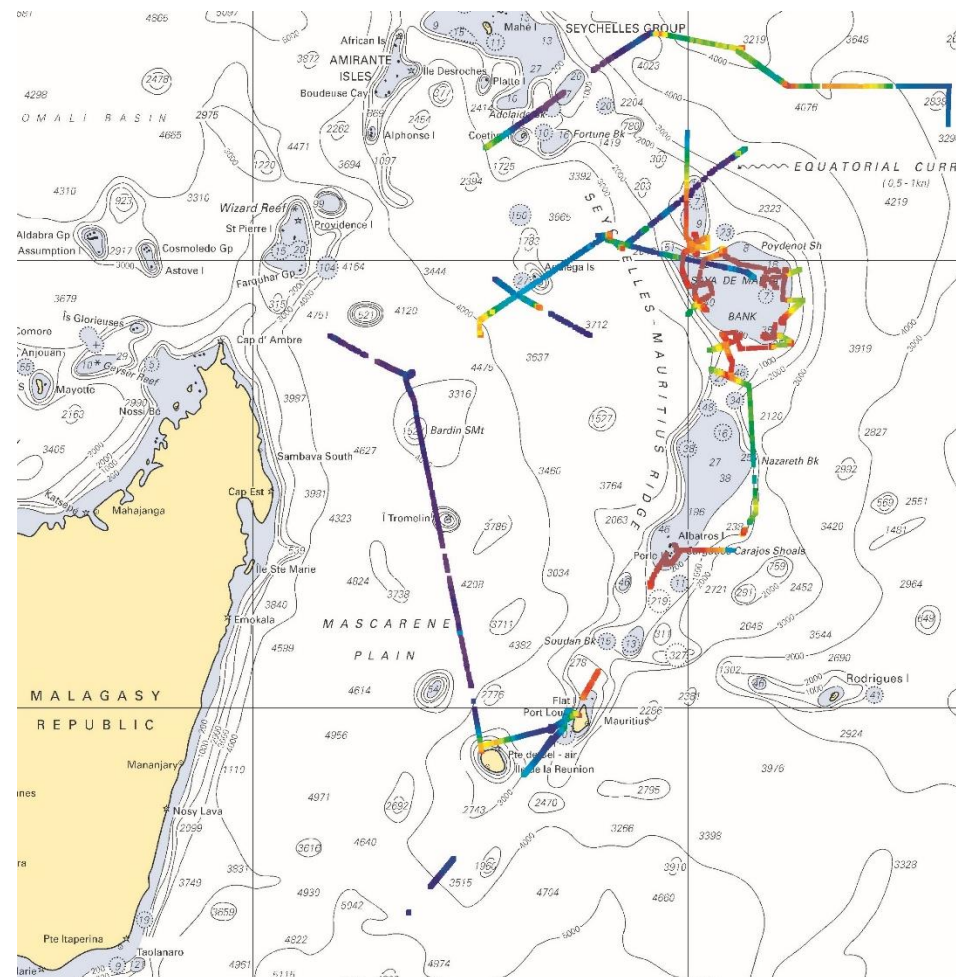
SAIHC19, 29 – 31 August 2023



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- **Monaco Explorations - Indian Ocean Expedition**
- Monaco Explorations conducted an Indian Ocean Expedition from 03 October to 30 November 2022, with the Objective to:
 - Advise stakeholders through a holistic scientific approach (sustainability science);
 - Share knowledge through an ambitious outreach programme;
 - Mobilize governments by making available information and analyses to support sustainable management of maritime areas.
- The SANHO supported the expedition by acting as a trusted note of bathymetric data as regional Seabed 2030 Coordinator, in liaison with the Atlantic and Indian Oceans Regional Center.
- SANHO is in the final stages of verifying the processed data and submit the data to GEBCO/Seabed 2030.



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IHO CSB ACTIVITIES – IHO-CSBWG

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- The IHO-CSBWG13 met in person on 9 – 12 January 2023. Key points to note from IHO-CSBWG13 as follows (full report to be noted and available on the IHO website):
 - Chair Report to IRCC14. The Chair highlighted the key component being the request for endorsement of B-12 Ed 3.0.0 ahead of submission to Member States (MS) for approval.
 - UN Decade of Ocean Science for Sustainable Development Calls for Action. The IHO Sec gave an update on the 4th call for action from the UN Decade of Ocean Science for Sustainable Development, and noted that the CSB initiative could be a good fit but that the deadline for submissions was the 31st January 2023.
 - Strategy Session: Review of where we are today. Chair introduced the plan for the strategic planning. She introduced the session and explained the aim was to first take stock of where we are today and to have a baseline so that we are in a position to develop our plan going forwards. The chair went through the key tasks contained within the ToRs.



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IHO CSB ACTIVITIES – IHO-CSBWG (CONTD.)

- Strategy Session: What has worked and what has not worked (yet). The Chair led the group through an exercise to identify what has worked well into CSB and what has not, and the following results were captured and are to be noted:

Worked Well:

- B12 developed;
- DCDB pipelines, initial trusted nodes, B-12;
- A consistent applied effort to include all relevant stake holders (HOs, industry, academia, etc);
- Establishment of CSB Coordinators for RHCs; CSB is a standing item on RHC annual reports/agendas;
- Circular letters about acceptance of CSB raised the subject;
- Success in demonstrating how a successful project can be done (eg: Rob Beaman);
- It has been demonstrated that data collected can be done inexpensively (ie: WIBL);
- VTCs involved many more contributions to B12 - more transparent & inclusive.



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What has not worked (yet):

- The sensitivity of how CSB is regarded has put limitations on how it is defined;
- 7 years in and still struggling to get the word and the number of vessels to grow in data gathering;
- Providing a proof of concept show other HO's how to put CSB on the chart;
- Getting CSB through HO validations processes;
- A best practices still doesn't exist;
- Many coastal states still believe this data is proprietary;
- The answer to the question, "how can i participate in CSB gathering/contributing", is still too difficult to answer;
- Many MS look to their PCA for guidance/assistance. Focus has not been directed to the PCA.



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- Strategy Session: 5 Perceived barriers to CSB. Vice Chair introduced the session as to identifying perceived barriers to scaling CSB. This was an interactive session where participants were invited to brainstorm potential barriers. Following this exercise, 6 recurring themes were identified and discussed at length (please note full report for details):
 - National Policy/Lack of Government Support;
 - Lack of HO resources/Low priority;
 - Lack of a standard support system for Trusted Nodes;
 - Technology: complex data cycle;
 - Communications;
 - Unclear/Lack of rewards/Incentives.



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IHO CSB ACTIVITIES – IHO-CSBWG (CONTD.)

- Strategy Session: Analysis – Where should we go and why? Expected/Desired outputs.
The Chair led the group through a prioritization exercise which resulted in the following High Level Priorities:
 - Submit IHO CSB initiative as a UN Decade Action;
 - Gather and prioritize HO-specific issues/opportunities regarding national policy/regulations related to CSB;
 - Gather and prioritize HO-specific issues relating to CSB data, including but not limited to Nautical Cartography;
 - Support CSB/SB2030 Coordinators in their RHC engagement;
 - Clarify all aspects of the CSB data cycle and capture known issues, requirements and suggested enhancements;
 - Develop a communication plan in coordination and collaboration with related efforts (SB2030, GEBCO, etc);
 - Develop a recognition & incentive strategy plan;
 - Maintain and update B-12.



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IHO CSB ACTIVITIES – IHO-CSBWG (CONTD.)

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- Closing and notable action items for Member States:
 - IHO website: Check IHO website for documents and information.
 - Circulate presentations, articles and papers on CSB to ensure consistent harmonized message is provided at events to advertise CSB, and identify opportunities to highlight CSB and its uses.
 - Renew efforts to engage with administrations to try and achieve some level of data provision.
 - Provide feedback on DCDB developments to allow further development and to highlight areas that could be improved to enhance the user experience.
 - Encourage all RHC Chairs to bring the IRCC CL 1/2020 to the attention of all coastal states within their respective RHC.



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TRAINING AND CAPACITY BUILDING REQUIREMENTS AND OPPORTUNITIES

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- There is nothing new to report from a training perspective since SAIHC18.
- Member States are invited to provide training and capacity building requirements relating to CSB, either within the National Report update, or through the SAIHC CSB Coordinator at hydrosan@iafrica.com

FUTURE INITIATIVES

- Other than the Monaco Explorations expedition already noted, no other activities have been identified or reported.
- Member States are invited to provide planned / future CSB initiatives and requirements relating to CSB, either within the national report update, or directly through the SAIHC CSB Coordinator at hydrosan@iafrica.com



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ACTIONS REQUESTED FROM SAIHC18

- SAIHC19 is invited to:
 - Note the CSB report.
 - Consider and update the SAIHC CSB Coordinator on any CSB activity in the SAIHC region.
 - Note the action items on all Member States from CSBWG13.
 - Offer a positive response to the IHO or IRCC Circular Letters
 - Member States not part of the CSBWG to consider joining and/or attending the CSBWG.
 - Report the state of regional and national ocean mapping efforts to the SAIHC SCB Coordinator.