



# **20<sup>th</sup> 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 Nicolette le Roux  
SAIHC CSB Coordinator

SAIHC20, 17-19 September 2024



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

International  
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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 SAIHC20. The report focusses the 15th Crowd-Sourced Bathymetry Working Group (CSBWG15) Meeting Report and notable action items for SAIHC, as well as CSB activities within the SAIHC region.



SAIHC20, 17-19 September 2024

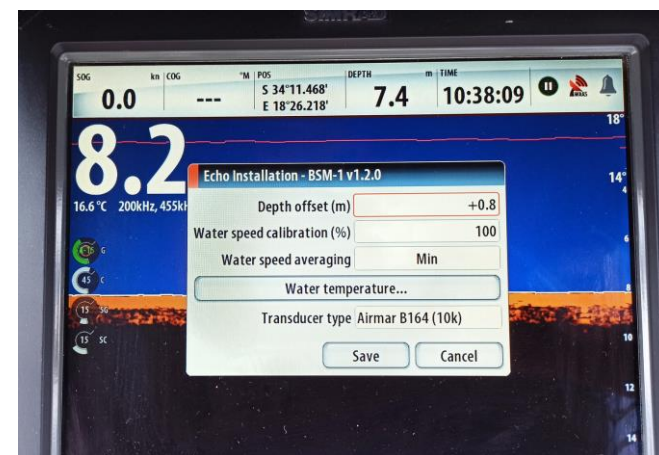


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# CURRENT STATUS OF CSB WITHIN SAIHC

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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.



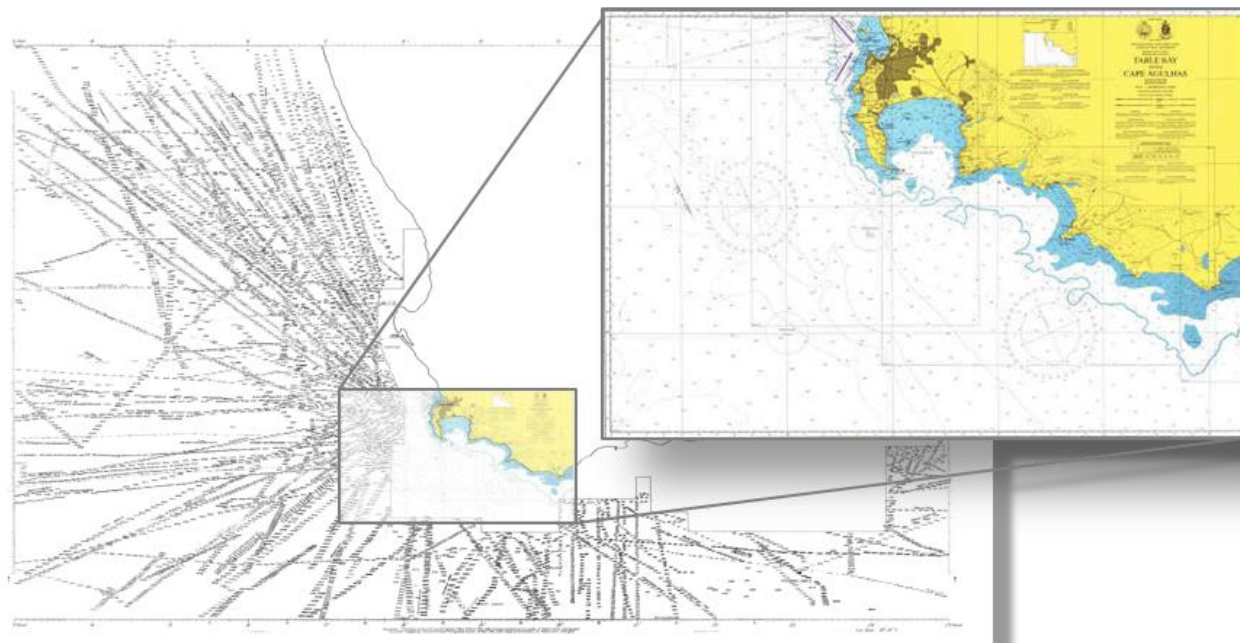


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# CURRENT STATUS OF CSB WITHIN SAIHC (CONTD.)

- **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.)

## • 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 0 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 0 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.



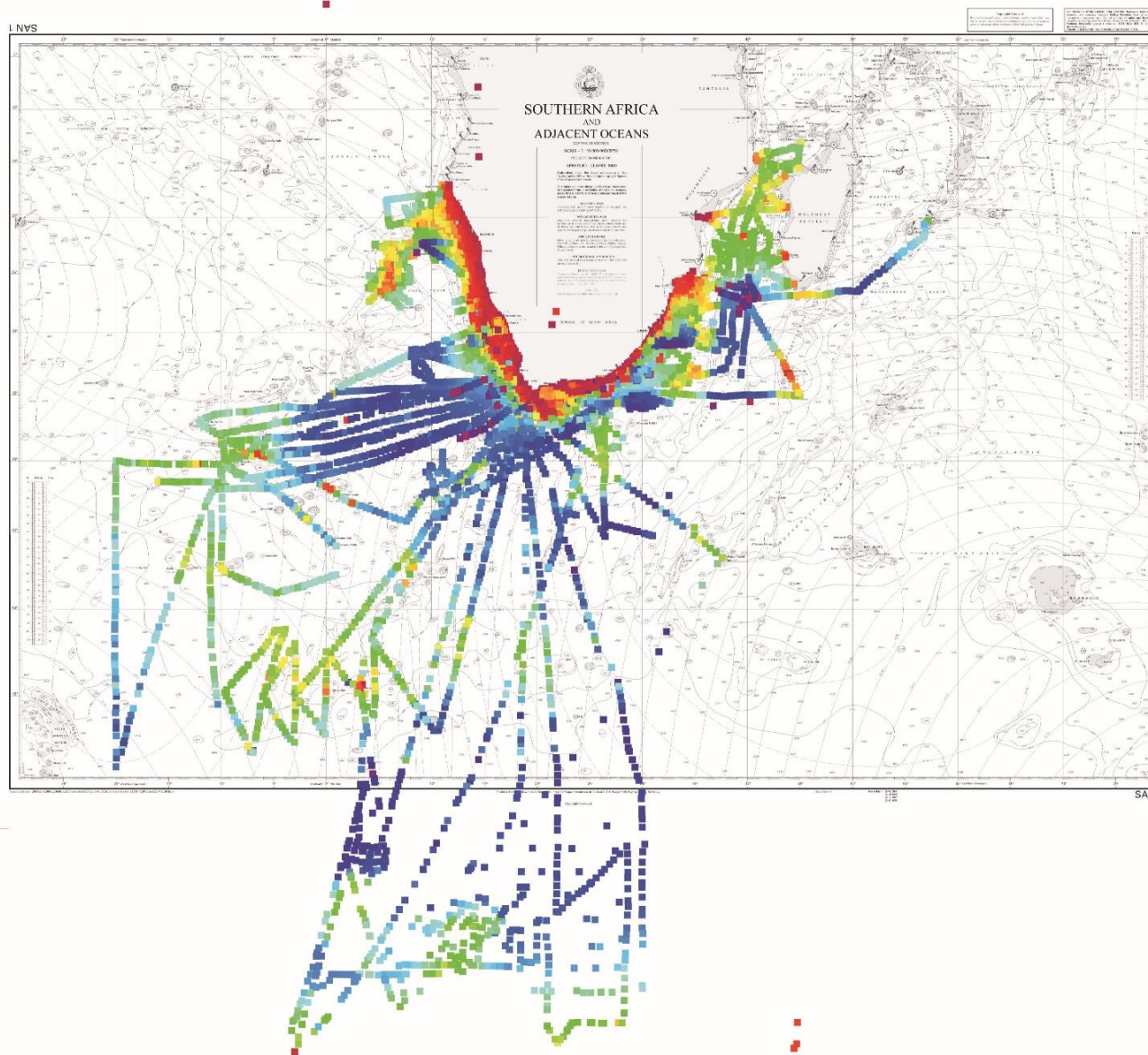


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# CURRENT STATUS OF CSB WITHIN SAIHC (CONTD.)

- South Africa (Contd.)

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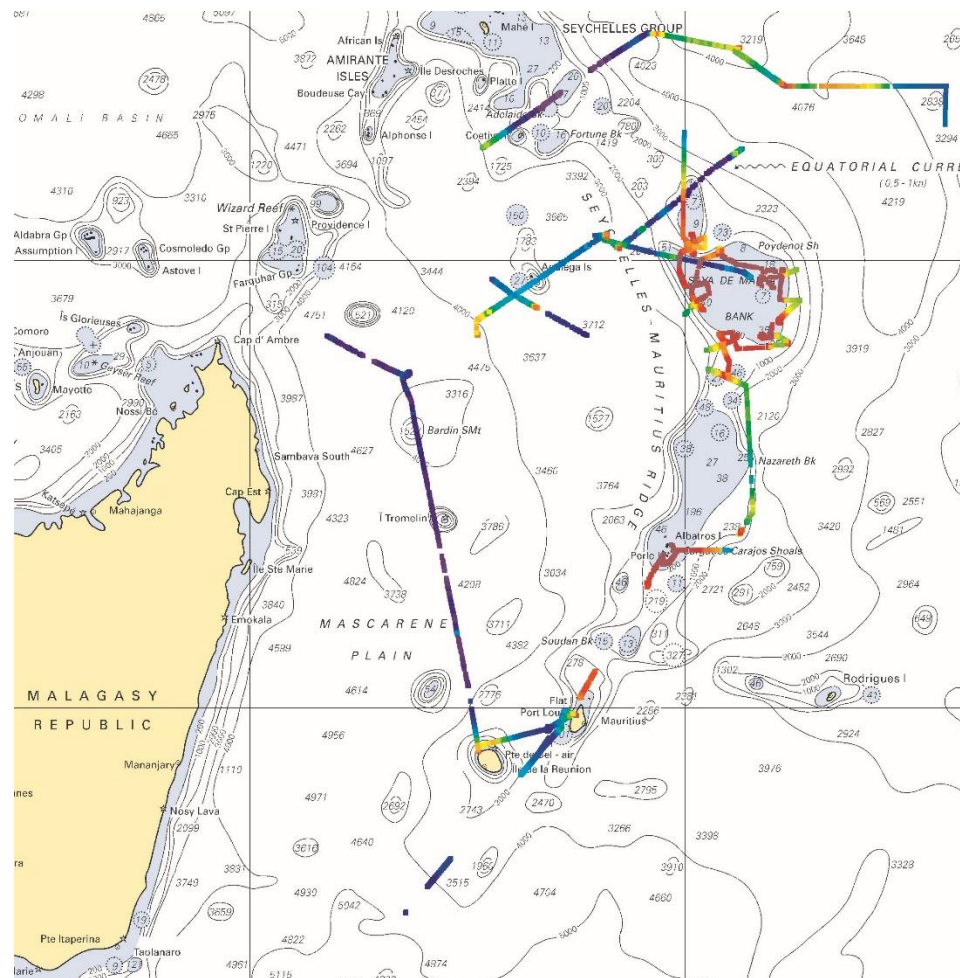
SAIHC20, 17-19 September 2024



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# CURRENT STATUS OF CSB WITHIN SAIHC (CONTD.)

- **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.
- After data verification is completed data will be submitted to GEBCO/Seabed 2030.





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## IHO CSB ACTIVITIES – IHO-CSBWG

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The IHO-CSBWG15 met over the period 4-6 April 2024 in Monaco and the event could also be attended online. Key points to note from IHO-CSBWG15 as follows (full report to be noted and available on the IHO website):

- Opening Remarks by Chair. In highlighting key elements, the Chair introduced the new document, CSB 101, and mentioned it is open for feedback and recommendations from the team. The Chair reminded the group that they have agreed to meet in person once a year and conduct one video teleconference (VTC) intersession. It was noted that the current ToRs on the website need to be updated to reflect the new work plan.
- IHO Website. Technical work is being done to update the URL and add it to the "about" drop-down on the IHO site. Current URL: <https://iho.int/en/crowdsourced-bathymetry>





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- IHO DCDB. The following were key elements from the report on DCDB activity:
  - Data can now be accessed via API. Data can be reviewed prior to publication if required as per CL response.
  - The Autogrid application currently provides grids based on Multibeam data, with work in progress to include CSB data.
  - The next generation of the map viewer is also under development.
  - Member states were encouraged to give feedback on the above to the CSBWG (**see full report**).
- Maintain and Update B-12. Having reviewed B-12 Ed. 3.0.0, it was noted that there are elements that are already out of date. It was indicated that a change is needed to the way B-12 (as a formal IHO Publication) is maintained/updated and the governance that covers this process. It was suggested that a far more agile approach was required and that a committee of experts spanning HOs, Industry and academia should be formed with a view to rapidly innovate. Members of the CSBWG who represent MS should investigate who could participate in such a group.



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## IHO CSB ACTIVITIES – IHO-CSBWG

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- Submit IHO CSB Initiative as a UN Decade Action. At CSBWG14, the IHO Sec had been tasked to develop a proposal for the new structure of the CSB Initiative for consideration at CSWG15, noting that this is a precursor to considering how the CSB initiative could be formally aligned with the UN Decade. Options were presented and Option 2 was the preferred option. Option 1 would define the entirety of the CSBWG work plan as the CSB Initiative, whereas Option 2 would have a distinct CSB Initiative Work item (through which participants in the initiative would have access to the output of all of the work of the CSBWG). Following approval of the CSB Initiative structure by IRCC16, this will be investigated and brought back to the CSBWG for consideration.
- Gather and Prioritise HO-specific Issues / Opportunities regarding National Policy / Regulations Related to CSB. Key discussion points centred around the amount of data that is currently filtered out in the DCDB due to lack of permissions given by MS for data release in waters under national jurisdiction, and the interpretation of the MSR provisions within UNCLOS.



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# IHO CSB ACTIVITIES – IHO-CSBWG

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- Gather and Prioritise HO-specific Issues. Key takeaways were as follows (see full report for details):
  - API access and data review processes have been improved.
  - Industry and technical engagements are ongoing to enhance tools and data usability.
  - Emphasis on quality assurance and data rescue efforts to maximize the use of available data.
  - Development of analytical tools and dashboards for better transparency and decision-making support.
- Support CSB/SB2030 Coordinators in their RHC Engagement. The CSB/ SB 2030 Coordinator role and responsibilities update is complete. The need for tailored support in different regions is recognised and it is planned to raise awareness of CSB in the IHO Capacity Building Subcommittee, focussing on capacity building initiatives. MS to note the full report for details.
- Discuss & Propose Potential Software Tool Support for HOs. B-12 had been reviewed to identify areas where software solutions could help with participation or implementation of CSB within HOs. MS to note the full report for details.



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# IHO CSB ACTIVITIES – IHO-CSBWG

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- Clarify Support Identified by Current Trusted Nodes needed for Current and Future Trusted Nodes. Tools were starting to be published under open libraries that can be integrated into hydrographers tools. There is a focus on the creation and publication of an open-source uncertainty model and maintaining a free portal to showcase CSB partners and projects. There was acknowledgment of the work with indigenous communities, noting that data from First Nations can be politically sensitive. The importance of lowering barriers to entry by making more open-source software available, making it easier to deploy TN solutions without needing to understand the specifics of B-12 was emphasised. The importance of having drafts reviewed by the WG was highlighted as was ensuring that SB2030/IHO/GEBCO have copies to share with new TNs.
- Develop a Recognition and Incentive Strategy Plan. Two questionnaires have been circulated via the "gebco\_folk" distribution list and an IHO LinkedIn post. Everyone is encouraged to be responsive to the questionnaires and distribute them widely as lack of responses is a significant risk. Results will be summarised and analysed at the next meeting.
- Seabed2030 and CSB Update. SB2030 global centre acts as a Trusted Node (TN) for data collected by CSB. They have implemented CCOM's code, which documents and inputs metadata, and creates geojson files with some quality control information.



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## IHO CSB ACTIVITIES – IHO-CSBWG

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- CSBWG/Seabed 2030/SO-SI collaboration. Development of a shipping focused 2 page flyer by World Ocean Council is an area of collaboration with the CSBWG.
- Data Quality Working Group Update. MS to note the proposal for improving CATZOC Values in the Report.
- Date and Venue of Next Meeting. The next CSWG16 meeting will be held in Wellington, New Zealand 24 – 28 March 2025.



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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 SAIHC19.
- 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](mailto: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](mailto:hydrosan@iafrica.com)



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## **ACTIONS REQUESTED FROM SAIHC20**

- SAIHC20 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 CSBWG15.
  - 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 CSB Coordinator.